



Ecology and Environment Department

MODULE HANDBOOK

Bs degree in Forestry

MODULE HANDBOOK

Bachelor degree in Forestry program, Department of “Natural Science”.

Course Unit Title	History of Azerbaijan	
Course Unit Code	ÜF-B01	
Type of Course Unit	Mandatory	
Level of Course Unit	2	
National Credits		
Number of ECTS Credits Allocated	5	
Theoretical (hour/week)	1	
Practice (hour/week)	1	
Laboratory (hour/week)		
Year of Study	2	
Semester when the course unit is delivered	4	
Course Coordinator	Ph.D. Gunel Rahimli Ashraf	
Name of Lecturer (s)	Ph.D. Gunel Rahimli Ashraf	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijan/Russian	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description: 1. This subject teaches actual problems, main stages, important events, political, military, ideological, cultural, demographic and ethnic processes of the history of Azerbaijan in the context of the general history of the Eastern world and the Caucasus. 2. By making comparisons and parallels, students are formed the ability to correctly analyze the historical events that happened in different periods and draw logical conclusions.		
Objectives of the Course: During the course of study, the history and culture of Azerbaijan, domestic and foreign policy, relations with other countries, etc. will be considered. This handbook provides essential information including expected learning, subject content and assessment details during the course. You should read carefully and follow closely during the subject.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	to recognize historians-researchers who play an important role in writing the history of Azerbaijan, to introduce their scientific direction and scientific results to students	
2	Demonstrate logical and consistent knowledge	
3	Write a research paper on the topic in accordance with the methods of scientific research	
4	to connect historical events with modern times, to draw conclusions.	
5	to apply the methods of comparative analysis, analysis and synthesis	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of	

	electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		Azerbaijan in prehistory time.	
2		Ancient states in Azerbaijan. Manna, Atropatena, Ancient Albania.	
3		Azerbaijan in the III-VII centuries.	
4		Azerbaijan under the Arab caliphate.	
5		Azerbaijan in the 9 th to the early 13 RD centuries	
6		Azerbaijan in the 14 TH century to 15 TH centuries	
7		Azerbaijan Safavid State	
8		Khanates of Azerbaijan	
9		Azerbaijan in the XIX century	
10		Azerbaijan in the first decades of the 1900s	
11		Azerbaijan Democratic Republic (1918-1920)	
12		Azerbaijan in the 1920-1930s	
13		Azerbaijan during the World War II and after the war	
14		Independent Azerbaijan Republic (1991- 2020s.)	
15		The second Garabash War and the victory of Azerbaijan	

Recommended Sources

TEXTBOOK(S)

- History of Azerbaijan. Red. M.Abdullayev. Baku, 2015, 2019 412 p.
- The History of the Caucasian Albanians" by Movses Khorenatsi (translated by R. W. Thomson)
- Sources on the history of Azerbaijan. Edited by S.S.Aliyarov and Y.M.Mahmudov. Baku, Chirag, 2007.400.p.

- The Politics of Culture in Soviet Azerbaijan, 1920-40, Audrey Altstadt, Published January 12, 2018 by Routledge
- The Azerbaijani Turks: Power and Identity under Russian Rule, Audrey Altstadt, Publisher Hoover Institution Press; 1992
- A.M. Shikhsaidov. Caucasian Albania and Its Writing" (Caucasian Albania and Its Writing. 2001.
- Gasimov X. Azerbaijani culture in the Middle Ages. Baku, Azpoligraf, 2008
- Aliyev K. Aliyeva F. Azerbaijan in antiquity. Baku, 1997
- Velikhanli N.M. . Arab geographers-travelers of the 9th-12th centuries about Azerbaijan Baku, 1974.
- Velikhanli N.M. Arab Caliphate and Azerbaijan. Baku, 1993.
- Mammadzade M.B. National Azerbaijani movement. B.,1922

Assessment		
Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria
Final grades are determined according to the Academic Regulations of WCU

- Course Policies**
- Attendance of the course is mandatory.
 - Late assignments will not be accepted unless an agreement is reached with the lecturer.
 - Students cannot use calculators during the exam.
 - Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations

ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

MODULE HANDBOOK

Forestry bachelor program, Department of "Information Technologies".

Course Unit Title	Business and Academic Communication in a Foreign Language
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Course Unit Code	ÜF-B02.01	
Type of Course Unit	Full-time Education	
Level of Course Unit	1	
National Credits		
Number of ECTS Credits Allocated	7	
Theoretical (hour/week)		
Practice (hour/week)	3.5	
Laboratory (hour/week)		
Year of Study	1	
Semester when the course unit is delivered	1	
Course Coordinator		
Name of Lecturer (s)		
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	English	
Prerequisites	-	
Recommended Optional Program Components	-	
<p>Course description: This course has been designed to provide you, whose first language is not English, with the opportunity to obtain an appropriate level in the English language. The course offers progression for students who seek to develop and enhance their skills in reading, writing, speaking and listening in English. It helps students expand their outlook, enrich vocabulary stock, express their ideas in English effectively. It also focuses on reading comprehension, vocabulary development, effective academic writing and improving speaking skills.</p>		
<p>Objectives of the Course:The aims of the course are:</p> <ul style="list-style-type: none"> - expand skills in reading, writing, listening and speaking in English - enrich understanding of how language works - enhance confidence in interacting with others in a variety of contexts using the English language - increase linguistic knowledge of specific aspects of work or study in contexts where English is the center of communication - read and understand texts will meet in your degree studies 		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	<p>The student will grow in their ability to use English to communicate effectively with others in all disciplines.</p> <p>While listening, the student will be able to understand phrases and the highest frequency vocabulary related to areas of personal relevance such as very basic personal and family information, shopping, local area, employment. The student will be able to understand the main point in short, clear, simple messages and announcements.</p> <p>While reading, the student will be able to understand very short, simple texts. They will be able to find specific, predictable information in simple everyday material such as advertisements, menus and timetables. They will be able to read short simple personal letters.</p> <p>When writing, the student will be able to produce short, simple notes and messages that relate to matters of immediate concern. They will be able to write a simple personal letter such as a thank-you letter.</p>	

	When speaking, the student will be able to produce a series of phrases and sentences to describe in simple terms things like his/her family, other people, living conditions, educational background or a present or previous job.		
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz			
Course's Contribution to Program			
			CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes		
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements		
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing		
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control		
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations		
6	ability to use various types of devices to monitor and control technological processes		
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results		
8	ability to use modern information technologies and software, observing information security requirements in their professional activities		
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		Unit 1. Marketing-Reading 1;Reading skill; Work with the video	
2		Unit 1. Marketing-Reading 2; Critical Thinking Strategy; Vocabulary Skill	
3		Unit 1. Marketing-Writing skill; Grammar:Present Continuous; Unit assignment	
4		Unit 1. Business and Marketing: Note-taking Skill, Listening 1; Listening Skill, Critical Thinking Strategy;	

		Listening 2; Work with the video; Vocabulary Skill	
5		Unit 1. Business and Marketing: Grammar:The present continuous; Pronunciation; Speaking skill; Unit Assignment	
6		Unit 2. Psychology -Reading 1;Reading skill; Work with the video	
7		Unit 2. Psychology -Reading 2; Critical Thinking Strategy; Vocabulary Skill	
8		Unit 2. Psychology-Writing skill; Grammar:Future with will ; Unit assignment	
9		Unit 2. Psychology: Listening 1; Note-taking Skill Listening Skill, Critical Thinking Strategy; Listening 2; Work with the video; Vocabulary Skill	
10		Unit 2. Psychology: Speaking skill; Grammar: There is and it is; Pronunciation; Unit Assignment	
11		Unit 3. Social Psychology -Reading 1;Reading skill; Work with the video	
12		Unit 3. Social Psychology -Reading 2; Vocabulary Skill	
13		Unit 3. Social Psychology-Writing skill; Grammar:Subject-verb agreement; Unit assignment; Critical Thinking Strategy	
14		Unit 3. Social Psychology: Listening 1; Note-taking Skill, Listening Skill, Critical Thinking Strategy; Listening 2; Work with the video; Vocabulary Skill	2
15		Unit 3 . Social Psychology: Speaking skill, Grammar:Modal verbs should and shouldn`t; Pronunciation;; Unit Assignment	
16		Practice: Handling Complaints&Problem Solving	
17		Practice: Asking for & giving directions	
18		Review (Units 1-3)	
19		Achievement – 1	
20		Unit 4. Technology -Reading 1;Reading skill; Work with the video	
21		Unit 4. Technology -Reading 2; Vocabulary Skill	
22		Unit 4. Technology-Writing skill; Grammar: Modals; Unit assignment; Critical Thinking Strategy;	
23		Unit 4. Technology: Listening 1; Note-taking Skill, Listening Skill, Critical Thinking Strategy; Listening 2; Work with the video; Vocabulary Skill	
24		Unit 4 . Technology: Speaking skill; Grammar:Comparatives; Pronunciation; Unit Assignment	
25		Unit 5. Business-Reading 1;Reading skill; Work with the video	
26		Unit 5. Business -Reading 2; Vocabulary Skill	
27		Unit 5. Business-Writing skill; Grammar:Comparative and Superlative adjectives; Unit assignment; Critical Thinking Strategy;	
28		Unit 5. Sociology: Listening 1; Note-taking Skill, Listening Skill, Critical Thinking Strategy; Listening 2; Work with the video; Vocabulary Skill	
29		Unit 5 . Sociology: Speaking skill;Grammar:Auxiliary verbs in questions; Pronunciation; Unit Assignment	
30		Unit 6. Brain Science-Reading 1;Reading skill; Work with the video	
31		Unit 6. Brain Science -Reading 2; Critical Thinking Strategy;	

		Vocabulary Skill	
32		Unit 6. Brain Science-Writing skill; Grammar:Infinitives of purpose; Unit assignment	
33		Unit 6. Behavioral Science: Listening 1; Note-taking Skill,; Listening Skill, Critical Thinking Strategy; Listening 2; Work with the video; Vocabulary Skill	
34		Unit 6. Behavioral Science: Speaking skill Grammar:Imperative verbs; Pronunciation;Unit Assignment	
35		Practice: Social media & Digital Communication	
36		Practice: Learning from Tv shows&movies	
37		Review (Units 4-6)	
38		Achievement – 2	
39		Unit 7. Environmental Science-Reading 1;Reading skill; Work with the video	
40		Unit 7. Environmental Science -Reading 2; Critical Thinking Strategy; Vocabulary Skill	
41		Unit 7. Environmental Science -Writing skill; Grammar: Simple Past and Past continuous; Unit assignment	
42		Unit 7. Environmental Science: Listening 1; Note-taking Skill, Listening Skill, Critical Thinking Strategy; Listening 2; Work with the video; Vocabulary Skill	
43		Unit 7. Environmental Science: Speaking skill; Grammar: Future with will; Pronunciation; Unit Assignment	
44		Unit 8. Public Health-Reading 1;Reading skill; Work with the video	
45		Unit 8. Public Health -Reading 2; Critical Thinking Strategy; Vocabulary Skill	
46		Unit 8. Public Health -Writing skill; Grammar Adverbs of manner and degree; Unit assignment	
47		Unit 8. Public Health : Listening 1; Note-taking Skill, Listening Skill, Critical Thinking Strategy; Listening 2; Work with the video; Vocabulary Skill	
48		Unit 8. Public Health: Speaking skill; Grammar: If clauses for future possibility; Pronunciation; Unit Assignment	
49		Practice: Storytelling&Fluency development	
50		Practice: Modern English & Everyday expressions	
51		Review (units 7-8	
52		Achievement – 3	
53		PREPARATION FOR FINAL	
Recommended Sources			
TEXTBOOK(S)			
<ul style="list-style-type: none"> – Q: Skills for Success (Reading and Writing) Level 2: Third Edition / Joe McVeigh/ Jennifer Bixby / Oxford University Press, 2020 – Q: Skills for Success (Listening and Speaking) Level : Third Edition / Margaret Brooks / Oxford University Press, 2020) English Vocabulary in Use Elementary Third Edition/Michael McCarthy, Felicity O’Dell/ Cambridge University Press2017 – Basic Oxford Practice Grammar / Norman Coe, Mark Harrison, Ken Paterson/ Oxford University Press 2019 			

– Reading & Vocabulary Development 1: Facts & Figures, Fourth Edition / Patricia Ackert and Linda Lee			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			7

MODULE HANDBOOK

Forestry bachelor program, Department of “English Language Centre”.

Course Unit Title	Business and Academic Communication in a Foreign Language
Course Unit Code	ÜF-B02.02
Type of Course Unit	Mandatory
Level of Course Unit	1
National Credits	
Number of ECTS Credits Allocated	8
Theoretical (hour/week)	
Practice (hour/week)	4
Laboratory (hour/week)	

Year of Study	1	
Semester when the course unit is delivered	2	
Course Coordinator	Jala Asgarova	
Name of Lecturer (s)	Jala Asgarova	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	English	
Prerequisites	-	
Recommended Optional Program Components	-	
<p>Course description: This course has been designed to provide you, whose first language is not English, with the opportunity to obtain an appropriate level in the English language. The course offers progression for students who seek to develop and enhance their skills in reading, writing, speaking and listening in English. It helps students expand their outlook, enrich vocabulary stock, express their ideas in English effectively. It also focuses on reading comprehension, vocabulary development, effective academic writing and improving speaking skills.</p>		
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3	While reading, the student will be able to understand very short, simple texts. They will be able to find specific, predictable information in simple everyday material such as advertisements, menus and timetables. They will be able to read short simple personal letters.	
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Course's Contribution to Program		
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1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	

3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		Unit 1. Sociology. How do you make a good first impression? Reading 1: Small talk. Reading Skill: Main ideas and supporting details	
2		Unit 1. Sociology. How do you make a good first impression? Reading 2: 21st Century job interviews. Critical Thinking Strategy: A causal chain.	
3		Unit 1. Sociology. How do you make a good first impression? Work with the video: Advice on a good first impression Vocabulary skill: Using the dictionary	
4		Unit 1. Sociology. How do you make a good first impression? Writing skill: Organizing and developing a paragraph Grammar: Real conditionals. Present and future	
5		Unit 1. Sociology. Are first impression accurate? Note-taking Skill: to summarize a lecture Listening 1: The psychology of first impressions	
6		Unit 1. Sociology. Are first impression accurate? Listening Skill: Listening for main ideas. Listening 2: A review of books about first impression.	
7		Unit 1. Sociology. Are first impression accurate? Work with the video: Interview mistakes.	

		Vocabulary skill: suffixes. Grammar: Auxiliary verbs: do, be, have	
8		Unit 1. Sociology. Are first impression accurate? Pronunciation: Contractions with helping verbs	
9		Unit 2. Nutritional science. What makes food attractive? Reading 1: Knowing your taste. Reading skill: previewing a text	
10		Unit 2. Nutritional science. What makes food attractive? Reading 2: Eating with our eyes. Critical thinking strategy: Making inferences	
11		Unit 2. Nutritional science. What makes food attractive? Vocabulary skill: Using content to understand words.	
12		Unit 2. Nutritional science. What makes food attractive? Writing skill: Writing descriptive adjectives. Grammar: Use and placement of adjectives	
13		Unit 2. Nutritional science. Why do we change the foods we eat? Listening 1: A billion pounds of spices	
14		Unit 2. Nutritional science. Why do we change the foods we eat? Critical Thinking Strategy : predicting topics and ideas Listening 2: A world of food	
15		Unit 2. Nutritional science. Why do we change the foods we eat? Grammar: Quantifiers with count and noncount nouns	
16		Unit 2. Nutritional science. Why do we change the foods we eat? Pronunciation: links with [j] and [w] Speaking skill: Giving advice	
17		Unit 3. Information technology. How has technology affected our lives? Reading 1: Cars that think Reading Skill: taking notes	
18		Unit 3. Information technology. How has technology affected our lives? Reading 2: Classrooms without walls	
19		Unit 3. Information technology. How has technology affected our lives? Vocabulary skill: Synonyms Writing skill: Writing a summary and personal response	
20		Unit 3. Information technology. How has technology affected our lives? Grammar: Parallel structure	
21		Unit 3. Psychology. In what ways is change good or bad? Listening 1: Shaped by change, promoting change. Listening skill: Listening for time markers	
22		Unit 3. Psychology. In what ways is change good or bad? Critical thinking Strategy: summarizing information Listening 2: An interview with Barbara Ehrenreich	
23		Unit 3. Psychology. In what ways is change good or bad? Vocabulary skill: a word web	

		Grammar: Tag questions.	
24		Unit 3. Psychology. In what ways is change good or bad? Pronunciation: Intonation in tag questions Speaking skill: Asking for and giving reasons	
25		Unit 4. Marketing. Does advertising help or harm us? Reading 1: Can targeted ads change you?	
26		Unit 4. Marketing. Does advertising help or harm us? Reading 2: In defence of advertising. Work with the Video: How algorithms changed the world?	
27		Unit 4. Marketing. Does advertising help or harm us? Vocabulary skill: Synonyms Writing skill: An opinion essay	
28		Unit 4. Marketing. Does advertising help or harm us? Grammar: Compound sentences	
29		Unit 4. Marketing. How does advertising affect our behaviour? Note-taking skill: A mind map to note opinions Listening 1: Targeting children with advertising	
30		Unit 4. Marketing. How does advertising affect our behaviour? Listening skill: Fact and opinion Listening 2: The influence of online ads	
31		Unit 4. Marketing. How does advertising affect our behaviour? Vocabulary skill: Context clues to identify meaning Grammar: Modals expressing attitude	
32		Unit 4. Marketing. How does advertising affect our behaviour? Pronunciation: intonation in questions Speaking skill: Giving and supporting your opinions	
33		Unit 5. Psychology. How do people overcome obstacles? Reading 1: How people learn to become resilient. Reading skill: Referents to understand contrast	
34		Unit 5. Psychology. How do people overcome obstacles? Reading 2: The climb of my life. Work with the video: Shona regains her confidence	
35		Unit 5. Psychology. How do people overcome obstacles? Vocabulary skill: Using the dictionary to find the correct meaning.	
36		Unit 5. Psychology. How do people overcome obstacles? Writing skill: Writing a narrative essay. Grammar: Shift between past and present time frames.	
37		Unit 5. Behavioral science. Does taking risks change our lives? Listening 1: A lifetime of risks	
38		Unit 5. Behavioral science. Does taking risks change our lives? Listening Skill: listening for different kinds of numbers Listening 2: Science on the edge	
39		Unit 5. Behavioral science. Does taking risks change our lives? Vocabulary skill: word families Grammar: Past perfect	
40		Unit 5. Behavioral science. Does taking risks change our lives? Speaking skill: Giving a short presentation	

41		Unit 6. Neurology. Are you a good decision maker? Reading 1: The lazy brain. Reading Skill: using a graphic organizer	
42		Unit 6. Neurology. Are you a good decision maker? Reading 2: Problem-solvers	
43		Unit 6. Neurology. Are you a good decision maker? Vocabulary skill: phrasal verbs Writing skill: stating reasons and giving examples	
44		Unit 6. Neurology. Are you a good decision maker? Grammar: Gerunds and infinitives	
45		Unit 6. Neurology. Will AI ever be as smart as humans? Listening skill: inferring a speaker's attitude Listening 1: What kind of smart is AI?	
46		Unit 6. Neurology. Will AI ever be as smart as humans? Listening 2: Asking the right questions about AI	
47		Unit 6. Neurology. Will AI ever be as smart as humans? Vocabulary skill: Using the dictionary Grammar: Gerunds and infinitives as the objects of verbs	
48		Unit 6. Neurology. Will AI ever be as smart as humans? Speaking skill: Leading a group discussion	
49		Unit 7. Economics. Can a business earn money while making a difference? Reading 1: FEED project. Reading skill: using a timeline	
50		Unit 7. Economics. Can a business earn money while making a difference? Reading 2: A new business models. Vocabulary skill: collocations with verbs	
51		Unit 7. Economics. Can a business earn money while making a difference? Grammar: Complex sentences Writing skill: Writing a cause/ effect essay	
52		Unit 7. Economics. Can money buy happiness? Listening 1: Sudden wealth Critical thinking Strategy: choosing two or more options	
53		Unit 7. Economics. Can money buy happiness? Listening 2: Happiness breeds success Vocabulary skill: idioms Grammar: Types of sentences	
54		Unit 7. Economics. Can money buy happiness? Pronunciation: intonation in different types of sentences Speaking skill: agreeing and disagreeing	
55		Unit 8. Behavioral studies. What does it take to be successful? Reading 1: Fast cars, big money Reading skill: scanning a text	
56		Unit 8. Behavioral studies. What does it take to be successful? Reading 2: Practice makes ... pains.	

		Vocabulary skill: collocations with adjectives+prepositions	
57		Unit 8. Behavioral studies. What does it take to be successful? Writing skill: Writing an argumentative essay Grammar: Sentence fragments	
58		Unit 8. Behavioral studies. What can we learn from success and failure? Listening 1: Learning from failure Listening skill: listening for examples	
59		Unit 8. Behavioral studies. What can we learn from success and failure? Listening 2: An interview with Mohannad Abu-dayyah Vocabulary skill: prefixes Grammar: Simple past and present perfect	
60		Unit 8. Behavioral studies. What can we learn from success and failure? Pronunciation: Varying intonation to maintain interest Speaking skill: Asking for and giving clarification	
Recommended Sources			
TEXTBOOK(S)			
<ul style="list-style-type: none"> – Q: Skills for Success (Reading and Writing) Level 3: Third Edition / Colin S.Ward/ Margot F.Gramer/ Oxford University Press, 2020 – Q: Skills for Success (Listening and Speaking) Level 3: Third Edition / Miles Craven / Oxford University Press, 2020 – English Vocabulary in Use Third Edition/Michael McCarthy, Felicity O’Dell/ Cambridge University Press2017 – Basic Oxford Practice Grammar / Norman Coe, Mark Harrison, Ken Paterson/ Oxford University Press 2019 – Reading & Vocabulary Development 1: Facts & Figures, Fourth Edition / Patricia Ackert and Linda Lee – Essential Grammar in Use Fourth edition/ Raymond Murphy/ Cambridge University Press 2015 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)

Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload	240		
Total Workload/30(h)	240/30		
ECTS Credit of the Course	8		

MODULE HANDBOOK

Bachelor program in Forestry, Department of "Azerbaijani language and literature".

Course Unit Title	Academic and business communication in the Azerbaijani language	
Course Unit Code	ÜF-B03	
Type of Course Unit	Mandatory	
Level of Course Unit	1	
National Credits		
Number of ECTS Credits Allocated	7	
Theoretical (hour/week)		
Practice (hour/week)	1.5	
Laboratory (hour/week)		
Year of Study	1	
Semester when the course unit is delivered	1	
Course Coordinator	Solmaz Alasgarova	
Name of Lecturer (s)	Solmaz Alasgarova	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description: The subject of "Business and Academic Communication in Azerbaijani" emerged based on a certain need and demand. In the conditions of globalization, the correct and fluent use of the Azerbaijani language in accordance with the requirements of the time, as well as fluent speech in this language regardless of specialization.		
Objectives of the Course: Within the framework of this subject, special attention should be paid to instilling in students the skills of making presentations in Azerbaijani, public speaking, and academic and business writing.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	To acquire information about the Azerbaijani language and the state care shown to it in the context of globalization. To learn how to prepare a	

	presentation on the topic of decrees and orders on the state language, “Great Leader Heydar Aliyev and the Azerbaijani language”; To know the goals and objectives of the subject “Business and Academic Communication in the Azerbaijani Language”. To acquire knowledge about the forms and functions of communication, and levels of communication.	
2	To master the role of auxiliary parts of speech in the process of academic communication; to study the role of oral and written communications, as well as the requirements for speech: accuracy, precision, clarity, fluency, purity, conciseness, simplicity, richness, coherence and other important issues of speech at the level of modern requirements. To know what communication rhetoric consists of, the styles of the literary language, the active and passive lexicon of the Azerbaijani literary language. To master literary language and communicativeness, types of communicativeness, communication and communicative strategies in communicativeness and creative technologies.	
3	To study the culture of listening and the essence of listening as a type of communication. To understand the importance of listening and attention, forms of listening, and improving listening skills; to acquire information about communication culture, conversational ethics, and address etiquette; to know the uniqueness of organized speech (lecture, report, speech, spontaneous speech); to create business communication orally.	
4	To learn information and rules about the business style of the modern Azerbaijani language; To enrich knowledge about the role of letters in business communication, electronic and online communications; To create written business communication.	
5	To learn information about the language of official business documents; to acquire information about the types and forms of business communications, as well as their language and style. To learn the purity of the Azerbaijani language in business communication, the essence of observing spelling rules and sentence structure. To acquire theoretical and practical work on business rhetoric. To be able to prepare written and oral presentations in the Azerbaijani language on the specialty.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course’s Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making	

	and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		Information about the subject. Objectives and tasks of the subject. Language and speech. Information about the language. Azerbaijani language. Decisions, decrees and laws on the Azerbaijani state language.	
2		Speech culture and oratory. The relationship of oratory with other sciences.	
3		Forms of speech. Written speech and oral speech. Differences between written speech and oral speech. Features of oral speech. Improvement of oral speech skills.	
4		Communication. Business communication culture.	
5		Discussion and listening culture. Ethical issues of speech. Speech etiquette.	
6		Expressive actions that complement oral speech. Body language. Mimicry, gesture.	
7		Literary language. Norms of literary language. Phonetic norm. Observance of orthographic norms in academic and business communication. Abbreviations. Punctuation marks	
8		Observance of orthoepic norms in academic and business communication. Expressiveness of speech. Accent, intonation.	
9		Lexical norm. Expectation of lexical norm in academic and business communication. Use of terms, synonyms, idioms, etc.	
10		Grammatical norm. Expectation of grammatical norms in academic and business communication. Inversion. Use of descriptive and expressive means of language in academic speech (ellipsis, rhetorical questions, exclamation, etc.).	

11		Auxiliary parts of speech, their stylistic possibilities in speech	
12		Types of speech: dialogical speech, monological speech, polylogical speech	
13		Basic requirements for cultural speech.	
14		Style and stylistics. Functional styles of the Azerbaijani language	
15		Scientific style. Rules for written and oral presentation of lectures, scientific works, essays, scientific reports, summaries, etc.	
16		Publicistic style. Preparation of academic and business articles in the publicistic style.	
17		Official-business style: business correspondence, rules for writing business documents	
18		Preparation of business advertisements and bulletin boards.	
19		Epistolary style: rules for official and electronic correspondence. Business correspondence.	
20		Areas of oratory.	
21		Academic oratory. Business rhetoric. Correct construction of business and academic speech.	
22		Rules and content of CV writing. Questionnaires and surveys. Rules for preparing project questionnaires.	
23		Business meetings. Organization of business meetings. Participation in business meetings	

Recommended

Sources TEXTBOOK(S)

1. Khalilov Buludkhan. Business and academic communication in the Azerbaijani language. Baku, 2021
2. Shiriyev Fikret. Speech culture and communication of the Azerbaijani language. Baku, 2021
3. Babayev Adil. Azerbaijani language and speech culture. Baku, 2011
4. Mammadli N. Business and academic communication in the Azerbaijani language. Baku, 2021

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria

Final grades are determined according to the Academic Regulations of WCU

Course Policies

- Attendance of the course is mandatory.
- Late assignments will not be accepted unless an agreement is reached with the lecturer.
- Students cannot use calculators during the exam.
- Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations

ECTS allocated based on Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			4

MODULE HANDBOOK

Forestry bachelor program, Department of "Philosophy".

Course Unit Title	Philosophy
Course Unit Code	ÜFS-B04
Type of Course Unit	Selection
Level of Course Unit	2
National Credits	
Number of ECTS Credits Allocated	3
Theoretical (hour/week)	0.5
Practice (hour/week)	0.5
Laboratory (hour/week)	
Year of Study	2
Semester when the course unit is delivered	3
Course Coordinator	Mustafayeva Nuraddinovna Gunel
Name of Lecturer (s)	Mustafayeva Nuraddinovna Gunel
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani, russian
Prerequisites	-
Recommended Optional Program Components	-
Course description: Philosophy is a scientific worldview about nature, society, and man. Based on scientific knowledge, philosophy forms a generalized worldview about nature, society, and man in man and helps to provide a logical analysis of existence.	
Objectives of the Course: By providing students with spiritual knowledge about nature, society, and humanity, it aims to form a scientific and philosophical worldview in them, and to form logical thinking so that they can understand and analyze the world.	
Learning Outcomes To form modern approaches to the study of natural and social phenomena, the ability to collect and analyze empirical data, the rules for compiling scientific work, and the ability to summarize and analyze research results.	
At the end of the course the student will be able to	Assessment

1	To form modern approaches to the study of natural and social phenomena, the ability to collect and analyze empirical data, the rules for compiling scientific work, and the ability to summarize and analyze research results.		
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz			
Course's Contribution to Program			
			CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes		
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements		
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing		
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control		
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations		
6	ability to use various types of devices to monitor and control technological processes		
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results		
8	ability to use modern information technologies and software, observing information security requirements in their professional activities		
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
9		Introduction to the course. The subject of philosophy and the main areas of philosophy	
2		Basic philosophical concepts: being, human personality (part I)	
3		Basic philosophical concepts: being, human personality (part II)	
4		Approaches to the existence of the "soul, mind" in philosophy.	
5		The problem of "free will" in philosophy.	
6		Communication theories. Logical errors in argumentation (part I)	
7		Communication theories. Logical errors in argumentation (part II)	
8		Political Philosophy (Introduction): discussion of basic concepts	
9		Economics and Philosophy	
10		Philosophy and the Concept of Justice	

11		Philosophy and the Concept of Justice	
12		Consciousness, brain and computers (artificial intelligence)	
13		Philosophy and the meaning of life: philosophical practices in our everyday lives	
14		Philosophy and ecological problems	
15		Time and space in philosophy	

- Recommended Sources TEXTBOOK(S)
- Arendt Hannah, “Human Condition”, The University of Chicago Press, Chicago & London, 2d edition, 1998.
- Arendt Hannah, “The origins of totalitarianism”, A Harvest Book Harcourt Brace & Company, San Diego NY London, 1979.
- Becker Gary S., “Human Capital: A THEORETICAL AND EMPIRICAL ANALYSIS, WITH SPECIAL REFERENCE TO EDUCATION”, The University of Chicago Press Ltd., London, 1993.
- Aristotle, Politics.
- Beebee, Helen, Free Will: An Introduction, Palgrave, 2013.
- Cassin Barbara, “Dictionary of Untranslatables: A Philosophical Lexicon”, Princeton University Press 2014.
- Craig Edward, “Philosophy: A very short Introduction”, Oxford University Press Inc., New York 2002
- Eco Umberto, “Eternal Fascism: Fourteen Ways of Looking at a Blackshirt “Writing in New York Review of Books, 22 June 1995, pp.12-15.
- Esping-Andersen Gosta, “The three worlds of welfare capitalism”, Princeton University Press, Princeton New Jersey, 1990.
- Fresco Jacque, “The best money can’t buy: Beyond Politics, Poverty and War”, Global Cyber Visions, 2002.
- Fullerton George Stuart, “An Introduction to Philosophy”, The MacMillan Company, London: Macmillan & Co., Ltd 1915.
- Habermas Jurgen, “The concept of human dignity and the realistic utopia of human rights”, Journal Compilation Metaphilosophy LLC and Blackwell Publishing Ltd., Vol. 41 #4, July 2010.
- Hayek F.A., “The Road to Serfdom”, University of Chicago Press, 1944.
- Hobbes Thomas, “Leviathan”.
- Hume David, “Treatise of Human Nature” (Book I, Section VI “Of Personal Identity”), ed. 1896, Oxford.
- Krugman Paul, Venables Anthony J., “Globalization and Inequality of Nations”, The Quarterly Journal of Economics, Vol. 110, No.4, November, 1995.
- Kurzweil Ray, “The Singularity is Near: when humans transcend biology”, Penguin Books Ltd., London, 005.
- Locke John, “An Essay Concerning Human Understanding” (Chapter XXVII “Of Identity and Diversity”), 2nd Edition.
- Locke John, “Second Treatise of Government”.
- Ludwig von Mises, Bettina Bien Greaves (Editor), “Human Action: A treatise on Economics”, Liberty Fund Inc., 2010.
- Machiavelli, “The Prince”.
- Marx Karl “Capital, A new abridgement”, edited by David McLellan, Oxford University Press Inc., NY, 2008.
- McGinn Colin, “Consciousness and Its objects”, Clarendon Press, Oxford, 2004.
- McTaggart J. Ellis, “The Unreality of Time”, Mind, Volume XVII, Issue 4, 1 January 1908, Pages 457–474.
- Perry John, “Personal Identity”, University of California Press, 1975.
- Piketty Thomas, “Capital in the twenty- first century”, President and Fellows of Harvard College, 2014.
- Plato, “Republic”.

Assessment		
Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	

Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			3

MODULE HANDBOOK

Forestry bachelor program, Department of "Philosophy".

Course Unit Title	Introduction to multiculturalism
Course Unit Code	ÜFS-B04
Type of Course Unit	Selection
Level of Course Unit	2
National Credits	
Number of ECTS Credits Allocated	3
Theoretical (hour/week)	0.5
Practice (hour/week)	0.5
Laboratory (hour/week)	
Year of Study	2
Semester when the course unit is delivered	3
Course Coordinator	Elvin Khudaverdiyev
Name of Lecturer (s)	Elvin Khudaverdiyev
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani, russian

Prerequisites		-
Recommended Optional Program Components		-
Course description: Introduction to Multiculturalism is a course that examines the coexistence and interaction of different cultures, ethnic groups, and social identities. This subject introduces students to the values, customs, and worldviews of different cultures.		
Objectives of the Course: The aim of the course Introduction to Multiculturalism is to understand the interrelationships of different cultures and ethnic groups, to appreciate the value of cultural diversity, and to promote social harmony. This course teaches students the principles of multiculturalism, intercultural communication, and integration processes, as well as discussing issues of social justice, equality, and human rights. As a result, students acquire the knowledge and skills that will contribute to the development of positive relations between different cultures.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	The outcomes of the Introduction to Multiculturalism course include understanding cultures, increasing empathy and respect, developing tolerance, increasing social knowledge, strengthening communication skills, promoting integration and social harmony, and developing critical thinking skills.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	

10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		The subject and importance of the subject of Introduction to Multiculturalism	
2		Religious diversity. The essence of religion and its forms of manifestation	
3		World religions	
4		National religions	
5		Ethnic diversity and the national idea	
6		Multiculturalism as an effective policy model for regulating ethnic-cultural diversity	
7		Ethnic-cultural diversity and its regulation in Western countries in the modern period	
8		Multiculturalism in Azerbaijan in the modern period	
Recommended Sources TEXTBOOK(S)			
<ol style="list-style-type: none"> Guliyev, R. (2015). Fundamentals of Multiculturalism. Khudaverdiyev Elvin - Multiculturalism Policy of Azerbaijan (2023). Mammadov, A. (2018). Multiculturalism in Azerbaijani Society. Aliyeva, S. (2020). Cultural Diversity and Social Harmony. Kymlicka, W. (1995). Multicultural Citizenship: A Liberal Theory of Minority Rights. Taylor, C. (1992). Multiculturalism and the Politics of Recognition. Parekh, B. (2000). Rethinking Multiculturalism: Cultural Diversity and Political Theory. 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> Attendance of the course is mandatory. Late assignments will not be accepted unless an agreement is reached with the lecturer. Students cannot use calculators during the exam. Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			

Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			3

MODULE HANDBOOK

Meşəçilik bachelor program, Department of “Psixologiya və sosial iş”.

Course Unit Title	Sociology
Course Unit Code	ÜFS-B04
Type of Course Unit	Elective
Level of Course Unit	2
National Credits	
Number of ECTS Credits Allocated	3
Theoretical (hour/week)	0.5
Practice (hour/week)	0.5
Laboratory (hour/week)	
Year of Study	2
Semester when the course unit is delivered	1
Course Coordinator	Azer Gasimov
Name of Lecturer (s)	Azer Gasimov
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani
Prerequisites	-
Recommended Optional Program Components	-

Course description: Sociology is a field of study that encompasses the study of social structure, social institutions, social change, and human behavior in a social context. This subject teaches students to analyze social phenomena with a scientific approach and to gain a deeper understanding of the events occurring in society.

Sociology studies the behavior of people in the social world, the formation of social relations, and the social structures of society. The main goal of the subject is to explain to students the role of social institutions (family, religion, education, economy, and politics) in the formation of society, to help students understand how social processes occur and the impact of social change on individuals and groups.

Through this course, students learn about social dynamics, social norms, and social control mechanisms in society, as well as gain information about current topics such as social inequality, social stratification, urbanization, gender, and ethnic issues. In addition, students acquire the skills to analyze social problems on a scientific basis by studying sociological research methods.

In addition to developing critical and analytical thinking skills, sociology provides students with the theoretical and practical knowledge necessary to work in various areas of society - social policy, social services, business, media and non-governmental organizations. During the course, students will analyze social problems, become familiar with empirical research methods and develop skills that can contribute to the social development of society.

Objectives of the Course:

Sociology is a field of study that encompasses the study of social structure, social institutions, social change, and human behavior in a social context. This subject teaches students to analyze social phenomena with a scientific approach and to gain a deeper understanding of the events occurring in society.

Sociology studies the behavior of people in the social world, the formation of social relations, and the social structures of society. The main goal of the subject is to explain to students the role of social institutions (family, religion, education, economy, and politics) in the formation of society, to help students understand how social processes occur and the impact of social change on individuals and groups.

Through this course, students learn about social dynamics, social norms, and social control mechanisms in society, as well as gain information about current topics such as social inequality, social stratification, urbanization, gender, and ethnic issues. In addition, students acquire the skills to analyze social problems on a scientific basis by studying sociological research methods.

In addition to developing critical and analytical thinking skills, sociology provides students with the theoretical and practical knowledge necessary to work in various areas of society - social policy, social services, business, media and non-governmental organizations. During the course, students will analyze social problems, become familiar with empirical research methods and develop skills that can contribute to the social development of society.

Learning Outcomes

At the end of the course the student will be able to		Assessment
1	Students who successfully complete this course will have the following knowledge and skills: Knowledge: Will be able to explain the basic concepts, theoretical orientations, and research methods of sociology.	
2	They will analyze the functions of social institutions (family, education, religion, economy, politics) and their impact on society. They will be able to explain the processes of social stratification, social mobility and social change They will understand the causes and consequences of social problems (gender inequality, poverty, ethnic and racial relations, crime, etc.). They will gain knowledge about globalization, urbanization and contemporary social trends	

3	<p>Skills:</p> <ul style="list-style-type: none"> • They will develop the ability to analyze social phenomena and processes with a scientific approach. • They will be able to conduct empirical research using social research methods (surveys, interviews, observation, etc.). • They will approach social problems critically and develop analytical thinking skills to solve them. • They will analyze the relationships between social groups and individuals and evaluate the activities of social institutions. • They will be able to apply the theoretical knowledge they have acquired in social policy, business, media and other fields. <p>These training outcomes will ensure that students master sociological knowledge, develop scientific thinking and research skills, understand the social processes of society and analyze them and present solutions.</p>	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		Sociology as a science	
2		Society as a complex social phenomenon	
3		Person as a social system	
4		Concept of social structure	
5		Sociology of social-ethnic relations	
6		Social territorial associations	
7		Religion and sociology	
8		Education and sociology	

Recommended Sources

TEXTBOOK(S)

- Giddens, A. (2009). *Sociology*. Polity Press.
- Macionis, J. J. (2018). *Sociology*. Pearson.
- Ritzer, G. (2021). *Sociological Theory*. McGraw-Hill.
- Haralambos, M., & Holborn, M. (2013). *Sociology: Themes and Perspectives*. Collins.
- Berger, P. L., & Luckmann, T. (1966). *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*. Penguin Books
- Durkheim, É. (1897). *Suicide: A Study in Sociology*. The Free Press.
- Weber, M. (1978). *Economy and Society: An Outline of Interpretive Sociology*. University of California Press.
- Mills, C. W. (1959). *The Sociological Imagination*. Oxford University Press.
- Collins, R. (1994). *Four Sociological Traditions*. Oxford University Press.
- Bauman, Z. (2000). *Liquid Modernity*. Polity Press.

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria

Final grades are determined according to the Academic Regulations of WCU

Course Policies

- Attendance of the course is mandatory.
- Late assignments will not be accepted unless an agreement is reached with the lecturer.
- Students cannot use calculators during the exam.
- Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations

ECTS allocated based on Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			

Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			3

MODULE HANDBOOK

Forestry bachelor program, Department of “Philosophy”.

Course Unit Title	Constitution of the Republic of Azerbaijan and the foundations of law	
Course Unit Code	ÜFS-B04	
Type of Course Unit	Selection	
Level of Course Unit	2	
National Credits		
Number of ECTS Credits Allocated	3	
Theoretical (hour/week)	0.5	
Practice (hour/week)	0.5	
Laboratory (hour/week)		
Year of Study	2	
Semester when the course unit is delivered	3	
Course Coordinator	Arzu Hajiyeva	
Name of Lecturer (s)	Arzu Hajiyeva	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description:		
The course covers the concept, structure, stages of development of the constitution, the concept and content of human and civil rights and freedoms, as well as the concept of law, and the stages of formation of the legal system in Azerbaijan.		
Objectives of the Course:		
The main goal is to teach students the basics of the Constitution, including the basics of law. Acquiring and mastering the necessary knowledge is one of the important conditions.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	To study in depth the Constitution of the Republic of Azerbaijan and to gain excellent knowledge about human and civil rights and freedoms.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	

3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		The concept, structure and stages of development of the Constitution of the Republic of Azerbaijan.	
2		The constitutional and legal status of man and citizen in the Republic of Azerbaijan.	
3		State power and local self-government of the Republic of Azerbaijan.	
4		The concept, essence and sources of the legal system of the Republic of Azerbaijan.	
5		The system of law and areas of law.	
6		Legal norms and legal relations.	
7		Legal facts, violations of law and legal liability.	
8		Areas of law: foundations of constitutional, administrative and criminal law.	

Recommended Sources TEXTBOOK(S)			
<ol style="list-style-type: none"> 1. Constitution of the Republic of Azerbaijan 2. S.S. Allahverdiyev. Fundamentals of the Constitution and Law of the Republic of Azerbaijan. Textbook. Baku, 2012 3. Ed. V.V. Lazarev. General Law and State Theory. Baku, 2007 4. S.S. Allahverdiyev. Fundamentals of the Constitution and Law of the Republic of Azerbaijan. Textbook. Baku, 2010 5. Frederic Bastiat. Law. Baku.,2007 6. Constitutional Law of the Republic of Azerbaijan “On Normative Legal Acts”. Baku.,2011 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			3

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Entrepreneurship basics and introduction to business	
Course Unit Code	ÜFS-B04	
Type of Course Unit	Selection	
Level of Course Unit	2	
National Credits		
Number of ECTS Credits Allocated	7	
Theoretical (hour/week)	0.5	
Practice (hour/week)	0.5	
Laboratory (hour/week)		
Year of Study	2	
Semester when the course unit is delivered	1	
Course Coordinator		
Name of Lecturer (s)		
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani, russian	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description:		
<p>This course will provide students with the key foundations of the entrepreneurial process from a macro and micro perspective. The course will be based on three main pillars: 1) creativity, 2) logical reasoning and 3) problem sensitivity. These three skills are at the core of any entrepreneur’s thinking that takes place amidst the contextual reality of today’s extreme uncertainty. These skills will also be particularly relevant for future employment and businesses, as organisations increasingly need to be agile and take an experimental approach to build valuable innovations and business models that positively affect society and meet the needs of the market.</p>		
Objectives of the Course:		
<p>Objective: 1: Understand the entrepreneurial process, its impact, and significance within the macro and micro context of individuals, economies and societies. Objective 2: .Understand and apply the entrepreneurial mindset to discover business ideas and assess their viability Objective 3: Analyse the key components of the entrepreneurial process, namely, opportunity discovery, business modelling, procurement resources and team formation. Objective 4: Apply your analysis of the entrepreneurial process to an idea you identify as a team early in the course.</p>		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	Course structure, purpose and expectations	
2	Understanding of the role of entrepreneurship in driving innovation and economic development.	
3	Exploring examples of successful entrepreneurs and their impact on society	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course’s Contribution to Program		
		CL

1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		Introduction To Entrepreneurship	
2		Entrepreneurial & Start Up Culture	
3		Startup Thinking	
4		Problem Definition	
5		Empathy And Observation	
6		Innovation And Creativity	
7		Ideation	
8		Group Project 1: Startup Concept	
9		Product Prototype & Testing	
10		Understanding Business Models	
11		Go-To-Market And Marketing Strategies	
12		Financing Entrepreneurial Ventures	
13		Pitching To Investors	
14		How To Turn Your Idea Into A Real	

		Business	
15		Group Project 2 - Final Pitch Deck	
Recommended Sources TEXTBOOK(S)			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			3

MODULE HANDBOOK

Meşəşilik bachelor program, Department of "Philosophy".

Course Unit Title	Etika və estetika
Course Unit Code	ÜFS-B04
Type of Course Unit	Selection
Level of Course Unit	2
National Credits	
Number of ECTS Credits Allocated	3
Theoretical (hour/week)	0.5

Practice (hour/week)	0.5
Laboratory (hour/week)	
Year of Study	2
Semester when the course unit is delivered	3
Course Coordinator	Gunel Mustafayeva
Name of Lecturer (s)	Gunel Mustafayeva
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	
Prerequisites	-
Recommended Optional Program Components	-
Course description: The subject "Ethics" examines the emergence and evolution of ethical teachings throughout history; it allows students to gain knowledge about the main ethical theories that have existed in human history, to form a unified view of the study of ethics in the system of social and philosophical sciences, and to understand the process of interaction between morality and society.	
Objectives of the Course: Familiarization with the technology of organizing research, its types, stages, methods and techniques; orientation of the student to conduct research in the experimental process by putting forward and realizing his own hypotheses and concepts, as well as understanding the possibilities of testing them alone or together with his group mates; formation of the ability to review scientific literature for the initial study of the problem.	
Learning Outcomes Familiarization with the technology of organizing research, its types, stages, methods and techniques; orientation of the student to conduct research in the experimental process by putting forward and realizing his own hypotheses and concepts, as well as understanding the possibilities of testing them alone or together with his group mates; formation of the ability to review scientific literature for the initial study of the problem.	
At the end of the course the student will be able to	
1	Forms the ability to rationally approach the history of ethical thought; creates a complete picture of modern approaches to the study of ethical knowledge, the essence of morality, and classifies its main functions; emphasizes the importance of maintaining objectivity in the study of the history of ethical thought; applies the acquired theoretical knowledge in professional and everyday activities.
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz	
Course's Contribution to Program	
	CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control

5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		Ethics in the system of philosophical knowledge	
2		Formation of ethical thought. Main stages in the development of ethical teachings	
3		Ethical ideas in the history of public thought of Azerbaijan	
4		Essence and functions of morality	
5		Main categories of ethics	
6		Moral feeling and moral practice	
7		Applied ethics and its scope	
8		Ethical principles in professional activity	

Recommended Sources TEXTBOOK(S)

1. Gizilgul Abbasova. Ethics: history, theory and practice (textbook). Baku, 2016.
2. Sevinj Shahhüseynova, Ethics, Baku, 2009.
3. Aristotle, Politics. Great Ethics, Baku, 2006
4. Nasiruddin Tusi, Moral Nasiri, Baku, 1989

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria

Final grades are determined according to the Academic Regulations of WCU

Course Policies

- Attendance of the course is mandatory.
- Late assignments will not be accepted unless an agreement is reached with the lecturer.
- Students cannot use calculators during the exam.

- Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations

ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			3

MODULE HANDBOOK

Forestry bachelor program, Department of “Information Technologies”.

Course Unit Title	Information technologies in the agricultural sector
Course Unit Code	ÜFS-B05
Type of Course Unit	Mandatory
Level of Course Unit	2
National Credits	
Number of ECTS Credits Allocated	3
Theoretical (hour/week)	0.5
Practice (hour/week)	0.5
Laboratory (hour/week)	
Year of Study	2
Semester when the course unit is delivered	4
Course Coordinator	Rana Hajiyeva
Name of Lecturer (s)	Rana Hajiyeva
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani
Prerequisites	-
Recommended Optional Program Components	-
Course description:	
To form appropriate knowledge, skills and habits in students, and to ensure their preparation for working with computers.	
Objectives of the Course:	
Ensuring the scientific and methodological preparation of future specialists (goals and content of Informatics training, forms of organization of training, methods and tools, modern training technologies), forming in them the relevant knowledge, skills and habits for implementing training, familiarizing them	

with the accumulated experience in teaching Informatics, and forming the ability to think logically.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	Formation of ideas about the goals and objectives of Informatics as a science, scientific research methods, and its relationship with other sciences;	
2	Formation of ideas about the forms of organizing Informatics training; Formation of ideas about the means of Informatics training; Formation of ideas about the principles of Informatics training, training methods;	
3	Formation of ideas about the goals and objectives of Informatics training for undergraduate students;	
4	Implementation of practical tasks used in the training of Informatics course for undergraduate students;	
5	Monitoring and investigating the level of implementation of practical tasks.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)		

Course Contents			
Week	Chapter	Topics	Exam
1		Application of information technologies in agriculture and the tasks they pose. Development stages of information technologies. Concept of information, properties, forms, units of measurement.	
2		Computer architecture. Assembling and opening a computer. Visual acquaintance with devices.	
3		The main components of information technologies. HardWare - technical support. SoftWare - software. BrainWare - instrumental support. Main and peripheral devices of computers.	
4		Practical application of the main capabilities of the Word text editor. Formatting texts. Creating tables.	
5		Computer software. Classification of operating systems. Windows operating system, main parameters. Files and folders. Menus and types of windows of the Windows operating system.	
6		Using the graphic capabilities of Word. Drawing diagrams.	
7		Word processors. Word text editor and its main capabilities. Graphic capabilities of the Word text editor. Mathematical software packages.	
8		Menus, windows of the Windows operating system. Windows Aero interface. Files and folders. Hot keys.	
9		Using the standard hot keys of the Windows operating system and applying them in practice	
10		Computer graphics. Color models. Basic capabilities of the Power Point presentation program. Application of the basic capabilities of the Power Point presentation program. Preparation of a presentation describing the life and activities of famous people	
11		MS Excel spreadsheet. Cell, block, page. Building diagrams. Filter and sort operations. Classification of functions in Excel. Functions of mathematical, statistical, financial, text, logical and other categories.	
12		Practical application of the basic capabilities of the MS Excel spreadsheet	
13		Using database management systems in agriculture. Purpose, basic capabilities, objects, data types of Access VBIS	
14		Classification of computer networks, architecture, types, topology. Structure of the Internet network	
15		Classification of computer networks, architecture, types, topology. Structure of the Internet network.	
<p>Recommended Sources</p> <p>TEXTBOOK(S)</p> <ul style="list-style-type: none"> – Hajiyeva R.C. Informatics. Collection of lectures, Polygr. and Publishing Center of KKU, Baku, 2020, 180 p. – Alizade M.N., Orujova T.V., Hasanova N.A. Information security. Baku, "MSV Publishing House", 2018, 388 pages. Shirokova A. I., Pyshniak M. Abasov B. Microsoft Access database management system. Baku, 2009. – Computer Science. Program Development in the Python Programming Language, M., 2020, 144 p. 			

- Computer Science for Economists. Textbook for Bachelor's and Specialist Degrees / ed. Polyakov V. P. M.: Yurait, 2019. 524 p.
- Lyakhovich V. F., Molodtsov V. A., Ryzhikova N. B. Fundamentals of Computer Science. - M.: KnoRus, 2016. - 348 p.
- Makarova N. V. Computer Science: Textbook for Universities. Publisher: Piter, 2013, 576 p.
- Computer Science and Information Technology / ed. Yu. D. Romanova. - M.: Eksmo, 2011. - 544 p.
- Prosvetov G. I. Data Analysis Using Excel. Tasks and Solutions. — M.: Alfa-Press, 2015. — 160 p.
- Nabiullina S.N. Computer Science and ICT. Lecture Course. M.: Lan, 2019. 72 p.
- Gasumova S.E. Social Informatics. Textbook and Workshop for Universities. M.: Yurait, 2019. 284
- "Informatics for Economists". Textbook. Ed. by prof. V.M.Matyushka. M., INFRA-M, 2006.
- Evdokimov V.V. Economic Informatics, textbook for universities, St. Petersburg: Piter, 2011.

Assessment		
Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria
Final grades are determined according to the Academic Regulations of WCU

- Course Policies**
- Attendance of the course is mandatory.
 - Late assignments will not be accepted unless an agreement is reached with the lecturer.
 - Students cannot use calculators during the exam.
 - Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations

ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			3

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Information management in agriculture.	
Course Unit Code	ÜFS-B05	
Type of Course Unit	Mandatory	
Level of Course Unit	2	
National Credits		
Number of ECTS Credits Allocated	3	
Theoretical (hour/week)	0.5	
Practice (hour/week)	0.5	
Laboratory (hour/week)		
Year of Study	2	
Semester when the course unit is delivered	4	
Course Coordinator	Esmira Ahmadova	
Name of Lecturer (s)	Esmira Ahmadova	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description:		
The subject "Information Management and Database Creation" covers the topics of ICT, its application areas, database organization, and information management. Among these topics, "Database Management System", "Database Organization in MS Access Environment", etc. can be mentioned.		
Objectives of the Course:		
The purpose of the subject "Information Management and Database Creation" is to form a worldview, relevant knowledge and skills about information processes, ICT, its characteristics, application, information management, and database creation..		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	Formation of ideas about information processes; Formation of ideas about information technologies and their areas of application;	
2	Formation of ideas about information management; Formation of ideas about database management systems and database creation	
3	Formation of ideas about spreadsheet organization technologies	
4	Formation of ideas about computer networks and skills to use them	
5	Formation of skills to use information technologies that are most used in education and in the specialty	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course’s Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze	

	circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		Information and information processes. Information management	
2		Information technologies and their application areas.	
3		Database management system.	
4		Database organization in MS Access environment.	
5		Spreadsheet organization technologies.	
6		Using information resources and services in the Internet environment	
7		Geographic information systems	
8		Using other application programs	

Recommended Sources

TEXTBOOK(S)

- Hajiyeva R.C. Informatics. Collection of lectures, Polygraph and Publishing Center of the State University of Baku, Baku, 2020, 180 p.
- Karimov S.G., Habibullayev S.B., Ibrahimzade T.I. Informatics. Baku, 2011.
- Khalilov M.S., Hasanova N.A. Informatics. Baku University Publishing House, 2014, 404 p.
- Trofimov V. B. Informatics. Textbook for academic bachelor's degree. In 2 volumes. Volume 2. M.: Jurayt, 2019. 406 c.
- Filimonova E. B. Informatics and information technologies in professional activity. Textbook. M.: Justitia, 2019. 216 c.
- Kaimin V.A. Informatics. - M.: ИИФРА-М, 2012.
- Databases and database management system Access.
- <http://tpt.tom.ru/sved/umk/obscheobraz/uchebnik/dbase.htm>

Kaimin V.A. Informatics. - M.: ИИФРА-М, 2012. Technologies in rural economy: types and applications. https://eos.com/ru/blog/novye-tehnologii-v-selskom-khozyajstve/			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			3

MODULE HANDBOOK

Forestry bachelor program, Department of "Philosophy".

Course Unit Title	Logic
Course Unit Code	ÜFS-B05
Type of Course Unit	Selection
Level of Course Unit	2
National Credits	
Number of ECTS Credits Allocated	3

Theoretical (hour/week)	0.5	
Practice (hour/week)	0.5	
Laboratory (hour/week)		
Year of Study	2	
Semester when the course unit is delivered	4	
Course Coordinator	Gunel Mustafayeva	
Name of Lecturer (s)	Gunel Mustafayeva	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani, russian	
Prerequisites	-	
Recommended Optional Program Components	-	
course description: The course offers students an approach to logic as a branch of philosophy through brain work, language, deductive and inductive logic, the art of reasoning, and classroom discussions. The main focus is on the study of the mechanism of argumentation and expression of ideas. Special attention is paid to logical fallacies. The problems and challenges of the modern era will also be analyzed and discussed.		
Objectives of the Course: Students should leave this course with an understanding of the basic concepts of logic; demonstrating an understanding of the central questions of logic as a field of philosophy, familiarity with the art of reasoning, and an understanding of the major challenges of the modern age.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	Studying the content of the subject's topics and problems, its main concepts, and their use in other philosophical and humanitarian disciplines	
2	The student should be able to freely analyze and compare the ideas in philosophical schools	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain	

	valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		Logic as a branch of philosophy. Course Objectives. The Work of the Brain.	
2		Language, Mind and Logic. The "Triad" Theory of the Mind.	
3		Logic as a branch of philosophy. Language, Mind and Logic.	
4		Logic and Ludwig Wittgenstein's Theories of Language.	
5		Logic and Ludwig Wittgenstein's Theories of Language.	
6		Logic and Classification Rules.	
7		Logic and Classification Rules.	
8		Statement. Syllogism, Conclusions. Analysis of Arguments.	
9		Statement. Syllogism, Conclusions. Analysis of Arguments.	
10		Formal and Informal Logic.	
11		Formal and Informal Logic.	
12		Logical Fallacies, Ability to Ask the Right Questions.	
13		Logical Fallacies, Ability to Ask the Right Questions.	
14		Inductive and Deductive Logic.	
15		Inductive and Deductive Logic.	

Recommended Sources

TEXTBOOK(S)

1. The Art of Reasoning, The Introduction to Logic and Critical Thinking, 4th edition, David Kelley, 2014
2. Thinking Fast and Slow, Daniel Kahneman, 2013
3. Logic Primer - 2nd Edition, by Colin Allen, Michael Hand
4. Logic. An Introduction to Elementary Logic - 2nd Edition, by Colin Allen, Michael Hand
5. Philosophy of Logic, 1986, by W. V. Quine The Tractatus Logico-Philosophicus, Wittgenstein, 1921

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria

Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			3

MODULE HANDBOOK

Forestry bachelor program, Department of "Psychology and Social Work".

Course Unit Title	Political science
Course Unit Code	ÜFS-B05
Type of Course Unit	Mandatory
Level of Course Unit	2
National Credits	
Number of ECTS Credits Allocated	3
Theoretical (hour/week)	0.5
Practice (hour/week)	0.5
Laboratory (hour/week)	
Year of Study	2
Semester when the course unit is delivered	4
Course Coordinator	Elkhan Rahimov
Name of Lecturer (s)	Elkhan Rahimov
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	
Prerequisites	-
Recommended Optional Program Components	-
Course description: "Political science" is the science of politics, political processes and institutions, and	

political power. The main task of political science, which reflects the diversity and diversity of the political life of society, is to provide objective, scientifically based information about political phenomena and processes and to use this information for the benefit of social development. The course consists of theoretical and seminar (practical) lessons.

Objectives of the Course:

The main goal of the course is to help students develop a general understanding of contemporary political knowledge;
 The main teaching methods are lectures, exercises, demonstrations, class discussions, expert reports, team projects, role-playing games, analysis and criticism of various political works, including articles from magazines and websites.
 Before each lesson, the student must read the assigned texts and all other assigned reading materials.

Learning Outcomes

At the end of the course the student will be able to		Assessment
1	A successful student will fully master the basic concepts of politics at the end of the course	
2	Ability to analyze empirical and normative approaches will be developed.	
3	Familiarity with various political teachings will help them form a broad and systematic political worldview	
4	Forming ideas about the goals and objectives of the discipline of political science, scientific research methods, and its relationship with other sciences explains to students the relationship of this discipline with other sciences.	
5	Distinguishes the dynamics of the emergence and development of political science, determines and applies the form appropriate to the topic	
6	Interprets the goals and objectives of political science teaching.	
7	Forms the ability to freely think about the theories taught in political science teaching and to make predictions about the events taking place in the international world.	

Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz

Course's Contribution to Program

		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	

7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		Knowledge about politics. Stages of development of political science.	
2		Concept of State • Definition of State • Social Contract Role and Power of the State	
3		Siyasi ideologiyalar Siyasi hakimiyyət	
4		Democracy • Concept of Democracy Forms of Democracy	
5		Foreign policy • The concept of foreign policy Functions of foreign policy	
6		International Relations • What is International Relations? • Theories of International Relations Main Stages in the Development of International Relations Theory	
7		Global Governance • What is Globalization? • What is Global Governance? Global Media and the Public Dilemma	
8		Game Theory Political Conflict and Security	

Recommended Sources

TEXTBOOK(S)

1. Efendiyev, M. (1998) Problems of Political Science. Baku
2. Huseynov, R. (2017) Political Science. Baku
3. Shiraliyev H., Ahmadov A. (1997) Political Science. Baku
4. Shiraliyev H. (1998) Political Science. Baku
5. Teymurlu, M. (2014) Political Science. Baku
6. Azerbaijan State University of Economics (2004) Political Science (Textbook). Baku
7. Василик М. А. (ред.) (2001). Политология. Москва: Гардарики.
8. Пугачев В.П., Соловьев, А.И. (1998). Введение в политологию. Москва: Аспект Пресс.

9. Heywood, A (2013). Politics. 4th ed. New York: Palgrave Macmillan.			
10. Ranney, Austin (1996). Governing: An Introduction to Political Science. New Jersey: Prentice-Hall.			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			3

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	General Chemistry
Course Unit Code	IF-BO1
Type of Course Unit	Mandatory
Level of Course Unit	1
National Credits	
Number of ECTS Credits Allocated	4
Theoretical (hour/week)	1
Practice (hour/week)	

Laboratory (hour/week)	
Year of Study	1
Semester when the course unit is delivered	1
Course Coordinator	Ulviyya Karimova-Jafarova
Name of Lecturer (s)	Ulviyya Karimova-Jafarova
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani , russian
Prerequisites	-
Recommended Optional Program Components	-
Course description: The course begins with information about the application of chemistry in our lives and covers topics such as chemical systems, polymers and oligomers, chemical thermodynamics and kinetics, the distribution of non-metals and metals in nature, their production, properties and their properties, analysis methods, classification of organic compounds by class, their reactivity, the nature of environmental problems caused by organic compounds, and the diversity of biomolecules that make up living organisms.	
Objectives of the Course:	
To teach the fundamentals of chemistry and to develop an understanding of its application in life. One of the goals of the course is to help students increase their knowledge of chemistry, develop critical thinking and problem-solving skills by working with examples and cases. Another goal of the course is to give students experience with concepts used in science such as observation, logic, analysis, objectivity, accuracy and fluent communication.	
Learning Outcomes	
At the end of the course the student will be able to	
	Assessment
1	Formation of ideas about the goals and objectives of chemistry, scientific research methods, and its relationship with other sciences;
2	Formation of ideas about chemical experiments;
3	Formation of ideas about the means of its teaching.
4	Formation of ideas about the goals and objectives of its teaching in students.
5	Formation of ideas about the content of the chemistry course in students.
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz	
Course's Contribution to Program	
	CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the

	production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		Introduction. Basic concepts of chemistry. Stoichiometric laws.	
2		Models of atomic structure. Periodic law and periodic system of elements.	
3		Characteristics of chemical bonding. Complex compounds.	
4		Energetics of chemical processes. Chemical kinetics.	
5		Solutions. Electrolyte solutions.	
6		Oxidation-reduction reactions.	
7		Chemistry of metals.	
8		Chemistry of metals. Continued.	
9		Chemistry of non-metals.	
10		Chemistry of non-metals. Continued.	
11		Hydrocarbons.	
12		Derivatives of hydrocarbons.	
13		Organic polymeric materials.	
14		Elements of chemical analysis.	
15		Chemistry and ecology.	

Week	Chapter	Topics	Exam
		Lab. 1- Electrolytic solutions, ion reactions. Hydrolysis of salts	
		Lab. 2- Separation of suspensions, sublimation, extraction, crystallization, distillation, determination of boiling point	
		Lab. 3- Separation of suspensions, sublimation, extraction, crystallization, distillation, determination of boiling point (continued)	

Recommended Sources TEXTBOOK(S)

- A.A.Albandov. General chemistry: From the series of textbooks for higher schools. Baku, «Elm», 2011; 616 p.
- A.B.Aliyev, Y.H.Hasanov, S.I.Sadikhzade. General and inorganic chemistry, «Maarif» Publishing House, Baku,

1987			
– I.O.Nasibov, T.I.Sultanov. General chemistry, «Adiloglu» Publishing House, 2002			
– A.Guliyev. Theoretical foundations of inorganic chemistry, Baku, 2003			
– V. M. Abbasov et al. «Fundamentals of general chemistry» . Baku, 2000			
– B. V. Aliyev et al. «General and inorganic chemistry». Baku, 2010			
– Z. Sh. Garayev. « Inorganic chemistry». Baku, 2013			
– U. Latifov et al. «Chemistry». Baku, 2003			
– Shavarov Yu.S. Organic chemistry. Moscow, Publishing House of Chemistry, 2002.			
– T.I. Sultanov, H.R. Gurbanov. Theoretical issues of inorganic chemistry, “Adiloglu” Publishing House, Baku, 2005			
– Z. Garayev. Inorganic chemistry, “Maarif” Publishing House, Baku, 1983			
– N.S. Akhmetov. Inorganic chemistry, 3rd edition, Publishing House. «Prosvehenie», M., 1992			
– T.I.Sultanov, M.N.Huseynov, H.R.Gurbanov. Problems and exercises in general chemistry, «Adiloglu» Publishing House, Baku, 2004			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			4

Forestry bachelor program, Department of “Mexanika və riyaziyyat”.

Course Unit Title	Mathematics	
Course Unit Code	İF – B02	
Type of Course Unit	Mandatory	
Level of Course Unit	1	
National Credits		
Number of ECTS Credits Allocated	5	
Theoretical (hour/week)	1	
Practice (hour/week)	1	
Laboratory (hour/week)		
Year of Study	1	
Semester when the course unit is delivered	2	
Course Coordinator	Svetlana Guliyeva	
Name of Lecturer (s)	Svetlana Guliyeva	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani,Rus	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description:		
<p>In the higher mathematics course, topics are taught in the sections of the subject "Mathematics": "Linear algebra and elements of mathematical analysis", "Differential and integral calculus of functions with one variable", "Analytical geometry", "Probability theory", "Mathematical statistics", and students are taught the basic concepts of the subject and mastered basic knowledge. These, in turn, play an important role in teaching other subjects. The course consists of theoretical and seminar lessons. Here, the application of all theorems and properties is reflected in practical exercises.</p>		
Objectives of the Course:		
<p>To master the basics of the subject "Mathematics" for specialists in the given directions in order to develop the skills of applying linear algebra and mathematical analysis elements in computing techniques, programming, and in the fields of economics.</p> <p>Providing scientific and methodological training for future specialists, forming in them the relevant knowledge, skills and habits for the implementation of education, the skills of applying mathematics and probability theory in various fields of economics, the formation of creative and independent thinking abilities. The purpose of the subject is to increase the level of fundamental mathematical preparation of students and instill in them the skills of applying the knowledge they have acquired to various fields of economics. During the teaching of the subject, students are taught the basic postulates of probability theory (classical, statistical and geometric definitions of probability). Information is provided about the compliance of the probabilities of occurrence of random events with various laws. The compliance of random quantities, which quantitatively express the considered random event, with the laws of distribution and the ways of their application to practical areas are investigated.</p> <p>During the teaching of the mathematical statistics section, methods of collecting, grouping, and evaluating statistical data are explored with students. Methods of evaluating the dependence of one random variable on other random variables (functional, statistical, correlation dependencies) are taught.</p>		
Learning Outcomes		
At the end of the course the student will be able to		Assessment

1	Teaching higher mathematics together with other fundamental sciences allows for the development of students' intellectual potential and the formation of creative personalities who successfully function in the modern system of relations.		
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz			
Course's Contribution to Program			
			CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes		
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements		
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing		
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control		
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations		
6	ability to use various types of devices to monitor and control technological processes		
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results		
8	ability to use modern information technologies and software, observing information security requirements in their professional activities		
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		The concept of matrix, operations on matrices. Determinants of two and three orders. Minor and algebraic complements.	
2		System of linear equations. Cramer's formulas.	
3		The concept of function. Classification of functions. Basic elementary functions. Limit of a sequence and a function, basic theorems. Outstanding limits	
4		Infinitely increasing and infinitely decreasing functions. Continuity of a function at a point and on a segment, properties. Classification of points of intersection.	
5		Derivative of a function, geometric and mechanical meaning.	

		Derivative table. Derivative of complex functions. Differential of a function, properties. Derivatives and differentials of higher order.	
6		Basic theorems of differential calculus. Application of the derivative. L'Hopital's rule. Theorems on the extrema of a function and their existence.	
7		The concept of elementary functions. Indefinite integral, properties. Table of integrals. Integration methods: substitution of a variable, integration by parts.	
8		Definite integral, properties and geometric meaning. Newton-Leibniz formula. Substitution of a variable in a definite integral and methods of integration by parts.	
9		Basic concepts of probability theory. Various definitions of probability. Theory of combinations and its applications.	
10		Sum, difference and product of events. Conditional probability, theorems of multiplication and addition of probability. Probability of occurrence of at least one event	
11		Complete probability formula. Bayes' formula. Independent trials. Bernoulli's formula. Most probable number.	
12		Random quantities. Distribution law of discrete random quantities. Numerical characteristics of discrete random quantities	
13		Distribution function. Density function. Numerical characteristics of continuous random quantities. Discrete and continuous distributions. Binomial distribution. Regular distribution. Normal distribution	
14		Subject of mathematical statistics. Primary and sample collection. Types of sampling. Variation order. Polygon and histogram. Empirical distribution function.	
15		Numerical characteristics of sampling. Sample mean, variance, mean squared tendency, coefficient of variation.	
<p>Recommended Sources</p> <p>TEXTBOOK(S)</p> <ul style="list-style-type: none"> – Almammedov M.S. Lectures on the course of higher mathematics, probability theory and mathematical statistics. Baku—2010. – Shahverdiyev M. Studies on higher mathematics. Part I Baku—2014. Part II--2015. – Shahverdiyev M., Mammadova U., Shamsiyev T., Sharifov N. Mathematics. Probability theory and elements of mathematical statistics. Baku—2015. – Azizov O. Lectures on higher mathematics. Baku—2008. – Aliyev A. Higher mathematics. Baku—2005. – Высшая математика для экономистов. Под редакцией Н.Ш.Кремера Москва—2014. – Теория вероятностей и математическая статистика. Н.Ш.Кремера. Москва—2007. – С. Пискунов. Дифференциальное интегральное исчисления, 1 и 2 т., М., ФИЗМАТЛИТ,1996. – Теория вероятностей и математическая статистика. В.Е.Гмурман. Москва 2000 – Introductoru Mathematical Anslsysis for Busness, Ekonomics, and the Life and Social Sciences Ernest F. Haeussler, Jr. Richard Paul.2000. – A. Survey of Mathematics with Applications, Angel, Abbot, Runde2009 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		

Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	
Assessment Criteria		
Final grades are determined according to the Academic Regulations of WCU		
Course Policies		
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 		
ECTS allocated based on Student Workload		
Activities	Number	Duration (hour)
Course duration in class		
Presentation		
Self-study		
Tutorials		
Midterm Examination		
Preparation for midterm exam		
Final Examination		
Preparation for final exam		
Total Workload		240
Total Workload/30(h)		240/30
ECTS Credit of the Course		5

MODULE HANDBOOK

Forestry bachelor program, Department of “Mechanics and Mathematics”.

Course Unit Title	Physics
Course Unit Code	İF-BO3
Type of Course Unit	Mandatory
Level of Course Unit	1
National Credits	
Number of ECTS Credits Allocated	4
Theoretical (hour/week)	0.5
Practice (hour/week)	
Laboratory (hour/week)	
Year of Study	1
Semester when the course unit is delivered	2
Course Coordinator	Ilham Salimov
Name of Lecturer (s)	Ilham Salimov
Name of Assistant (s)	-

Mode of Delivery		Face to face
Language of Instruction		Azerbaijani,Rus
Prerequisites		-
Recommended Optional Program Components		-
Course description: To form relevant knowledge, skills and habits in students, to ensure that they conduct physical experiments, analyze the results and analyze the data obtained.		
Objectives of the Course: To instill in students the laws of electromagnetism, optics, atomic and nuclear physics. To introduce students to visual aids and do practical work throughout the course. To learn the connection of physics to life and to be able to apply it to various fields.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	The main form of delivery of course material is lectures. An important aspect of lectures on physics is that real and computer-based physical experiments should be conducted, educational films, and model computer programs should be used. Important sections of the course program can be taken up in seminar classes. As a rule, theoretical materials requiring complex mathematical apparatus and various methods of solving problems are considered in seminars. Students can receive various types of homework to consolidate the materials received in seminars. They will practically understand the subject by performing laboratory work.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic,	

	environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		Vectors and operations on them. Vector and scalar quantities. System of units and measurement of physical quantities. Mechanical motion. Rectilinear motion of a material point and equations of motion. Acceleration, uniformly accelerating and uniformly decelerating motion. Curvilinear motion along a circle, characterizing quantities - acceleration, angular and linear velocity. Dynamics. Inertial calculation systems. Newton's I and II laws.	
2		Concept of force and mass. Weight of an object, gravitational force. Weightlessness. Newton's -III law. Gravitational force. Law of universal gravitation. Gravitational constantElastic forces. Hooke's law. Mechanical stress. Friction force, types, friction coefficient. Mechanical work. Power, units of measurement. Impulse. Energy. Kinetic and potential energy. Law of conservation of mechanical energy. Law of conservation of momentum.	
3		Molecular kinetic concept. Basic provisions of molecular kinetic theory and their experimental confirmation. Ideal gases. Isoprocesses. Equation of state of an ideal gas, graphs. Dance movement. Mathematical and spring dancers. Period of dance. Harmonic dances. Equations of harmonic dance. Mechanical waves and their types. Wavelength. Interference of waves.	
4		Steady flow of liquids. Continuity equation. Bernoulli's equation and its consequences. Viscosity of liquids and gases. Flow of liquids in pipes. Poiseuille's formula. Laminar and turbulent flow regimes. Reynolds number. Motion of solids in liquids and gases. Stokes' formula. Characteristics of the liquid state. Properties of the surface layer of liquids. Surface energy. Surface tension. Wetting phenomenon. Laplace's formula.	
5		Electrostatics. Electric charge, their mutual force. Coulomb's law. Electric field intensity. Intensity vector flux. Potential difference. Dielectrics. Dielectrics in an electric field. Polarization of dielectrics. Electric capacity, units. Capacitors. Energy of a capacitor, series and parallel connection.	
6		Steady electric current. Conditions for the formation of current. Ohm's law for a circuit part. Resistance of wires. Specific resistance. Series and parallel connection of wires. Coulomb-Lens law. Ohm's law for a complete circuit, E.H.Q. Structure and properties of solids. Theory of zones. Electric current in semiconductors. Types of electrical conductivity of semiconductors, specific and additive	

		conductivity. Semiconductor diode, transistors Electric current in liquids. Electrolytic dissociation. Faraday's laws for electrolysis.	
7		Magnetic field and its characteristics. Interaction of current-carrying wires. Magnetic induction of the field. Magnetic field of a wire with current. Ampere's law. "Left-hand" rule. Movement of charged particles in a magnetic field. Lorentz force. Magnetic flux. Electromagnetic induction phenomenon. Induction current. Self-induction phenomenon, inductance. Lenz's rule. Elements of geometric optics. Thin lens, Lenz's formula. Optical power of a lens. Diopter. Linear magnification of a lens.	
8		Structure of the atom. Thomson model of the atom. Rutherford experiment. Planetary model of the atom. Bohr theory. Bohr postulates, its shortcomings. Stationary states.	
9		Introduction to laboratory work. Understanding of errors. Determination of the acceleration of gravity using a mathematical dancer.	
10		Coulomb potential and Coulomb field of metal surfaces, Determination of the charge of a sphere. Calculation of the force of interaction between charged particles.	
11		Determination of capacitance in a capacitor, dielectric permittivity of the medium.	
12		Lab 1. A simple pendulum (mathematical pendulum) is used to determine the acceleration of free fall (g).	
13		Lab 2. Variation of capacitor capacitance for different dielectric media and finding relative dielectric permittivity.	
14		Lab 3. Determination of the relationship between current strength and voltage in an electric circuit, calculation of internal resistance and electromotive force (EMF).	
<p>Recommended Sources TEXTBOOK(S)</p> <ul style="list-style-type: none"> – Gojayev Niftali Mehrali oglu. General physics course. Volume IV (optics). [textbook for higher education]. Baku 2011.540 p. – R.M.Rzayev. Physics, [textbook for higher education]. Baku 2015.736 p. – Aliyev Bayram Zeynal oglu. General physics course. Baku, Elm, 2010, 294 p. – Ahmadov Faig Abdulavvel oglu. General physics course. Textbook for higher education. Baku, 2006, 348 p. – B.D. Aliyev, Q.T. Hasanov. General physics course. Textbook for higher education. Baku, 2004, 660 p. – Gojayev E.M., Safarov N.Y. "Applied Physics" Baku "AzTU "2018, 393 p. – Q.T.Hasanov, A.A.Aliyev. General Physics Course. . [Textbook for higher schools]. Baku 2015. 440 p. – M.Murguzov, A.Alekperov, O.Hasanov. General Physics Course. [Textbook for higher schools]. Baku 2011-322 p. – Eyvazov E.A, Farajov V.C, Gurbanov S.S " Introduction to Semiconductor Physics" Baku "Chinar Çap " 2007,392 p. – Eyvazov E.A " Physics of Solids" Baku " Education" 2003,455 p. – Hasanov I.S " Plasma and Batch Technology" Baku " Science" 2007,171 p. – A.S.Abdinov, I.S.Hasanov, T.Kh.Huseynov "Fundamentals of electronic devices and emission electronics" Baku 2011, 358 p 			

<ul style="list-style-type: none"> – I.N. Salimov, Methodology for solving physics problems with computers, 2018, 182 p. – Physics for Scientists and Engineers by Knight (2nd Edition), Pearson – Addison Wesley (2008) – Sears and Zemansky’s University Physics by Young and Freedman (12th Edition), Pearson – Addison Wesley (2008) – Physics for Scientists & Engineers by Giancoli (4th Edition), Pearson – Prentice Hall (2009) – Physics for Scientists and Engineers by Jewett and Serway (8th Edition), Brooks / Cole Cengage Learning (2010) – University Physics by Bauer and Westfall, McGraw – Hill (2011) – Michael M. Mansfield, Colm O’Sullivan, “Understanding Physics”, 3rd Edition Publisher: Wiley 2020. 656 Pages – Alessio Mangoni “Fundamentals of physics” Publisher: Alessio Mangoni. 2020, 284 pages 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			4

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Botany	
Course Unit Code	İF-B04	
Type of Course Unit	Mandatory	
Level of Course Unit	2	
National Credits		
Number of ECTS Credits Allocated	4	
Theoretical (hour/week)	1	
Practice (hour/week)		
Laboratory (hour/week)		
Year of Study	2	
Semester when the course unit is delivered	4	
Course Coordinator	Reyhan Abdullayeva	
Name of Lecturer (s)	Reyhan Abdullayeva	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani, Russian	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description: The botany course teaches the biological regularities of the plant world, diagnostic features of the morphological and anatomical structures of the vegetative and generative organs of plants. The teaching process should be carried out as a combination of lectures and experimental-laboratory exercises. Theoretical knowledge on individual topics obtained in lectures should be reinforced by the skills acquired by the student during independent work in laboratory exercises.		
Objectives of the Course: 1. Providing information about the internal and external structure of plants, their individual development; 2. Educating students about the main problems and development prospects of modern botany, instilling in them the importance of the efficient use and protection of plant cover; 3. Forming a worldview that approaches these areas scientifically and methodologically correctly and increasing interest in botanical science.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	Know the categories of plant systematics;	
2	To form ideas about the goals and objectives of the training in students	
3	To know the structural features of a typical plant cell	
4	To know the structure and characteristics of plants	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	

4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		History of the development of botany. Departments and methods of botany. Azerbaijani botanists.	
2		Structure and distinctive features of the plant cell. Differences in plant cell division. Cytokinesis.	
3		Structure and functions of plant tissues (meristema, covering, parenchyma).	
4		Structure and functions of plant tissues (absorptive, mechanical, conductive, secretory).	
5		Anatomical and morphological structure of vegetative organs of plants, their transformations. The emergence of vegetative organs in evolution.	
6		Functions of vegetative organs. Photosynthesis, transpiration, transport of substances through the stem.	
7		Structure and functions of generative organs of plants. Flowers, fruits and seeds.	
8		Reproduction of higher plants: vegetative reproduction, asexual reproduction, sexual reproduction. Sexual reproduction by seeds.	
9		Systematics of primary plants. Mosses. Lichens. The role of primary plants in nature and economic importance.	
10		Systematics of higher plants. Department of Bryophytes. Department of Ferns. Evolution and origin of higher plants.	
11		Ancient gymnosperms. Gymnosperm department. Characteristic	

		features and main taxa.	
12		Angiosperm department. Important morphological and biological features. Main classes and important representatives. Monocotyledon class.	
13		Dicotyledon class. Important morphological and biological features Classification of the class, families.	
14		Importance of plants in nature and human life.	
15		Fungi, structure, classification, importance.	
Week			
Chapter	Topics		
1		Lab 1. Studying the structure of the plant cell under a microscope	
2		Lab 2. Study of different tissue types (parenchyma, mechanical, conductive) in plants	
3		Lab 3. Determining the effect of light and temperature on the photosynthesis process	
Recommended Sources			
TEXTBOOK(S)			
<ul style="list-style-type: none"> – Gasimov N.A., Aliyeva N.Sh., Tahirli S.M., Abdullayeva-Ismaylova S.M. Plant anatomy. Baku, BSU publishing house., 2010, 387p. – Gasimov N.A. Plant physiology. Baku, BSU publishing house., 2008, 484 p. – Ibrahimov A.Sh., Aliyev J. A., Bashirov R. I., Garayeva A.G. 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			

Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			4

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Geodesy		
Course Unit Code	İF – B05		
Type of Course Unit	Mandatory		
Level of Course Unit	2		
National Credits			
Number of ECTS Credits Allocated	4		
Theoretical (hour/week)	1		
Practice (hour/week)			
Laboratory (hour/week)			
Year of Study	2		
Semester when the course unit is delivered	4		
Course Coordinator	E.Z.Soltanov		
Name of Lecturer (s)	E.Z.Soltanov		
Name of Assistant (s)	-		
Mode of Delivery	Face to face		
Language of Instruction	Azerbaijani, Russian		
Prerequisites	-		
Recommended Optional Program Components	-		
Course description: The Geodesy course covers the shapes and dimensions of the Earth, planning work based on various methods, compiling topographic plans and maps, determining the coordinates of objects on the ground, georeferencing plans and maps based on geodetic control points (GCP), calculating mean square errors, plotting land areas and objects of various configurations using GPS and other methods, conducting leveling, studying relief description methods, constructing horizontals and profiles, applying interpolation and conversion methods, etc. This course will also address the issues of processing field survey results in modern programs.			
Objectives of the Course: The main goal of the course is to form specific knowledge about modern approaches in the field of geodesy and to solve the generally posed problems both on the basis of integrated methods and using modern software.			
Learning Outcomes			
At the end of the course the student will be able to			Assessment
1	Mastering the subject of geodesy. Characteristics of the subject, the relationship of geodesy with various sciences and its practical application. Drawing up topographic plans and maps based on modern software.		
2	More accurate determination of the coordinates of objects on the ground. Planning of the surface structure and surface interpolation, 3D modeling of the results		
3	Performing planning work based on integrated methods (Remote Aerospace Methods, GIS/CAD). Planning of land plots and objects of various configurations.		

4	Performing various operations using modern software in the field of geodesy. Correct analysis of the results of field measurement work and correction based on various materials, etc.10. Conducting analyses using various analysis modules based on QGIS and ArcGIS.		
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz			
Course's Contribution to Program			
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes		
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements		
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing		
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control		
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations		
6	ability to use various types of devices to monitor and control technological processes		
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results		
8	ability to use modern information technologies and software, observing information security requirements in their professional activities		
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		Subject of geodesy. Importance of geodesy and its relationship with other sciences. Brief information about the history of the development of geodesy.	
2		Understanding the shape and dimensions of the Earth. Plan and map. Coordinate systems used in geodesy.	
3		Accuracy of linear measurement. Scales.	
4		Types of planing. Aspects of the horizon and azimuth.	
5		Description of relief in cartographic images. Relative and absolute height.	

6		Shape and dimensions of the Earth. Parallels and meridians.	
7		Projections used in geodesy.	
8		Classification of cartographic projections according to distortion characteristics.	
9		Calculation of distances and areas according to scale.	
10		Cartographic symbols.	
11		Depiction of objects and phenomena on maps.	
12		Cartographic generalization.	
13		Concepts of plan, map and profile.	
14		Topographic planing.	
15		Basic geodetic instruments, their structure and measurement work performed.	
16		Lab 1. Determining Coordinates on Parallels and Meridians	
17		Lab 2. Calculating distance and area to scale	
18		Lab 3. Describing objects with symbols on maps and plans and carrying out cartographic generalization	
Recommended Sources TEXTBOOK(S) <ul style="list-style-type: none"> – Piriyev R.Kh. Fundamentals of geodesy and topography. Baku, 1994. – Mammadov G.Sh, Ahmadov I.H. Geodesy. Baku, 2002 – https://az.wikipedia.org/wiki/Geodeziya 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			

Final Examination			
Preparation for final exam			
Total Workload	240		
Total Workload/30(h)	240/30		
ECTS Credit of the Course	4		

MODULE HANDBOOK

Forestry bachelor program, Department of "Natural Sciences".

Course Unit Title	Systematics of higher plants
Course Unit Code	İF-B06
Type of Course Unit	Mandatory
Level of Course Unit	2
National Credits	
Number of ECTS Credits Allocated	4
Theoretical (hour/week)	1
Practice (hour/week)	
Laboratory (hour/week)	0.5
Year of Study	2
Semester when the course unit is delivered	3
Course Coordinator	Lala Gurbanova
Name of Lecturer (s)	Lala Gurbanova
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani, Russian
Prerequisites	-
Recommended Optional Program Components	-

Course description: Systematics of higher plants occupies a special place among the subjects that determine the level of theoretical professional preparation of students studying forestry. Systematics of higher plants studies the principles of classification of living organisms, artificial, natural and phylogenetic systems, species as an elementary unit of classification. Throughout the course, knowledge about other taxonomic units: genus, family, order, superorder, class, division, binary nomenclature is taught. The main systematic categories, phylogenetic systems, concepts about higher plants and a summary of their divisions are given. Classification and characteristic features of angiosperms, bryophytes, arthropods or horsetails, gymnosperms, conifers or cone-bearing, angiosperm or flowering plant divisions are studied. The importance of higher plants in nature and human life, their role in nature and their practical significance are studied.

Objectives of the Course: The purpose of the course on systematics of higher plants is to familiarize students with the characteristic features of plant structure and life, their biological diversity, as well as the principles of classification of the most important plant groups.

- to identify plants to the family, genus and species using special reference books as a result of the knowledge gained in the laboratory exercises taught;
- to obtain detailed information about the distribution areas of plants found in the territory of the Republic of Azerbaijan, the plant groups they form;
- to educate students about the main problems and development prospects of modern systematics, to instill in them the importance of the efficient use of vegetation and its protection;

- to form a scientifically and methodologically correct worldview in these areas and to increase interest in biological science.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	As a result of studying the subject, master the basics of the comparative morphological method, get acquainted with the basics of the classification of the plant world.	
2	The main characteristics of plants belonging to various systematic groups, the diversity of the plant world, its evolution, the role of plants in nature and human activity;	
3	Methods for describing higher plant groups and individual members;	
4	Collecting plants, drying them, labeling them, independently determining the systematic affiliation of the object.	
5	Use ICT and electronic resources on sections and topics, prepare various electronic teaching materials, presentations.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		Subject, goals and objectives of the subject of systematics of higher plants	
2		Classification of the department of bryophytes on the example of polymorph marchansia and bird moss.	
3		Classification of the department of plaunaceae on the example of pin-shaped plaun and Swiss selaginella.	
4		Classification of the department of Arthropoda or mullein on the example of steppe mullein.	
5		Generational alternation on the example of male fern, salvinia, marsilia	
6		Classification of extinct and extinct representatives of the department of gymnosperms on the example of bennettite, cycad and kingo plants	
7		Classification of the order of glabra belonging to the class of conifers on the example of glabra and common pine.	
8		Classification of the orders of arnica, knetum and velvitsia belonging to the class of corymbs.	
9		Classification of the subclass of the subclass of the subclass of the magnolia on the example of magnolia magnolia and white lily.	
10		Classification of the subclasses Ranunculid, Carophyllid and Hamamelid, using the example of the field buttercup and common poppy.	
11		Classification of the characteristic orders of the subclass Dillenid, using the example of the white willow, common primrose.	
12		General characteristics of the subclass Rosid, using the example of the common apple, common cherry.	
13		General characteristics of the subclass Rosid, using the example of the silver acacia, common primrose, meadow clover.	
14		Characteristic features of the subclasses Lamid and Asterid	
15		Classification of the subclass Commelinid and Lillid, the order Cereals	
16		Lab 1. Identification of Higher Plants with a Systematic Key (Identification with a Floristic Key)	
17		Lab 2. Alternation of Generations – In Ferns and Water Ferns	
18		Lab 3. Morphological Comparison and Systematic Placement of Angiosperms and Angiosperms	
19		Lab 4. Systematic Identification and Microscopic Analysis of Algae and Mosses	
20		Lab 5. Classification and Comparison of Cereal Plants by Morphological Characteristics	
21		Lab 6. Identification and Classification of Flower and Fruit Structure in Flowering Plants	
Recommended Sources TEXTBOOK(S)			

1. Gurbanov E.M. Systematics of higher plants. "Baku University" publishing house, Baku, 2009. 430p.
2. Gurbanov E.M., Z.J. Mammadova Laboratory exercises on the systematics of higher plants. "Baku University" publishing house. Baku, 2010. 260 p.
3. Agafonov V.A., Shchepilova O.N. Taxonomy of higher plants: Methodical instructions for laboratory work. - Voronezh: VSU Publishing House, 2001. 24 p.

Assessment		
Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria
Final grades are determined according to the Academic Regulations of WCU

Course Policies

- Attendance of the course is mandatory.
- Late assignments will not be accepted unless an agreement is reached with the lecturer.
- Students cannot use calculators during the exam.
- Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations

ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			4

MODULE HANDBOOK

Forestry bachelor program, Department of "Ecology and Environment".

Course Unit Title	Meteorology and climatology
Course Unit Code	İF-BO7
Type of Course Unit	Mandatory
Level of Course Unit	1

National Credits		
Number of ECTS Credits Allocated		4
Theoretical (hour/week)		0.5
Practice (hour/week)		0.5
Laboratory (hour/week)		
Year of Study		1
Semester when the course unit is delivered		2
Course Coordinator		Aruz Mikayilov
Name of Lecturer (s)		Aruz Mikayilov
Name of Assistant (s)		-
Mode of Delivery		Face to face
Language of Instruction		Azerbaijani,Rus
Prerequisites		-
Recommended Optional Program Components		-
<p>Course description: Meteorology and climatology are sciences that study, based on the laws of physics, certain physical processes inherent to the Earth and the set of atmospheric conditions specific to that area, depending on the geographical location of any territory. In order to understand the laws of climate, it is necessary to have a deep knowledge of the general laws to which atmospheric processes are subject. Therefore, when analyzing the causes of the formation of various climate types and the reasons for their distribution on Earth, climatology is based on the concepts and laws of meteorology. In this course, meteorology and climatology will be studied not separately, but as a complete unity.</p>		
<p>Objectives of the Course: The main goal of the subject is to familiarize undergraduate students with the physical phenomena occurring in the atmosphere, their causes and regularities between them, dangerous atmospheric phenomena, long-term changes in climatic factors and modern methods used in climate research, the physical life of the atmosphere, the physical explanation of individual processes and phenomena occurring in the atmosphere, the reasons for the dependence and connection between them, and ways to meet the needs of the national economy, not only through observation and description of atmospheric phenomena.</p>		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	After completing the course, students will be able to independently: Synthesize stationary observational data on meteorological elements that create and change climate.	
2	Rules for measuring meteorological elements at the experimental station; The properties of the air, that is, the regularity of changes in meteorological elements;	
3	Assessment of the impact of agricultural and human economic activities on changes in the atmosphere near the Earth's surface; Depending on the geographical location of the area, they will be able to perform a content assessment of the atmospheric conditions specific to that area.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	

2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		The purpose and tasks of meteorology and climatology.	
2		Composition and structure of the atmosphere.	
3		Radiation in the atmosphere.	
4		Air pressure.	
5		Clouds. International classification of clouds.	
6		Precipitation and their formation.	
7		Air currents in the atmosphere. Winds.	
8		The main factors that form climate.	

Recommended Sources

TEXTBOOK(S)

- Aghayev T.D., Eldarov N.S. Meteorology and climatology. Baku: Azeri, 2015. 440 p.
- Ahmadov S.A., Aghayev T.D., Ahmadova R.R., Ahmadova M.Sh. Atmospheric physics. Baku: Science and education 2015. 254
- Mammadov A.S. Dynamic meteorology. Baku: BSU publishing house., 2005. 139 p.
- Khromov S.P. Meteorology and climatology. Baku.: BSU publishing house., 2005. 327 p. Алисов Б.П., Полтараус Б.В. Климатология. М.: Изд. МГУ, 1974. 299 с.
- Волчек А.А., Зубрицкая Т.Е., Шпока И.Н. Метеорология и климатология: пособие для студентов высших учебных заведений по специальности «Природоохранная деятельность» Из-во БрГТУ, 2014 – 184 с.
- Будыко М.И. Климат в прошлом и будущем. Л.: Гидро метеоиздат, 1980. 352с
- Дроздов О.А., Васильев В.А. Кобышева Н.В. и др. Климатология. Л.: Гидрометеоизда, 1989. 568 с.

<ul style="list-style-type: none"> – Герман М.А. Космические методы исследования в метеорологии. Л.:Гидрометеиздат,1985.351 с. – Городецкий О. А., Гуральник И. И., Ларин В.В. Метеорология, методы и технические средства наблюдений.Л.: Гидрометеиздат,1991.336 с. – Хромов С.П. Метеорология и климатология.М.: Изд. МГУ. 2001.528 с. – Сладкопевцев С. А. Землеведение и природопользование/С. А. Сладкопевцев. – М., 2005. – 357 с. 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			4

MODULE HANDBOOK

Forestry bachelor program, Department of “Information Technologies”.

Course Unit Title	Informatics
Course Unit Code	IF-B08
Type of Course Unit	Mandatory
Level of Course Unit	1
National Credits	

Number of ECTS Credits Allocated	4	
Theoretical (hour/week)	0.5	
Practice (hour/week)	0.5	
Laboratory (hour/week)		
Year of Study	1	
Semester when the course unit is delivered	1	
Course Coordinator	Sabina Mustafayeva	
Name of Lecturer (s)	Sabina Mustafayeva	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani, russian	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description:		
Brief information about the subject, the purpose of teaching the subject, the methods to be applied in teaching the subject are explained in writing. What students will know, what they will achieve and what skills they will acquire by studying this subject are noted.) The role of informatics in science, technology and other fields, types, properties of information, units of measurement of information, architecture of computers and their development history, structure and components, main devices and their purpose, peripheral devices and their purpose are taught. Computer software, understanding of the Windows operating system, architecture of the Windows system, main parameters and working principle are explained. Desktop, working with windows, setting the main parameters, working with folders and files.		
Objectives of the Course:		
The study and use of modern technical tools is widely practiced in the "Computer Architecture" course. Therefore, future specialists studying in the relevant areas must master the capabilities of technical tools.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	Formation of ideas about the goals and objectives of informatics as a science, scientific research methods, and its relationship with other sciences; - Formation of ideas about the forms of organizing informatics training;	
2	Formation of ideas about the means of informatics training; - Formation of ideas about the principles and training methods of informatics training.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making	

	and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		Informatics as a fundamental science and its tasks. The concept of information, its properties, forms, units of measurement.	
2		The main devices of the computer.	
3		System and application software of the computer.	
4		Classification of operating systems. Structure of the Windows operating system.	
5		Text processors. Word text editor and its application.	
6		Computer graphics. Color models.	
7		MS Excel spreadsheet. Cell, block, page. Construction of diagrams. Filter and sorting operations.	
8		Classification, architecture, types, topology of computer networks. Structure of the Internet network.	

Recommended Sources

TEXTBOOK(S)

- Karimov S.G., Habibullayev S.B., Ibrahimzade T.I.. Informatics. Textbook for higher education institutions. Baku, 2019.
- Hajiyeva R.C. Informatics Baku, Publishing and Printing Center of the State University of Economics, 2022.
- Aliyev A.Y. Informatics and programming. Baku, 2018.

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			4

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Forestry genetics and selection.
Course Unit Code	İF – B09
Type of Course Unit	Mandatory
Level of Course Unit	2
National Credits	
Number of ECTS Credits Allocated	4
Theoretical (hour/week)	
Practice (hour/week)	
Laboratory (hour/week)	
Year of Study	
Semester when the course unit is delivered	4
Course Coordinator	Lala Gurbanova
Name of Lecturer (s)	Lala Gurbanova
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani, Rus
Prerequisites	-
Recommended Optional Program Components	-
Course description:	

Welcome to the Forest Selection and Genetics course, one of the main subjects of the academic year you are taking. One of the most important areas in which the science of forest selection and genetics is applied is the science of selection. We will consider all the achievements of genetics in the selection of forestry plants - the study of heredity, the study of mutation and modification variability. "Forest Selection and Genetics" is one of the main subjects and is taken by students in the second academic year. The material of this course covers all aspects of productive and high-quality plant varieties of forestry plants, analytical selection methods, selection seeds and their determination, and selection of areas for selection practices.

Objectives of the Course: The main goal of the course is to acquire knowledge about new methods and ways to obtain new varieties of forestry plants, and the use of classical and genetic methods in the selection of cultivated plants.

Learning Outcomes

At the end of the course the student will be able to		Assessment
1	Formation of ideas about the history and subject of the development of the science of forest selection and genetics; Centers of origin of cultivated plants, sources of variability for selection.	
2	Characteristics and properties of plants; Types of starting material.	
3	Typicality of the experiment in the selection process; Preparation of work on site selection for selection experiments.	
4	Use ICT and electronic resources in sections and topics, prepare various electronic teaching materials and presentations.	

Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz

Course's Contribution to Program

		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	

9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		The subject and main task of the discipline of forest selection and genetics	
2		The role and importance of external conditions in the growth and development of fruit plant varieties.	
3		Seed selection categories.	
4		Agrotechnology and propagation of seed forest plants.	
5		Care of a productive varietal garden.	
6		Agrotechnology and propagation of seed forest plants.	
7		Biological foundations of fruit plant propagation.	
8		Characteristics of the main botanical species of the genus Mulberry (<i>Morus L.</i>) cultivated in Azerbaijan.	
9		Subsidiaries of seed and stone plants.	
10		Agrotechnology and propagation of fruit plants with acorns.	
11		Agrotechnology and propagation of subtropical plants that shed their leaves in winter.	
12		Agrotechnology and propagation of olive, feijoa, Japanese quince	
13		Technology of growing tinge.	
14		Design and organization of a varietal orchard.	
15		Planting material of fruit plants.	
16		Lab 1. Studying genetic diversity among tree species through molecular markers	
17		Lab 2. The importance of pollination and gene flow in terms of selection	
18		Lab 3. Transmission of genetic inheritance from generation to generation-controlled crossbreeding experiment	
19		Lab 4. Vegetative propagation and genetic stability testing of selected tree clones	
20		Lab 5. Assessment of selection intensity and selection rate	
Recommended Sources TEXTBOOK(S)			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		

Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			4

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Dendrology
Course Unit Code	İF – B10
Type of Course Unit	Mandatory
Level of Course Unit	2
National Credits	
Number of ECTS Credits Allocated	8
Theoretical (hour/week)	1.5
Practice (hour/week)	0.5
Laboratory (hour/week)	1
Year of Study	2
Semester when the course unit is delivered	3
Course Coordinator	Adilagha Malikov
Name of Lecturer (s)	Adilagha Malikov
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani, Russian

Prerequisites	-	
Recommended Optional Program Components	-	
Course description: In the subject of dendrology, extensive materials are taught on general issues of dendrology, the role of woody plants in human life and their interaction with the environment, phenology, morphological description of groups of woody plants and their individual organs, phytocenology and natural zonation, systematics of woody and shrub plants, morphological, botanical description and geographical distribution of woody and shrub plants belonging to the gymnosperm and angiosperm departments.		
Objectives of the Course: The main goal of teaching the subject is to teach the role of woody plants in human life and their interaction with the environment, the morphological description and systematics of groups and their individual organs, the morphological, botanical description and geographical distribution of woody and shrub plants belonging to the gymnosperm and angiosperm divisions.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	Identification of dendrology and its main issues.	
2	The role of woody plants in human life and their interaction with the environment, mastering the concepts of phenology.	
3	Study of the morphological description and systematics of groups of woody plants and their individual organs.	
4	Study of the morphological, botanical description and geographical distribution patterns of woody and shrub plants belonging to the gymnosperm and angiosperm departments.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	

8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		History of the formation of dendrology, its foundations, ecological factors.	
2		Phenology and its role in the study of woody plants.	
3		Morphological description of groups of woody plants and their individual organs.	
4		Phytoscenology and natural zonation.	
5		Systematics of trees and shrubs, species diversity and areal types.	
6		Gymnosperms: Coniferous class.	
7		Pinaceae family, fir subfamily.	
8		Fir subfamily.	
9		Pine subfamily.	
10		Angiosperms: Willow family.	
11		Walnut family.	
12		Pollen family: Pollen and Redwood genera.	
13		Hazel family, hazel and hazel genera.	
14		Pistachio family, pistachio and oak genera.	
15		Elm family, elm and azat genera.	
16		The family of Tutkims, the genera of mulberry, fig, and maclura.	
17		The families of Ironwood and Sycamore.	
18		The family of Rosaceae, the subfamilies of rose, plum, and apple.	
19		The family of Leguminosae.	
20		The families of Kustumoti and Sesalpinia.	
21		The family of Sedum, the genus Citrus.	
22		The family of Birch.	
23		The family of Olive.	2

Recommended Sources

TEXTBOOK(S)

- Asadov K.S. Mirzayev O.H. Mammadov F.M. Dendrology. Baku, 2014, Ganjlik Publishing House, 500 p.
- Mammadov T.S. Trees and shrubs of Absheron Baku, 2010.
- Guliyev V.S., Khalilov M.Y. Dendrology. Ecology Publishing House, Baku 2000.
- Ibrahimov Z.A. Forest plantations. Baku, 2015, 400 p.
- Mammadov J.Sh. Cultivation of olive plants. Baku, “Muallem” Publishing House 2010, 40 p.
- Булыгин, Н.Е. Дендрология: учебник. – М.:МГУЛ, 2001. – 528 с.

– Сергеева В.С. Основы лесоводства и лесной таксации, Москва, 1990, 224 с.			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			8

MODULE HANDBOOK

Meşçilik bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Soil science
Course Unit Code	İF-B11
Type of Course Unit	Mandatory
Level of Course Unit	1
National Credits	
Number of ECTS Credits Allocated	4
Theoretical (hour/week)	0.5
Practice (hour/week)	0.5
Laboratory (hour/week)	
Year of Study	1

Semester when the course unit is delivered	1	
Course Coordinator	Ulkar Gadiyeva	
Name of Lecturer (s)	Ulkar Gadiyeva	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description: Soil science is included in the natural sciences, and its object of study is soil. Soil science is the science of soils, their formation (genesis), structure, composition and properties; the regularities of the geographical distribution of soils; their interaction with the environment, which determines the formation and development of their main property, fertility, ways of efficient use of soils in agriculture and other sectors of the economy, and the variability of soil cover under the conditions of use in agriculture.		
Objectives of the Course:		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	Soil science is included in the natural sciences, and its object of study is soil. Soil science is the science of soils, their formation (genesis), structure, composition and properties; the regularities of the geographical distribution of soils; their interaction with the environment, which determines the formation and development of their main property, fertility, ways of efficient use of soils in agriculture and other sectors of the economy, and the variability of soil cover under the conditions of use in agriculture.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	

8	ability to use modern information technologies and software, observing information security requirements in their professional activities		
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		History of development of soil science.	
2		Concept of soil. Main properties of soil as a natural product and importance of studying soils.	
3		Soil-forming rocks and their weathering.	
4		Soil morphology and main morphological features.	
5		Granulometric composition and structure of soil.	
6		Chemical composition of soil. Colloidal particles of soil, their composition and absorption capacity.	
7		Organic matter of soil, origin and formation of organic matter.	
8		Water in soil and its forms. Soil temperature and aeration.	
9		Soil temperature and aeration.	
10		Chemical composition of soil.	
11		Salinization of soils.	
12		Soil erosion and measures taken against it.	
13		Soil reclamation.	
14		Soil resources of Azerbaijan.	
15		Lab 1. Study of the morphological structure of trees and shrubs (analysis of leaf, Trunk, Bark, Branch and root structures)	
16		Lab 2. Identification of tree and shrub species by leaf shapes	
17		Lab 3. Analysis of bud and shoot structure in trees and shrubs	
18		Lab 4. Identifying plants by their external characteristics of bark and trunk	
19		Lab 5. Classification of species according to whether the leaves are simple or complex	
20		Lab 6. Identification of common tree species in dendroflora using a key	
21		Lab 7. Microscopic study of vegetative and generative organs in trees and shrubs	
22		Lab 8. Morphological structure and diagnostic features of seeds and fruits	
23		Lab 9. Determination of tree age using annual ring (introduction to dendrochronology)	
24		Lab 10. Comparative analysis of taxonomic differences among coniferous plants	
25		Lab 11. Comparison of the biomorphological features of deciduous trees and shrubs	

26		Lab 12. Identification and characterization of exotic and introduced tree species	
27		Lab 13. Observation of plant vegetation cycles and recording of phenological phases	
28		Lab 14. Identification of dominant tree and shrub species in forest biomes (field-based observation)	
29		Lab 15. Techniques for preparing herbarium and dendrological specimens in dendrological collections	

Recommended Sources

TEXTBOOK(S)

- Study of the influence of the erosion process on the thermal-physical properties of soils. Abstract. Baku-2018
- Fundamentals of Soil Science and Soil Geography. G. Mammadov, 2007
- Monitoring the Impact of Reclamation Measures on the Specific Surface of Irrigated Gray-Brown Flowers of the Absher Peninsula. September 30, 2020 p. 24-67
- Impact of reclamation measures on the specific surface of flowers. Bulletin of science and practice. 2020.
- Jabbarov N. S. Assessment of the amount of heavy metals in soil, water and vegetation in the Dashkesan region. Ecology and water management, Scientific, technical and production journal. No. 4, Baku 2018, pp. 32-41.
- Ibrahimov Z.A., Djabbarov N.S. Assessment of the heavy metals content in soil and plant cover around the Kedabek factory on the extraction and processing of the gold own ore (Azerbaijan). Eastern European Scientific Journal. Warsaw, Poland. № 41, 2018, s. 32-40.
- Soil Land Classification Standards Technical Instructions and Related Legislation New.pdf

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria

Final grades are determined according to the Academic Regulations of WCU

Course Policies

- Attendance of the course is mandatory.
- Late assignments will not be accepted unless an agreement is reached with the lecturer.
- Students cannot use calculators during the exam.
- Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations

ECTS allocated based on Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			

Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			4

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Labor protection
Course Unit Code	İF – B12
Type of Course Unit	Mandatory
Level of Course Unit	1
National Credits	
Number of ECTS Credits Allocated	3
Theoretical (hour/week)	0.5
Practice (hour/week)	0.5
Laboratory (hour/week)	
Year of Study	1
Semester when the course unit is delivered	1
Course Coordinator	Elshan Amrahov
Name of Lecturer (s)	Elshan Amrahov
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani,Rus
Prerequisites	-
Recommended Optional Program Components	-

Course description:

Azerbaijan, as a sovereign state, solves all problems in the field of security itself, therefore, when we develop a security doctrine, two important aspects should be taken into account.

First, we must remember that the number of nuclear fronts available, their danger to this or that country should be taken into account, and this factor should be taken into account in security programs.

Second, we must not forget that our country borders on states that possess nuclear weapons or have nuclear ammunition reserves on their territory. Therefore, when planning and implementing labor protection (safety of life in production) measures, attention should not be reduced to protecting the population, as well as national economic facilities, from weapons of mass destruction (WMD). The security system faces the problem of protection from technogenic and natural disasters.

Objectives of the Course: Civil Defense (CD) is a science about protecting human safety and health in the environment. It should identify and determine dangerous and harmful factors, study methods and means of human protection, ways to reduce harmful and dangerous factors to a minimum, and develop measures to eliminate the consequences of accidents and disasters occurring in peace and wartime.

Emergency events that cause large material losses and human casualties (accidents at nuclear power plants, railways, enterprises using highly active substances, and frequent natural disasters, etc.) show that the CD measures, especially for emergencies of peacetime origin, should be reviewed and evaluated. This issue is of greater importance in market relations and the transition period.

The civil defense of the Republic of Azerbaijan is a system of measures implemented by state authorities, legal entities and individuals in order to ensure the safety of the population and its territory in peacetime

and wartime.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	Formation of ideas about the teaching methodology, goals and objectives, scientific research methods, and relationship with other sciences of the subject of labor protection (safety of life activities in production).	
2	Formation of ideas about the means of training in labor protection (safety of life activities in production).	
3	Formation of ideas about the forms of organizing training in labor protection (safety of life activities in production).	
4	Formation of ideas about the goals and objectives of the methodology of teaching the subject of labor protection (safety of life activities in production), scientific research methods, and its relationship with other sciences.	
5	Labor protection (safety of life activities in production).	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)		
Course Contents		

Week	Chapter	Topics	Exam
1		The subject of labor protection and safety, its purpose and the main issues it addresses. Theoretical foundations of labor protection. The psychological state of a person, factors affecting labor safety.	
2		Legal and organizational issues of labor protection. Organization of work on labor protection. Industrial injuries and occupational diseases.	
3		Heating, ventilation, lighting systems of buildings and hygienic requirements for them.	
4		Issues of protection against noise and vibrations.	
5		Labor safety during classes in schools, educational institutions, laboratories and classrooms.	
6		Electrical safety issues.	
7		Evacuation of the population in emergency situations.	
8		Fire extinguishers, rules for working with them.	

Recommended Sources

TEXTBOOK(S)

- Altunin A.T. Mülki Müdafiə dəstələri təbii fəlakətlərdə mühafizədə. Bakı, 1978.
- Михно Е.П. Ликвидация последствий аварий и стихийных бедствий. М., Автоиздат 1979
- Землетрясения в СССР (1985-1988 гг.) Сборник научных трудов ИФЗ РАН, Москва, 1989
- Maksimov M.T., Ocaqov H.O. radioaktiv çirklənmələr və onların ölçülməsi. Bakı, 1989
- Ocaqov H.O. Radiasiya, kimyəvi və dozimetrik nəzarət cihazları. Bakı, 1997
- Ocaqov H.O. və başqaları. Zəhərli maddələr və onlardan mühafizə (dərs vəsaiti). Bakı, 1992
- Ocaqov H.O. və başqaları. Mülki müdafiə mühafizə qurğuları. 1993
- Ocaqov H.O. Mülki Müdafiə (dərs vəsaiti). Maarif, Bakı, 1997
- Ocaqov H.O., Nəzərov M.M. təbii fəlakətlər, qəzalar və onlardan mühafizə (dərs vəsaiti). Maarif, Bakı, 1998
- Ocaqov H.O. Fövqəladə hallarda həyat fəaliyyətinin təhlükəsizliyi (Ali məktəblər üçün dərslik). Çəşioğlu, Bakı, 2002
- Ocaqov H.O. Gənclərin çağırışa qədərki hazırlığı. Aspoliqraf, Bakı, 2007
- Kərimov Z.S. Mülki Müdafiə. (dərs vəsaiti). Bakı, 2013
- Kərimov Z.S. Həyat fəaliyyətinin təhlükəsizliyi, əməyin mühafizəsi. Bakı, 2016
- Əməyin mühafizəsi (Ali məktəblərin bakalavr pilləsi üçün) proqramı, Azərbaycan Respublikası Təhsil Nazirliyi. Bakı, 2020

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria

Final grades are determined according to the Academic Regulations of WCU

Course Policies

- Attendance of the course is mandatory.
- Late assignments will not be accepted unless an agreement is reached with the lecturer.
- Students cannot use calculators during the exam.
- Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the

Western Caspian University General Student Discipline Regulations			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			3

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Forestry
Course Unit Code	İF – B13
Type of Course Unit	Mandatory
Level of Course Unit	3
National Credits	
Number of ECTS Credits Allocated	8
Theoretical (hour/week)	2
Practice (hour/week)	1
Laboratory (hour/week)	
Year of Study	3
Semester when the course unit is delivered	5
Course Coordinator	Shahbaz Shiraliyev
Name of Lecturer (s)	Shahbaz Shiraliyev
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani, rus
Prerequisites	-
Recommended Optional Program Components	-

Course description:

In forestry, extensive materials are taught about the importance of forest plants, the basic principles of natural and artificial reproduction of the main forest-forming species, the relationship of plants in forests with the environment, ecological situations and differentiation of forest species, the exceptional role of biocenosis, especially forests, in the purification of the atmosphere and the creation of water abundance, and the formation of fertile soils, and their protection.

Objectives of the Course: The main goal of teaching the subject is to teach students about the role of forest plants in human life, greening, the role of forests in the formation of biomass in nature, the importance of forests in the environment surrounding us, the processes occurring in forest biocenosis, its

impact on the environment, the economic, ecological, and social functions of forests, and ways to protect them.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	The importance of forest cover, determining the exceptional role of forests in the ecological environment.	
2	The structure of the forest fund, technical characteristics and rules of use of plants common in forests.	
3	Studying the rules of primary and intermediate use of forests, the role of intermediate use in the development of forests.	
4	Determining the diseases and pests prevalent in existing plants in forests, and ways of protecting against them.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)		
Course Contents		

Week	Chapter	Topics	Exam
1		History of development of forestry science.	
2		Forestry, classification of trees growing in forests.	
3		Ecological bases of formation of biological diversity of forests.	
4		Forest and ecological environment.	
5		Forest restoration.	
6		Replacement of pine with fir and fir with pine.	
7		The course of replacement in oak forests.	
8		Replacement of beech, hemlock and chestnut with other species in deciduous oak forests.	
9		Forest types. Forest types according to G.F. Morozov, P.S. Pogrebnyak, V.N. Sukachev and V.G. Nesterov.	
10		Forest types of foreign countries and Azerbaijan.	
11		Ecological study of forest types.	
12		Soil-conserving, water-conserving and recreational forests.	
13		National brands.	
14		Forestry and world forest congresses.	
15		Service felling methods: lighting, clearing, thinning and transitional felling.	
16		Service fellings, sanitary fellings and landscape fellings in forest parks.	
17		Main use fellings: selective, compulsory selective and voluntary selective fellings.	
18		Ecological essence of clearing of felling areas from residues and clearing of felling areas.	
19		Additional use of the forest.	
20		Forest fires.	
21		Measures to combat forest fires.	
22		Current state of forests and the ecological environment.	
23		Some rare, endangered plants.	
<p>Recommended Sources</p> <p>TEXTBOOK(S)</p> <ol style="list-style-type: none"> 1. The importance of forests and the ability to conduct ecological monitoring of the plants present there. 2. The role of forest plants in regulating the oxygen balance in the atmosphere and the study of their climate-forming properties. 3. The ability to determine the rules of service and sanitary felling in forests. 4. The ability to develop the main forest-forming species and ways of their protection. 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			

Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			8

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Forest entomology
Course Unit Code	İF – B14
Type of Course Unit	Mandatory
Level of Course Unit	4
National Credits	
Number of ECTS Credits Allocated	4
Theoretical (hour/week)	1
Practice (hour/week)	0.5
Laboratory (hour/week)	
Year of Study	4
Semester when the course unit is delivered	7
Course Coordinator	Govhar Aydamirova
Name of Lecturer (s)	Govhar Aydamirova
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani, russian
Prerequisites	-
Recommended Optional Program Components	-
Course description: The subject of forest entomology teaches extensive material about insect species that harm forest and agricultural plants, damage food products, and destroy wooden structures.	

Objectives of the Course: The main goal of teaching the subject is to teach students about the types of insects that damage forests and the measures to combat them.			
Learning Outcomes			
At the end of the course the student will be able to			Assessment
1	Study of methods for identifying forest pests.		
2	Study of the rules for implementing measures to combat forest pests.		
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz			
Course's Contribution to Program			
			CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes		
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements		
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing		
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control		
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations		
6	ability to use various types of devices to monitor and control technological processes		
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results		
8	ability to use modern information technologies and software, observing information security requirements in their professional activities		
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		Development of forest entomology in the world and in Azerbaijan.	
2		General information about insects.	
3		Research methods of entomology.	
4		Pest insects.	
5		The role of insects in the life of the forest.	
6		Reproduction and development of insects.	
7		Methods of combating pests.	

8		Insects that damage leaves.	
9		Insects that damage wood and roots.	
10		Silk-weaving insects.	
11		Collection, storage and preparation of insects.	
12		Classification of insects.	
13		Insects that damage seeds and seedlings.	
14		Beneficial insects.	
15		Economic importance of insects.	
Recommended Sources TEXTBOOK(S) 1. 1. Aghayev B.I. General entomology. Baku-2004.p-304 2. 2. Guliyeva H.F. Research methods of entomology Baku 2015 3. Guliyeva H.F. Medical entomology Baku 2014			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			4

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Phytopathology	
Course Unit Code	İF – B15	
Type of Course Unit	Mandatory	
Level of Course Unit	4	
National Credits		
Number of ECTS Credits Allocated	4	
Theoretical (hour/week)	1	
Practice (hour/week)	0.5	
Laboratory (hour/week)		
Year of Study	4	
Semester when the course unit is delivered	7	
Course Coordinator	Govhar Aydamirova	
Name of Lecturer (s)	Govhar Aydamirova	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani, Rus	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description:		
The subject of phytopathology teaches extensive material about plant diseases, the causes of the disease, the factors affecting its development, the impact of these diseases on productivity and the environment, and the protection of plants from these diseases.		
Objectives of the Course: The main goal of teaching the subject is to teach students about plant diseases, their causes, complications, effects on productivity, and ways to protect against them.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	Understanding the origin and nature of diseases, and ways to prevent diseases.	
2	Grouping infectious and non-infectious plant diseases and identifying their causative agents.	
3	Studying the spread and diagnosis of diseases, methods and means of protection against diseases.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course’s Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	

4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Wee k	Chapter	Topics	Exam
1		History of development of phytopathology	
2		Classification of plant diseases	
3		Methods of combating plant diseases.	
4		Fruit and seed diseases	
5		Diseases of conifers	
6		Diseases of broad-leaved trees	
7		Diseases of fungi	
8		Diseases caused by a lack of nutrients.	
9		Diseases of tomato plants	
10		Diseases of potato plants	
11		Diseases of wheat plants	
12		Diseases of cotton plants	
13		Diseases of pome fruit plants	
14		Diseases of stone fruit plants	
15		Diseases of citrus plants	

Recommended

Sources TEXTBOOK(S)

- Jafarov I. General phytopathology. Baku, Elm, 2007, 388 p.
- Jafarov I.H. Phytopathology. Baku: Sharq-Garb, 2012, 568 p.
- Ibrahimov A.Sh., Israfilbeyov L.A. Primary plants. Textbook. Baku, Baku University Publishing House. 1993, 240 p.
- Mirzayev O., Asadov K., Mahmudov R., Sadikhova S. Control of pests and diseases of forests and gardens. Baku, Chirag, 2012. 68 p.
- Shikhliniski H.M. Pests, diseases of fruit and berry plants and methods of combating them. Baku: Teacher

Publishing House, 2014, 304 p.			
– Aghayev J.T. Diseases of agricultural plants. Baku: “Teacher Publishing House”, 2016 – 200 p.			
– Gurbanov E.M. Systematics of higher plants. Baku, Baku University Publishing House, 2009, 420 p.			
– Yahyayev A.B. Fundamentals of forestry. Textbook. Baku: Education, 2011, 376 p.			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			4

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Forest taxation
Course Unit Code	İF – B16
Type of Course Unit	Mandatory
Level of Course Unit	3
National Credits	
Number of ECTS Credits Allocated	8
Theoretical (hour/week)	2
Practice (hour/week)	1

Laboratory (hour/week)	
Year of Study	3
Semester when the course unit is delivered	6
Course Coordinator	Aydin Yahyayev
Name of Lecturer (s)	Aydin Yahyayev
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani, russian
Prerequisites	-
Recommended Optional Program Components	-
Course description: Methods and tools used in the measurement and assessment of forests in the subject. Accounting issues of individual trees and stands. Distribution of trees in the forest according to thickness levels, methods for calculating their volume, trunk density and shape coefficients, methods for calculating current and average annual growth of stands. Materials on issues such as material assessment of firewood reserves and compilation of commodity tables are taught.	
Objectives of the Course:	
The main goal of teaching the subject is to teach general rules for accounting and evaluating wood and non-wood resources of forests, determining annual increments, and determining the material and commodity structures of wood reserves.	
Learning Outcomes	
At the end of the course the student will be able to	
	Assessment
1	Mastering the rules for measuring and recording trees in forests.
2	Learning the rules for using measuring instruments and measurement errors.
3	Learning the basic taxonomic indicators of individual trees.
4	Determining the taxonomic indicators of a felled tree and its parts.
5	Determining the taxonomic indicators of a collection of trees.
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz	
Course's Contribution to Program	
	CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations
6	ability to use various types of devices to monitor and control technological processes

7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		General concepts of forest taxation. Objects and methods of forest taxation. Basic taxation measurements and tools.	
2		Units of measurement and measurement errors in forest taxation. The main units of measurement accepted in forest taxation. Forms of measurement errors - gross, systematic and random errors.	
3		Taxation of felled trees and their parts. The main parts of a tree and the taxonomic indicators of its trunk. Report on the length, thickness and cross-sectional area of the trunk.	
4		Methods for determining the volume of a felled tree trunk. Determination of the volume of the trunk by the complex and simple formula of the average cross-section. Determination of the volume of the bark on the trunk of a tree.	
5		Characteristics of trunk shape and compactness. The shape of the tree trunk and its true absolute thinning. Trunk shape coefficients and compactness coefficient or aspect ratio.	
6		Assortment, wood and waste extraction from the trunk of a tree. The main assortment extraction and division scheme of trunks. Characteristics of sections. Determination of wood and waste extraction.	
7		Assessment of the rootstock. Measurement of the thickness and height of the rootstock. Determination of the volume of the rootstock.	
8		Determination of the age of the rootstock. Methods and means of determining the age of the rootstock. Age stages of tree species.	
9		Annual growth of the tree. Forms of annual growth of the tree - current and average annual growth. Rules for calculating annual losses.	
10		Taxation of a tree collection. Concept of a tree collection. Determination of the main taxation indicators of a tree collection.	
11		Determination of average tax indices in a tree collection. Determination of average diameter, average height and average age in a tree collection.	

12		Determination of material valuation of a collection of trees. Classification of wood resources into categories such as working, wood, technological raw materials, waste.	
13		Taxation of roundwood assortments. Forest assortments and requirements for them. Accounting of roundwood collection and determination of volumes.	
14		Taxation of firewood and short-lived forest materials. General concepts about firewood. Collection and accounting of firewood and short-lived materials. Short-lived assortments.	
15		Taxation of sawn firewood.	
16		Forests, their composition and form. The distribution of forest massifs, their composition and form, forest element.	
17		Forest elements and their structural regularities. Theory of forest elements, normal and modal forests, natural thickness steps.	
18		Regularities of distribution of trees by thickness steps. Features of distribution of trees by thickness steps in forests of different ages.	
19		Taxation indicators of a forest element. Report of the average diameter of a stand and distribution of trees by average diameter according to natural thickness steps.	
20		Forest element taxonomy indicators. Report on the average height of the forest and the distribution of trees by natural thickness steps according to the average height.	
21		Report on the wood stock of a forest. Report on the stump stock of a given forest and its distribution by thickness steps.	
22		Methods for calculating the wood reserve of stands. Calculation of the wood reserve of stands based on the indicators obtained according to the method of felling accounting trees, average model trees and volume tables of rootstock trees.	
23		Determination of the assortment yield of a forest. Determination of the assortment yield according to accounting trees, average model trees, assortment and commodity tables.	
24		Determination of the assortment yield of a forest based on tables. Determination of the assortment yield according to assortment and commodity tables.	
25		Determination of the assortment yield of a forest based on tables. Determination of the assortment yield according to assortment and commodity tables.	
26		Determination of the commodity class of a forest. Determination of the commodity class of a forest's wood stock according to accounting trees.	
27		Determination of the commodity class of a forest based on tables. Determination of the commodity class of a forest's wood stock based on commodity tables.	
28		Formation of forest layers and their main taxonomic indicators. Determination of the composition, average height, and density of layers in forests.	

29		General characteristics of forests. Features of determining the characteristics of the main taxonomic indicators of given forests.	
<p>Recommended Sources</p> <p>TEXTBOOK(S)</p> <ul style="list-style-type: none"> – Amirov F.A. Forests and forestry of the Republic of Azerbaijan. Baku. 1997, 188 p. – Asadov K.A. et al. Dendroflora and forests of the northeastern part of the Greater Caucasus. Baku. 2008, 274 p. – Ibrahimov Z. A. Forest taxation. Baku 2005, 136 p. – Yahyayev A.B. Fundamentals of forestry. Baku. 2011, 375 p. – Anuchin N.P. Forest taxation. Moscow: Lesn. prom-st, 1982. 552 p. – Qurbanov E.M. Forestry systems. Baku: “Bakı Dövlət Universiteti” newspaper, 2009, 420 p. – Forestry magazine. Arkhangelsk. Russian Federation. 2018-2023. – Novruzova Z.A. Structure and properties of wood of the main forest species of Azerbaijan. Baku. 1965, 208 p. 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			8

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Forest plantations	
Course Unit Code	İF – B17	
Type of Course Unit	Mandatory	
Level of Course Unit	2	
National Credits		
Number of ECTS Credits Allocated	8	
Theoretical (hour/week)	2	
Practice (hour/week)	1	
Laboratory (hour/week)		
Year of Study	2	
Semester when the course unit is delivered	4	
Course Coordinator	Adilagha Malikov	
Name of Lecturer (s)	Adilagha Malikov	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani,rus	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description: The course consists of forming ideas about the history of the development of forest plantations, methods of natural forest regeneration, artificial forest regeneration, establishment of forest plantations, organization of forest seed production, purpose and tasks of the nursery, types of planting material grown and departments of the nursery, and preparation of agrotechnical maintenance work for forest plantations.		
Objectives of the Course: The main goal of the course is to demonstrate that forest plantation measures are the most reliable means of preventing deforestation, eliminating the depletion of forest resources, and restoring and developing forests.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	The course consists of forming ideas about the history of the development of forest plantations, methods of natural forest regeneration, artificial forest regeneration, establishment of forest plantations, organization of forest seed production, purpose and tasks of the nursery, types of planting material grown and departments of the nursery, and preparation of agrotechnical maintenance work for forest plantations.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course’s Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	

3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		Forests of Azerbaijan, their importance and current status.	
2		The relevance of artificial afforestation and silviculture.	
3		The subject and main tasks of the discipline of forest plantations.	
4		General information about seedlings.	
5		The interaction of trees and shrubs.	
6		Zoning of forest plantations.	
7		The relevance, essence and tasks of forest seeding.	
8		Forest plantation fund.	
9		Methods of afforestation and forest restoration.	
10		Systematics, methods and techniques of creating forest plantations.	
11		Planting schemes.	
12		Density of forest plantations.	
13		Land preparation for creating forest plantations.	
14		Creating forest plantations by sowing and sowing methods.	
15		Agrotechnical care of forest plantations.	
16		Reconstruction in forest plantations.	
17		Creating plantations of fast-growing species.	
18		Features of forest plantations in the green zone.	
19		Creating olive plantations.	

20		Creating walnut plantations.	
21		Distribution and importance of walnut in Azerbaijan.	
22		Naturally distributed oak species and forests in Azerbaijan.	
23		Design of forest plantations.	
24		Technical acceptance of forest plantations.	
25		Inventory of forest plantations.	
26		Assessment of the quality limit and actual condition of forest plantations.	
27		Service fellings in forest plantations.	
28		Irrigation of forest plantations.	
29		Drip irrigation systems.	
30		Greening of Baku and the Absheron peninsula.	

Recommended Sources

TEXTBOOK(S)

- Z.A. Ibrahimov "Forest plantations" Baku 2015
- Mammadov J.Sh. Cultivation of olive plants. Baku, "Muallim" publishing house 2010, 40 p.
- Gurbanov E.M. Systematics of higher plants, Baku University publishing house, 379 p.
- Mammadov T.S. "Greening in Absheron according to ecological factors". Baku, Elm, 2004
- Y.A. Diseases of agricultural plants and their control. Baku, "Maarif", 1988, 232 p.
- Mammadov T.S. Trees and shrubs of Absheron. Baku, 2010
- Redko G.I. et al. "Forest cultures and protective afforestation" St. Petersburg 1999
- Sergeeva V.S. Fundamentals of forestry and forest taxation, Moscow, 1990, 224 p
- Yakimov N.I., Gvozdev V.K. "Forest cultures" Minsk 2009
- Forester's Handbook, Moscow, 1964, 672c

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria. Final grades are determined according to the Academic Regulations of WCU

Course Policies

- Attendance of the course is mandatory.
- Late assignments will not be accepted unless an agreement is reached with the lecturer.
- Students cannot use calculators during the exam.
- Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations

ECTS allocated based on Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			

Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			
Total Workload/30(h)			
ECTS Credit of the Course			

MODULE HANDBOOK

Forestry bachelor program, Department of "Ecology and Environment".

Course Unit Title	General farming
Course Unit Code	İF – B18
Type of Course Unit	Mandatory
Level of Course Unit	3
National Credits	
Number of ECTS Credits Allocated	4
Theoretical (hour/week)	1
Practice (hour/week)	0.5
Laboratory (hour/week)	
Year of Study	3
Semester when the course unit is delivered	6
Course Coordinator	Adilagha Malikov
Name of Lecturer (s)	Adilagha Malikov
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani, russian
Prerequisites	-
Recommended Optional Program Components	-

Course description: Given the current problems in meeting the food security of the population and the likelihood that it will increase further in the future, the level of development of the agricultural sector is considered the main indicator of the economy and living standards of each country. Increasing agricultural production, along with the application of scientific and technical achievements and advanced technologies, requires the training of highly qualified specialists. This is generally related to the development of agriculture, which constitutes the main line of agricultural sciences. Modern agricultural science requires the application of agrotechnologies appropriate to the agroecological and landscape conditions of the area, taking into account the basic laws of natural sciences.

Objectives of the Course: The purpose of teaching the subject is to: - study scientifically based agrotechnologies for the purpose of efficient land use and to shape students' thinking in establishing zonal agricultural systems appropriate to the agroecological conditions of the area.

Learning Outcomes		Assessment
At the end of the course the student will be able to		
1	Tələbə fənni tam öyrənməklə: - ekoloji təmiz torpaq münbitliyinin yaradılması və onun eroziyadan qorunması üçün torpaqmühafizəli tədbirlər tətbiq etməyi; əlaqların növ tərkibini müəyyən edərək, tarlaların əlaqlanma xəritəsini qurmağı və əlaqlara qarşı mübarizə tədbirləri həyata keçirməyi; növbəli əkinlərin səmərəli sxemlərini seçməklə onun mənimsənilməsini başa çatdırmağı onları aqronomiki və iqtisadi cəhətdən qiymətləndirməyi; enerji və ehtiyata	

	qənaətedici, habelə torpaqmühafizəli əkinçilik sistemlərini düzgün qənaəət edib həyata keçirməyi və tarla işlərinin keyfiyyətinə nəzarəti bacarmaq imkanı əldə edilir.		
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz			
Course's Contribution to Program			
			CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes		
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements		
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing		
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control		
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations		
6	ability to use various types of devices to monitor and control technological processes		
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results		
8	ability to use modern information technologies and software, observing information security requirements in their professional activities		
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		History of the development of agriculture.	
2		Life factors of plants and their regulation.	
3		Water regime and its regulation.	
4		Soil nutrient and air regimes and their regulation.	
5		Laws of scientific agriculture.	
6		Understanding of weeds.	
7		Classification of weeds and biological characteristics of their seeds.	
8		Measures to combat weeds.	
9		Biological and chemical measures to combat weeds.	
10		Soil and soil fertility.	

11		Crop rotation.	
12		Reasons for the need for crop rotation.	
13		Classification of crop rotation.	
14		Soil cultivation.	
15		Soil cultivation.	
Recommended Sources			
TEXTBOOK(S)			
<ul style="list-style-type: none"> – Z.A.Ibrahimov “Forest plantations” - Baku 2005 – F.A. Amirov “Forests and forestry of Azerbaijan” – J.A.Hajiyev, M.M.Huseynov “Agriculture” Ganja 2008, p.372 – A.A. Korchagin, M.A. Mazirov "General Agriculture", Vladimir. 2021, 193 p. – Redko G.I. et al. "Forest crops and protective afforestation" St. Petersburg 1999 – V.V. Ogievsky, N.I. Rubtsov "Forest crops and forest melioration", Moscow, 1960, 327 p. – I.S. Melekhov "Forestry", textbook, Moscow, 1980, 408 p. – Forester's Handbook, Moscow, 1964, 672 p. 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			8

MODULE HANDBOOK**Forestry bachelor program, Department of “Ecology and Environment”.**

Course Unit Title	Forestry machines and tractors	
Course Unit Code	İF-B19	
Type of Course Unit	Mandatory	
Level of Course Unit	3	
National Credits		
Number of ECTS Credits Allocated	4	
Theoretical (hour/week)	0.5	
Practice (hour/week)	0.5	
Laboratory (hour/week)		
Year of Study	3	
Semester when the course unit is delivered	6	
Course Coordinator	Shaban Bashirov	
Name of Lecturer (s)	Shaban Bashirov	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani,Rus	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description:		
The purpose of teaching the subject "Forestry Machinery and Tractors" is to teach students the types of forest harvesting processes, machines and mechanisms, their maintenance rules, the efficiency of using forest machinery, the power and energy parameters of wood sawing processes, and lifting mechanisms. In modern times, it is impossible to imagine the implementation of production and work processes in forestry without the use of mechanical equipment.		
Objectives of the Course: Mechanization replaces manual work with machines and mechanisms. This area is considered one of the main directions of scientific and technical progress and serves to create an effective basis for forestry. The subject “Forestry machines and tractors” is based on the knowledge of the subjects “Theoretical mechanics”, “Theory of machines and mechanisms”, “Strength of materials”, “Materials science”.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	- Disassembly and assembly of the main parts of machines and mechanisms: - the mutual relations of the details and connections of the tractor and the car.	
2	- determine the mechanical, technological and other properties of metals based on the given brands: - protect the details of machines and mechanisms from corrosion.	
3	- be able to read the approved Unified Construction Documents (VKS) and the schemes of the details: - be able to operate the machines from the data tables, instruc	
4	- keep accounting documents of the work performed, the fuel and lubricants consumed:	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course’s Contribution to Program		

		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		Purpose and location of machines in forest harvesting.	
2		Forestry transport machines. General devices of machines and tractors.	
3		Internal combustion engine and its parts construction.	
4		Details that transmit the energy of the internal combustion engine to other parts of the machine (transmission of the car).	
5		Lubrication and cooling systems.	
6		Harvester - a combine that automatically cuts forest trees. History of the harvester's invention.	
7		The principle of operation and advantages of the harvester. Harvester control.	
8		Machines and mechanisms used to extinguish forest fires.	

Recommended Sources

TEXTBOOK(S)

- Aliyev B.H., Tractors and machines of forestry, Baku, 2019,

<ul style="list-style-type: none"> – G.A. Satarov, Machines and mechanisms in forestry and forest park management, 2017 – G.V. Silaev, N.D. Bazdyrev. TRACTORS IN FORESTRY Moscow Yurait 2019. – Vinokurov V.N., Silaev G.V. Forestry machines and their application. - M.: MGUL, 1999. - 234 p. – Tractors and cars, a course of lectures for students of the training direction 110800.62, Agroengineering, Saratov 2016. 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			4

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Forestry economics, organization and management.
Course Unit Code	İF – B20
Type of Course Unit	Mandatory
Level of Course Unit	4
National Credits	
Number of ECTS Credits Allocated	4

Theoretical (hour/week)	1	
Practice (hour/week)	0.5	
Laboratory (hour/week)		
Year of Study	4	
Semester when the course unit is delivered	7	
Course Coordinator	E.Z.Soltanov	
Name of Lecturer (s)	E.Z.Soltanov	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani, rus	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description: Ensuring the mastery of materials. Ensuring the establishment of mutual relations with students to increase their preparation levels by applying advanced practices in the study of topics.		
To introduce economic principles relevant to forestry.		
To explain the structure and management of forestry enterprises.		
To analyze financial aspects of forest resource use.		
To provide tools for planning and decision-making in forestry.		
To explore forest policies and their economic impacts.		
To develop practical skills for managing forestry operations sustainably.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	

8	ability to use modern information technologies and software, observing information security requirements in their professional activities		
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		The main provisions of the project in the economics of forestry	
2		The concept of management.	
3		Projects and project forms in marketing.	
4		The concept of a manager, time management and managerial skills.	
5		Illustration of the main tasks in the quality management system.	
6		Management of investment projects.	
7		Personnel management, work and activity.	
8		Human resource planning.	
9		Communication in the management system.	
10		Economic risks.	
11		Economic risk management.	
12		Cost management.	
13		Assessment of the complexity of the work.	
14		Automated design systems.	
15		Possibilities of automating design processes.	
Recommended Sources			
TEXTBOOK(S)			
<ul style="list-style-type: none"> – Fundamentals of Management. T.Guliyev, Baku 2012; – Fundamentals of Management. X.M.Yahudov, Baku 2007; – Management. A.Alekperov, F.Ibrahimov Baku 2004; – Management of the economy. T.Mirzayev, Baku 2006; – Fundamentals of Management. Vikhansky, 1998 – K.A.Shahbazov, M.H.Mammadov, H.S.Hasanov Management, Baku – 2007; – K.A.Shahbazov, M.H.Mammadov, H.S.Hasanov. State and municipal administration Baku – 2010; 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			

- Attendance of the course is mandatory.
- Late assignments will not be accepted unless an agreement is reached with the lecturer.
- Students cannot use calculators during the exam.
- Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations

ECTS allocated based on Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			
Total Workload/30(h)			
ECTS Credit of the Course			

MODULE HANDBOOK

Forestry bachelor program, Department of "Ecology and Environment".

Course Unit Title	Mathematical statistics
Course Unit Code	İF-B21
Type of Course Unit	Mandatory
Level of Course Unit	1
National Credits	
Number of ECTS Credits Allocated	4
Theoretical (hour/week)	1
Practice (hour/week)	0.5
Laboratory (hour/week)	
Year of Study	1
Semester when the course unit is delivered	1
Course Coordinator	Svetlana Guliyeva
Name of Lecturer (s)	Svetlana Guliyeva
Name of Assistant (s)	-
Mode of Delivery	Face to facec
Language of Instruction	Azerbaijani, rus
Prerequisites	-
Recommended Optional Program Components	-
Course description: The "mathematical statistics" course, intended for undergraduate students, covers topics such as discrete and continuous random variables and their mathematical expectation, variance and mean squared tendency, initial and central moments, statistical distribution of sampling, frequency and relative frequency, initial and sample collection, evaluation of their numerical characteristics, confidence interval, and so on.	
Objectives of the Course: The goal of the course is to develop the mathematical thinking of future	

graduates, to instill in them the ability to conduct mathematical analysis of observations and results, and to make appropriate predictions.

- Learning Outcomes:**
- Understand and explain key concepts in probability theory, random variables, and probability distributions.
 - Apply estimation techniques and perform hypothesis testing using standard statistical methods.
 - Analyze and interpret statistical models and draw inferences about population parameters from sample data.
 - Use advanced mathematical tools such as moment generating functions and likelihood functions in statistical analysis.
 - Utilize regression, correlation, and confidence intervals to model and interpret variable relationships.
 - Apply statistical software (e.g., R, Python, MATLAB) to solve practical problems and effectively communicate results using proper terminology and visualization.

At the end of the course the student will be able to		Assessment
1	Objectives and tasks of the course of probability theory and mathematical statistics, application methods.	
2	Skills in applying the course of probability theory and mathematical statistics to practical problems.	
3	Explanation and explanation of the methods (technologies) of teaching the course of probability theory and mathematical statistics.	
4	Explanation of the objectives and tasks of the course of probability theory and mathematical statistics.	

Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz

Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	

7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		Basic concepts of probability theory. Events and operations on them.	
2		Classical and statistical definitions of probability. Simple properties of probability.	
3		Independent events. Conditional probability. Multiplication theorem.	
4		Probability of at least one event occurring. Absolute probability. Bayes' formula. Bernoulli's formula.	
5		Random quantities. Distribution law of discrete random quantities. Mathematical expectation. Dispersion and properties.	
6		Continuous random quantities, Distribution and density function, Numerical characteristics.	
7		Continuous distributions and their numerical characteristics. Regular distribution. Superordinate distribution.	
8		Prime and sample sets. Empirical distribution function.	
9		Polygon, Histogram.	
10		Value of distribution parameters.	
11		Method of greatest similarity to the truth.	
12		Interval estimation of distribution parameters.	
13		Correlation dependence.	
14		Selection equation of a regression straight line.	
15		Statistical assumptions.	

Recommended Sources

TEXTBOOK(S)

- В.Е.Гмурман. “Теория вероятностей и математической статистики” Высшая школа, 2003
- В.Е. Гмурман. “Руководства к решению задач по теории вероятности математической статистики” Высшая школа, 2004.
- Robert V. Hogg, Joseph W. McKean, Allen T. Craig Introduction to Mathematical Statistics Eighth Edition. 2019, pp. 762.
- Thomas J. Faulkenberry Psychological Statistics First published 2022 by, New York, NY 10158. pp. 122.
- William Mendenhall, Robert J. Beaver, Barbara M. Beaver Introduction to Probability and Statistics. 13th EDITION, 2009, pp. 777.

- Dean Chalmers Series Editor: Julian Gilbey Cambridge International AS & A Level Mathematics: Probability & Statistics 1 Coursebook. Cambridge University Press. First published 2018, pp. 266
- Емельянов, Г. В. Задачник по теории вероятностей и математической статистике: учебное пособие / Г. В. Емельянов, В. П. Скитович. — 3-е изд., стер. — Санкт-Петербург : Лань, 2019. — 332 с.
- Монсик, В. Б. Вероятность и статистика : учебное пособие / В. Б. Монсик, А. А. Скрынников. — 4-е изд. — Москва : Лаборатория знаний, 2020. — 384 с.
- Гладков, Л. Л. Теория вероятностей и математическая статистика : учебное пособие / Л. Л. Гладков, Г. А. Гладкова. — 2-е изд., испр. — Санкт-Петербург : Лань, 2020. — 196 с.

Assessment		
Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria. Final grades are determined according to the Academic Regulations of WCU

Course Policies	
• Attendance of the course is mandatory.	
• Late assignments will not be accepted unless an agreement is reached with the lecturer.	
• Students cannot use calculators during the exam.	
• Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations	

ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			4

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Wood science and forest commodity science.
Course Unit Code	iF-B22
Type of Course Unit	Mandatory
Level of Course Unit	3

National Credits	
Number of ECTS Credits Allocated	4
Theoretical (hour/week)	1
Practice (hour/week)	0.5
Laboratory (hour/week)	
Year of Study	3
Semester when the course unit is delivered	5
Course Coordinator	Gulnar Hamidova
Name of Lecturer (s)	Gulnar Hamidova
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani, rus
Prerequisites	-
Recommended Optional Program Components	-
Course description: The subject of wood science and forest commodity science plays a major role in the study of the structure of wood, its physical and mechanical properties, defects, conservation rules, sawn materials, modification methods, etc. Formation of relevant knowledge, skills and habits in students, formation of their general understanding of the structure and physical and mechanical properties of wood.	
Objectives of the Course: Wood science provides complex information about the structure and properties of wood as a result of biological, chemical, physical and mechanical tests. The science of forest commodity science studies the consumer quality of forest materials and products. The subject of “Wood science and forest commodity science” plays a great role in the training of forest personnel.	
Learning Outcomes	
At the end of the course the student will be able to	
1	Formation of ideas about the goals and objectives of the subject “Wood Science and Forestry” as a science, scientific research methods, and its relationship with other sciences.
2	Formation of ideas about the structure of wood.
3	Formation of ideas about the chemical composition of wood. Formation of ideas about the physical and mechanical properties of wood.
4	Formation of ideas about the defects of wood;
5	Formation of ideas about the goals and objectives of Wood Science and Forestry for undergraduate students.
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz	
Course’s Contribution to Program	
	CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing

4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		Information about the science of wood science.	
2		Structure of the tree. Wood plants. Main parts of the tree.	
3		Structure of wood and bark. Macrostructure of wood.	
4		Structure of wood and bark. Microstructure of wood.	
5		Structure of wood and bark. Structure of bark.	
6		Chemical properties of wood and bark. Chemical composition of wood and bark.	
7		Chemical properties of wood and bark. Characteristics of organic substances of wood and bark.	
8		Chemical properties of wood and bark. Use of wood and bark as raw materials.	
9		Physical properties of wood and bark. Appearance of wood. Humidity. Shrinkage and swelling. Absorption. Density.	
10		Physical properties of wood and bark. Thermal, electrical and acoustic properties of wood. Properties arising in wood under the influence of radiation.	
11		Mechanical properties of wood and bark. Permeability of wood to liquids and gases. Strength of wood in compression, tension, static bending, shear, torsion. Hardness of wood, impact viscosity, elastic constants. Long-term resistance and fatigue of wood. Calculational resistance of wood.	
12		Variability of wood properties. Variation of wood properties within a	

		tree species. Effect of temperature on wood properties. Effect of acids and alkalis on wood properties.	
13		Defects in wood. Durability and protection of wood. Knots and cracks. Defects in the shape of the trunk. Chemical staining. Fungal and biological damage. Durability of wood. Protection of wood. Fire protection.	
14		Main tree species of the Republic of Azerbaijan. Classification and standardization of forest products. Sawn, chipped, peeled, chopped and shredded forest materials. Main tree species of the Republic of Azerbaijan. Classification of forest products. Standardization. Sawn and chipped forest materials. Peeled and chopped forest materials. Shredded forest materials.	
15		Raw materials for forest chemical production. Composite wood materials. Modification of wood. Cellulose, paper and cardboard. Products of forest chemical production. Raw materials for forest chemical production. Composite wood materials. Modification of wood. Cellulose, paper and cardboard. Products of forest chemical production.	

Recommended Sources

TEXTBOOK(S)

- Forest Management Planning Manual, Toronto. Queen’s Printer for Ontario., March 2017., 462 pp
- Rastislav Raši, State of Europe’s Forests., Liaison Unit Bratislava., 2020, 394 pp
- N.M.Aghabayli. Fundamentals of wood science and forest commodity science. Baku.1990

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria

Final grades are determined according to the Academic Regulations of WCU

Course Policies

- Attendance of the course is mandatory.
- Late assignments will not be accepted unless an agreement is reached with the lecturer.
- Students cannot use calculators during the exam.
- Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations

ECTS allocated based on Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			

Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			
Total Workload/30(h)	240		
ECTS Credit of the Course	4		

MODULE HANDBOOK

Bachelor program in Forestry, Department of “Ecology and environment”.

Course Unit Title	Forest structure		
Course Unit Code	İF-B23		
Type of Course Unit	Mandatory		
Level of Course Unit	3		
National Credits			
Number of ECTS Credits Allocated	8		
Theoretical (hour/week)	2		
Practice (hour/week)	1		
Laboratory (hour/week)			
Year of Study	3		
Semester when the course unit is delivered	7		
Course Coordinator	Aydın Yahyayev		
Name of Lecturer (s)	Aydın Yahyayev		
Name of Assistant (s)	-		
Mode of Delivery	Face to face		
Language of Instruction	Azerbaijani,Rus		
Prerequisites	-		
Recommended Optional Program Components	-		
Course description:			
The main goal of teaching the subject is to teach students general rules about ensuring the sustainable development of forests, improving their species composition, increasing their productivity, and using their wood resources.			
Objectives of the Course: The subject teaches materials on the forest fund lands of the Republic of Azerbaijan, the main tree species, the classification and theoretical foundations of forests, soil and climatic conditions of forests, felling measures carried out in forests, and the restoration and use of forests.			
Learning Outcomes			
At the end of the course the student will be able to			Assessment
1	Students' mastery of materials on the structure of the forest fund, the distribution of forest areas according to their purpose, and the main tree species; Study of the forestry-biological characteristics of the main forest-producing species		
2	Detailed study of the basic theoretical concepts of forests; Determination of the industrial importance of broad-leaved and coniferous tree species of the Republic;		
3	To form general knowledge among students about the nature and essence of activities to be carried out in forests, as well as the tools and equipment used.		

Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz			
Course's Contribution to Program			
		CL	
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes		
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements		
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing		
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control		
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations		
6	ability to use various types of devices to monitor and control technological processes		
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results		
8	ability to use modern information technologies and software, observing information security requirements in their professional activities		
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		Forest fund of the republic and its characteristics.	
2		Study of the experience of using the timber resources of the republic's forests.	
3		Theoretical foundations of forest structure.	
4		Basic concepts of forestry.	
5		Study of the basic theoretical concepts of forestry.	
6		Subject and economic foundations of forest structure.	
7		Issues of planning forest farms.	
8		Study of the features of the division of forests according to their purpose.	
9		Structure of forest structure works.	
10		Basics of designing forest structure works.	
11		Study of the main functional features of group I forests.	

12		Classification of forests according to their purpose in the national economy.	
13		Basics of organizing forms of economy.	
14		Study of the features of forms of economy according to their origin.	
15		Forms of economy according to the origin of forests.	
16		Forms of economy according to the method of forest restoration.	
17		Study of the features of forms of economy according to the method of felling.	
18		Forms of economy according to the method of felling.	
19		Farming forms according to productivity.	
20		Study of the characteristics of the farming form according to productivity.	
21		Maturity of forests.	
22		Natural maturity of forests.	
23		Study of the characteristics of natural maturity in oak stands.	
24		Regeneration maturity of forests.	
25		Quantitative maturity of forests.	
26		Study of the characteristics of natural maturity in beech stands.	
27		Technical maturity of forests.	
28		Stub age of forests.	
29		Study of the characteristics of natural maturity in beech stands.	
30		Principles of determining the stub age of forests.	
31		Determination of stub recurrence periods in forests.	
32		Study of the design characteristics of selective stubs.	
33		Forest structure methods.	
34		Forest structure method by age fractions.	
35		Study of the design characteristics of intermediate use stubs.	
36		Forest structure method by area.	
37		Forest structure method by normal reserves.	
38		Report on the turnover of mature trees.	
39		Forest structure method for controlling the volume of current annual growth.	
40		Economic division of forests and their division into sections.	
41		Study of the characteristics of determining the age of oak trees.	
42		Creation of economic sections in the forest and determination of their main elements.	
43		Use of forests, the basics of primary use.	
44		Study of the characteristics of determining the age of beech trees.	
45		Additional use of forests.	

Recommended Sources

TEXTBOOK(S)

- Amirov F.A. Forests and forestry of the Republic of Azerbaijan. Baku. 1997, 188 p.
- Yahyayev A.B. Fundamentals of forestry. Baku. 2011, 375 p.
- Yahyayev A.B. Procurement of forest materials. Baku; 2012. 221 p.
- Anuchin N.P. Forest taxation. Moscow; 1986. 572 p.
- Bugayev V.A. Fundamentals of forest management. Voronezh, 1982. 232 p.
- Logging. Practical guide. St. Petersburg, 2010, 266 p.

<ul style="list-style-type: none"> – Forestry magazine. Arkhangelsk. Russian Federation. 2010-2016. – Novruzova Z.A. Structure and properties of wood of the main forest species of Azerbaijan. Baku. 1965, 208 p. 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			4

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Forest reclamation and protective afforestation
Course Unit Code	İF – B24
Type of Course Unit	Selected
Level of Course Unit	3
National Credits	
Number of ECTS Credits Allocated	4
Theoretical (hour/week)	1
Practice (hour/week)	0.5
Laboratory (hour/week)	

Year of Study	3	
Semester when the course unit is delivered	6	
Course Coordinator	Adilagha Malikov	
Name of Lecturer (s)	Adilagha Malikov	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani, Russian	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description: The aim of the subject is to acquire the theoretical knowledge and practical skills necessary to use agro-melioration measures as the most important tool in combating drought, hot winds, soil degradation and other negative manifestations of weather conditions, creating highly productive agro-forest landscapes, and managing garden and park farms.		
Objectives of the Course:		
The aim of the subject is to acquire the theoretical knowledge and practical skills necessary to use agro-melioration measures as the most important tool in combating drought, hot winds, soil degradation and other negative manifestations of weather conditions, creating highly productive agro-forest landscapes, and managing garden and park farms.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	The course aims to study the theoretical foundations of agro-melioration, acquire practical skills in assessing the condition of protective crops, and develop measures to improve the condition of these crops.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain	

	valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		The subject, purpose and objectives of land reclamation in forestry.	
2		Classification of land reclamation.	
3		Field protection forests and unfavorable natural phenomena.	
4		Construction of forest belts and their impact on wind flow.	
5		Field protection forests and unfavorable natural phenomena.	
6		Technology and agrotechnics of growing protective forest stands.	
7		Existing field protection forest belts in Azerbaijan.	
8		Design of field protection forest belts.	
9		Mixing and placement schemes of tree and shrub species in protective forestry.	
10		Soil erosion and its control.	
11		Ecological problems of oil-polluted lands of Azerbaijan.	
12		Forest undergrowth reclamation and drainage measures in swampy lands.	
13		Control of erosion in mountainous conditions.	
14		Sand dunes, their consolidation, their mastering.	
15		Protective forest belts around highways.	

Recommended Sources

TEXTBOOK(S)

- Gurbanov E.M. Systematics of higher plants, Baku University Publishing House, 379 p.
- M.S. Aliyev, F.A. Hasanli "Amelioration geography", Baku 2010, 103 p.
- Mammadov G.S., Asadov K.S. Forest ecology. Baku, "Elm" 2010, 452 p.
- G. Mammadov, M. Khalilov "Ecology, environment and man" Baku 2004
- F.A. Amirov "Forests and forestry of Azerbaijan"
- Z.A. Ibrahimov "Forest plantations" - Baku 2005. В.В. Огиевский, Н.И. Рубцов «Лесные культуры и лесные мелиорации», Москва, 1960, 327с.
- I.S. Melekhov "Forestry", textbook, Moscow, 1980, 408 p.
- Redko G.I. et al. "Forest crops and protective afforestation" St. Petersburg 1999
- Forester's Handbook, Moscow, 1964, 672 p.
- A.A. Korchagin, M.A. Mazirov "General Agriculture", Vladimir. 2021, 193 p.
- R.A. Sokolov "Forestry", Perm, 2020, 144 p.
- B.P. Churakov, D.B. Churakov "Forestry", Ulyanovsk, 2017, 259 p.

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	

Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	
Assessment Criteria		
Final grades are determined according to the Academic Regulations of WCU		
Course Policies		
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 		
ECTS allocated based on Student Workload		
Activities	Number	Duration (hour)
Course duration in class		
Presentation		
Self-study		
Tutorials		
Midterm Examination		
Preparation for midterm exam		
Final Examination		
Preparation for final exam		
Total Workload		
Total Workload/30(h)		
ECTS Credit of the Course		

MODULE HANDBOOK

Forestry bachelor program, Department of "Ecology and Environment".

Course Unit Title	Ornamental gardening and landscape design
Course Unit Code	İF-B25
Type of Course Unit	Mandatory
Level of Course Unit	3
National Credits	
Number of ECTS Credits Allocated	4
Theoretical (hour/week)	1
Practice (hour/week)	0.5
Laboratory (hour/week)	
Year of Study	3
Semester when the course unit is delivered	6
Course Coordinator	Shahbaz Shiraliyev
Name of Lecturer (s)	Shahbaz Shiraliyev
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani, Russian

Prerequisites		-
Recommended Optional Program Components		-
Course description: The main goal of teaching the subject is to teach students the importance of ornamental plants in people's lives, in landscaping, and in ornamental gardening, the plants to be used in ornamental gardening, their agrotechnics, propagation characteristics, and botanical gardens and their protection methods.		
Objectives of the Course:		
In the subject of ornamental horticulture, extensive materials are taught about the importance of ornamental plants, the basic principles of ornamental horticulture, plants used in ornamental horticulture, the propagation characteristics of the plants to be used, cultivation agrotechnics, Botanical gardens, and their protection.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	The importance of ornamental gardening, identification of plants to be used in ornamental gardening.	
2	Reproduction characteristics and agrotechnical care rules of plants to be used in ornamental gardening.	
3	Botanical gardens, their structure and characteristics of plants grown there.	
4	Diseases and pests common in plants grown in gardens, identification of ways to protect against them.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the	

	life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		The history of the development of ornamental gardening, the role of exotic plants in ornamental gardening and the composition of compositions.	
2		The main factors necessary for the cultivation of plants used in ornamental gardening.	
3		The rules for the cultivation and propagation of plants used in ornamental gardening.	
4		The use of some annual and biennial flower plants in ornamental gardening.	
5		The use of some perennial flower plants in ornamental gardening.	
6		The use of some beautifully flowering tree plants in ornamental gardening.	
7		The use of some beautifully flowering shrub plants in ornamental gardening.	
8		The use of some creeping plants in ornamental gardening.	
9		Green fences, borders and rules for their arrangement in ornamental gardening.	
10		Green fences, borders and rules for their arrangement in ornamental gardening.	
11		The use of bonsai in ornamental gardening and their various forms.	
12		Rules for the organization of ornamental gardening in cities and towns of Azerbaijan.	
13		Ornamental gardening and Botanical gardens in Absheron.	
14		Diseases and pests of plants used in ornamental gardening.	
15		Methods of protecting plants used in ornamental gardening.	
Recommended Sources TEXTBOOK(S) <ul style="list-style-type: none"> – Allahverdiyev A. Let's turn Baku into a rose garden. Baku, 1964, 18 p. – Babayev N. Trees and shrubs cultivated in Absheron. 1976. 83 p. – Jalilov G.H., Khalilov M.Y. Decorative greening. Baku, Genjlik, 1982. – Ibadli O.V., Agamirov U.M., Bayramov A.E. Flowering, Baku, Ozan, 2003.222 p. – Ibadli O.V., Agamirov U.M., Huseynova N.B., Iskenderov A.T. Guide to the Central Botanical Garden. – Ibadli O.V., Mehraliyev A.D. Cultivation of climbing plants in Absheron conditions. Baku, 2006, 87 p. – Mammadova K.A. Decorative gardening and floriculture. Textbook, Baku, 2014, ADPU Publishing House. 350 p. – Mammadov F.M. Green fences. Baku, Azerbaijan State Publishing House, 1977, 91 p. – Mammadov T.S. Lawn and ornamental architecture. Baku, Chasioglu, 2006. 48 p. – Mammadov T.S. Bonsai. Mardakan Arboretum of ANAS., Baku, Chasioglu, 2006. – Mehraliyev A. Gardener's synopsis. Baku, 2017, 160 p. – Prilipko A.I., Aliyev A.R. Greening of Azerbaijan. Baku, Az.SSR. Publishing House of the Academy of Sciences. 1967, 82 p. 			

- Agamirov U., Aliyev A., Petyayev S. How to green an apartment and a street balcony. Baku, 1964, 32 p.
- Asadov K.S. Mirzayev O.H. Mammadov F.M. Dendrology. Baku, 2014, Ganjlik Publishing House, 500 p.
- Asadov K., Ibrahimov T. National parks of Azerbaijan. Baku, Science and Education. 2013, 336 p.
- Gurbanov E.M. Systematics of higher plants, Baku University Publishing House, 379 p.
- Mammadov T.S. "Greening in Absheron according to ecological factors". Baku, Elm, 2004
- Mammadov G., Khalilov M. Ecology and environmental protection. Baku, Elm, 2005, 880 p.
- Mehraliyev A. Introduction of lianas in Absheron. Baku, 2019, 152 p.
- Tutayuk V. Greening of Azerbaijan. Baku, Ganjlik, 1968, 79 p.
- Agamirov U.M. New tree species for landscaping Absheron., Baku, Elm, 1977, 79 p.
- Kapinos G. Bulbous and tuberous bulbous plants in Absheron. Baku: 1964, 35 p.

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria

Final grades are determined according to the Academic Regulations of WCU

Course Policies

- Attendance of the course is mandatory.
- Late assignments will not be accepted unless an agreement is reached with the lecturer.
- Students cannot use calculators during the exam.
- Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations

ECTS allocated based on Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			4

MODULE HANDBOOK

Forestry bachelor program, Department of "Ecology and Environment".

Course Unit Title	Plant Ecology	
Course Unit Code	ATMF-B01	
Type of Course Unit	Selected	
Level of Course Unit	2	
National Credits		
Number of ECTS Credits Allocated	5	
Theoretical (hour/week)	1	
Practice (hour/week)	1	
Laboratory (hour/week)		
Year of Study	2	
Semester when the course unit is delivered	3	
Course Coordinator	Ulkar Gadiyeva	
Name of Lecturer (s)	Ulkar Gadiyeva	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani, russian	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description:		
<p>Man's influence on nature is becoming stronger. Humans have positive and negative effects on vegetation. Negative effects including deforestation, construction of roads, construction of water pools, burning of vegetation, etc. belongs to.</p> <p>People thoughtlessly spread the seeds of plants, cultivated wild plants, and transported plants from one country to another. This is a positive thing if done unconsciously. Conscious influence itself can be positive or negative. Acquisition of new species through artificial selection, enrichment of flora - these are positive things. Some plants are found in places where people live, under cultivation conditions.</p>		
Objectives of the Course: Studying the subject of plant ecology in depth, investigating the lifestyle features of plants, and how anthropogenic activity affects plants and animals		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	<p>Plant and animal ecology in the preparation of biologists and ecologists, nature It is very important to study. The study of plant ecology in an unfavorable environment in the elimination of factors, in the correct use of nature and the environment helps people in its protection.</p> <p>Plant ecology, the interaction of phytocenoses, plant associations with the habitat by learning, to solve many encountered problems, to increase the productivity of phytocenosis,</p> <p>teaches important tasks such as eliminating negative effects on plants and vegetation</p>	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of	

	mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		The subject of plant ecology, history of development	
2		Classification of environmental factors and regularities of influence	
3		Light is an environmental factor. The importance of light in the life of plants	
4		Ecological groups of plants according to their effect on light	
5		Reactions and adaptations of plants to illumination	
6		The role of the thermal factor in plant life	
7		Edaphic factors and their role in the life of plants and soil flora and fauna	
8		The importance of water in the life of plants	
9		Plant groups according to water regime requirements (Hydrophytes, Hygrophytes)	
10		Other plant groups according to their water needs. (Mesophytes, Xerophytes)	
11		Environmental effects of anthropogenic factors on plant	
12		Life forms as a form of adaptation of plants to environmental conditions and a systematic unit of plant ecology	

13		Vegetation belt in the mountains	
14		Ecological influence of zoogenic factors on plants	
15		Protection of flora	
<p>Recommended Sources TEXTBOOK(S)</p> <ul style="list-style-type: none"> – N.A. Sadygova Plant ecology – Environmental legislation of the Republic of Azerbaijan (a collection of normative-legal acts). Baku: Qanun, 2006, 840 p. – Vlasov P. P., Orlova M. V., Tarasenkov N. V. A Brief Course in Ecology: A Textbook. SPb.: SPbGUTD, 2010. 134 p. – Zubrilov S. P., Ishchuk Yu. G., Kosovsky V. I. Environmental Protection during Ship Operation. L.: Shipbuilding. 2009. 256 p. – Korobkin, V. I., Peredelsky L. V. Ecology: [textbook for students of higher education institutions]. Rostov-on-Don: Phoenix, 2011. 602 p. – Mavrishchev V. V. Fundamentals of Ecology: A Textbook. Minsk: Higher. School, 2017, 447 p. Eurostat (2020), Greenhouse gas emissions from waste. https://ec.europa.eu/eurostat/web/products-eurostat-news/-/DDN-20200123-1 – Suocheng Dong, Tong Kurt, Yuping Wu (2001), Municipal solid waste management in China: using commercial management to solve a growing problem. Utilities Policy, Vol.10, No.1, March 2001, pp.7-11. https://doi.org/10.1016/S0957-1787(02)00011-5 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

MODULE HANDBOOK**Forestry bachelor program, Department of “Ecology and Environment”.**

Course Unit Title	Flora and fauna of Azerbaijan
Course Unit Code	ATMF-BO1
Type of Course Unit	Selected
Level of Course Unit	1
National Credits	
Number of ECTS Credits Allocated	5
Theoretical (hour/week)	1
Practice (hour/week)	1
Laboratory (hour/week)	
Year of Study	1
Semester when the course unit is delivered	1
Course Coordinator	Govhər Aydamirova
Name of Lecturer (s)	Govhər Aydamirova
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani
Prerequisites	-
Recommended Optional Program Components	-
Course description: During the teaching of the subject, knowledge such as the taxonomic composition of the plant and animal world, the concept of flora and fauna and the history of its study, ecology, plants and animals used by people for various purposes, rare and endangered plant and animal resources, and their protection are imparted to students. The subject is taught by explaining its relationship with other subjects.	
Objectives of the Course: The main goal of teaching the subject is to provide students with information about the flora and fauna of Azerbaijan, as well as its history, the total number of distributed species, as well as the study of their resources, their use, the protection of rare species and, in this regard, ensuring ecological safety and preserving biological diversity.	
Learning Outcomes	
<ul style="list-style-type: none"> – Identify and describe the major plant and animal species native to different regions of Azerbaijan. – Understand the ecological diversity of Azerbaijan’s landscapes, including forests, mountains, semi-deserts, and wetlands. – Explain the biogeographical zones of Azerbaijan and the distribution patterns of flora and fauna within them. – Analyze the impact of environmental factors and human activity on biodiversity in Azerbaijan. – Recognize endemic, rare, and endangered species and understand their conservation status and protection measures. – Apply basic ecological and taxonomic principles in the study and classification of local flora and fauna. – Use fieldwork and observation techniques to document species and habitats in Azerbaijan. – Evaluate national and international conservation efforts related to the protection of Azerbaijan’s biodiversity. 	
At the end of the course the student will be able to	Assessment

1	<ul style="list-style-type: none"> – To provide students with information about the protection and efficient use of the plant world, its habitat. – To provide information about the vegetation of Azerbaijan. 		
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz			
Course's Contribution to Program			
		CL	
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes		
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements		
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing		
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control		
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations		
6	ability to use various types of devices to monitor and control technological processes		
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results		
8	ability to use modern information technologies and software, observing information security requirements in their professional activities		
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		Understanding of flora and the goals and objectives of its study.	
2		Teaching about the biosphere, protection of the plant world of Azerbaijan.	
3		Flora spectrum and plant types of Azerbaijan.	
4		Fauna of Azerbaijan.	
5		Forests of Azerbaijan, their floristic composition and protection.	
6		Physical and geographical characteristics of Azerbaijan and formation of its fauna.	
7		Relict and endemic plants of Azerbaijan.	
8		Medicinal plants of Azerbaijan.	

9		Species of plants and animals included in the Red Book.	
10		Flora and fauna of Shusha.	
11		Classification of old trees found in the flora of Azerbaijan.	
12		State reserves.	
13		Sanctuaries of Azerbaijan.	
14		National parks.	
15		The role of forests in protecting the ecosystem.	

Recommended Sources

TEXTBOOK(S)

- Trees and shrubs of Azerbaijan, volumes I-III
- Red book of Azerbaijan, 1989, 2013
- Jafarova S.G. Ecology of amphibians, Baku, 2014
- Jafarova S.G. Ecology of reptiles, Baku, 2010
- Guliyev V.Sh. Flora of Azerbaijan and its protection. Azerbaijan State Publishing House, Baku.1984
- Gurbanov M.R., Isgander E.O. Biology, reproduction and protection of rare woody plants of Azerbaijan Baku, Education-Science, 2015, 275 p.
- Mammadov G.Sh., Khalilov M. Forests of Azerbaijan. Baku, Science, 202,472 p.
- Mammadov T.S., Isgander E.O., Talibov T.H. Rare trees and shrubs of Azerbaijan Baku, Science, 2014. 376 p.
- Mustafayev Q.T., Sadigova N.A. Ecology of vertebrates, Baku University, 2011
- Mustafayev Q.T., Sadigova N.A. Birds of Azerbaijan, Chagoglu, 2005
- Red Book of Nakhchivan AR, 2010
- Flora of Azerbaijan. B 8 volumes. Baku: AN Azerbaijan. USSR, 1950-1961
- Prilipko L.I. Plant protection of Azerbaijan. Baku. Elm, 1970
- Grossheim A.A. Plant resources of the Caucasus, Moscow 1952

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria

Final grades are determined according to the Academic Regulations of WCU

Course Policies

- Attendance of the course is mandatory.
- Late assignments will not be accepted unless an agreement is reached with the lecturer.
- Students cannot use calculators during the exam.
- Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations

ECTS allocated based on Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			

Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			
	240		
Total Workload/30(h)			
	240/30		
ECTS Credit of the Course			
	5		

MODULE HANDBOOK

Forestry bachelor program, Department of "Ecology and Environment".

Course Unit Title	Ecology of the Caucasus
Course Unit Code	ATMF -B01
Type of Course Unit	Selected
Level of Course Unit	2
National Credits	
Number of ECTS Credits Allocated	5
Theoretical (hour/week)	1
Practice (hour/week)	1
Laboratory (hour/week)	
Year of Study	2
Semester when the course unit is delivered	3
Course Coordinator	Ulkar Gadiyeva
Name of Lecturer (s)	Ulkar Gadiyeva
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani
Prerequisites	-
Recommended Optional Program Components	-

Course description: The aim and objectives of the course are a comprehensive assessment of the current state of the ecosystems of the Caucasus ecoregion as a basis for the protection of biological diversity. In addition, the study of the geography of the Caucasus and the analysis of major ecological problems are among the main issues.

Objectives of the Course: This course reflects information about the current state of the Caucasus region, creating a database of information about the physical and geographical position of the region, its socio-economic situation, and the territories it contains. The territory of the Caucasus, as a large physical and geographical country, is distinguished by its high biological and landscape diversity. The Caucasus is currently one of the most densely populated and developed parts of the region, which is associated with more favorable natural and climatic conditions.

Learning Outcomes

At the end of the course the student will be able to		Assessment
1	Description of the composition and structure of the Caucasus region	
2	Formation of ideas about its general physical geography	
3	Formation of ideas about the ecology of the Caucasus;	
4	Information about the main factors affecting the nature of the Caucasus.	

Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz

Course's Contribution to Program

		CL
1	ability to apply natural science and general engineering knowledge, methods of	

	mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		The main goal and object of the subject of ecology of the Caucasus. Physical and geographical position and natural geographical features of the Caucasus region.	
2		Characteristics and ecological conditions of the countries of the Caucasus region. Geographical and ecological characteristics of the North Caucasus.	
3		Geographical and ecological characteristics of the Republic of Georgia and the Republic of Armenia.	
4		Geographical characteristics of the territory of the Republic of Azerbaijan.	
5		Ecological characteristics of the territory of the Republic of Azerbaijan.	
6		Geographical and ecological characteristics of the mountainous areas of the Caucasus.	
7		Geographical and ecological characteristics of the mountainous areas of Azerbaijan.	
8		Geographical and ecological characteristics of the plain areas of the	

		Caucasus.	
9		The role of natural factors in the degradation of landscapes in the Caucasus.	
10		Water resources and ecological state of the Republic of Azerbaijan.	
11		The structure of the Caspian Sea and its impact on the ecological conditions of the Caucasus region.	
12		Soil resources and ecological state of the Republic of Azerbaijan	
13		Forest resources and ecological state of the Caucasus.	
14		Reserves of Azerbaijan, their role in landscape protection.	
15		National parks of Azerbaijan, their role in landscape protection.	

Recommended Sources TEXTBOOK(S)

- Museyibov M.A - Physical geography of Azerbaijan. B. 1998. p.400.
- Khalilov Sh.B. Ecogeographical problems of Azerbaijan. B. 2006. P. 160.
- Aliyev B.H., Aliyev I.N. Some problems of agriculture in Azerbaijan and ways to solve them, Baku, "Ziya-Nurlan", 2004, 527 p.
- Mammadov G.Sh. Land resources of Azerbaijan. - Baku, 2002. P 132.
- Mailkov F.N. Physical geography of the CIS. European part. Caucasus, Baku, 1990, 362 p.
- Ataev Z.V., Bratkov V.V. Mountain landscapes of the North Caucasus. Zhurn. Phys.Geogr.i Geomorf. 2013, pp.146-152
- Bratkov V.V., Ataev Z.V. Geographical features of landscapes of the northern slope of the Greater Caucasus. Bulletin of the Dagestan State Pedagogical University. Natural and exact sciences. 2011. No. 2. pp. 81-86.
- Ataev Z.V., Bairamkulova B.O., Bekmurzaeva L.R. Features of modern climatic conditions of mountain-basin landscapes of the northern slope of the Greater Caucasus // Natural and technical sciences. 2009. No. 4. pp. 237-240.
- Ataev Z.V., Bratkov V.V. Modern problems of conservation of biological and landscape diversity of the North Caucasus ecological region // South of Russia: Ecology, development. 2009. No. 4. P. 186-192.
- Atayev Z.V., Bratkov V.V. Landscape diversity of specially protected natural territories of the Russian Caucasus // Geographical Bulletin. 2011. No. 1. P. 4-10.
- Atayev Z.V., Bratkov V.V. Representativeness of the network of specially protected natural territories to the landscape diversity of the North Caucasus // Actual problems of humanitarian and natural sciences. 2011. No. 10. P. 272-276.
- Bratkov V.V., Atayev Z.V. Geographical features of the influence of climatic conditions on the mountain-basin landscapes of the northern slope of the Greater Caucasus // South of Russia: ecology, development. 2009. No. 4. P. 192–195.
- Gvozdetsky. M. Mysl. 1976. 410 p.
- Milanovsky E.E., Khain V.E. Geological structure of the Caucasus / Ed. M.V.Muratov — M.: Moscow University Press, 1963. —357 p.
- Gvozdetsky N.A. Caucasus. Nature Essays. M.: Geografiz, 1963. 264 p.

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria

Final grades are determined according to the Academic Regulations of WCU

Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

MODULE HANDBOOK

Forestry bachelor program, Department of "Ecology and Environment".

Course Unit Title	Ecology
Course Unit Code	ATMF -BO2
Type of Course Unit	Selected
Level of Course Unit	2
National Credits	
Number of ECTS Credits Allocated	5
Theoretical (hour/week)	1
Practice (hour/week)	1
Laboratory (hour/week)	
Year of Study	2
Semester when the course unit is delivered	3
Course Coordinator	Sabiya Osmanova
Name of Lecturer (s)	Sabiya Osmanova
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani, russian
Prerequisites	-
Recommended Optional Program Components	-
Course description: The main goal of the subject is to study the laws and principles of the interaction of biotic and abiotic components of the ecosystem. Here, the fundamentals of "Ecology" are studied - ecological factors, their classification and characteristics, the structure and components, functions and	

development of ecosystems, including forests. Sources of environmental pollution, methods of combating them, measures for neutralizing pollutants are studied. The structure and characteristics of various spheres (atmosphere, lithosphere and hydrosphere), main pollutants and sources of pollution are studied. Ecological problems of the Caspian Sea and measures for its protection are studied. Knowledge is gained about global ecological problems, their causes and ways of elimination, and specially protected natural areas.

Objectives of the Course:

The main task of the course - the subject "Ecology" examines environmental factors and their impact on the body, environmental pollution and protection, modern environmental problems. In addition, environmental pollution, solid, liquid and gaseous substances released into the environment, types of energy (heat, noise, radioactivity), their direct or indirect negative impact on people, animals, plants and industrial facilities are shown.

Learning Outcomes

At the end of the course the student will be able to		Assessment
1	Formation of ideas about the history of the development of ecological science, the subject and tasks of the science of "Ecology"	
2	Formation of ideas about the interaction of ecological factors on organisms and vice versa, about the influence of organisms on the environment;	
3	Formation of ideas about global environmental problems;	
4	Formation of ideas about the modern ecological state of natural environments: air, water and soil;	
5	Formation of ideas about specially protected natural areas, the main directions of international cooperation in the field of environmental protection;	

Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz

Course's Contribution to Program

		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information	

	security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		The main purpose, importance and history of development of ecology.	
2		Scientific teaching about the biosphere and its evolution.	
3		Ecological factors.	
4		The concept of population. Population structure, density and biomass.	
5		Anthropogenic pollution and protection of the environment.	
6		Artificial biocenosis or agrobiocenosis ecosystem	
7		Agricultural production and maintenance of ecological balance.	
8		Protection of the atmosphere.	
9		Ecosystem of the hydrosphere layer.	
10		Ecosystem of the lithosphere layer.	
11		Ecology of the plant world, importance, composition, distribution features.	
12		Distribution, species diversity and protection of the animal world.	
13		Ecosystem of the seas and oceans.	
14		Water pollution and protection.	
15		Ecological problems of the Caspian Sea.	

Recommended Sources TEXTBOOK(S)

- Ecological legislation of the Republic of Azerbaijan (collection of normative and legal acts). Baku: Qanun, 2006, 840 p.
- Mammadov T.S. - Ecology, 2004.
- Mammadov G.S., Khalilov M. - Ecology and environment, Baku, 2004.
- Vlasov P. P., Orlova M. V., Tarasenkov N. V. Brief course in ecology: textbook. SPb.: SPbGUTD, 2010. 134 p.
- Zubrilov S. P., Ishchuk Yu. G., Kosovsky V. I. Environmental protection during ship operation. L.: Shipbuilding. 2009. 256 p.
- Kasymov A. G., Askerov F. S. Biodiversity: Oil and biological resources of the Caspian Sea. Baku, 2011. 326 p.
- Korobkin, V. I., Peredelsky L. V. Ecology: [textbook for students of higher education institutions]. Rostov-on-Don: Phoenix, 2011. 602 p.
- Mavrichhev V. V. Fundamentals of ecology: textbook. Minsk: Higher. School, 2017, 447 p.
- Nikolaikin N. I., Nikolaikina N. E., Melekhova O. P. Ecology: Textbook. for universities. M.: Bustard, 2014. 624 p.
- Odum Yu. Ecology. M., 2016, vol. 1, 325 p., vol. 2, 373 p.
- Sidorchenko V.F., Kirilenko V.P. Shipping and preventing pollution of the world's oceans. M., 2010, 385 p.

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	

Midterm Exam	0%	
Final Exam	50%	
Total	100%	
Assessment Criteria		
Final grades are determined according to the Academic Regulations of WCU		
Course Policies		
Attendance of the course is mandatory.		
Late assignments will not be accepted unless an agreement is reached with the lecturer.		
Students cannot use calculators during the exam.		
Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations		
ECTS allocated based on Student Workload		
Activities	Number	Duration (hour)
		Total Workload(hour)
Course duration in class		
Presentation		
Self-study		
Tutorials		
Midterm Examination		
Preparation for midterm exam		
Final Examination		
Preparation for final exam		
Total Workload		240
Total Workload/30(h)		240/30
ECTS Credit of the Course		5

MODULE HANDBOOK

Forestry bachelor program, Department of "Ecology and Environment".

Course Unit Title	Distribution and composition of the world's forests
Course Unit Code	ATMF-BO2
Type of Course Unit	Selected
Level of Course Unit	2
National Credits	
Number of ECTS Credits Allocated	5
Theoretical (hour/week)	1
Practice (hour/week)	1
Laboratory (hour/week)	
Year of Study	2
Semester when the course unit is delivered	3
Course Coordinator	Shahbaz Shiraliyev
Name of Lecturer (s)	Shahbaz Shiraliyev
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani, Russian
Prerequisites	-
Recommended Optional Program Components	-

Course description:		
The course "Distribution and composition of world forests" is taught to students studying "Forestry" at the undergraduate level of the Faculty of High Technologies and Innovative Engineering of the Western Caspian University in the amount of 60 hours (30 hours of lectures, 30 hours of seminars). The course program teaches special knowledge about the history of the formation of world forests, their total reserves, distribution, composition and the right to use forest fund areas, taking into account the multifunctional nature of forests. Thus, extensive information is provided about the morphology, differentiation, bioecological characteristics and adaptation of tree and shrub plants growing in forest and non-forest lands, whether or not covered with forest plants, in the world and on the territory of the Republic of Azerbaijan.		
Objectives of the Course:		
The purpose of the subject is to acquire theoretical knowledge and practical skills necessary for studying the distribution, growth and development of forest plants in the world, the relationship of tree and shrub species growing in the forest with the ecological environment, and the use of forests. The task of the subject is to acquire the ability to take preventive measures aimed at studying the composition, recreational and protective functions of forests, as well as to acquire practical skills in the field of use and protection of fauna, water bodies, subsoil, atmospheric air in the forest fund territory, and to organize the efficient use of forest fund lands not covered with forest plants.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	General information about the world's forest resources.	
2	Countries with the most forests in the world.	
3	About the species composition of the world's forests.	
4	Functions performed by forests.	
5	Primary use of forests. Intermediate and additional uses of forests.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain	

	valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		History of the development of world forests and forestry science.	
2		Azerbaijan forests and the main morphological features of forests.	
3		Natural zonation of forests and their distribution by vertical belts.	
4		Forest and ecological environment.	
5		Forest regeneration.	
6		Species replacement in the forest.	
7		Types of trees cover according to G.F. Morozova, P.S. Pogrebnyaka, V.N. Sukachev.	
8		Classification of world forest types according to V.G. Nesterov.	
9		Ecological study of world forest types	
10		Protective role of forests	
11		World forest congresses	
12		Deforestation methods (service fellings)	
13		Primary fellings of forests	
14		Additional use of forests	
15		Forest fires and some endangered species	

Recommended Sources

- G.Sh.Mammadov. Forest ecology. Baku –Elm-2010 p. 450
- A.B.Yahyayev Fundamentals of Forestry Baku 2011 p. 375
- F.A.Amirov Life Forms of the Earth Baku 2006 p. 271
- F.A.Amirov Forests of the Republic of Azerbaijan and their Role in the National Economy Baku-2009 p. 239
- Collection of Legal and Normative Acts for Forest Sector Workers “Max-Offset” Baku 2011 p.
- M.S.Mammadov, K.S.Asadov, F.M.Mammadov Dendrology Baku 2000 p. 387
- F.A.Amirov, F.M.Aliyev Drought and Combating It Baku 2007 p. 119
- F.A.Amirov The Land That Lost Its Green Robe Baku 2004 p. 159
- H.A.Badalov Absheron Greens and Their Prospects Baku 2015 p. 183
- A.B. Dolukhanov Fundamentals of sustainable management of Azerbaijani forests: bioecological requirements Baku 2012 p. 138.

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	

Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			
Total Workload/30(h)			
ECTS Credit of the Course			

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Forest ecosystems
Course Unit Code	ATMF-B02
Type of Course Unit	Selected
Level of Course Unit	2
National Credits	
Number of ECTS Credits Allocated	5
Theoretical (hour/week)	1
Practice (hour/week)	1
Laboratory (hour/week)	
Year of Study	2
Semester when the course unit is delivered	3
Course Coordinator	Ulkar Gadiyeva
Name of Lecturer (s)	Ulkar Gadiyeva
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani, russian
Prerequisites	-
Recommended Optional Program Components	-
Course description:	

Welcome to the course "Ecological Benefits of Forests", an elective subject of the specialty you will master. The subject "Ecological Benefits of Forests", which will be taught in the selected specialty, aims to teach students initial information about the ecological benefits of the republic's forests in general, the role of forests in maintaining ecological balance, and the importance of protecting the main forest formations. The subject "Ecological Benefits of Forests" is closely related to all specialized subjects to be taught in the specialty.

Objectives of the Course:

The subject "Forest Ecosystems" is one of the subjects that helps to form the professional competencies of a bachelor in the direction provided for in the State Standard of Higher Education. The subject teaches the essence of the science of forest ecosystems, the evolutionary processes of living organisms, the formation of the biosphere, the creation of biomass, as well as materials on the resource, protective and sanitary-hygienic benefits of forest ecosystems of the Republic of Azerbaijan. The main purpose of teaching the subject is to teach students the science of forest ecosystems and the characteristics of its components, all the benefits of forests for human society, and the possibilities of using these benefits.

Learning Outcomes

At the end of the course the student will be able to		Assessment
1	The structure of forest ecosystems and opportunities for rational use. Development and prospects of additional uses of forests.	
2	To determine the soil-protective and water-retaining capabilities of forest areas.	
3	To teach students general information about the emergence of the science of ecology, the areas it covers, the evolutionary process and the biosphere.	
4	The ability to determine the sanitary and hygienic characteristics of forest areas.	
5	The ability to assess the proper use of land in recreational forests.	

Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz

Course's Contribution to Program

		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing	

	information security requirements in their professional activities		
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		Forest ecosystems and their role in environmental protection.	
2		The main morphological features of forests. Forest and ecological environment.	
3		The recreational importance of forest ecosystems. Additional use of forests, mowing and grazing of livestock.	
4		Conservation of biological diversity during the use of forest ecosystems and its various levels.	
5		Forest fires and their use for combating them. The current state of forests and the ecological environment.	
6		General understanding of forest ecosystems. The role of forests in environmental protection.	
7		The recreational importance of forests. Additional use of forests, mowing and grazing of livestock.	
8		Conservation of biological diversity during the use of forest ecosystems and its various levels.	
Recommended Sources <ul style="list-style-type: none"> – Guliyev B.S. War and ecology. Baku. 2004, 106 p. – Mammadov G.S., Khalilov M.Y. Ecology, environment and man. Baku: Elm, 2006, 608 p. – Mammadov G.S., Khalilov M.Y. Forests of Azerbaijan. Baku: Elm, 2002, 472 p. – Mammadov M.S., Asadov K.S. Forest ecology. Baku: Elm, 2010, – V.S. Dodlgo "Introduction of plants and animals - the basis of selection 2019 – Karpachevsky M.L., Teplyakov V.K., Yanitskaya T.O. et al. Fundamentals of sustainable forest management. Moscow, 2009, 143 p. 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. 			

<ul style="list-style-type: none"> Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Recreational forests
Course Unit Code	ATMF-BO3
Type of Course Unit	Selected
Level of Course Unit	2
National Credits	
Number of ECTS Credits Allocated	5
Theoretical (hour/week)	1
Practice (hour/week)	1
Laboratory (hour/week)	
Year of Study	2
Semester when the course unit is delivered	3
Course Coordinator	Shahbaz Shiraliyev
Name of Lecturer (s)	Shahbaz Shiraliyev
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani
Prerequisites	-
Recommended Optional Program Components	-
<p>Course description: The subject teaches materials on the forest fund lands of the Republic of Azerbaijan, the distribution characteristics of the main tree species, the soil and climatic conditions of forests, afforestation work carried out in the forest fund, afforestation of territories, and the effective organization of people's cultural recreation.</p>	
<p>Objectives of the Course: The main goal of teaching the subject is to teach students how to create vegetation cover on forest fund lands, ensure sustainable development of afforested areas, green up bare mountain slopes and coastal sand dunes with trees and shrubs, apply afforestation technology,</p>	

agrotechnical rules and the wide possibilities of recreational tourism, and the sequence of implementation of forest fund land use rules.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	Study of materials by students about the structure of the forest fund, the distribution of forest areas according to their purpose, and the main widespread tree species.	
2	Study of the silvicultural-biological characteristics of the main forest-producing species.	
3	Study of the importance of afforestation of forest fund sparseness and openings;	
4	Determination of the sequence of afforestation works on plains and mountain slopes.	
5	Selection of tree and shrub species in afforestation works and determination of their location and mixing schemes.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations	

	and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		Subject, purpose and objectives of the subject of recreational forests.	
2		History of development of recreational forests in Azerbaijan.	
3		Forest categories. Development of forest tourism.	
4		Ecological, biological and technological bases of protection of recreational forests.	
5		Determination of recreational forests in forest legislation in Azerbaijan.	
6		Study of the experimental and practical significance of recreational forests.	
7		Ecological, biological and technological bases of forest reclamation protection.	
8		Design of recreational forests and its technical aspects.	
<p>Recommended Sources TEXTBOOK(S)</p> <ul style="list-style-type: none"> - Amirov F.A. Forests and forestry of the Republic of Azerbaijan. Baku. 1997, 188 p. - Amirov F.A. Drought and the fight against it. Baku. 2007, 119 p. - Yahyayev A.B. Fundamentals of forestry. Baku. 2011, 375 p. <p>Additional textbooks, materials and resources:</p> <ul style="list-style-type: none"> - Gurbanov E.M. Systematics of higher plants. Textbook. Baku: "Baku State University" publishing house, 2009, 420 p. - Forestry magazine. Arkhangelsk. RF. 2010-2016. 3. - Novruzova Z.A. Structure and properties of wood of the main forest species of Azerbaijan. Baku. 1965, 208 p. 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria: Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			

Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

MODULE HANDBOOK

Forestry bachelor program, Department of "Ecology and Environment".

Course Unit Title	Forest park farm.	
Course Unit Code	ATMF-BO3	
Type of Course Unit	Elective	
Level of Course Unit	2	
National Credits		
Number of ECTS Credits Allocated	5	
Theoretical (hour/week)	1	
Practice (hour/week)	1	
Laboratory (hour/week)		
Year of Study	2	
Semester when the course unit is delivered	3	
Course Coordinator	Govhar Aydamirova	
Name of Lecturer (s)	Govhar Aydamirova	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani, Russian	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description: Forestry-production sector: studies and registers forest, establishes new forests, protects them from fire, disease and pests, maintains the protective and water-purifying functions of forests, and ensures the efficient use of forests in order to meet the needs of the national economy for forest material.		
Objectives of the Course: Forestry produces wood, medicinal and technical raw materials, food products, etc. from the forest. Forests are used for soil and water conservation, climate purification, resort development, recreation, etc. One of the main tasks of forestry is the restoration of forests and the establishment of new forests.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	Using the theoretical knowledge and experience gained from the course on the economics, organization and management of forestry, evaluate the technical, technological and organizational-economic issues related to the efficient organization of production in forestry from an economic perspective and determine the optimal ratio between the elements.	

Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz			
Course's Contribution to Program			
		CL	
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes		
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements		
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing		
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control		
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations		
6	ability to use various types of devices to monitor and control technological processes		
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results		
8	ability to use modern information technologies and software, observing information security requirements in their professional activities		
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		Forestry. History of development of forest management. The problem of depletion of forest resources.	
2		Modern ecological state of Azerbaijani forests.	
3		History of development of forestry in Azerbaijan.	
4		Ways to solve ecological problems of the forest sector.	
5		Bioecological foundations of sustainable forest management.	
6		Productivity biomass of forest ecosystems.	
7		Dynamics of development of forest ecosystems.	
8		The role of natural disturbances in the dynamics of forest ecosystems.	
9		Structure of forest ecosystems and landscape	
10		Global importance of forests: Main functions of forest ecosystems.	
11		Impact of forests on the carbon cycle and global climate.	

12		Role of forests in regulating the water balance of the territory.	
13		Role of forests in soil formation.	
14		Resource importance of forests.	
15		Increasing the productivity of forests through reconstruction.	
Recommended Sources			
TEXTBOOK(S)			
1. .Allahverdi Dolxanov.Azərbaycan meşələrinin davamlı idarə edilməsinin əsasları.Bakı-2012,232 s			
2. Faiq Əmirov. Məhsudar meşələrin yetişdirilməsi.Azərbaycan nəşriyyatı,Bakı-2003,183 s.			
3. Kərəm Əsədov.Azərbaycanın Milli Parkları.Elm və təhsil-2013.334 s			
4. Valeh K.Ş.,İqbal Ə.Ə.Meşəşünaslıq.Gəncə 2017.244 s.			
5. Qərib Məmmədov.Azərbaycanın meşələri.Bakı-Elm-2002.472 s.			
6. Q.Ş.Məmmədov.Meşə ekologiyası.Bakı-Elm-2010.230 s.			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Greenery Farm	
Course Unit Code	ATMF-BO3	
Type of Course Unit	Selection	
Level of Course Unit	2	
National Credits		
Number of ECTS Credits Allocated	5	
Theoretical (hour/week)	1	
Practice (hour/week)	1	
Laboratory (hour/week)		
Year of Study	2	
Semester when the course unit is delivered	3	
Course Coordinator	Shahbaz Shiraliyev	
Name of Lecturer (s)	Shahbaz Shiraliyev	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani, russian	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description: In the subject of greening, the importance of greening, the basic principles of greening, types of greening, agrotechnics, plants used in greening, their reproduction, greening enterprises, their structure and activities, and extensive materials about greening are taught.		
Objectives of the Course: The main goal of teaching the subject is to teach students the importance of greenery, the basic principles of greenery, types of greenery, agrotechnics, plants used in greenery, their reproduction, greenery institutions, their structure and activities, and ways to protect greenery.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	The importance of greenery, determining the basic principles of greenery.	
2	Types of greenery, mastering the rules of agrotechnology.	
3	Plants used in greenery, studying their reproduction.	
4	Learning the rules of greenery and their restoration, transplantation, and protection.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course’s Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	

4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		History and importance of greenery.	
2		Cultivation of plants in open and closed conditions, rules for their care.	
3		Vegetation and plant resources of Azerbaijan. Rare plants.	
4		Use of economically profitable fruit plants in greenery and justification of this use.	
5		Greenery and irrigation systems.	
6		Preparation and development of greening projects in greenery.	
7		Establishment, restoration and cultivation of greenery.	
8		Use of olive plants in greenery and development of olive growing.	
9		Use of oil, essential oil and aphrodisiac plants in greenery.	
10		Existing greenery and establishment of new greenery in Baku city and Absheron peninsula.	
11		Application of modern drip irrigation systems in greenery, existing and alternative irrigation sources.	
12		Protection of greenery from fire, diseases and pests.	
13		Woody plants in greenery.	
14		Greening enterprises, their structure and activities.	
15		Forests of Azerbaijan and their protection.	

Recommended Sources

TEXTBOOK(S)

- Asadov K.S. Mirzayev O.H. Mammadov F.M. Dendrology. Baku, 2014, Ganjlik Publishing House, 500 p.
- Mammadov T.S. Trees and shrubs of Absheron. Baku, 2010.

- Guliyev V.S., Khalilov M.Y. Dendrology. Ecology Publishing House, Baku 2000.
- Amirov F.A. Forests and forestry of the Republic of Azerbaijan Baku, “Azerbaijan”, 1997, 188 p.
- Asadov K., Mammadov F.M., Sadikhov S.A. Dendroflora of the north-eastern part of the Greater Caucasus of Azerbaijan. Baku, “Baku University”. 2008, 276 p.
- Ibrahimov Z.A. Forest plantations. Baku, 2015, 400 p.
- Rahimov Y.A. Diseases of agricultural plants and their control. Baku, “Maarif”, 1988, 232 p.
- Mammadov J.Sh. Cultivation of olive plants. Baku, “Muallim” publishing house 2010, 40 p.
- Badalov H.A., Aliyeva G.C. Fundamentals of forest seed production. Baku 2018, 114 p.
- Jalilov G.H., Khalilov M.Y. Decorative greening. Baku, Ganjlik, 1982.
- Gurbanov E.M. Systematics of higher plants, Baku University Publishing House, 379 p.
- Mammadov T.S. “Greening in Absheron according to ecological factors”. Baku, elm, 2004
- Mammadov G.Khalilov M. Ecology and environmental protection. Baku, Elm, 2005, 880 p.8.
- Mammadov G.S., Asadov K.S. Forest ecology. Baku, "Elm" 2010, 452
- Sergeeva V.S. Основы лесоводства и лесной таксации, Moscow, 1990, 224 p.
- Mamedov Dzh.Sh. Real pistachio. Baku, "Elm" 2009, 324 p

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria

Final grades are determined according to the Academic Regulations of WCU

Course Policies

- Attendance of the course is mandatory.
- Late assignments will not be accepted unless an agreement is reached with the lecturer.
- Students cannot use calculators during the exam.
- Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations

ECTS allocated based on Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Ecological Benefits of Forests	
Course Unit Code	ATMF-BO4	
Type of Course Unit	Selection	
Level of Course Unit	2	
National Credits		
Number of ECTS Credits Allocated	5	
Theoretical (hour/week)	1	
Practice (hour/week)	1	
Laboratory (hour/week)		
Year of Study	2	
Semester when the course unit is delivered	4	
Course Coordinator	Aydin Yahyayev	
Name of Lecturer (s)	Aydin Yahyayev	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani, Russian	
Prerequisites	-	
Recommended Optional Program Components	-	
<p>Course description: The subject "Ecological Benefits of Forests" is one of the subjects that helps to form the professional competencies of a bachelor in the direction provided for in the State Standard of Higher Education. The subject teaches the essence of ecological science, the explanation of concepts such as the evolutionary processes of living organisms, the formation of the biosphere, the creation of biomass, as well as materials on the resource, protective and sanitary-hygienic benefits of the forests of the Republic of Azerbaijan.</p>		
<p>Objectives of the Course: The main goal of teaching the subject is to teach students about the origins of ecology and the characteristics of its components, all the benefits of forests for human society, and the possibilities of using these benefits.</p>		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	To teach students about the emergence of ecology, its areas of coverage, the evolutionary process and general information about the biosphere. To teach the structure of forest wood resources and the possibilities of rational use.	
2	To teach the development and prospects of additional uses of forests. The ability to determine the soil protection and water retention capabilities of forest areas.	
3	The ability to determine the sanitary and hygienic characteristics of forest areas. The ability to evaluate the proper use of land in recreational forests.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course’s Contribution to Program		
		CL

1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		History of development of ecological science The role of forests in environmental protection.	
2		Initial concepts of forestry science. Classification of woody plants.	
3		The influence of environmental factors on the formation and development of forests.	
4		Ecological foundations of environmental protection. The formation of the biosphere and the importance of the photosynthesis process.	
5		Biological productivity of ecosystems.	
6		Biomass of land and oceans on Earth. Classification of natural resources and forest resources.	
7		Exhaustible and inexhaustible resources.	
8		Classification of forest resources of the republic. Main wood species and their use possibilities.	

9		Additional use of forests.- supply of wild fruits and berries. Additional use of forests- forest - gardens, walnuts, medicinal plants, mushroom supply.	
10		Additional use of forests - Beekeeping activities.	
11		Soil-protective importance of forests. Prevention of soil erosion of trees spreading in mountainous and riverine areas.	
12		Water-retaining importance of forests. Classification of forests according to their water-retaining significance and their main characteristics.	
13		Sanitary and hygienic significance of forests. The role of forests in absorbing carbon dioxide and harmful dust in the air and producing oxygen.	
14		Recreational significance of forests. Use of forest fund lands in the form of recreation areas.	
15		Creation of forest parks and their structure.	
<p>Recommended Sources TEXTBOOK(S)</p> <ul style="list-style-type: none"> - Mammadov Garib Shamil oglu "Forest Ecology" - Textbook Baku 2010. - Amirov F.A. The ecological role of forests. Baku: Azerbaijan, 2001, 240 p. - Mammadov G.S., Khalilov M.Y. Ecology, environment and man. Baku: Science, 2006, 608 p. - Mammadov G.S., Khalilov M.Y. Forests of Azerbaijan. Baku: Science, 2002, 472 p. - Anderson D.J. Ecology and environmental science: biosphere, ecosystem, human. 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			

Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Use of forest ecoresources		
Course Unit Code	ATMF-BO4		
Type of Course Unit	Selected		
Level of Course Unit	2		
National Credits			
Number of ECTS Credits Allocated	5		
Theoretical (hour/week)	1		
Practice (hour/week)	1		
Laboratory (hour/week)			
Year of Study	2		
Semester when the course unit is delivered	4		
Course Coordinator	Shahbaz Shiraliyev		
Name of Lecturer (s)	Shahbaz Shiraliyev		
Name of Assistant (s)	-		
Mode of Delivery	Face to face		
Language of Instruction	Azerbaijani, russian		
Prerequisites	-		
Recommended Optional Program Components	-		
Course description:	<p>The course “Use of Forest Ecoresources” is taught to students studying “Forestry” at the bachelor’s level of the Faculty of High Technologies and Innovative Engineering of the Western Caspian University in the amount of 60 hours (30 hours of lectures, 30 hours of seminars). The course program teaches special knowledge, taking into account the history of the formation of forests, their total reserves, distribution, composition and the right to use forest fund areas, taking into account the multifunctional nature of forests. Thus, in modern times, people in forest and non-forest lands, whether covered with forest plants or not, in the territory of the Republic of Azerbaijan, prefer to spend their leisure time in forests, in corners of nature rich in greenery. Non-woody use of forests and increasing forests to meet people’s spiritual needs are a priority. The course program provides extensive information on the increase and protection of forests, the morphology, differentiation, bioecological characteristics and adaptation of their plants.</p>		
Objectives of the Course:	<p>The purpose of the subject is to acquire theoretical knowledge and practical skills necessary for the study of the distribution, growth and development of existing and newly designed forests in the world, the relationship of tree and shrub species growing in the forest with the ecological environment, and the use of forests. The task of the subject is to acquire the ability to take preventive measures aimed at studying the composition and protective functions of forests, as well as to acquire practical skills in the field of use and protection of fauna, water bodies, subsoil, atmospheric air in the forest fund territory, and to organize the efficient use of forest fund lands not covered with forest plants.</p>		
Learning Outcomes			
At the end of the course the student will be able to			Assessment

1	General information about the ecological resources of forests		
2	Ecoresources of forests in the world		
3	On the species composition of forests		
4	Functions performed by forests		
5	Intermediate and additional uses of forests		
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz			
Course's Contribution to Program			
			CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes		
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements		
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing		
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control		
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations		
6	ability to use various types of devices to monitor and control technological processes		
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results		
8	ability to use modern information technologies and software, observing information security requirements in their professional activities		
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		Intermediate and additional uses of forests.	
2		Distribution and composition of world forests.	
3		Forest ecotourism.	
4		Firewood is the main product of forests.	
5		Medicinal plants of Azerbaijan.	
6		Cherry fruits and fruit supplies in Azerbaijan.	
7		Creation and importance of forest gardens.	
8		Practice of grass cutting, mushroom picking and beekeeping in the	

		forest fund and their recreational importance.	
9		Practice of non-timber use in the forest fund of the republic and its main directions.	
10		Protection of the forest ecosystem.	
11		Duties of forest users.	
12		Rights of forest users.	
13		Intermediate use of forests.	
14		National Parks.	
15		Legal aspects of non-timber ecoresources of forests.	

Recommended Sources

TEXTBOOK(S)

- G.Sh.Mammadov Forest ecology Baku –Elm-2010 p. 450
- A .B .Yahyayev Fundamentals of forestry Baku 2011 p. 375
- F.A.Amirov Life forms of the Earth Baku 2006 p. 271
- F.A.Amirov Forests of the Republic of Azerbaijan and their role in the national economy Baku-2009 p. 239
- Collection of legal and normative acts for forest sector workers “Max-Offset” Baku 2011 p.
- M.S.Mammadov, K.S.Asadov, F.M.Mammadov Dendrology Baku 2000 p. 387
- F.A.Amirov, F.M.Aliyev Drought and the fight against it Baku 2007 p. 119
- F.A.Amirov The land that lost its green robe Baku 2004 p. 159
- H.A.Badalov Absheron greenery and their prospects Baku 2015 p. 183
- A.B. Dolukhanov Fundamentals of sustainable management of Azerbaijani forests: bioecological requirements Baku 2012 p. 138

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria

Final grades are determined according to the Academic Regulations of WCU

Course Policies

- Attendance of the course is mandatory.
- Late assignments will not be accepted unless an agreement is reached with the lecturer.
- Students cannot use calculators during the exam.
- Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations

ECTS allocated based on Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			

Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Organization of forest tourism
Course Unit Code	ATMF-B04
Type of Course Unit	Selected
Level of Course Unit	2
National Credits	
Number of ECTS Credits Allocated	5
Theoretical (hour/week)	1
Practice (hour/week)	1
Laboratory (hour/week)	
Year of Study	2
Semester when the course unit is delivered	4
Course Coordinator	Aydin Yahyayev
Name of Lecturer (s)	Aydin Yahyayev
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani, russian
Prerequisites	-
Recommended Optional Program Components	-

Course description:

The main goal of teaching the subject is to teach students how to ensure the sustainable development of forests and utilize their benefits, determine the recreational opportunities of forests, and evaluate and utilize forest tourism opportunities in regions.

Objectives of the Course:

The subject teaches materials about the forest fund of the Republic of Azerbaijan, their socio-ecological importance, and how to use their tourism potential by ensuring sustainable development of forests. In addition, materials are taught about the formation of objects considered important for forest tourism, such as natural monuments, interesting relief elements, natural water bodies, large-sized tree species, etc. distributed in the forest fund by regions, and the organization of tourist trips to them, the development of appropriate routes, and the organization of trips to appropriate objects.

Learning Outcomes

At the end of the course the student will be able to		Assessment
1	Students' mastery of materials on the structure of the main components of the forest fund, the distribution of forests across the country, and their socio-ecological significance.	
2	The main objects and directions of distribution of tourism in the country.	
3	Study of the main characteristics of tourism objects by regions and the features of ensuring their accessibility to people.	

4	Study of the features of organizing tourism activities in water basins in the forest fund.		
5	Study of the features of organizing tourism activities in mountainous and rocky areas in the forest fund.		
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz			
Course's Contribution to Program			
		CL	
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes		
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements		
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing		
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control		
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations		
6	ability to use various types of devices to monitor and control technological processes		
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results		
8	ability to use modern information technologies and software, observing information security requirements in their professional activities		
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		Forest fund of the republic and its components.	
2		Experience of using republican forests and main directions.	
3		Study of recreational importance of republican forests.	
4		History of tourism development in the world.	
5		Creation and use of the first specially protected areas in the republic.	
6		Study of experience of creation and use of Basutchatchay oriental plane tree reserve.	
7		Specially protected areas created in the republic in the 20th century	

		and their use experience.	
8		Specially protected areas created in the republic in the last 25 years and their designations.	
9		System of measures carried out in republican national parks.	
10		Features of organizing tourism in national parks.	
11		Features of organizing trips to the mountain peaks of Shahdag National Park.	
12		Study of features of organizing tourist trips in the territory of Guba region.	
13		Features of organizing tourist trips in Balakan-Zagatala forest massifs.	
14		Features of organizing tourist trips in Gabala-Sheki forest massifs.	
15		Study of the main features of tourism routes in the northern region of the country.	
16		Social and ecological events held in the Hirkan National Park.	
17		Creation and use of tourism routes in the Hirkan National Park.	
18		Main directions of activity of tourism enterprises established in the territory of the Hirkan National Park.	
19		Main directions of activity and enterprises of tourism in the Karabakh territory before the occupation.	
21		Features of organizing tourist trips to the city of Shusha.	
22		Study of the features of organizing tourist trips to natural monuments in the territory of the Kalbajar region.	
23		Features of organizing tourist trips to natural monuments in the territory of the Ismayilli region.	
24		Study of the features of organizing main activities in urban recreation parks.	

Recommended Sources

TEXTBOOK(S)

- Amirov F.A. Forests and forestry of the Republic of Azerbaijan. Baku. 1997, 188 p.
- Yahyayev A.B. Fundamentals of forestry. Baku. 2011, 375 p.
- Mammadov C.A., Soltanova H.B., Rahimov S.H. Geography of international tourism. Baku: "R.N. Novruz-94", 2002.
- Rahimov S.H. Explanatory dictionary of terms and concepts used in international tourism. Baku: "CBS", 2011.
- Soltanova H.B., Agakarimov M.M., Baba-zade S.I. 6. Hotel management. Baku: "Parni iz Baku", 2005.
- Lesozagotovka. Practical guide. Sk-Pb., 2010, 266 p.
- Лесной журнал. Arkhangelsk. RF. 2015-2020+
- Aleksandrova A.Yu. International tourism. M.: "ASPECT - PRESS", 2002.
- Voskresensky V.Yu. International tourism. M.: "UNIT-DANA", 2011

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	

Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Plantation forestry
Course Unit Code	ATMF-BO5
Type of Course Unit	Selected
Level of Course Unit	2
National Credits	
Number of ECTS Credits Allocated	6
Theoretical (hour/week)	1
Practice (hour/week)	1
Laboratory (hour/week)	
Year of Study	2
Semester when the course unit is delivered	4
Course Coordinator	Aydin Yahyayev
Name of Lecturer (s)	Aydin Yahyayev
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani, Russian
Prerequisites	-

Recommended Optional Program Components		-
Course description: The subject of plantation forestry teaches extensive materials about this type of economy, its forestry-ecological importance, the principles of creating plantation forestry, their types, agricultural techniques, tree and shrub species used in establishing plantations, methods of their reproduction, and the prospects for establishing plantations such as poplar, oak, mulberry, adam tree, etc. in the republic and their protection.		
Objectives of the Course: The main goal of teaching the subject is to teach students about the importance of plantation forestry, its main types, principles of creating plantation forestry, agricultural techniques, the experience of creating plantation forestry in the country, tree and shrub species used in this type of farms, and their mixing and placement schemes.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	The importance of plantation forestry, the ability to determine its basic principles.	
2	Mastering the study of types of plantations, agrotechnical rules.	
3	Studying trees and shrubs used in plantations, their reproduction.	
4	The ability to mix and plant tree and shrub species in plantations.	
5	Studying the prospects for the creation of plantations in the republic.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	

9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		Purpose and classification of forest plantations.	
2		Economic, social and ecological significance of forest plantations.	
3		Economic, social and ecological significance of forest plantations.	
4		Selection of areas for the establishment of forest plantations and their silvicultural and ecological characteristics.	
5		Zoning of forest tree and shrub species in the Republic of Azerbaijan.	
6		Main types of forest plantations and their classification.	
7		Prospects for the establishment of plantations in the Republic.	
8		Features of plantation establishment in mountainous areas (on the example of Shabran district).	
9		Features of plantation establishment in plain areas (on the example of Ismayilli farm).	
10		Importance and features of poplar plantation establishment in Kurgyraghi areas.	
11		Features of plantation establishment of adam tree plantations in Caspian coastal areas.	
12		Possibilities and features of plantation of chestnut oak plantations in Caspian coastal areas.	
13		Bioecological features of tree and shrub species most commonly used in forest plantations.	
14		Features of selection and mixing of tree species in forest plantations.	
15		Development of schemes for placement of tree species in the area in forest plantations.	
Recommended Sources			
TEXTBOOK(S)			
<ul style="list-style-type: none"> – Plants and their use. Baku, 2018. – Planting and care measures for plants, Baku 2017. – Asadov K.S. Mirzayev O.H. Mammadov F.M. Dendrology. Baku, 2014, Ganjlik Publishing House, 500 p. – Asadov K., Ibrahimov T. National parks of Azerbaijan. Baku, Science and education. 2013, 336 p. – Ibadli O.V., Agamirov U.M., Bayramov A.E. Flowering, Baku, Ozan, 2003.222 p. – Mammadov T.S. Lawn and decorative architecture. Baku, Chasioglu, 2006. 48 p. – Mammadov T.S. "Greening in Absheron according to ecological factors". Baku, Science, 2004 – Mammadov G.Khalilov M. Ecology and environmental protection. Baku, Elm, 2005, 880 p. – Mammadov G.S., Asadov K.S. Forest ecology. Baku, "Elm" 2010, 452 p. 			

<ul style="list-style-type: none"> – Jalilov G.H., Khalilov M.Y. Decorative greening. Baku, 1982. – Agamirov U.M. New tree species for landscaping Absheron., Baku, Elm, 1977, 79 p. 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			6

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Nursery farm
Course Unit Code	ATMF-BO5
Type of Course Unit	Selection
Level of Course Unit	2
National Credits	
Number of ECTS Credits Allocated	6
Theoretical (hour/week)	1
Practice (hour/week)	1
Laboratory (hour/week)	
Year of Study	2
Semester when the course unit is delivered	4

Course Coordinator	Adilagha Malikov	
Name of Lecturer (s)	Adilagha Malikov	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijan, rus	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description: In the subject of "Nursery Farming", it is intended for teaching a wide range of materials about the organization, relevance and tasks of forest seed production, methods of preparing seeds for sowing, sowing norms, cultivation of planting materials. The subject of seedling management is closely related to all specialized subjects to be taught in the specialty.		
Objectives of the Course: The main goal of the course is to show that forest seed production and planting material cultivation are among the most basic and important measures in preventing deforestation, eliminating the depletion of forest resources, and restoring and developing forests.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	As a result of mastering the subject, students should be able to develop an understanding of the stages of development of woody plants, fruiting of trees and shrubs, seed raw materials, organization of forest seed production, methods of preparing seeds for sowing, purpose and tasks of nursery farming, types of cultivated planting material and departments of the nursery, and measures for carrying out service work in nurseries.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	

9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		Relevance, essence and tasks of forest seed production.	
2		Stages of development of woody plants.	
3		Factors affecting fruiting of trees and shrubs.	
4		Fruiting of trees and tree stands; accounting and forecasting of seed yield.	
5		General information on seed raw materials.	
6		Selection of trees and plantings for harvesting seed raw materials.	
7		Methods and terms of seed preparation for sowing.	
8		General information on nurseries.	
9		Calculation of preliminary nursery area, organizational and economic plan of the nursery.	
10		Tillage of soil in forest nurseries.	
11		Sowing department and growing of seedlings.	
12		School department and growing of seedlings.	
13		Vegetative propagation of tree and shrub species.	
14		Growing of planting material with a closed root system.	
15		Inventory of planting materials.	
Recommended Sources TEXTBOOK(S) <ul style="list-style-type: none"> – G.C. Aliyeva, H.E. Isayeva “Fundamentals of Forest Seed Production” Baku 2018 – K. S. Asadov, O.H. Mirzayev, F.M. Mammadov “Dendrology” Baku, 2014, 484 p – G. Mammadov, M. Khalilov “Ecology, Environment and Man” Baku 2006 – Rahimov Y.A.. Diseases of Agricultural Plants and Their Control. Baku, “Maarif”, 1988, 232 p. – Z.A. Ibrahimov “Forest plantations” Baku 2015 – Redko G.I. et al. "Forest cultures and protective afforestation" St. Petersburg 1999 – Sergeeva V.S. Fundamentals of forestry and forest taxation, Moscow, 1990, 224 p. – Forester's Handbook, Moscow, 1964, 672 p. 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			

- Attendance of the course is mandatory.
- Late assignments will not be accepted unless an agreement is reached with the lecturer.
- Students cannot use calculators during the exam.
- Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations

ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			6

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Low-rise farms
Course Unit Code	ATMF-BO5
Type of Course Unit	Selection
Level of Course Unit	2
National Credits	
Number of ECTS Credits Allocated	6
Theoretical (hour/week)	1
Practice (hour/week)	1
Laboratory (hour/week)	
Year of Study	2
Semester when the course unit is delivered	4
Course Coordinator	Aydın Yahyayev
Name of Lecturer (s)	Aydın Yahyayev
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani, rus
Prerequisites	-
Recommended Optional Program Components	-

Course description: The subject teaches materials on the creation of farm forms in the forest fund of the Republic of Azerbaijan, the main directions of distribution of low-growing farms, the possibilities of creating low-growing farms with the possibility of supplying berries in the bush areas of forests, the features of creating low-growing farms in forest-gardens and forest-parks. The features of creating low-

growing farms in urban green spaces, etc.		
Objectives of the Course: The main goal of teaching the subject is to teach students the main directions of forestry science, the main components of forests, established farm firms, the essence and areas of application of low-growing farms, the experience of creating low-growing farms on forest fund lands, the characteristics of creating low-growing farms in berry bush areas of the forest fund, and general issues about the possibilities of creating low-growing farms in forest orchards.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	Students' mastery of materials on the structure of the forest fund, the distribution of forest areas according to their purpose, and the main tree species that are widespread; Studying the characteristics of the creation of economic forms.	
2	Studying the essence and application directions of low-growing farms created in forests; Studying the characteristics of creating low-growing farms in berry bushes; Studying the characteristics of creating low-growing farms in forest-gardens and forest-parks.	
3	Studying the characteristics of creating low-growing farms in orchards with a canopy; Formation of general knowledge among students about the nature, essence, and tools and equipment used in the forests.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing	

	information security requirements in their professional activities		
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		Economic opportunities of the republic's forest fund.	
2		Study of the experience of using the timber reserves of the republic's forests.	
3		Division of the forest fund into groups according to its purpose.	
4		Farming forms and features of their creation.	
5		Study of the main farm forms applied in group I forests.	
6		Features of the creation of low-growing farms.	
7		Features of the creation of medium- and high-growing farms.	
8		Possibilities of the creation of high-growing farms in beech forests.	
9		Areas of application of low-growing farms.	
10		Features of the creation of medium-growing farms in oak-alder forests.	
11		Study of the possibilities of the creation of high-growing farms in beech-alder forests.	
12		Possibilities of the creation of low-growing farms in berry-tree and shrub areas.	
13		Features of the creation of low-growing farms in forest fund gardens.	
14		Study of the characteristics of the creation of low-growing farms in the central park.	
15		Features of the creation of low-growing farms in roadside green belts.	
Recommended Sources			
TEXTBOOK(S)			
<ul style="list-style-type: none"> – Amirov F.A. Forests and forestry of the Republic of Azerbaijan. Baku. 1997, 188 p. – Yahyayev A.B. Fundamentals of forestry. Baku. 2011, 375 p. – Yahyayev A.B. Procurement of forest materials. Baku; 2012. 221 p. – Anuchin N.P. Forest assessment. M.; 1986. 572 p. – Bugaev V.A. Fundamentals of forest management. Voronezh; 1982. 232 p. 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		

Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			6

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Forest protection
Course Unit Code	ATMF-B06
Type of Course Unit	Selected
Level of Course Unit	3
National Credits	
Number of ECTS Credits Allocated	5
Theoretical (hour/week)	1
Practice (hour/week)	1
Laboratory (hour/week)	
Year of Study	3
Semester when the course unit is delivered	5
Course Coordinator	Adilagha Malikov
Name of Lecturer (s)	Adilagha Malikov
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azərbaycan, Russian
Prerequisites	-
Recommended Optional Program Components	-

Course description:		
The course "Forest Protection" is one of the main subjects taught in the process of training personnel at the bachelor's level for the specialty of forester. The subject "Forest Protection" to be taught in the selected specialty is designed to teach independent extensive materials on the methods, techniques and organization of combating harmful animal and plant organisms in the forest. The subject of forest protection is closely related to all specialized subjects to be taught in the specialty.		
Objectives of the Course:		
The main goal of the course is to regularly monitor the condition of the forest fund in connection with the organization of protection of the forest fund from pests and diseases, identify the sources of pests and diseases, take preventive measures in those places, and show ways to prevent the spread of these cases and eliminate them.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	The basics of forest entomology and phytopathology are described. Information is given about insects, their structure, development, classification.	
2	The most common species are described. Information is given about the structure and biology of forest birds. Useful and harmful mammals, forest inhabitants are discussed.	
	The most important diseases of tree species and the causes of their occurrence are considered. The main means and methods of combating forest pests and diseases are given.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic,	

	environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		Forest protection: history, development, tasks.	
2		Fundamentals of forest entomology.	
3		Fundamentals of forest entomology.	
4		Pests of fruits and seeds	
5		Pests of planting material, forest plantations and young trees.	
6		Pests of coniferous plantations.	
7		Pests of needles and leaf-eating insects.	
8		Description of individual species of leaf-eating insects on coniferous and broad-leaved tree species.	
9		Stem pests.	
10		Forest birds.	
11		The most important forest animals.	
12		Fundamentals of forest phytopathology.	
13		Classification of forest protection measures.	
14		Biological methods of combating forest pests and diseases.	
15		Protection of fruits, seeds, seedlings, forest plantations and young forests.	
Recommended Sources			
TEXTBOOK(S)			
<ul style="list-style-type: none"> - G.Mammadov, M.Khalilov "Ecology, environment and man" Baku 2004 - Z.A.Ibrahimov "Forest plantations" - Baku 2005 - B.Kh. Shahbazov – "Nature protection" - Baku 2011 - Rahimov Y.A.. Diseases of agricultural plants and their control. Baku, "Maarif", 1988, 232 p. - Forester's Handbook, Moscow, 1964, 672 p. - A.I. Vorontsov, I.G. Semenov "Forest Protection", Moscow, 1980, 327 p. - I.S. Melekhov "Forest Science", textbook, Moscow, 1980, 408 p. 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. 			

<ul style="list-style-type: none"> • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Forest fires
Course Unit Code	ATMF-BO6
Type of Course Unit	Selection
Level of Course Unit	3
National Credits	
Number of ECTS Credits Allocated	5
Theoretical (hour/week)	1
Practice (hour/week)	1
Laboratory (hour/week)	
Year of Study	3
Semester when the course unit is delivered	5
Course Coordinator	Gulnar Hamidova
Name of Lecturer (s)	Gulnar Hamidova
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani, rus
Prerequisites	-
Recommended Optional Program Components	-
Course description:	
The subject teaches the protection of the main tree species and other valuable tree species, wild fruit and berry tree species and shrubs distributed in the lands of the forest fund of the Republic of Azerbaijan, as well as the protection of forests from forest fires.	
Objectives of the Course: The main goal of teaching the subject is to teach students about the natural	

and anthropogenic impacts that hinder the sustainable development of forests and the measures taken to combat them.

Learning Outcomes

At the end of the course the student will be able to		Assessment
1	Study of materials by students about the structure of the forest fund, the distribution of forest areas according to their purpose, and the main widespread tree species.	
2	Study of the forestry-biological characteristics of the main forest-forming species.	
3	Study of the basics of forest fire issues.	
4	Study of the issues of organizing the protection and conservation of forests in the republic.	
5	Formation of general knowledge among students about the nature of protective measures to be taken in forests, the essence of fire prevention issues, and the means used.	

Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz

Course's Contribution to Program

		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents			
Week	Chapter	Topics	Exam
1		The purpose and main directions of forest protection.	
2		Fundamentals of organizing the protection of republican forests.	
3		Forest fires and methods of combating them.	
4		Determining the nature of the spread of forest fires.	
5		Formation of forest fires.	
6		Basic parameters of fire.	
7		Spread of forest fires.	
8		Methods of extinguishing fires.	
9		Classification of fire extinguishing agents.	
10		Types, methods and means of fire prevention.	
11		Fire zones and periods.	
12		Fire warning measures.	
13		Fire safety measures.	
14		The influence of the human factor in forest fires.	
15		The impact of forest fires on the ecology.	
Recommended Sources TEXTBOOK(S) <ul style="list-style-type: none"> – Amirov F.A. Forests and forestry of the Republic of Azerbaijan. Baku. 1997, 188 p. – Yahyayev A.B. Fundamentals of forestry. Baku. 2011, 375 p. – Rasev L.P. Sawmill production. M., Lesn. prom-st, 2014. 168 p. – Forestry magazine. Arkhangelsk. RF. 2018-2023 – Novruzova Z.A. Structure and properties of wood of the main forest species of Azerbaijan. Baku. 1965, 208 p. 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			

Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

MODULE HANDBOOK

Forestry bachelor program, Department of "Ecology and Environment".

Course Unit Title	Sanitary measures of forests.		
Course Unit Code	ATMF-BO6		
Type of Course Unit	Selection		
Level of Course Unit	3		
National Credits			
Number of ECTS Credits Allocated	5		
Theoretical (hour/week)	1		
Practice (hour/week)	1		
Laboratory (hour/week)			
Year of Study	3		
Semester when the course unit is delivered	5		
Course Coordinator	Aydin Yahyayev		
Name of Lecturer (s)	Aydin Yahyayev		
Name of Assistant (s)	-		
Mode of Delivery	Face to face		
Language of Instruction	Azerbaijani,Rus		
Prerequisites	-		
Recommended Optional Program Components	-		
Course description: The main goal of teaching the subject is to take the required sanitary measures by conducting necessary monitoring and observations based on the regulations in force in connection with the organization of protection of the forest fund from pests and diseases. At the same time, the aim is to instill in students the characteristics of timely and quality sanitary pruning.			
Objectives of the Course: The subject "Forest Sanitary Measures" is one of the main subjects taught in the process of training personnel at the bachelor's level for the specialty of forester. The subject "Forest Sanitary Measures" to be taught in the selected specialty is intended for teaching independent extensive materials on the methods, techniques and organization of sanitary felling, felling sites cleaning intended to be carried out in the forest. The subject "Forest Sanitary Measures" is closely related to all specialized subjects to be taught in the specialty.			
Learning Outcomes			
At the end of the course the student will be able to			Assessment
1	The results of teaching the subject include the following: Students' mastery of materials on the structure of the forest fund, the distribution of forest areas according to their purpose, and the distribution of the main tree species.		

2	Study of the characteristics of the placement of permanent and temporary experimental areas in the study of forests; Identification of the main objects of sanitary measures carried out in the forest; Determination of the degree of damage by fungi, bacteria or viruses.		
3	It consists of forming general knowledge among students about the nature, essence, and tools and means used to determine the sanitary condition of forests.		
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz			
Course's Contribution to Program			
		CL	
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes		
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements		
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing		
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control		
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations		
6	ability to use various types of devices to monitor and control technological processes		
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results		
8	ability to use modern information technologies and software, observing information security requirements in their professional activities		
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		The forest fund of the republic and its distribution.	
2		Study of the experience of using the republic's forests.	
3		Division of the forest fund into groups according to its purpose.	

4		Study of forms of economy and features of their creation.	
5		Features of placement and use of permanent experimental areas.	
6		Study of the main directions of sanitary measures carried out in the forests of the republic.	
7		Importance of sanitary measures in forest cuttings.	
8		Study of the features of placement and use of temporary experimental areas.	
9		Wood waste generated in forest cuttings and their volumes	
10		Study of methods of utilization of pollutants generated in forest cuttings.	
11		Norms for carrying out sanitary measures in forests.	
12		Determination of the intensity and periodicity of carrying out sanitary cuttings in forests.	
13		Equipment and means used in sanitary measures in forests.	
14		Study of the main signs and rules of use of division signs placed in forest quarters.	
15		Assessment of the sanitary situation in the forest during fires.	
16		Study of the working principle of methods and means of cleaning waste collected at fire sites.	
17		Methods of disposal of waste collected at fire sites.	
18		Study of the sanitary conditions of forest cutting sites.	

Recommended Sources

TEXTBOOK(S)

- Amirov F.A. Forests and forestry of the Republic of Azerbaijan. Baku. 1997, 188 p.
- Yahyayev A.B. Fundamentals of forestry. Baku. 2011, 375 p.
- Yahyayev A.B. Procurement of forest materials. Baku; 2012. 221 p.
- Kirilyuk A.V. Forest phytopathology. Kyiv, 1989, 276 p.

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria

Final grades are determined according to the Academic Regulations of WCU

Course Policies

- Attendance of the course is mandatory.
- Late assignments will not be accepted unless an agreement is reached with the lecturer.
- Students cannot use calculators during the exam.
- Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations

ECTS allocated based on Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			

Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Forest certification		
Course Unit Code	ATMF-B07		
Type of Course Unit	Selected		
Level of Course Unit	3		
National Credits			
Number of ECTS Credits Allocated	5		
Theoretical (hour/week)	1		
Practice (hour/week)	1		
Laboratory (hour/week)			
Year of Study	3		
Semester when the course unit is delivered	5		
Course Coordinator	Aydın Yahyayev		
Name of Lecturer (s)	Aydın Yahyayev		
Name of Assistant (s)	-		
Mode of Delivery	Face to face		
Language of Instruction	Azerbaijani, russian		
Prerequisites	-		
Recommended Optional Program Components	-		
Course description:			
The subject teaches materials on the forest fund lands of the Republic of Azerbaijan, the main tree species, the classification and theoretical foundations of forests, soil and climatic conditions of forests, felling measures carried out in forests, and the restoration and use of forests.			
Objectives of the Course:			
The main goal of teaching the subject is to ensure the sustainable development of forests, improve their species composition, increase their productivity, and teach students about the quantitative and qualitative assessment systems of their wood and non-wood resources - certification systems.			
Learning Outcomes			
At the end of the course the student will be able to			Assessment
1	Study of materials on the structure of the forest fund, the distribution of forest areas by purpose, and the main widespread tree species.		
2	Study of the silvicultural-biological characteristics of the main forest-producing		

	species.		
3	Study of the main international certification systems.		
4	Study of the possibilities of certification of timber resources of the republic's forests.		
5	Study of the possibilities of certification of non-timber resources of forests.		
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz			
Course's Contribution to Program			
		CL	
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes		
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements		
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing		
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control		
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations		
6	ability to use various types of devices to monitor and control technological processes		
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results		
8	ability to use modern information technologies and software, observing information security requirements in their professional activities		
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		Introduction. History of forest certification development.	
2		Basic concepts and principles of certification and expertise.	
3		Structures and main stages of certification.	
4		Certification systems and bodies National certification systems.	
5		Forest certification systems.	
6		FSC certification systems and their main types.	
7		Economic assessment of the effectiveness of forest product certification.	

8		Features of forest product formation.	
9		Main quality indicators of forest stands taken into account in certification.	
10		Classification systems for quality features of forest stands.	
12		Preparation of farms for certification.	
13		Application of certification assessment in forest management	
14		Certification of the material chain and controlled wood.	
15		Preparation of certification of a 100-year-old beech stand.	

Recommended Sources

TEXTBOOK(S)

- Amirov F.A. Forests and forestry of the Republic of Azerbaijan. Baku. 1997, 188 p.
- Asadov K.A. et al. Dendroflora and forests of the northeastern part of the Greater Caucasus. Baku. 2008, 274 p.
- Yahyayev A.B. Fundamentals of forestry. Baku. 2011, 375 p.
- Gafarov A.M., Musayev B.R., Guliyev J.A. Metrology, standardization and quality control. “Chasioglu”. EIF printing house. Baku, 1998. p.263.
- Mammadov N.R. Fundamentals of standardization. “Chasioglu” printing house. Baku, 2001. 308 p.
- Mammadov N.R. Fundamentals of certification. “Chasioglu” printing house. Baku, 2001. 312 p.

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria

Final grades are determined according to the Academic Regulations of WCU

Course Policies

- Attendance of the course is mandatory.
- Late assignments will not be accepted unless an agreement is reached with the lecturer.
- Students cannot use calculators during the exam.
- Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations

ECTS allocated based on Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Forest legislation and management
Course Unit Code	ATMF-B07
Type of Course Unit	Selected
Level of Course Unit	3
National Credits	
Number of ECTS Credits Allocated	5
Theoretical (hour/week)	1
Practice (hour/week)	1
Laboratory (hour/week)	
Year of Study	3
Semester when the course unit is delivered	5
Course Coordinator	Shahbaz Shiraliyev
Name of Lecturer (s)	Shahbaz Shiraliyev
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani, russian
Prerequisites	-
Recommended Optional Program Components	-
<p>Forest Legislation and Management" is a taught at the undergraduate level in the Faculty of High Technologies and Innovative Engineering at Western Caspian University, within the “Forestry” specialization. The main objective of the course is to provide students with knowledge of the forest legislation of the Republic of Azerbaijan and its mechanisms of implementation.</p> <p>The program covers the scientific principles of forest management, conservation of biological diversity, efficient use of forest resources, and principles of forest restoration. Students learn about forest protection from fires, illegal logging, pests, diseases, and other harmful factors. The course also introduces the rules for reforestation and afforestation, assessment and compensation of damages to forest enterprises, and legal regulations regarding the rights and responsibilities of forest users. In addition, the course addresses the resolution of disputes related to forest use through the court system and the types of legal responsibility (disciplinary, administrative, civil, and criminal) for violations of forest legislation.</p> <p>This course is aimed at equipping students with legal knowledge and practical skills necessary for effective forest management and protection.</p>	
Objectives of the Course:	
<p>The purpose of the subject is to eliminate existing shortcomings and gaps in the management of forest resources, as well as to acquire the theoretical knowledge and practical skills necessary to use the relevant articles of forest legislation in solving problems in the application of laws related to the forest sector.</p> <p>The task of the course is to acquire the ability to take preventive measures aimed at preventing unsustainable use of forests and illegal activities in the territories of the state forest fund, as well as to acquire practical skills in the field of use and protection of fauna, water bodies, subsoil, atmospheric air in the territory of the forest fund, and to organize the efficient use of forests and forest fund lands not covered with forest plants in accordance with the forest legislation of the Republic of Azerbaijan.</p>	
Learning Outcomes	

At the end of the course the student will be able to		Assessment	
1	The concept of forest legislation.		
2	Classification of forest legislation and management.		
3	History of the emergence and development of forest legislation and management.		
4	Relations regulated by forest legislation.		
5	Cases of violation of forest legislation and combating them.		
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz			
Course's Contribution to Program			
		CL	
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes		
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements		
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing		
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control		
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations		
6	ability to use various types of devices to monitor and control technological processes		
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results		
8	ability to use modern information technologies and software, observing information security requirements in their professional activities		
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		Azerbaijan forests and forest legislation goals and objectives.	
2		Relations regulated by forest legislation.	
3		Forest fund, forest fund lands and areas.	
4		Property rights over forest fund.	
5		State management in the field of forest fund protection and forest restoration and its principles.	

6		Basic requirements for the organization of forestry.	
7		Determination of the age for felling. Normative acts on felling.	
8		Monitoring of forest legislation in forestry.	
9		Forest structure work and its implementation.	
10		Requirements for the protection of forest fund.	
11		Rights and obligations of forest users.	
12		Normative acts on forest restoration and afforestation.	
13		Compensation for damage and losses caused to forestry.	
14		Fire control in forest fund.	
15		Responsibility for violation of forest legislation.	

Recommended Sources

TEXTBOOK(S)

- Collection of legal and regulatory acts for forest sector workers "Max-Offset" Baku 2011 p. 335
- Resolution of the Cabinet of Ministers of the Republic of Azerbaijan No. 30 dated January 31, 2019
- Forest Code of the Republic of Azerbaijan Baku-2008
- Civil Code of the Republic of Azerbaijan "Digesta" publishing house Baku 2014 p. 667
- Civil Procedural Code of the Republic of Azerbaijan Law publishing house-2013 p. 303
- G.S.Mammadov, K.S.Asadov Forest ecology Baku-Elm_2010
- Resolution of the Cabinet of Ministers of the Republic of Azerbaijan No. 219 dated October 30, 1998
- Code of Administrative Offenses of the Republic of Azerbaijan Baku city, December 29, 2024 No. 278
- Criminal Code of the Republic of Azerbaijan October 9, 2007
- F.A.Amirov Forests and forestry of Azerbaijan Baku. 1997

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria

Final grades are determined according to the Academic Regulations of WCU

Course Policies

- Attendance of the course is mandatory.
- Late assignments will not be accepted unless an agreement is reached with the lecturer.
- Students cannot use calculators during the exam.
- Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations

ECTS allocated based on Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			

Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

MODULE HANDBOOK

Meşəçilik bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Legal basis for forest use		
Course Unit Code	ATMF-B07		
Type of Course Unit	Selected		
Level of Course Unit	3		
National Credits			
Number of ECTS Credits Allocated	5		
Theoretical (hour/week)	1		
Practice (hour/week)	1		
Laboratory (hour/week)			
Year of Study	3		
Semester when the course unit is delivered	5		
Course Coordinator	Adilagha Malikov		
Name of Lecturer (s)	Adilagha Malikov		
Name of Assistant (s)	-		
Mode of Delivery	Face to face		
Language of Instruction	Azerbaijani, russian		
Prerequisites	-		
Recommended Optional Program Components	-		
Course description:			
This course is one of the main subjects taught in the process of training personnel at the bachelor's level in the forestry specialty. The subject "Legal Basis of Forest Use" to be taught in the selected specialty is designed to teach extensive materials on the importance of forests, their functions, the basics of forest legislation, the Forest Code of the Republic of Azerbaijan on the use, protection, preservation and restoration of forests, forest fund lands, and relations in the field of additional forest use. The subject "Legal Basis of Forest Use" is closely related to all specialized subjects to be taught in the specialty.			
Objectives of the Course:			
The main goal of the course is to teach students how to manage forests on a scientific basis, maintain the biological diversity of the forest ecosystem, and increase the reserve potential of forests, taking into account their importance, and how to effectively use them, and how to ensure the protection, conservation, and restoration of forests.			
Learning Outcomes			
At the end of the course the student will be able to			Assessment
1	Forest legislation and management.		
2	Forest use and its legal basis.		
3	Forest Code of the Republic of Azerbaijan.		
4	It consists of the formation of ideas about relations in the field of use,		

	protection, preservation and restoration of forests and forest fund lands.		
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz			
Course's Contribution to Program			
		CL	
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes		
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements		
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing		
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control		
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations		
6	ability to use various types of devices to monitor and control technological processes		
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results		
8	ability to use modern information technologies and software, observing information security requirements in their professional activities		
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		Forest and its components.	
2		Forest cover of Azerbaijan and its role in shaping nature.	
3		Forest cover of Azerbaijan and its role in shaping nature.	
4		Forest Code of the Republic of Azerbaijan, its role in regulating forest use.	
5		Forest fund and main directions of forest use in Azerbaijan.	
6		Timber harvesting.	
7		Thinning.	
8		Protection and protection of forest fund.	
9		Forest fires.	
10		Theoretical foundations of forest management.	
11		Fundamentals of reforestation.	

12		Rules for leasing forest fund lands.	
13		Rules for releasing standing timber.	
14		Side forest use.	
15		Responsibility for violation of forest legislation.	
Recommended Sources			
TEXTBOOK(S)			
<ul style="list-style-type: none"> – G.Sh.Mammadov, K.S.Asadov “Forest Ecology” Baku 2010. – A.B. Yahyayev “Fundamentals of Forestry” Baku 2011. – Forest Code of the Republic of Azerbaijan Baki 1997. – “Regulations on forest restoration and afforestation on the lands of the forest fund of the Republic of Azerbaijan” Baku 1999. – “Instructions on the organization of operational control over the state of protection of forests from illegal felling and other forest violations” Baku 2006. – Law of the Republic of Azerbaijan “On phytosanitary control” Baku 2006. – Law of the Republic of Azerbaijan “On protection of greenery” Baku 2014. – Y.N.Balakishiyeva “Collection of legal and normative acts for forest sector employees” Baku 2011. – Melekhov I.S. Forestry. –Moscow, 1989 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Intensive management of farms	
Course Unit Code	ATMF-BO8	
Type of Course Unit	Selection	
Level of Course Unit	3	
National Credits		
Number of ECTS Credits Allocated	4	
Theoretical (hour/week)	1	
Practice (hour/week)	0.5	
Laboratory (hour/week)		
Year of Study	3	
Semester when the course unit is delivered	5	
Course Coordinator	Aydin Yahyayev	
Name of Lecturer (s)	Aydin Yahyayev	
Name of Assistant (s)		
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani, rus	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description:		
The main goal of teaching the subject is to teach students the basic essence of creating intensive farms, the management features of intensive farms, the structure of intensive farms, and the main directions of activity.		
Objectives of the Course: Extensive materials are taught in the subject of intensive farm management, directly addressing issues such as the principles of organization and management of forestry in general, the form of intensive management in forestry, and the importance of creating such forms of management in the Republic.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	Determination of the principles of organizing forestry.	
2	Determination of the importance of creating intensive farms in the forest fund.	
3	Determination of the possibilities of creating this type of farm in the republican conditions.	
4	Determination of the management features of intensive farms.	
5	Determination of the directions of activity of intensive farms.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course’s Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of	

	electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		The essence and practice of intensive farms.	
2		Structure and directions of activity of intensive farms.	
3		Features and possibilities of creation of intensive farms.	
4		Main directions of economic activities in intensive farms.	
5		Economic activity of intensive farms: organization and management of forest restoration works.	
6		Economic activity of intensive farms: organization and management of afforestation works.	
7		Economic activity of intensive farms: organization and management of service cutting works.	
8		Economic activity of intensive farms: organization and management of sanitary cuttings.	
9		Production activity of intensive farms: organization and management of forest restoration cuttings.	
10		Production activity of intensive farms: organization and management of firewood supply.	
11		Production activity of intensive farms: volume, structure and primary processing of supplied firewood.	
12		Production activity of intensive farms: volume, structure and use of waste generated during its supply.	

13		Additional use activities of intensive farms: establishment and management of forestry and horticultural farms	
14		Additional use activities of intensive farms: establishment and management of fruit and berry growing farms.	
15		Additional use activities of intensive farms: establishment and management of medicinal plant growing farms.	
<p>Recommended Sources</p> <p>TEXTBOOK(S)</p> <ul style="list-style-type: none"> – Amirov F.A. Forests and forestry of the Republic of Azerbaijan. Baku. 1997, 188 p. – Asadov K.A. et al. Dendroflora and forests of the northeastern part of the Greater Caucasus. Baku. 2008, 274 p. – Yahyayev A.B. Fundamentals of forestry. Baku. 2011, 375 p. – Yahyayev A.B. Features of the formation and use of beech groves in the Greater Caucasus., e.e.d. dissertation. author ref., Baku, 2022, 50 p. – Gurbanov E.M. Systematics of higher plants. Textbook. Baku: “Baku State University” publishing house, 2009, 420 p. – Yahyayev A.B., Farzaliyev V.S. Features of the creation of intensive farms, Fundamentals of the Central Botanical Garden, XVIII, 2019, p. 56-63 – Anuchin N.P. Forest taxation. M.: Lesn. industry, 1982. 552 p. – Vaginsky V.M. Forest taxation, Gomel, Belarus, 2018, 336 p. – Forest magazine. Arkhangelsk RF. 2018-2023 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			

Total Workload	240
Total Workload/30(h)	240/30
ECTS Credit of the Course	4

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Creation of intensive farms	
Course Unit Code	ATMF-BO8	
Type of Course Unit	Selection	
Level of Course Unit	3	
National Credits		
Number of ECTS Credits Allocated	4	
Theoretical (hour/week)	1	
Practice (hour/week)	0.5	
Laboratory (hour/week)		
Year of Study	3	
Semester when the course unit is delivered	5	
Course Coordinator	Aydin Yahyayev	
Name of Lecturer (s)	Aydin Yahyayev	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani, rus	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description: The main goal of teaching the subject is to teach students the basic essence of creating intensive farms, the management features of intensive farms, the structure of intensive farms, and the main directions of activity.		
Objectives of the Course: Extensive materials are taught in the subject of intensive farm management, directly addressing issues such as the principles of organization and management of forestry in general, the form of intensive management in forestry, and the importance of creating such forms of management in the Republic.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	Determination of the principles of organizing forestry.	
2	Determination of the importance of creating intensive farms in the forest fund.	
3	Determination of the possibilities of creating this type of farm in the republican conditions.	
4	Determination of the management features of intensive farms.	
5	Determination of the directions of activity of intensive farms.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course’s Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design,	

	construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		The essence of intensive farms and the experience of their application.	
2		The importance of the creation of intensive farms and the directions of their activities.	
3		Structural features of intensive farms and the possibilities of their creation.	
4		The main directions of economic activities carried out in intensive farms.	
5		Economic activity of intensive farms: features of carrying out forest restoration work.	
6		Economic activity of intensive farms: features of carrying out forest restoration work.	
7		Economic activity of intensive farms: features of carrying out service felling work.	
8		Economic activity of intensive farms: features of carrying out sanitary felling.	
9		Production activity of intensive farms: organization and management of forest restoration felling.	

10		Production activity of intensive farms: issues of carrying out firewood procurement.	
11		Production activity of intensive farms: volume, structure and primary processing of supplied firewood.	
12		Production activity of intensive farms: volume, structure and use of waste generated during its procurement.	
13		Additional use activity of intensive farms: features of creating forest and orchard farms.	
14		Additional use activities of intensive farms: creation of fruit and berry growing farms.	
15		Additional use activities of intensive farms: creation of medicinal plant growing farms.	

Recommended Sources

TEXTBOOK(S)

- Amirov F.A. Forests and forestry of the Republic of Azerbaijan. Baku. 1997, 188 p.
- Asadov K.A. et al. Dendroflora and forests of the north-eastern part of the Greater Caucasus. Baku. 2008, 274 p.
- Yahyayev A.B. Fundamentals of forestry. Baku. 2011, 375 p.
- Yahyayev A.B. Features of the formation and use of beech groves in the Greater Caucasus., e.e.d. dissertation. author's ref., Baku, 2022, 50 p.
- Gurbanov E.M. Systematics of higher plants. Textbook. Baku: "Baku State University" publishing house, 2009, 420 p.
- Yahyayev A.B., Farzaliyev V.S. Features of the creation of intensive farms, the basics of the Central Botanical Garden, XVIII, 2019, p. 56-63
- Anuchin N.P. Forest taxation. M.: Lesn. industry, 1982. 552 p.
- Vaginsky V.M. Forest taxation, Gomel, Belarus, 2018, 336 pp. Forest Journal. Arkhangelsk RF. 2018-2023

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria

Final grades are determined according to the Academic Regulations of WCU

Course Policies

- Attendance of the course is mandatory.
- Late assignments will not be accepted unless an agreement is reached with the lecturer.
- Students cannot use calculators during the exam.
- Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations

ECTS allocated based on Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			

Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			4

MODULE HANDBOOK

Meşəçilik bachelor program, Department of “Ecology and environment”.

Course Unit Title	Fields of activity of intensive farms		
Course Unit Code	ATMF-BO8		
Type of Course Unit	Selection		
Level of Course Unit	3		
National Credits			
Number of ECTS Credits Allocated	4		
Theoretical (hour/week)	1		
Practice (hour/week)	0.5		
Laboratory (hour/week)			
Year of Study	3		
Semester when the course unit is delivered	5		
Course Coordinator	Aydin Yahyayev		
Name of Lecturer (s)	Aydin Yahyayev		
Name of Assistant (s)	-		
Mode of Delivery	Face to face		
Language of Instruction	Azerbaijani, rus		
Prerequisites	-		
Recommended Optional Program Components	-		
Course description: The main goal of teaching the subject is to teach students the basic essence of creating intensive farms, the management features of intensive farms, the structure of intensive farms, and the main directions of activity.			
Objectives of the Course: Extensive materials are taught in the subject of intensive farm management, directly addressing issues such as the principles of organization and management of forestry in general, the form of intensive management in forestry, and the importance of creating such forms of management in the Republic.			
Learning Outcomes			
At the end of the course the student will be able to			Assessment
1	Determination of the principles of organizing forestry farms		
2	Determination of the importance of creating intensive farms in the forest fund.		
3	Determination of the possibilities of creating this type of farm in the republican conditions.		
4	Determination of the management features of intensive farms.		
5	Determination of the directions of activity of intensive farms.		

Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz			
Course's Contribution to Program			
		CL	
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes		
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements		
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing		
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control		
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations		
6	ability to use various types of devices to monitor and control technological processes		
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results		
8	ability to use modern information technologies and software, observing information security requirements in their professional activities		
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		The essence of intensive farms and the experience of their application.	
2		The importance of the creation of intensive farms and directions of activity.	
3		Structural features of intensive farms and opportunities for their creation.	
4		The main directions of economic activities carried out in intensive farms.	
5		Economic activity of intensive farms: features of carrying out forest restoration work.	
6		Economic activity of intensive farms: features of carrying out forest restoration work.	
7		Economic activity of intensive farms: features of carrying out service	

		felling work.	
8		Economic activity of intensive farms: features of carrying out sanitary felling.	
9		Production activity of intensive farms: organization and management of forest restoration felling.	
10		Production activity of intensive farms: issues of carrying out firewood procurement.	
11		Production activity of intensive farms: volume, structure and primary processing of supplied firewood	
12		Production activity of intensive farms: volume, structure and use of waste generated during its procurement.	
13		Additional use activity of intensive farms: creation of forest and orchard farms.	
14		Additional use activities of intensive farms: main characteristics of fruit and berry supply farms.	
15		Additional use activities of intensive farms: main characteristics of medicinal plant supply farms.	

Recommended Sources

TEXTBOOK(S)

- Amirov F.A. Forests and forestry of the Republic of Azerbaijan. Baku. 1997, 188 p.
- Asadov K.A. et al. Dendroflora and forests of the northeastern part of the Greater Caucasus. Baku. 2008, 274 p.
- Yahyayev A.B. Fundamentals of forestry. Baku. 2011, 375 p.
- Yahyayev A.B. Features of the formation and use of beech stands in the Greater Caucasus., e.e.d. dissertation. author's ref., Baku, 2022, 50 p.
- Anuchin N.P. Forest taxation. Moscow: Lesn. prom-st, 1982. 552 p.
- Vaginsky V.M. Forest taxation, Gomel, Belarus, 2018, 336 p.

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria

Final grades are determined according to the Academic Regulations of WCU

Course Policies

- Attendance of the course is mandatory.
- Late assignments will not be accepted unless an agreement is reached with the lecturer.
- Students cannot use calculators during the exam.
- Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations

ECTS allocated based on Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			

Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			4

MODULE HANDBOOK

Meşəçilik bachelor program, Department of “Mexanika və Riyaziyyat”.

Course Unit Title	Supply of forest materials
Course Unit Code	ATMF -BO9
Type of Course Unit	Selection
Level of Course Unit	3
National Credits	
Number of ECTS Credits Allocated	5
Theoretical (hour/week)	1
Practice (hour/week)	1
Laboratory (hour/week)	
Year of Study	3
Semester when the course unit is delivered	6
Course Coordinator	Mursal Nasirov
Name of Lecturer (s)	Mursal Nasirov
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani, rus
Prerequisites	-
Recommended Optional Program Components	-

Course description:

The subject teaches materials about the wood resources of the forests of the Republic of Azerbaijan, felling methods applied in forests, felling regimes, operating principles of technological equipment, and methods and means of transporting wood raw materials.

Objectives of the Course: The main goal of teaching the subject is to ensure the sustainable development of forests, improve their species composition, increase their productivity, and teach students the methods of using their wood resources, the applied technological regime, and the principles of operation of equipment. The subject "Supply of Forest Materials" plays a major role in the training of forest personnel.

Learning Outcomes

At the end of the course the student will be able to		Assessment
1	Students' assimilation of materials about the structure of the forest fund, the distribution of forest areas according to their purpose, and the main tree species that are widespread. Forming students' general knowledge about the nature, essence, tools and means of the activities to be carried out in forests.	

2	Familiarization with the structure of the areas to be felled and the preliminary preparatory work; Study of the selection and application features of felling schemes applied in mountainous areas.		
3	Study of the characteristics of transportation and use of the supplied wood raw materials. Implementation of practical tasks used in the field of procurement and processing of forest materials for students studying at the bachelor's level.		
4	Monitoring and investigating the level of implementation of practical tasks.		
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz			
Course's Contribution to Program			
			CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes		
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements		
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing		
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control		
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations		
6	ability to use various types of devices to monitor and control technological processes		
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results		
8	ability to use modern information technologies and software, observing information security requirements in their professional activities		
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		Forest resources of the republic and the history of their use. Division of forests into groups and land categories according to their purpose. Distribution of the main forest-producing species, wood reserves and areas of use	
2		Classification of scraps and their application possibilities in protective forests.	

		General classification elements of scrap systems, forms, methods, their purpose, application criteria. Basic control indicators for protective forests.	
3		Age criteria and release diameters applied in fellings carried out in the republic's forests. The rules of felling applied in the republic, their positive and negative aspects. The age of felling and release diameters of the main forest-producing species.	
4		Organization of operations and characteristics of logging. Composition of logging, characteristics of operations and sequences of execution. Division of main, preparatory and auxiliary works in logging. Distinctive features of logging from other areas.	
5		Areas to be felled, raw material base and age of the wood. The procedure for determining areas to be felled in the forest, its separation characteristics, determination of dimensions, wood reserves. Provision with transportation routes. Raw material base, the procedure for calculating its operational reserves. Wood ages of the main tree species.	
6		Forestry fund and forms of general use felling. The main taxation indicators of forests. Areas to be felled and features of determining the annual felling fund. General and selective felling systems. Main forms of selective felling systems and their application to forests located in mountainous conditions.	
7		Dimensions of areas allocated for felling, their completion period and methods. The procedure for determining the dimensions of areas to be felled. The main width dimensions applied. Determination of length dimensions in forests with different reliefs. The importance of the width of the area to be felled in selective felling methods. The order of felling. The completion period and methods of areas to be felled.	
8		Methods of felling trees and their application features. Taking into account the direction of felling, relief, forest regeneration and young generation when felling trees. Cleaning fallen trunks from branches. Equipment and tools used.	
9		Schemes of felling trees with motorized hand saws. Determination of the felling direction and the position of the tree by the logger. Selection of the slope depending on the diameter of the tree during the felling process. Schemes of initial felling of trees, designation and dimensions of the retained trunk part.	
10		Transportation of forest materials. Methods of transportation of forest materials and their classification. Main features to be considered when transporting trunks or assortments to transportation roads, upper warehouses and lower warehouses. Widths of main and auxiliary roads, issues of their construction, maintenance and restoration.	
11		Arrangement schemes of transportation roads in areas to be felled and average distance of transportation.	

		Features to be considered when choosing the arrangement scheme of transportation roads in areas to be felled. Main schemes of transportation roads applied: parallel, diagonal, radial and fan schemes. Rules for determining the average distance of crushing according to these schemes.	
12		Transportation of forest materials with rope devices. Methods of transportation of forest materials with rope devices and types of winches that can be used. Construction of a single-leg rope device. Construction of devices used in semi-suspended transportation.	
13		Clearing fallen trees from branches. Sequence of operations in the process of clearing fallen trees from branches. Tools used. Workers involved in the process and their responsibilities.	
14		Log cutting and accounting of forest materials. Initial requirements for log cutting in the technological process. Consumption dimensions and quality: length, diameter, commodity condition of assortments. Log cutting methods. Log cutting methods and applied schemes with a motorized hand saw.	
15		Cleaning of cutting sites. The types of cutting residues remaining after the procurement of forest materials, their uses and disposal issues. Rules for piling, storing, scattering and burning of residues at the cutting site.	

Recommended Sources

TEXTBOOK(S)

- Amirov F.A. Cultivation of productive forests. Baku. 2003, 184 p.
- Yahyayev A.B. Fundamentals of forestry. Baku. "Tehsil NPM", 2011, 375 p.
- Yahyayev A.B. Procurement of forest materials. Baku. "Tehsil NPM", 2012, 221 p.
- Forest Management Planning Manual, Toronto. Queen's Printer for Ontario., March 2017., 462 pp
- Rastislav Raši, State of Europe's Forests., Liaison Unit Bratislava., 2020, 394 pp
- Melekhov I.S. Forestry. 2nd ed. add., correct. – M.: MGUL, 2003 – 320 p.
- Matveiko A.P. Technology and equipment for logging production. - Minsk: JSC "Technoperspective", 2006. - 447 p.

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria

Final grades are determined according to the Academic Regulations of WCU

Course Policies

- Attendance of the course is mandatory.
- Late assignments will not be accepted unless an agreement is reached with the lecturer.

<ul style="list-style-type: none"> • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			4

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Complex use of wood raw materials.
Course Unit Code	ATMF -B09
Type of Course Unit	Selected
Level of Course Unit	3
National Credits	
Number of ECTS Credits Allocated	5
Theoretical (hour/week)	1
Practice (hour/week)	1
Laboratory (hour/week)	
Year of Study	3
Semester when the course unit is delivered	6
Course Coordinator	Gulnar Hamidova
Name of Lecturer (s)	Gulnar Hamidova
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani, russian
Prerequisites	-
Recommended Optional Program Components	-
Course description:	
The subject teaches materials on the forest fund lands of the Republic of Azerbaijan, the main tree species distributed, the classification of forests, felling measures carried out in forests, the procured wood raw materials, and the main directions of the efficient and complete use of wood raw materials.	
Objectives of the Course:	
The main goal of teaching the subject is to teach students general rules about ensuring the sustainable	

development of forests, improving their species composition, increasing their productivity, and using their wood resources.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	The structure of the forest fund, the distribution of forest areas according to their purpose, the distribution of forest wood resources and the mastering of their use experience.	
2	Classification of roundwood and sawn materials and the study of the requirements for them.	
3	Reporting the volume of annual forest growth, determining its use limits.	
4	Determining the industrially important tree species of the republic and their areas of use.	
5	Formation of general knowledge among students about the methods and means of primary processing of the supplied wood raw materials.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)		
Course Contents		

Week	Chapter	Topics	Exam
1		Main directions of complex use of wood raw materials.	
2		Additional wood raw materials in the forestry and woodworking industry.	
3		Methods and technologies of secondary wood raw materials processing.	
4		Energy use of wood raw materials.	
5		Classification of wood raw materials.	
6		Methods for determining economically viable waste resources.	
7		Indicators of economic accessibility of waste resources.	
8		Classification and dimensional characteristics of wood waste.	
9		Hydrothermal processing of wood raw materials.	
10		Sorting, storage and transportation of wood chips.	
11		Economic bases for determining the feasibility of applying technologies for complex use of wood raw materials.	
12		Methods and cutting schemes of sawn materials.	
13		Principle of operation and productivity of sawn materials cutting equipment.	
14		Technological processes and equipment of a sawmill.	
15		Classification of sawn materials and requirements for their shape and dimensions.	

Recommended Sources

TEXTBOOK(S)

- Yahyayev A.B. Fundamentals of forestry. Baku. 2011, 375 p.
- Amirov F.A. Forests and forestry of the Republic of Azerbaijan. Baku. 1997, 188 p.
- Rasev L.P. Sawmill production. M.; Lesn. prom-st, 2014. 168 p.
- Forestry magazine. Arkhangelsk. RF. 2018-2023.

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria

Final grades are determined according to the Academic Regulations of WCU

Course Policies

- Attendance of the course is mandatory.
- Late assignments will not be accepted unless an agreement is reached with the lecturer.
- Students cannot use calculators during the exam.
- Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations

ECTS allocated based on Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			

Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Non-timber use of forests.		
Course Unit Code	ATMF -BO9		
Type of Course Unit	Selected		
Level of Course Unit	3		
National Credits			
Number of ECTS Credits Allocated	5		
Theoretical (hour/week)	1		
Practice (hour/week)	1		
Laboratory (hour/week)			
Year of Study	3		
Semester when the course unit is delivered	6		
Course Coordinator	Gulnar Hamidova		
Name of Lecturer (s)	Gulnar Hamidova		
Name of Assistant (s)	-		
Mode of Delivery	Face to face		
Language of Instruction	Azerbaijani, russian		
Prerequisites	-		
Recommended Optional Program Components	-		
Course description:			
The subject teaches the issues of protecting the main tree species and other valuable tree species, wild fruit and berry tree species and shrubs distributed in the lands of the forest fund of the Republic of Azerbaijan.			
Objectives of the Course:			
The main goal of teaching the subject is to teach students about the natural and anthropogenic impacts that hinder the sustainable development of forests and the measures taken to combat them.			
Learning Outcomes			
At the end of the course the student will be able to			Assessment
1	Students' mastery of materials on the structure of the forest fund, the distribution of forest areas according to their purpose, and the main tree species.		
2	Study of the silvicultural and biological characteristics of the main forest-		

	forming species.		
3	Formation of general knowledge among students about the nature of protective measures to be taken in forests, the essence of fire prevention issues, and the means used.		
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz			
Course's Contribution to Program			
		CL	
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes		
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements		
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing		
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control		
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations		
6	ability to use various types of devices to monitor and control technological processes		
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results		
8	ability to use modern information technologies and software, observing information security requirements in their professional activities		
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		Forest resources and their use.	
2		Non-timber forest use.	
3		Non-timber species.	
4		Classification of food plants according to their resources and prospects.	
5		Rules for collecting, preparing and storing medicinal plant products.	
6		Forest berries and edible plants.	
7		Economic importance of wild fruits.	
8		Honey plants and honey production.	

9		General characteristics of mushrooms.	
10		Collection and preparation of useful mushrooms.	
11		Use of non-timber products for the production of folk crafts.	
12		Principles of sustainable management of non-timber resources.	
13		Protection of forest resources from an ecological and economic perspective.	
14		Climate change and its impact on non-timber resources	
15		Recreational use of forest landscapes.	
Recommended Sources TEXTBOOK(S) – Amirov F.A. Forests and forestry of the Republic of Azerbaijan. Baku. 1997, 188 p. – Yahyayev A.B. Fundamentals of forestry. Baku. 2011, 375 p. – Rasev L.P. Sawmill production. M.; Lesn. prom-st, 2014. 168 p.			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

MODULE HANDBOOK**Forestry bachelor program, Department of “Ecology and Environment”.**

Course Unit Title	Reforestation works.	
Course Unit Code	ATMF -B10	
Type of Course Unit	Selected	
Level of Course Unit	3	
National Credits		
Number of ECTS Credits Allocated	5	
Theoretical (hour/week)	1	
Practice (hour/week)	1	
Laboratory (hour/week)		
Year of Study	3	
Semester when the course unit is delivered	6	
Course Coordinator	Govhar Aydamirova	
Name of Lecturer (s)	Govhar Aydamirova	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani, russian	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description:		
The discipline of reforestation encompasses scientific and practical knowledge designed to maintain the ecological balance of forests, increase their productivity, and restore degraded forest areas.		
Objectives of the Course:		
The main goal of the course is to demonstrate that reforestation measures are the most reliable means of preventing deforestation, eliminating the depletion of forest resources, and restoring and developing forests.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	It consists of forming ideas about the history of the development of reforestation measures, including forest plantation training, methods of natural reforestation, artificial reforestation, establishment of forest plantations, organization of forest seed production, purpose and tasks of the nursery farm, types of planting material grown and departments of the nursery, and preparation of agrotechnical maintenance work for forest plantations.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course’s Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example,	

	AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		The concept of reforestation, the purpose and tasks of reforestation.	
2		Causes of forest destruction.	
3		Methods of natural forest restoration.	
4		Methods of artificial reforestation.	
5		Planning of reforestation works.	
6		Fertilization and irrigation systems in reforestation works.	
7		Modern equipment and technologies in reforestation work.	
8		Ecological importance of reforestation works.	
9		Impact of forests on the water cycle.	
10		Role of animals in the reforestation process.	
11		Development of tourism in forest areas.	
12		Role of reforestation in increasing soil fertility.	
13		Special types of forest plantations.	
14		Use of fast-growing tree species in the reforestation process.	
15		Application of modern technologies in the reforestation process.	

Recommended Sources

TEXTBOOK(S)

- Z.A.Ibrahimov “Forest plantations” Baku 2015.
- G.C.Aliyeva, H.E.Isayeva “Fundamentals of forest seed production” Baku 2018.
- G.Mammadov, M.Khalilov “Ecology, environment and man” Baku 2006.
- J.Mammadov, T.Y.Hajiyev “Growing of olive plants” Baku 2010.

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria

Final grades are determined according to the Academic Regulations of WCU

Course Policies

- Attendance of the course is mandatory.
- Late assignments will not be accepted unless an agreement is reached with the lecturer.
- Students cannot use calculators during the exam.
- Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations

ECTS allocated based on Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

MODULE HANDBOOK

Bachelor program in Forestry, Department of "Ecology and Environment".

Course Unit Title	Scrap technology in forest restoration.
Course Unit Code	ATMF-B10
Type of Course Unit	Selection
Level of Course Unit	3
National Credits	
Number of ECTS Credits Allocated	5
Theoretical (hour/week)	1
Practice (hour/week)	1
Laboratory (hour/week)	
Year of Study	3
Semester when the course unit is delivered	6

Course Coordinator	Aydin Yahyayev	
Name of Lecturer (s)	Aydin Yahyayev	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani, russian	
Prerequisites	-	
Recommended Optional Program Components	-	
<p>The subject of cutting technology in forest restoration teaches extensive materials on the characteristics of the forest fund, the wood reserves of forests, the annual growth of the wood reserves of forests, the classification of cuttings for forest restoration, the main forms of selective cuttings, the technology of conducting selective cuttings, the quality of trees in felling areas, and the equipment used in cuttings for forest restoration.</p>		
Objectives of the Course:		
<p>The main goal of teaching the subject is to teach students the main components of the forest fund, the wood reserves of forests, the experience of using this resource, the classification of forest restoration cuttings, the characteristics of the main forms of selected cuttings, the equipment used in forest restoration cuttings and their working principles, the organization of lower storages in forest restoration cuttings and their technological processes.</p>		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	Students should know the characteristic indicators of the main components of the forest fund.	
2	Students should know the technological parameters of the main forms of forest restoration cuttings.	
3	Students should know the dynamics of changes in the annual growth of forests;	
4	Students should be able to choose technological parameters for conducting selective cuttings.	
5	Students should know the organization of lower storages in forest restoration cuttings and the solution of technological processes.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	

6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		Characteristics of the forest fund in Azerbaijan.	
2		Main forest-producing species and their wood reserves.	
3		Study of the procedure for calculating wood reserves of forests.	
4		Experience in using wood reserves of forests.	
5		Annual growth dynamics of forests.	
6		Study of the procedure for calculating annual growth of forests	
7		General classification of forest residues.	
8		Essence and areas of application of forest regeneration residues.	
9		Study of the experience of applying forest regeneration residues in the Republic.	
10		Main forms of residues used in forest regeneration.	
11		Main forms of selected residues and their areas of application.	
12		Features of the processing of selected residues in beech forests.	
13		Assessment of the quality of cutting in selected residues.	
14		Material evaluation of wood supplied in selected residues.	
15		Equipment used in forest regeneration residues.	
16		Transportation features of wood raw materials supplied in forest regeneration residues.	
17		Study of the working principle of equipment used in forest restoration cuttings.	
18		Features of application of forest restoration cuttings in mountainous conditions.	
19		Application of rope devices in forest restoration cuttings.	
20		Study of the characteristics of transportation of wood supplied in forest restoration cuttings with assortments.	
21		Organization and technological processes of lower warehouses in forest restoration cuttings.	
22		Study of technological processes carried out in lower warehouses.	

Recommended Sources TEXTBOOK(S)

- Amirov F.A. Forests and forestry of the Republic of Azerbaijan. Baku. 1997, 188 p.
- Yahyayev A.B. Fundamentals of forestry. Baku. 2011, 375 p.

<ul style="list-style-type: none"> – Yahyayev A.B. Procurement of forest materials. Baku; 2012. 221 p. – Anuchin N.P. Forest taxation. M.; 1986. 572 p. – Bugaev V.A. Fundamentals of forest management. Voronezh; 1982. 232 p. 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Planting technology in forest restoration.
Course Unit Code	ATMF-B10
Type of Course Unit	Selected
Level of Course Unit	3
National Credits	
Number of ECTS Credits Allocated	5
Theoretical (hour/week)	1
Practice (hour/week)	1
Laboratory (hour/week)	

Year of Study	3	
Semester when the course unit is delivered	6	
Course Coordinator	Adilagha Malikov	
Name of Lecturer (s)	Adilagha Malikov	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani, russian	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description:		
The subject "Technology of Forest Plantations" is designed to teach extensive materials on the importance of forests, basic methods of natural forest restoration, forest plantation fund, zoning of forest plantations, forest plantations, forest cultivation, design of forest plantation works, technical acceptance of the work done, and inventory of plantations. The subject of technology of forest plantations is closely related to all specialized subjects to be taught in the specialty.		
Objectives of the Course:		
The main goal of the course is to demonstrate that forest plantation measures are the most reliable means of preventing deforestation, eliminating the depletion of forest resources, and restoring and developing forests.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	The training consists of forming ideas about the history of the development of forest plantation technology, methods of natural forest regeneration, artificial forest regeneration, establishment of forest plantations, organization of forest seed production, purpose and tasks of the nursery, types of planting material grown and departments of the nursery, and preparation of agrotechnical maintenance work for forest plantations.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	

7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		The relevance of artificial afforestation and silviculture.	
2		The subject and main tasks of the discipline of forest plantations.	
3		The relevance, essence and tasks of forest seed production.	
4		General information about seedlings.	
5		Zoning of forest plantations.	
6		Forest plantation fund.	
7		Types of forest plantations.	
8		Systematics, methods and techniques of creating forest plantations.	
9		Schemes, density of forest plantations.	
10		Land preparation for creating forest plantations.	
11		Agrotechnical care of forest plantations.	
12		Design of forest plantations.	
13		Technical acceptance of forest plantations.	
14		Inventory of forest plantations.	
15		Irrigation of forest plantations, drip irrigation systems.	

Recommended Sources

TEXTBOOK(S)

- Z.A. Ibrahimov "Forest plantations" Baku 2015.
- Redko G.I. et al. "Forest cultures and protective afforestation" St. Petersburg 1999.
- Sergeeva V.S. Fundamentals of forestry and forest taxation, Moscow, 1990, 224.

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	

Assessment Criteria

Final grades are determined according to the Academic Regulations of WCU

Course Policies

- Attendance of the course is mandatory.

- Late assignments will not be accepted unless an agreement is reached with the lecturer.
- Students cannot use calculators during the exam.
- Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations

ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Efficient use of forest resources.
Course Unit Code	ATMF-B11
Type of Course Unit	Selected
Level of Course Unit	4
National Credits	
Number of ECTS Credits Allocated	5
Theoretical (hour/week)	1
Practice (hour/week)	1
Laboratory (hour/week)	
Year of Study	4
Semester when the course unit is delivered	7
Course Coordinator	Shahbaz Shiraliyev
Name of Lecturer (s)	Shahbaz Shiraliyev
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani, russian
Prerequisites	-
Recommended Optional Program Components	-

The purpose of the subject is to study the distribution, growth and development of existing and newly designed forests in the world, the relationship of tree and shrub species growing in the forest with the ecological environment, and the acquisition of theoretical knowledge and practical skills necessary for using the forest. The task of the subject is to acquire the ability to take preventive measures aimed at

studying the composition, recreational and protective functions of forests, as well as relations in the field of use and protection of the fauna, water bodies, subsoil, atmospheric air in the forest fund territory, and to acquire practical skills to organize the efficient use of forest fund lands not covered with forest plants.		
Objectives of the Course:		
The course program teaches special knowledge, taking into account the multifunctional nature of forests, their history of formation, general reserves, distribution, composition and the right to use forest fund areas. Thus, in modern times, people in forest and non-forest lands, whether covered with forest plants or not, in the world and on the territory of the Republic of Azerbaijan, prefer to spend their leisure time in forests, in corners of nature rich in greenery. Non-woody use of forests, increasing recreational forests to meet people's spiritual needs are a priority. The course program provides extensive information on the increase and protection of forests, the morphology, differentiation, bioecological characteristics and adaptation of their plants.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	General information about forest reserves.	
2	Countries with the most forests in the world.	
3	About the species composition of recreational forests.	
4	Functions performed by forests.	
5	Intermediate and additional uses of forests.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the	

	life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		Total forest reserves of Azerbaijan.	
2		Distribution and composition of world forests.	
3		Forest tourism.	
4		Importance of forest gardens.	
5		The main product of forests is firewood.	
6		Legal aspects of non-firewood use of forests.	
7		Interim use of forests.	
8		Duties of forest users.	
9		Rights of forest users.	
10		National Parks.	
11		Characteristics and recreational significance of wild animal enclosures created in the territories of Ismayilli and Shamakhi regions of Shahdagh National Park.	
12		Experience in non-firewood use in the forest fund of the republic and its main directions	
13		Experience in berry and fruit procurement in the forest fund, their main types and distribution areas.	
14		Experience in grass cutting, mushroom procurement and beekeeping in the forest fund and their recreational significance.	
15		Experience in procurement of medicinal plants in the forest fund, their main types and distribution areas.	
<p>Recommended Sources TEXTBOOK(S)</p> <ul style="list-style-type: none"> – G.Sh. Mammadov. Forest ecology. Baku – Elm-2010 p. 450. – A.B. Yahyayev. Fundamentals of forestry. Baku 2011 p. 375. – F.A. Amirov. Life forms of the Earth. Baku 2006 p. 271. – F.A. Amirov. Forests of the Republic of Azerbaijan and their role in the national economy. Baku-2009 p. 239. – Collection of legal and normative acts for forest sector workers. “Max-Offset” Baku 2011 p. – M.S. Mammadov, K.S. Asadov, F.M. Mammadov. Dendrology. Baku 2000 p. 387. – F.A. Amirov, F.M. Aliyev. Drought and its fight. Baku 2007 p. 119. – F.A. Amirov. The land that lost its green robe. Baku 2004 p. 159. – H.A. Badalov. Absheron greenery and their prospects. Baku 2015 p. 183 – A.B. Dolukhanov. The basics of sustainable management of Azerbaijani forests: bioecological requirements Baku 2012 p. 138. 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		

Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Establishment of a forestry and horticulture enterprise
Course Unit Code	ATMF-B11
Type of Course Unit	Selected
Level of Course Unit	4
National Credits	
Number of ECTS Credits Allocated	5
Theoretical (hour/week)	1
Practice (hour/week)	1
Laboratory (hour/week)	
Year of Study	4
Semester when the course unit is delivered	7
Course Coordinator	Shahbaz Shiraliyev
Name of Lecturer (s)	Shahbaz Shiraliyev
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani, russian

Prerequisites	-	
Recommended Optional Program Components	-	
Course description:		
<p>The aim of the subject is to acquire theoretical knowledge and practical skills necessary to study the methods, rules, distribution, growth and development of forest-gardens, existing and newly designed in the world, the relationship of tree and shrub species growing in the forest with the ecological environment, and the use of forest-gardens. The task of the subject is to acquire the ability to take preventive measures aimed at studying the ways of creating forest-gardens, their protection and use functions, as well as the relations in the field of use and protection of flora and fauna, water bodies, atmospheric air in the forest fund territory, and to acquire practical skills to organize the efficient use of forest fund lands not covered with forest plants.</p>		
Objectives of the Course:		
<p>The course program teaches special knowledge about the history of the creation of forestry, its general reserves, methods of distribution, reproduction, composition and the right to use forest fund areas, taking into account the multifunctional nature of forests. Thus, in modern times, people in forest lands covered with forest plants or not in the territory of the Republic of Azerbaijan prefer to spend their leisure time in forests, in corners of nature rich in greenery, and to increase biomass by creating forestry and horticulture, as well as additional use of the forest. Non-woody use of the forest is a priority for meeting the spiritual needs of people. The course program provides extensive information on the creation, expansion and protection of forestry and horticulture, the morphology, differentiation, bioecological characteristics and adaptation of its plants.</p>		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	General information about the reserves of forest-gardens.	
2	Countries with the most forest-gardens in the world.	
3	About the species composition of forest-gardens.	
4	Functions performed by forest-gardens.	
5	Functions performed by intermediate and additional forest-gardens.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological	

	processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		History of the establishment and development of forestry and horticulture.	
2		The importance of forestry and horticulture.	
3		The main factors necessary for the cultivation of forestry and horticulture plants.	
4		The main trees and shrubs used in forestry and horticulture.	
5		Rules for the cultivation of plants in the creation of forestry and horticulture.	
6		Normative bases of forest plantations in the creation of forestry and horticulture.	
7		Methods of reproduction of forest and fruit plants.	
8		Classification of forestry and horticulture.	
9		The use of stone fruits in forestry and horticulture.	
10		The use of subtropical fruits in forestry and horticulture.	
11		The use of nut trees in forestry and horticulture.	
12		The use of nut trees in forestry and horticulture.	
13		The use of stone fruits in forestry and horticulture.	
14		The use of medicinal plants in forestry and horticulture.	
15		Diseases and pests of forestry and horticulture, ways of their protection.	

Recommended Sources

TEXTBOOK(S)

- G. Sh. Mammadov. Forest ecology. Baku – Elm-2010 p. 450.
- B. Yahyayev. Fundamentals of forestry. Baku 2011 p. 375.
- F. A. Amirov. Life forms of the Earth. Baku 2006 p. 271.
- F. A. Amirov. Forests of the Republic of Azerbaijan and their role in the national economy Baku-2009 p. 239.
- Collection of legal and normative acts for forest sector workers. “Max-Offset” Baku 2011 p.
- M. S. Mammadov, K. S. Asadov, F. M. Mammadov. Dendrology, Baku 2000 p. 387.
- F. A. Amirov, F. M. Aliyev. Drought and its fight Baku 2007 p. 119.
- F.A.Amirov. The land that lost its green dress Baku 2004 p. 159.
- H.A.Badalov. Absheron greenery and their prospects Baku 2015 p. 183.
- A.B.Dolukhanov. Sustainable management of Azerbaijani forests.

Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

MODULE HANDBOOK

Forestry bachelor program, Department of "Ecology and Environment".

Course Unit Title	Primary processing of firewood raw materials.
Course Unit Code	ATMF-B11
Type of Course Unit	Selected
Level of Course Unit	4
National Credits	
Number of ECTS Credits Allocated	5
Theoretical (hour/week)	1
Practice (hour/week)	1

Laboratory (hour/week)	
Year of Study	4
Semester when the course unit is delivered	7
Course Coordinator	Gulnar Hamidova
Name of Lecturer (s)	Gulnar Hamidova
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijani, russian
Prerequisites	-
Recommended Optional Program Components	-
Course description:	
The subject teaches materials on the forest fund lands of the Republic of Azerbaijan, the main tree species distributed, the classification of forests, felling measures carried out in forests, the procured wood raw materials, and the main directions of the efficient and complete use of wood raw materials.	
Objectives of the Course:	
The main goal of teaching the subject is to teach students general rules about ensuring the sustainable development of forests, improving their species composition, increasing their productivity, and using their wood resources.	
Learning Outcomes	
At the end of the course the student will be able to	
	Assessment
1	The structure of the forest fund, the distribution of forest areas according to their purpose, the distribution of forest wood resources and the mastering of the experience of their use.
2	Classification of roundwood and sawn materials and the study of the requirements for them.
3	Reporting the volume of annual forest growth, determining its use limits.
4	Determining the industrially important tree species of the republic and their areas of use.
5	Formation of general knowledge among students about the methods and means of primary processing of the supplied wood raw materials.
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz	
Course's Contribution to Program	
	CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the

	production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		Forest industry and its structural areas.	
2		Structure of firewood.	
3		Structure of wood.	
4		Lower warehouses, their function and technological processes.	
5		Working principle and productivity of equipment used in lower warehouses.	
6		Classification of sawn materials and requirements for their shape and size.	
7		Methods of sawing roundwood into sawn materials.	
8		Classification of roundwood and requirements for them.	
9		Primary processing of roundwood, assortment concept and cutting characteristics of trunks.	
10		Cutting plan of roundwood and wood balance.	
11		Technological processes and equipment of a sawmill.	
12		Working principle and productivity of frame saws	
13		Methods of sawing and cutting schemes of sawn materials.	
14		Working principle and productivity of sawn materials cutting equipment.	
15		Wood waste and directions of their use.	

Recommended Sources

TEXTBOOK(S)

- Yahyayev A.B. Fundamentals of forestry. Baku. 2011, 375 p.
- Amirov F.A. Forests and forestry of the Republic of Azerbaijan. Baku. 1997, 188
- Rasev L.P. Sawmill production. M., Lesn. prom-st, 2014. 168 p. Forestry magazine. Arkhangelsk. RF. 2018-2023

Assessment

Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	

Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

MODULE HANDBOOK

Forestry bachelor program, Department of "Ecology and Environment".

Course Unit Title	Design of forest structure works
Course Unit Code	ATMF-B12
Type of Course Unit	Selected
Level of Course Unit	4
National Credits	
Number of ECTS Credits Allocated	5
Theoretical (hour/week)	1
Practice (hour/week)	1
Laboratory (hour/week)	
Year of Study	4
Semester when the course unit is delivered	7
Course Coordinator	Aydın Yahyayev
Name of Lecturer (s)	Aydın Yahyayev
Name of Assistant (s)	-
Mode of Delivery	Face to face
Language of Instruction	Azerbaijanim, russian

Prerequisites		-
Recommended Optional Program Components		-
Course description: The main goal of teaching the subject is to teach students general rules about ensuring the sustainable development of forests, improving their species composition, increasing their productivity, and using their wood resources.		
Objectives of the Course: The subject teaches materials on the forest fund of the Republic of Azerbaijan, the division of forests into groups, the division of farms into quarters and sections, the development of farm plans, the conduct of taxation work in the allocated areas, the conduct of accounting work in forests, the development of plans and projects of tree plantations, the division of farm sections in forests, and the restoration and use of forests.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	The structure of the forest fund, the distribution of forest areas according to their purpose, and the study of the materials about the main tree species of the area by the students.	
2	Study of the characteristics of the creation of farm forms. Study of the characteristics of the placement of permanent and temporary practice areas in the study of forests.	
3	Studying the rules for developing plans and projects in the forest fund.	
4	It consists of forming general knowledge among students about the nature, essence, and tools and means used in the forests.	
5		
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	

8	ability to use modern information technologies and software, observing information security requirements in their professional activities		
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes		
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		Economic conditions of the republic's forest fund.	
2		Study of the experience of using the timber reserves of the republic's forests.	
3		Division of the forest fund into groups according to its purpose.	
4		Study of forms of economy and features of their creation.	
5		Features of placement and use of permanent practice areas.	
6		Study of the economic foundations of forest structure in the republic.	
7		Structure of forest structure works.	
8		Features of placement and use of temporary practice areas.	
9		Features of division of forests according to their purpose.	
10		Study of the features of dividing forests into quarters and sections.	
11		Methods of calculating the timber reserves of forests.	
12		Study of the main features and rules of use of division marks placed in forest quarters.	
13		Development of farm plans.	
14		Development of plans and projects of forest structure works.	
15		Study of the sequence and features of taxation work in accounting of trees.	
16		Study of the rules for determining plan and project indicators in accounting of forests.	
17		Drawing up plans and projects in forest accounting	
18		Study of the possibilities of carrying out the planned measures in the plans and projects of farms.	
19		Features of carrying out plan and project measures in forestry farms.	
20		Study of the features of conducting material valuation of stands based on plan and project indicators of farms.	
21		Drawing up a table of material valuation of stands in farms.	
22		Drawing up commodity tables of stands in farms.	
23		Carrying out material valuation of stands in pure beech forests.	
24		Drawing up a table of material valuation in mixed beech-oak stands.	
25		Development of a plan and project of Gusar forestry	
26		Determination of the size structure of stands according to plan and project indicators.	

27		Development of a plan and project of Guba forestry.	
28		Determination of the age structure of stands according to plan and project indicators.	
<p>Recommended Sources TEXTBOOK(S)</p> <ul style="list-style-type: none"> – Amirov F.A. Forests and forestry of the Republic of Azerbaijan. Baku. 1997, 188 p. – Yahyayev A.B. Basics of forestry. Baku. 2011, 375 p. – Yahyayev A.B. Supply of forest materials. Baku; 2012. 221 p. – Anuchin N.P. Forest taxation. M.; 1986. 572 p. – Bugaev V.A. Fundamentals of forest management. Voronezh; 1982. 232 p. – Logging. Practical guide. St. Petersburg, 2010, 266 p. – Forestry magazine. Arkhangelsk. Russian Federation. 2015-2020. 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

MODULE HANDBOOK

Meşəçilik, bachelor program, Department of “Ekologiya və ətraf mühit”.

Course Unit Title	Inventory of forest resources.	
Course Unit Code	ATMF-B12	
Type of Course Unit	Selected	
Level of Course Unit	4	
National Credits		
Number of ECTS Credits Allocated	5	
Theoretical (hour/week)	1	
Practice (hour/week)	1	
Laboratory (hour/week)		
Year of Study	4	
Semester when the course unit is delivered	7	
Course Coordinator	Aydin Yahyayev	
Name of Lecturer (s)	Aydin Yahyayev	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani, russian	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description:		
The main goal of teaching the subject is to teach students general rules about ensuring the sustainable development of forests, improving their species composition, increasing their productivity, and using their wood resources.		
Objectives of the Course:		
The subject teaches materials on the forest fund of the Republic of Azerbaijan, the division of forests into groups, the division of farms into quarters and sections, the development of farm plans, the conduct of taxation work in the allocated areas, the conduct of accounting work in forests, the development of plans and projects of tree plantations, the division of farm sections in forests, and the restoration and use of forests.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	Students' mastery of materials on the structure of the forest fund, the distribution of forest areas according to their purpose, and the main tree species;	
2	Studying the characteristics of the creation of farm forms.	
3	Studying the main parameters of the maturity and cutting age of forests.	
4	Development of plans and maps of forest structure works of farms.	
5	Studying the characteristics of the separation of farm parts in the forest fund.	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	

2	ability to understand the operating principles and functional capabilities of electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		Economic conditions of the republic's forest fund.	
2		Study of the experience of using the timber reserves of the republic's forests.	
3		Farming forms and features of their creation.	
4		Study of the main economic features of group I forests.	
5		Features of the creation of selective farming forms.	
6		Study of the maturity ages of stands in beech forests.	
7		Age of thinning of forests.	
8		Features of dividing forests into quarters and sections.	
9		Study of the main functional features of group II forests.	
10		Division signs placed in forests.	
11		Development of farm plans.	
12		Study of the features of the development of farm plans.	
13		Development of plans and projects of forest structure works.	
14		Taxation works in the inventory of the forest fund.	
15		Study of the rules for determining the taxation indicators of stands.	
16		Development of plans and projects of forest structure works.	
17		Taxation works in the inventory of the forest fund.	

18		Features of the separation of economic units in the forest fund.	
19		Study of the features of the creation of economic units in beech-oak forests.	
Recommended Sources TEXTBOOK(S) <ul style="list-style-type: none"> – Amirov F.A. Forests and forestry of the Republic of Azerbaijan. Baku. 1997, 188 p. – Yahyayev A.B. Basics of forestry. Baku. 2011, 375 p. – Yahyayev A.B. Supply of forest materials. Baku; 2012. 221 p. – Anuchin N.P. Forest taxation. M.; 1986. 572 p. – Bugaev V.A. Fundamentals of forest management. Voronezh; 1982. 232 p. – Logging. Practical guide. St. Petersburg, 2010, 266 p. – Forestry magazine. Arkhangelsk. RF. 2015-2020 – Novruzova Z.A. Structure and properties of wood of the main forest species of Azerbaijan. Baku. 1965, 208 p. 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

MODULE HANDBOOK

Forestry bachelor program, Department of “Ecology and Environment”.

Course Unit Title	Ground monitoring of forests	
Course Unit Code	ATMF-B12	
Type of Course Unit	Selected	
Level of Course Unit	4	
National Credits		
Number of ECTS Credits Allocated	5	
Theoretical (hour/week)	1	
Practice (hour/week)	1	
Laboratory (hour/week)		
Year of Study	4	
Semester when the course unit is delivered	7	
Course Coordinator	Shahbaz Shiraliyev	
Name of Lecturer (s)	Shahbaz Shiraliyev	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani, russian	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description:		
The aim of the lesson is to learn how to determine and assess the quantitative and qualitative characteristics of forests using field and remote sensing methods. Observations, description, identification, classification of forest and urban ecosystem objects at various hierarchical levels. The main objectives of the course:		
- study by students of modern research methods on the nature of the forest;		
- acquisition of skills for independent solution of applied problems		
Objectives of the Course:		
A course on the nature of the forest and methods of cultivation. The importance of international cooperation in protecting forests. Forests and soil. Forests and animal world. Study of forest regeneration. Successful solution of the problems of the forest industry in modern economic conditions largely depends on the level of training of forestry specialists. Study of the ecological benefits of forests. The importance of studying the sustainable development management system of forests.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	Principles of GIS application for solving forest problems.	
2	Solves monitoring tasks in forest areas using aerospace methods.	
3	Implements monitoring projects in GIS using GIS analysis and GIS modeling	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz		
Course's Contribution to Program		
		CL
1	ability to apply natural science and general engineering knowledge, methods of mathematical analysis and modeling in engineering activities related to the design, construction and production of devices, systems and complexes	
2	ability to understand the operating principles and functional capabilities of	

	electronic devices, especially semiconductor ones, and also be able to analyze circuits and calculation methods for microelectronic elements	
3	ability to work with computer models, drawings and graphic tools (for example, AUTOCAD), as well as understand the requirements of standards and principles of drawing	
4	ability to use the principles of automatic control, know digital computing technology, microprocessor technology, their application in instrument making and industrial control	
5	ability to understand device manufacturing technologies, develop assembly processes, and apply mechanization and automation of processes in the production of devices and installations	
6	ability to use various types of devices to monitor and control technological processes	
7	ability to plan, conduct experiments in project work and research, as well as perform and present targeted processing of the results obtained in order to obtain valid results	
8	ability to use modern information technologies and software, observing information security requirements in their professional activities	
9	ability to carry out professional activities taking into account economic, environmental, social, intellectual, legal and other restrictions at all stages of the life cycle of technical objects and processes	
10	ability to use foreign language skills to obtain the necessary scientific and technical information. Ability to use a foreign language to prepare presentations and in oral speech	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		The purpose, object and methods of the Forest Monitoring course.	
2		Global forest resources and ecological problems.	
3		The main importance and stages of monitoring.	
4		Types of forest monitoring.	
5		Forest morphology, forest biocenosis.	
6		Forest fauna and its impact on the forest ecosystem.	
7		Selection of areas for monitoring, forest ecosystem monitoring program.	
8		Characteristics of artificial satellites.	
9		History of development, purpose and objectives of Geographic Information Systems.	
10		Main components and application areas of Geographic Information Systems.	
11		GPS, NAVSTAR, Almanac and ephemeris data and geographic system coordinates in GIS.	
12		Aerospace monitoring of forests.	
13		Analysis of methods for recognizing vegetation types.	
14		Ground-based pathological monitoring of forests.	
15		Aerospace survey method, survey methods and principles of decoding.	

Recommended Sources			
TEXTBOOK(S)			
<ul style="list-style-type: none"> - Amirov F.A. Forests and forestry of the Republic of Azerbaijan. Baku. 1997, 188 p. - Yahyayev A.B. Basics of forestry. Baku. 2011, 375 p. - Yahyayev A.B. Supply of forest materials. Baku; 2012. 221 p. - Anuchin N.P. Forest taxation. M.; 1986. 572 p. - Bugaev V.A. Fundamentals of forest management. Voronezh; 1982. 232 p. - Logging. Practical guide. St. Petersburg, 2010, 266 p. - Forestry magazine. Arkhangelsk. Russian Federation. 2015-2020 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			
Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			240
Total Workload/30(h)			240/30
ECTS Credit of the Course			5

Forestry bachelor program, “Department of Ecology and Environment”

Course Unit Title	Planning and Design of Scientific Research	
Course Unit Code	ATMF -B13	
Type of Course Unit	Selection	
Level of Course Unit	4 nd year	
National Credits		
Number of ECTS Credits Allocated	3	
Theoretical (hour/week)	1	
Practice (hour/week)	1	
Laboratory (hour/week)		
Year of Study	4	
Semester when the course unit is delivered	7	
Course Coordinator	Mammadov A.	
Name of Lecturer (s)	Mammadov A.	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani, English	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description:		
This course teaches students the main stages of scientific research—from identifying a problem to selecting methods, analyzing data, and presenting results scientifically—in a systematic way. The course develops both theoretical knowledge and practical skills.		
Objectives of the Course:		
The aim of the course is to provide students with fundamental and applied knowledge in planning, designing, conducting, and analyzing the results of the scientific research process, and to develop their ability to carry out scientific investigations.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1.	Can explain the fundamentals of scientific methodology.	1, 2
2.	Can formulate a research problem and hypothesis.	1, 2
3.	Has the ability to conduct a literature review and evaluate sources.	1, 2

4.	Can choose and justify different research designs.	1, 2
5.	Can develop a sampling strategy, data collection plan, and analysis plan.	1, 2
6.	Can design research in accordance with ethical principles.	1, 2
7.	Visualizes and interprets data and writes a scientific report.	1,2
8.	Explains the key principles of research reliability and reproducibility.	1,2

Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz

Course's Contribution to Program

		CL
1.	To teach students the essence of the scientific method and the main elements of research.	
2.	Skills in effective literature search and source evaluation.	
3.	Ability to recognize design types and choose an appropriate design.	
4.	Learning to plan sample size and sampling methods.	
5.	Teaching data collection methods and the reliability of instruments.	
6.	Applying ethical principles and legal requirements.	
7.	Introduction to basic statistical analyses and interpretation of results.	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		Introduction to Scientific Research Methodology	
2		Literature Review and Working with Scientific Sources	
3		Research Design and Experiment Planning	
4		Sample Selection and Statistical Planning	
5		Data Collection Methods	
6		Ethical and Legal Requirements in Scientific Research	
7		Analysis and Interpretation of Research Data	
8		Preparation of Scientific Reports and Publications	
9		Structure and Planning of a Research Project	
10		Qualitative and Quantitative Research Methods	

Recommended Sources TEXTBOOK(S)		
1. Creswell, J. W. <i>Research Design</i> .		
2. Kothari, C. R. <i>Research Methodology</i> .		
3. Sekaran, U., Bougie R. <i>Research Methods for Business</i> .		
4. Higgins & Green. <i>Cochrane Handbook for Systematic Reviews</i> .		
5. Field, A. <i>Discovering Statistics Using SPSS/R</i> .		
Assessment		
Attendance	10%	At least 75% class attendance is compulsory
Presentation	10%	
Quiz	0%	
Seminars	30%	
Midterm Exam	0%	
Final Exam	50%	
Total	100%	
Assessment Criteria		
Final grades are determined according to the Academic Regulations of WCU		
Course Policies		
Attendance of the course is mandatory.		
Late assignments will not be accepted unless an agreement is reached with the lecturer.		
Students cannot use calculators during the exam.		
Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations		
ECTS allocated based on Student Workload		

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			90
Total Workload/30(h)			90\30
ECTS Credit of the Course			3

Forestry bachelor program, “Department of Ecology and Environment”

Course Unit Title	Research Methods and Ethics	
Course Unit Code	ATMF-B13	
Type of Course Unit	Selection	
Level of Course Unit	4 nd year	
National Credits		
Number of ECTS Credits Allocated	3	
Theoretical (hour/week)	1	
Practice (hour/week)	1	
Laboratory (hour/week)		
Year of Study	4	
Semester when the course unit is delivered	7	
Course Coordinator	Mammadov A.	
Name of Lecturer (s)	Mammadov A.	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani, English	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description: This subject teaches students the main methods of scientific research, the quantitative and qualitative approaches used in the research process, data collection strategies, data analysis, and the principles of research ethics. It also covers topics such as ethics committee requirements, research involving human and animal subjects, data confidentiality, and responsible scientific conduct.		
Objectives of the Course: To teach students the skills of planning scientific research, choosing appropriate methods, considering ethical issues, and adhering to standards of scientific conduct; and to ensure that research is carried out correctly, safely, and reliably.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1	Explains the fundamental principles of research methods and selects appropriate methods.	1, 2

2	Formulates the research problem, objective, and hypothesis.	1, 2	
3	Identifies and applies the differences between qualitative and quantitative research.	1, 2	
4	Understands human subjects, animal ethics, and bioethical standards.	1, 2	
5	Explains the procedures for applying to ethics committees.	1, 2	
6	Applies ethical principles in data collection and processing.	1, 2	
7	Acts in accordance with “Responsible Conduct of Research (RCR)” guidelines.	1,2	
8	Prevents plagiarism, data fabrication, and other ethical violations.	1,2	
Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz			
Course’s Contribution to Program			
		CL	
1.	Scientific method, research stages, types of research.		
2.	Problem formulation, research question, structure of a hypothesis.		
3.	Interviews, focus groups, observation, thematic analysis.		
4.	Experiments, surveys, introduction to statistical analysis.		
5.	Sequential and concurrent designs; triangulation.		
6.	Experimental, cross-sectional, cohort, and case-study designs.		
7.	Survey design, measurement instruments, validity and reliability.		
8.	History of ethics, bioethics, scientific integrity.		
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)			
Course Contents			
Week	Chapter	Topics	Exam
1		Introduction to Research Methods and the Scientific Approach	
2		Problem Definition, Objectives, and Hypothesis	
3		Qualitative Research Methods	
4		Quantitative Research Methods	
5		Mixed Methods	

6		Research Design and Method Selection	
7		Data Collection and Instrument Reliability	
8		Introduction to Ethics and Principles of Scientific Conduct	
9		Application Process for Research Ethics Committees	
10		Ethical Dissemination of Research Findings	
<p>Recommended Sources TEXTBOOK(S)</p> <ol style="list-style-type: none"> 1. Creswell, J. W. — <i>Research Design</i>. 2. Kothari, C. R. — <i>Research Methodology: Methods and Techniques</i>. 3. Shamoo E., Resnik D. — <i>Responsible Conduct of Research</i>. 4. ICMJE Recommendations (International Committee of Medical Journal Editors). 5. COPE — Committee on Publication Ethics Guidelines. 6. Macrina, F. — <i>Scientific Integrity: Text and Cases in Responsible Conduct of Research</i>. 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			
Course Policies			
<ul style="list-style-type: none"> • Attendance of the course is mandatory. • Late assignments will not be accepted unless an agreement is reached with the lecturer. • Students cannot use calculators during the exam. • Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Western Caspian University General Student Discipline Regulations 			
ECTS allocated based on Student Workload			

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			90
Total Workload/30(h)			90\30
ECTS Credit of the Course			3

Forestry bachelor program, “Department of Ecology and Environment”

Course Unit Title	Scientific Writing and Publication Processes	
Course Unit Code	ATMF-B13	
Type of Course Unit	Selection	
Level of Course Unit	4 nd year	
National Credits		
Number of ECTS Credits Allocated	3	
Theoretical (hour/week)	1	
Practice (hour/week)	1	
Laboratory (hour/week)		
Year of Study	4	
Semester when the course unit is delivered	7	
Course Coordinator	Mammadov A.	
Name of Lecturer (s)	Mammadov A.	
Name of Assistant (s)	-	
Mode of Delivery	Face to face	
Language of Instruction	Azerbaijani, English	
Prerequisites	-	
Recommended Optional Program Components	-	
Course description: This course provides students with theoretical and practical knowledge on scientific writing style, the structure of scientific articles, working with literature, journal selection, digital tools, and the stages of the publication process. The course develops both writing skills and the effective presentation of scientific findings.		
Objectives of the Course: To teach students the skills to prepare scientific articles and reports, create scientific tables and graphs, justify results, submit articles to high-impact journals, and participate in the competitive peer-review process.		
Learning Outcomes		
At the end of the course the student will be able to		Assessment
1.	Can explain the fundamental principles of scientific writing style.	1, 2
2.	Can apply the structure of a scientific article (IMRAD).	1, 2

3.	Has the ability to write clearly, logically, and accurately in academic language.	1, 2
4.	Prepares graphs, tables, and visual materials in accordance with scientific standards.	1, 2
5.	Can work with journal selection, publication guidelines, and ethical norms.	1, 2
6.	Understands the peer-review process and can write a response letter.	1, 2
7.	Can prepare grant proposals, posters, and scientific presentations.	1,2

Assessment Methods: 1. Final Exam, 2. Presentation 3. Midterm 4. Quiz

Course's Contribution to Program

		CL
1.	Characteristics of academic language: objectivity, accuracy, logical coherence, and style of expression.	
2.	Introduction, Methods, Results, Discussion structure; standard sections of an article.	
3.	Problem statement, literature gap, objectives, and hypothesis.	
4.	Description of research design, sample selection, tools used, and protocols.	
5.	Graphs, tables, descriptive statistics, and principles of visual design.	
6.	Interpretation of results, limitations, and directions for future research.	
7.	Structured and unstructured abstracts; effective selection of keywords.	
8.	APA, MLA, Vancouver, Harvard styles; reference management software (Zotero, Mendeley).	
9.	Generic and specialized journals, indexing (Scopus, WoS), Impact Factor, Q1–Q4.	

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		Introduction to Scientific Writing and Academic Style	

2		Overall Structure of a Scientific Article (IMRAD)	
3		Writing the Introduction Section and Formulating the Problem	
4		Writing the Methods Section	
5		Writing the Results and Preparing Graphs	
6		Discussion Section and Scientific Interpretation	
7		Grant Proposals and Project Applications	
8		References and Citation Systems	
9		Journal Selection and Publication Strategies	
10		Open Science, Preprints, and Scientific Communication	
<p>Recommended Sources TEXTBOOK(S)</p> <ol style="list-style-type: none"> 1. Day, R. A., Gastel, B. <i>How to Write and Publish a Scientific Paper</i>. 2. Glasman-Deal, H. <i>Science Research Writing</i>. 3. Cargill, M., O'Connor, P. <i>Writing Scientific Research Articles</i>. 4. Wallwork, A. <i>English for Writing Research Papers</i>. 5. COPE Guidelines for Publication Ethics. 			
Assessment			
Attendance	10%	At least 75% class attendance is compulsory	
Presentation	10%		
Quiz	0%		
Seminars	30%		
Midterm Exam	0%		
Final Exam	50%		
Total	100%		
Assessment Criteria			
Final grades are determined according to the Academic Regulations of WCU			

Course Policies

- Attendance of the course is mandatory.
- Late assignments will not be accepted unless an agreement is reached with the lecturer.
- Students cannot use calculators during the exam.
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ECTS allocated based on Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class			
Presentation			
Self-study			
Tutorials			
Midterm Examination			
Preparation for midterm exam			
Final Examination			
Preparation for final exam			
Total Workload			90
Total Workload/30(h)			90\30
ECTS Credit of the Course			3