

University of Mosul

جامعة الموصل



First Cycle – Bachelor's degree (B.Sc.) – Field crops

بكالوريوس علوم زراعة - محاصيل حقلية



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1. Overview

This catalogue is about the courses (modules) given by the program of Field crop to gain the Bachelor of Agriculture degree. The program delivers (56) Modules with (6000) total student workload hours and 240 total ECTS. The module delivery is based on the Bologna Process.

نظرة عامة

يتناول هذا الدليل المواد الدراسية التي يقدمها برنامج المحاصيل الحقلية للحصول على درجة بكالوريوس الزراعة. يقدم البرنامج (56) مادة دراسية، على سبيل المثال، مع (٦٠٠٠) إجمالي ساعات حمل الطالب و ٢٤٠ إجمالي وحدات أوروبية. يعتمد تقديم المواد الدراسية على عملية بولونيا.

2. Undergraduate Courses 2024-2025

Module 1

Code	Course/Module Title	ECTS	Semester
UOM1031	COMPUTER 1	3	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
0	3	47	28
Description			
The "Computer Skills" module is designed to equip students with essential computing knowledge and practical skills needed for academic and professional success. It covers key areas such as basic computer operations, word processing, spreadsheet management, and presentation software. Students will also gain familiarity with internet navigation, email usage, and data management tools. The module introduces fundamental concepts in computer security, cloud computing, and the use of collaborative tools for teamwork. By the end of the course, students will be able to effectively use software applications to organize, analyze, and present information, while also understanding the ethical and secure use of technology in a modern digital environment			

Module 2

Code	Course/Module Title	ECTS	Semester
UOM1040	DEMOCRACY and HUMAN RIGHTS	2	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0	32	18
Description			
The "Democracy and Human Rights" module explores the fundamental principles and concepts underlying democratic governance and the protection of human rights. Students will study the evolution of democracy, different democratic systems, and the roles of institutions in promoting participation, transparency, and accountability. The course also addresses key human rights issues, including civil, political, social, and economic rights, as well as international frameworks that protect these rights. Through case studies and discussions, students will analyze the challenges facing democracy and human rights in different regions and contexts. By the end of the module, students will have a deeper understanding of the interconnection between democratic values and human rights, and the importance of safeguarding these principles in modern society			

Module 3

Code	Course/Module Title	ECTS	Semester
UOM1021	ENGLISH LANGUAGE 1	2	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0	32	18
Description			
The "English Language" module is designed to enhance students' proficiency in English, focusing on the four essential language skills: listening, speaking, reading, and writing. It provides a comprehensive approach to language learning, covering grammar, vocabulary, pronunciation, and sentence structure. Through interactive activities, such as discussions, presentations, and written assignments, students will improve their ability to communicate effectively in academic, professional, and social contexts. The module also emphasizes comprehension and analysis of texts, both written and spoken, to develop critical thinking skills. By the end of the course, students will have gained confidence in using English in various settings and will be better prepared for further academic studies and global communication.			

Module 4

Code	Course/Module Title	ECTS	Semester
MAT1010	MATHEMATICS	7	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)

2	2	63	112
Description			
The "Mathematics" module provides students with a strong foundation in essential mathematical concepts and problem-solving techniques. Covering topics such as algebra, geometry, calculus, and statistics, the course emphasizes both theoretical understanding and practical application. Students will develop critical thinking and analytical skills, enabling them to tackle complex mathematical problems in various fields. Through exercises and real-world examples, the module aims to enhance logical reasoning and quantitative skills, preparing students for further studies and professional applications in science, engineering, economics, and more.			

Module 5

Code	Course/Module Title	ECTS	Semester
ACE1020	AGRICULTURE CAREER ETHICS	5	1
Class (hr/w)	Lect/Lab./Prac./Tutor/semn	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62
Description			
The "Agricultural Professional Ethics" module introduces students to the ethical principles and responsibilities relevant to agricultural professionals. The course covers topics such as sustainability, environmental stewardship, tree welfare, and fair labor practices. Students will explore the ethical challenges faced in modern agriculture, including the impact of agricultural practices on ecosystems and society. Through case studies and discussions, the module encourages critical thinking about moral issues and promotes a commitment to ethical decision-making in agricultural practices. By the end of the course, students will understand the importance of ethics in fostering sustainable and responsible agricultural development.			

Module 6

Code	Course/Module Title	ECTS	Semester
END1030	ENGINEERING DRAWING	6	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
1	3	63	87
Description			
The "Engineering Drawing" module equips students with the fundamental skills of technical drawing, essential for all engineering disciplines. It covers basic principles of orthographic projection, isometric views, and sectional drawings. Students will learn how to interpret and create accurate engineering drawings, focusing on line work, dimensions, scaling, and geometric tolerances. The module also introduces the use of computer-aided design (CAD) software, enabling students to produce precise technical diagrams. By the end of the course, students will be proficient in visualizing and communicating design concepts, preparing them for advanced engineering tasks.			

Module 7

Code	Course/Module Title	ECTS	Semester
AET1040	AGRICULTURAL ENGINEERING TECHNIQUES TRANSFER	5	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62
Description			
The "Agricultural Engineering Techniques Transfer" module focuses on the application and dissemination of modern engineering solutions in agriculture. It covers the principles of technology transfer, including the adoption of advanced machinery, irrigation systems, and precision farming tools. Students will learn how to assess and implement engineering techniques that enhance agricultural productivity and sustainability. The module emphasizes communication skills for effectively transferring knowledge to farmers and agricultural stakeholders. By the end of the course, students will be prepared to bridge the gap between agricultural research and practical field applications, promoting innovation in the agricultural sector.			

Module 8

Code	Course/Module Title	ECTS	Semester
UOM1011	LANGUAGE ARABIC	2	2
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0	32	18
Description			
The "Arabic Language" module is designed to develop students' proficiency in reading, writing, speaking, and listening in Arabic. It covers essential grammar, vocabulary, and sentence structure while emphasizing both classical and modern Arabic. Through various texts, writing exercises, and oral activities, students will enhance their communication skills and cultural understanding. The course also focuses on improving comprehension of complex texts and refining formal and informal writing styles. By the end of the module, students will have strengthened their ability to use Arabic effectively in academic, professional, and social contexts.			

Module 9

Code	Course/Module Title	ECTS	Semester
BSS1050	BIOSAFETY and SECURITY	3	2
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
1	2	47	28
Description			

The "Biosafety and Security" module provides students with an understanding of the principles and practices necessary to ensure safety in biological research and biotechnology. It covers topics such as risk assessment, containment strategies, and the safe handling of biological materials. Students will explore the ethical and legal frameworks governing biosafety, as well as the potential threats of biological hazards and biosecurity risks. The module emphasizes the importance of implementing proper protocols to protect both public health and the environment. By the end of the course, students will be equipped with the knowledge to manage biosafety in laboratory and field settings.

Module 10

Code	Course/Module Title	ECTS	Semester
AGS1060	AGRICULTURAL STATISTICS	5	2
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	3	78	47
Description			
The "Agricultural Statistics" module introduces students to the statistical methods and tools used in agricultural research and data analysis. Topics covered include data collection, probability, hypothesis testing, regression analysis, and experimental design. Students will learn how to apply statistical techniques to solve real-world agricultural problems, such as crop yield analysis, soil quality assessment, and livestock management. The course emphasizes the interpretation of statistical results to inform decision-making in agricultural practices. By the end of the module, students will be able to analyze and interpret agricultural data, supporting evidence-based approaches in farming and research.			

Module 11

Code	Course/Module Title	ECTS	Semester
BIO1070	BIODIVERSITY	5	2
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62
Description			
The "Biodiversity" module explores the variety of life forms on Earth and their ecological significance. Students will study the different levels of biodiversity, including genetic, species, and ecosystem diversity, and their roles in maintaining ecosystem health and resilience. The course covers key concepts such as habitat conservation, the impacts of human activities on biodiversity, and strategies for sustainable management. Through case studies and fieldwork, students will learn about the importance of preserving biodiversity for food security, environmental stability, and human well-being. By the end of the module, students will appreciate the complex interrelationships among species and the need for conservation efforts.			

Module 12

Code	Course/Module Title	ECTS	Semester
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AGI1080	AGRICULTURAL INFORMATICS	5	2
Class (hr/w)	Lect/Lab./Prac./Tutor/semn	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62
Description			
The "Agricultural Informatics" module focuses on the integration of information technology and data management in the agricultural sector. Students will learn about the tools and techniques used to collect, analyze, and interpret agricultural data, including Geographic Information Systems (GIS), remote sensing, and data analytics. The course emphasizes the role of informatics in improving decision-making, enhancing productivity, and promoting sustainable agricultural practices. Through practical exercises and case studies, students will develop skills in managing agricultural information systems and utilizing technology for precision farming and resource management. By the end of the module, students will be equipped to leverage informatics in addressing contemporary agricultural challenges.			

Module 13

Code	Course/Module Title	ECTS	Semester
SUD1090	SUSTAINABLE DEVELOPMENT	5	2
Class (hr/w)	Lect/Lab./Prac./Tutor/semn	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62
Description			
The "Sustainable Development" module explores the principles and practices essential for achieving a balance between environmental, social, and economic sustainability. Students will study key concepts such as the United Nations Sustainable Development Goals (SDGs), resource management, and community engagement. The course examines the interconnections between human activities and environmental health, focusing on strategies to address challenges such as climate change, biodiversity loss, and poverty. Through case studies and project-based learning, students will develop critical thinking and problem-solving skills to promote sustainable practices in various sectors. By the end of the module, students will be prepared to contribute to sustainable development initiatives locally and globally.			

Module 14

Code	Course/Module Title	ECTS	Semester
AMT1100	AGRICULTURAL MARKETING TECHNIQUES	5	2
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0	32	93
Description			

The "Agricultural Marketing Techniques" module provides students with a comprehensive understanding of marketing principles specific to the agricultural sector. It covers key topics such as market analysis, consumer behavior, pricing strategies, and distribution channels for agricultural products. Students will learn effective techniques for promoting and selling crops, livestock, and other agricultural goods in domestic and international markets. The course emphasizes the importance of branding, quality assurance, and sustainable practices in marketing. Through case studies and practical exercises, students will develop skills to create effective marketing plans and strategies that enhance competitiveness and profitability in the agricultural industry.

Module 15

Code	Course/Module Title	ECTS	Semester
UOM2012	ARABIC LANGUAGE 2	2	3
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0	32	18
Description			
The "Arabic Language" module is designed to develop students' proficiency in reading, writing, speaking, and listening in Arabic. It covers essential grammar, vocabulary, and sentence structure while emphasizing both classical and modern Arabic. Through various texts, writing exercises, and oral activities, students will enhance their communication skills and cultural understanding. The course also focuses on improving comprehension of complex texts and refining formal and informal writing styles. By the end of the module, students will have strengthened their ability to use Arabic effectively in academic, professional, and social contexts.			

Module 16

Code	Course/Module Title	ECTS	Semester
UOM2050	CRIMES of the BATH REGIME in IRAQ	2	3
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0	32	18
Description			
The "Crimes of the Ba'ath Regime in Iraq" module examines the human rights abuses and atrocities committed during the rule of the Ba'ath Party. Students will explore key events such as the Anfal Campaign, chemical attacks, mass executions, and the suppression of political dissent. The module also delves into the legal, social, and historical context of the regime's actions, analyzing the impact on various ethnic and religious groups. By studying testimonies, legal documents, and historical accounts, students will gain a deeper understanding of the regime's legacy and its consequences for Iraq and the wider region.			

Module 17

Code	Course/Module Title	ECTS	Semester
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IPM2110	INTEGRATED PEST MANAGEMENT	5	3
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62
Description			
The "Integrated Pest Management" (IPM) module focuses on sustainable and environmentally friendly approaches to managing agricultural pests. Students will learn about the principles of IPM, which combines biological, cultural, mechanical, and chemical methods to control pests while minimizing harm to ecosystems. The course covers pest identification, monitoring techniques, and decision-making processes to implement effective pest control strategies. Emphasis is placed on reducing pesticide use and promoting natural predators. By the end of the module, students will be equipped with the knowledge and skills to design and apply integrated pest management plans that enhance crop production and protect the environment			

Module 18

Code	Course/Module Title	ECTS	Semester
SWS2190	SOIL and WATER SUITABILITY	5	6
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	87
Description			
The "Design and Soil and Water Suitability" module focuses on evaluating soil and water resources for optimal agricultural use. Students will learn techniques for assessing soil properties, water availability, and quality to determine their suitability for different crops and farming systems. The course covers topics such as soil classification, irrigation design, drainage systems, and sustainable water management practices. Students will also explore the environmental impact of agricultural activities on soil and water resources. By the end of the module, students will be able to design effective land-use strategies that maximize productivity while preserving soil and water health			

Module 19

Code	Course/Module Title	ECTS	Semester
DAE2160	DESIGN AND ANALYSIS of EXPERIMENTS	5	4
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62
Description			
The "Design and Analysis of Experiments" module introduces students to the principles and			

methodologies used in planning, conducting, and analyzing scientific experiments. The course covers key topics such as experimental design, randomization, replication, and the analysis of variance (ANOVA). Students will learn how to create experiments that yield valid, reliable results and how to analyze data using statistical methods to draw meaningful conclusions. Emphasis is placed on practical applications in agricultural and biological research. By the end of the module, students will be able to design robust experiments and interpret experimental data for research and decision-making.

Module 20

Code	Course/Module Title	ECTS	Semester
APT2140	AGRICULTURAL PRODUCTION TECHNOLOGIES	5	3
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62
Description			
The "Agricultural Production Technologies" module introduces students to the latest innovations and technologies used to enhance agricultural productivity and sustainability. Topics include precision farming, advanced irrigation systems, greenhouse technologies, and the use of biotechnology in crop and livestock production. Students will explore how these technologies optimize resource use, improve yields, and reduce environmental impacts. The course also covers the integration of digital tools like drones, sensors, and data analytics to monitor and manage agricultural processes. By the end of the module, students will be equipped with practical knowledge of cutting-edge technologies to improve efficiency in agricultural production.			

Module 21

Code	Course/Module Title	ECTS	Semester
FTP2150	FOOD TECHNOLOGIES and HEALTH AGRICULTURAL PRODUCTS	5	3
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62
Description			
The "Food Technologies and Health Agricultural Products" module focuses on the processing, preservation, and safety of agricultural products to ensure high nutritional value and quality. Students will learn about modern food technologies used in the production of healthy and safe food, including techniques like pasteurization, canning, drying, and packaging. The course also covers the impact of these technologies on the nutritional content of food, as well as regulations and standards for food safety. By the end of the module, students will understand how to apply advanced food technologies to produce health-focused agricultural products that meet consumer demands.			

Module 22

Code	Course/Module Title	ECTS	Semester
UOM2022	ENGLISH LANGUAGE2	2	4
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0	32	18
Description			
The "English Language" module is designed to enhance students' proficiency in English, focusing on the four essential language skills: listening, speaking, reading, and writing. It provides a comprehensive approach to language learning, covering grammar, vocabulary, pronunciation, and sentence structure. Through interactive activities, such as discussions, presentations, and written assignments, students will improve their ability to communicate effectively in academic, professional, and social contexts. The module also emphasizes comprehension and analysis of texts, both written and spoken, to develop critical thinking skills. By the end of the course, students will have gained confidence in using English in various settings and will be better prepared for further academic studies and global communication.			

Module 23

Code	Course/Module Title	ECTS	Semester
UOM2032	COMPUTER SKILLS2	3	4
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
0	3	47	28
Description			
The "Computer Skills" module is designed to equip students with essential computing knowledge and practical skills needed for academic and professional success. It covers key areas such as basic computer operations, word processing, spreadsheet management, and presentation software. Students will also gain familiarity with internet navigation, email usage, and data management tools. The module introduces fundamental concepts in computer security, cloud computing, and the use of collaborative tools for teamwork. By the end of the course, students will be able to effectively use software applications to organize, analyze, and present information, while also understanding the ethical and secure use of technology in a modern digital environment.			

Module 24

Code	Course/Module Title	ECTS	Semester
APT2130	AGRICULTURAL PRODUCTION MECHANIZATION TECHNIQUES	5	3
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62

Description
The "Agricultural Production Mechanization Techniques" module focuses on the use of machinery and technology to enhance the efficiency and productivity of agricultural operations. Students will study various mechanization techniques, including the use of tractors, harvesters, irrigation systems, and planting equipment. The course covers the principles of machine operation, maintenance, and safety, along with the economic and environmental impacts of mechanization. Emphasis is placed on selecting appropriate machinery for different farming tasks to optimize production. By the end of the module, students will be able to apply modern mechanization techniques to improve agricultural processes and sustainability.

Module 25

Code	Course/Module Title	ECTS	Semester
AGE2660	AGRICULTURAL ENVIORNMENT	3	6
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	12
Description			
This module introduces students to the environmental factors affecting agricultural production, including soil, climate, and water. It discusses the impact of agricultural activities on the environment and adaptation strategies for climate change. Emphasis is placed on environmental principles that support the sustainable use of natural resources. By the end, students will understand the importance of sound environmental management for sustainable agricultural development.			

Module 26

Code	Course/Module Title	ECTS	Semester
PEI2180	BENEFICIAL INSECTS	5	4
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62
Description			
The course includes theoretical lectures and practical experiments, which helps students understand the importance of these organisms in daily life and the environment and focuses on studying insects that play a positive role in the environment. The course covers a range of topics, such as. Insect classification: defining different species and how to classify them. The role of insects in ecological balance: studying how insects affect the environment, such as pollinating plants and decomposing organic matter. Insects as pest control agents: reviewing how insects are used to naturally control agricultural pests. Insect farming: techniques for raising.			

Module 27

Code	Course/Module Title	ECTS	Semester
AEM2120	AGRICULTURAL ENGINEERING PROJECT MANAGEMENT	6	3
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	3	78	72
Description			
The "Agricultural Engineering Project Management" module provides students with the skills and knowledge necessary to plan, execute, and manage engineering projects in the agricultural sector. Topics covered include project planning, resource allocation, budgeting, risk management, and the use of modern project management tools. The course emphasizes effective communication, leadership, and decision-making skills to ensure successful project outcomes. Students will learn how to manage various agricultural projects, such as irrigation systems, farm infrastructure, and machinery installation. By the end of the module, students will be capable of overseeing complex agricultural engineering projects from conception to completion.			

Module 28

Code	Course/Module Title	ECTS	Semester
BIA2210	BIOCHEMICAL ANALYSIS	6	4
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	87
Description			
The "Design and Biochemical Analysis" module introduces students to the principles and techniques used in the biochemical analysis of agricultural products and processes. The course covers experimental design, sample preparation, and the application of various analytical methods, including chromatography, spectroscopy, and enzymatic assays. Students will learn to assess the composition and quality of food, soil, and plant materials through biochemical analysis. Emphasis is placed on interpreting results and understanding their implications for agricultural practices and food safety. By the end of the module, students will be equipped to design and conduct experiments that enhance biochemical understanding in agricultural contexts.			

Module 29

Code	Course/Module Title	ECTS	Semester
PLG3230	PLANT GENETICS	2	5
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
1	1	48	27
Description			

The "Genetic Engineering" module introduces students to the principles and tools of genetic modification, with a focus on agricultural applications. Students learn about techniques such as CRISPR and gene transfer methods used to enhance crop traits like disease resistance, drought tolerance, and yield. The course also covers bioethical concerns and biosafety aspects. By the end, students will understand and critically evaluate the role of genetic engineering in field crop improvement.

Module 30

Code	Course/Module Title	ECTS	Semester
FPS3240	FUNDAMENTALS of PLANE SURVEYING	3	5
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	12
Description			
The "Fundamentals of Plane Surveying" module provides students with an understanding of the basic principles and techniques used in land surveying. The course covers essential topics such as measuring distances, angles, and elevations, as well as the use of surveying instruments like theodolites, total stations, and levels. Students will learn about mapping, plotting land boundaries, and the importance of accuracy and precision in surveying work. Practical applications of surveying in agriculture, construction, and environmental management are emphasized. By the end of the module, students will be equipped with foundational skills necessary for effective surveying practices in various fields.			

Module 31

Code	Course/Module Title	ECTS	Semester
PLP3330	PLANT PHYSIOLOGY	6	5
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	87
Description			
This module provides a comprehensive understanding of fundamental physiological processes in plants such as photosynthesis, respiration, water and nutrient uptake, and translocation. It also explores how environmental factors influence plant function. The course links physiological concepts with agricultural applications to support improved crop productivity.			

Module 32

Code	Course/Module Title	ECTS	Semester
PGR3340	PLANT GROWTH REGULATORS	4	5
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)

2	2	63	37
Description			
This course focuses on natural and synthetic plant growth regulators (PGRs) and their roles in controlling plant physiological processes. It emphasizes the mechanisms of action and practical applications of PGRs in enhancing germination, growth, flowering, and maturation. Environmental and agricultural implications are also discussed. Students will gain theoretical and hands-on knowledge of using PGRs in modern agriculture			

Module 33

Code	Course/Module Title	ECTS	Semester
FCT3620	FIBER CROPS TECHINQUE	4	5
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	37
Description			
Fiber crops include most important fiber crops grown globally, including seed, bark, and leaf crops for purpose of obtaining their fibers, which are used in many industries such as textiles, ropes and other products, in addition to identifying their natural properties such as length, durability, softness, flexibility and others. The most important of these crops are: cotton, flax, jute, sesame and ramie, focusing on obstacles to the cultivation and production of these crops in Iraq and ways to overcome these obstacles, and studying the economic importance of these crops, their original habitat, soil and crop service processes, and how to harvest and prepare them for primary and secondary manufacturing processes.			

Module 34

Code	Course/Module Title	ECTS	Semester
FCP3230	FIELD CROPS SEED PRODUCTION	5	5
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62
Description			
This module focuses on the principles and techniques of producing high-quality seeds of field crops. Topics include genetic foundations, seed field requirements, harvesting, cleaning, treating, and storing seeds. It also addresses seed certification standards and regulations at national and international levels. By the end, students will be prepared to participate effectively in seed production and improvement programs.			

Module 35

Code	Course/Module Title	ECTS	Semester
IOC3640	OIL CROPS INDUSTRIAL	5	5
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62
Description			
This module offers a comprehensive overview of the cultivation and production of oil and industrial crops such as sesame, sunflower, safflower, soybean, groundnut, rapeseed, flax, castor and cotton. Topics include economic importance, growth characteristics, environmental requirements, harvesting and processing techniques. The course also highlights the uses of plant oils in food, pharmaceutical, and cosmetic industries. By the end, students will be able to assess the agricultural and economic viability of these crops in various farming systems.			

Module 36

Code	Course/Module Title	ECTS	Semester
ENC3650	ENRGY CROPS	4	6
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
1	2	48	52
Description			
This module explores energy crops such as sorghum, jatropha, and oilseed plants used for biofuel production. It covers environmental and economic aspects of growing these crops and their integration into sustainable farming systems. The course also addresses industrial uses and technologies for energy conversion. By the end, students will be able to assess the potential of energy crops in enhancing energy security and sustainable agriculture.			

Module 37

Code	Course/Module Title	ECTS	Semester
DPF3170	DESIGN and PLANNING of AGRICULTURAL FACILITIES	5	4
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62
Description			
The "Design and Planning of Agricultural Facilities" module focuses on the principles of designing and developing efficient and sustainable infrastructure for agricultural operations. Students will learn how to plan and design key facilities such as storage buildings, greenhouses, irrigation systems, livestock housing, and processing units. The course emphasizes factors like cost-efficiency, environmental			

impact, and functionality in agricultural production. Topics also include site selection, layout optimization, and the use of modern materials and technologies. By the end of the module, students will be equipped to plan and design agricultural facilities that enhance productivity and sustainability.

Module 38

Code	Course/Module Title	ECTS	Semester
CLC3670	CERIALS and LEGUMES CROPS	5	6
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62
Description			
This module covers the scientific and practical foundations for the production of cereal and legume crops. Students study crop types, biological characteristics, growth requirements, planting dates, common pests and diseases, and agronomic practices to enhance productivity. Focus is given to major crops grown in Iraq and globally, such as wheat, barley, lentils, and faba beans, with applied case studies.			

Module 39

Code	Course/Module Title	ECTS	Semester
SCC3680	SEED CONTROL CERTIFICATION	5	6
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62
Description			
This module introduces students to the theoretical and practical aspects of seed testing and certification in line with national and international standards. Topics include seed specifications, laboratory testing, regulatory frameworks, quality control systems, and certification authorities. By the end of the course, students will be able to assess seed quality and ensure its suitability for planting.			

Module 40

Code	Course/Module Title	ECTS	Semester
FCT3690	FIELD CROPS PRODUCTION TECHNOLOGY	5	6
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62

Description
This course aims to equip students with technical knowledge of modern processes in field crop production. It covers all production stages: land preparation, cultivar selection, integrated irrigation and fertilization management, pest control, harvesting, and post-harvest operations. Emphasis is placed on improving efficiency and yield using scientific methods. By the end of the course, students will be able to design sustainable and productive field crop programs.

Module 41

Code	Course/Module Title	ECTS	Semester
SWM3700	SUSTAINABLE WEEDS MANAGEMENT	5	6
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62
Description			
This module introduces ecological and agricultural concepts for sustainable weed management, emphasizing reduced reliance on herbicides and promoting environmental balance. Students learn to apply biological, cultural, and mechanical control methods within an integrated weed management framework. The course also explores how sustainable farming systems contribute to weed suppression. By the end of the course, students will be equipped to design effective and environmentally friendly weed management strategies.			

Module 42

Code	Course/Module Title	ECTS	Semester
SEM3260	SEMINARS	1	6
Class (hr/w)	Lect/Lab./Prac./Tutor/semn	SSWL (hr/sem)	USWL (hr/w)
0	1	17	8
Description			
This module provides students with a platform to present and discuss selected research topics in field crops. It develops skills in oral presentation, critical analysis, and scientific referencing. Students learn how to prepare professional scientific presentations using modern tools and deliver them effectively to an academic audience.			

Module 43

Code	Course/Module Title	ECTS	Semester
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MIT4350	MODERN IRRIGATION TECHNIQUES	3	7
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	12
Description			
This module focuses on reviewing and evaluating modern irrigation technologies used in sustainable agriculture, such as drip, sprinkler, and subsurface irrigation. Topics include system design, water use efficiency, and economic feasibility. Students also explore smart control systems used in modern irrigation management.			

Module 44

Code	Course/Module Title	ECTS	Semester
GEE4710	GENETIC ENGINEERING	5	7
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62
Description			
This section includes a description of the module, 100-150 words			

Module 45

Code	Course/Module Title	ECTS	Semester
WCT4320	WEED CONTROL TECHNOLOGY	5	7
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62
Description			
This module focuses on modern weed control technologies using chemical, mechanical, and physical methods. Students will learn about herbicide types, application techniques, and optimal timing for effective weed management. The course also addresses the design of integrated weed control programs in field crops while considering environmental and economic impacts. By the end of the module, students will gain practical skills in selecting and implementing weed control strategies.			

Module 46

Code	Course/Module Title	ECTS	Semester
FCT4730	FIELD CROPS STORAGE TECHNIQUES	5	7

Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62
Description			
The "Field Crops Storage Techniques" module focuses on post-harvest storage methods to preserve quality and reduce losses. Topics include drying, aeration, pest control, and management of temperature and humidity, with consideration of environmental and economic factors. Students also learn to evaluate and improve storage conditions. By the end of the course, students will be equipped with the knowledge to apply efficient, modern crop storage practices.			

Module 47

Code	Course/Module Title	ECTS	Semester
MAT4360	MEDICINAL and AROMATIC PLANTS PRODUCTION TECHNIQUES	5	7
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62
Description			
This module introduces the principles and techniques of cultivating medicinal and aromatic plants of economic value. Students learn cultivation methods, harvesting, and post-harvest processing that maintain the integrity of active compounds. The course also covers optimal growth conditions and the production of essential oils and extracts. By the end, students will understand the full production chain and marketing strategies for these specialized crops.			

Module 48

Code	Course/Module Title	ECTS	Semester
FOC4260	FORAGE CROPS	5	7
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62
Description			
The "Forage Crops" module covers the cultivation of crops used for animal feed such as alfalfa, millet, and barley. It addresses agronomic practices, environmental considerations, and nutritional value. Students explore sustainable production methods and strategies to enhance forage yield and quality. By the end, students will be able to identify suitable forage species and apply efficient production and management techniques.			

Module 49

Code	Course/Module Title	ECTS	Semester
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AEP4290	AGRICULTURAL ENGINEERING PROJECT1	2	7
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
0	3	47	3
Description			
The "Agricultural Engineering Project" module provides students with hands-on experience in applying engineering principles to solve real-world agricultural problems. Throughout the course, students will work on individual or group projects that focus on designing, developing, and implementing innovative solutions in areas such as irrigation systems, machinery design, and sustainable farming practices. Emphasis will be placed on project planning, resource management, and technical communication. Students will also engage in critical analysis and evaluation of their designs through feedback and peer review. By the end of the module, participants will gain valuable skills in project management and practical engineering applications within the agricultural sector.			

Module 50

Code	Course/Module Title	ECTS	Semester
PLN4370	PLANT NUTRITION	3	8
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	12
Description			
This course introduces essential plant nutrients, their physiological roles, and deficiency symptoms. Students learn techniques for nutrient diagnosis, fertilization, and soil-water management to improve nutrient availability. The module emphasizes the application of plant nutrition principles in enhancing crop quality and yield.			

Module 51

Code	Course/Module Title	ECTS	Semester
FCC4770	FIELD CROPS and CLIMATE CHANGE	5	8
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62
Description			
The "Field Crops and Climate Change" module examines the impact of climate change on crop production, including effects of heat, drought, floods, and wind. Students learn adaptation strategies, such as climate-resilient varieties and smart management of water and soil. The course emphasizes sustainable practices to safeguard food security. By the end, students will be prepared to address agricultural challenges in a changing climate.			

Module 52

Code	Course/Module Title	ECTS	Semester
PAM4760	PASTURE MANAGEMENT	5	8
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62
Description			
The "Pasture Management" module introduces students to the fundamentals of rangeland science and natural pasture resource management. It covers rangeland classification, vegetation distribution, soil-plant interactions, and the environmental impact of grazing. The course emphasizes sustainable grazing strategies, pasture improvement techniques, and biodiversity conservation. Students will explore the role of pastures in supporting livestock and rural economies, integrating both ecological and productive aspects.			

Module 53

Code	Course/Module Title	ECTS	Semester
PBT4280	PLANT BREEDING TECHNIQUE	5	8
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62
Description			
The "Plant Breeding Technique" module focuses on the fundamental principles and modern approaches in plant improvement. Students learn methods such as selection, hybridization, and the application of biotechnology, including genetic engineering and marker-assisted selection. The course equips students with the knowledge to develop high-yielding, stress-tolerant, and disease-resistant crop varieties to meet agricultural challenges.			

Module 54

Code	Course/Module Title	ECTS	Semester
OCS4780	ORGANIC CROPS PRODUCTION SYSTEMS	5	8
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62
Description			
The "Organic Crops Production Systems" module explores the scientific foundations of organic			

agriculture, including soil management, natural fertilization, biological pest control, and crop rotation. It emphasizes the production of high-quality crops without synthetic inputs, ensuring environmental sustainability and food safety. The course includes case studies of successful local and international organic farming systems.

Module 55

Code	Course/Module Title	ECTS	Semester
SAT4280	SMART AGRICULTURAL TECHNIQUES	5	8
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2	63	62
Description			
The "Smart Agricultural Techniques" module introduces concepts of digital and precision agriculture, including remote sensing, IoT, smart systems, and data-driven decision-making. Students will learn how to apply advanced technologies to optimize resource use, enhance productivity, and reduce costs. The course focuses on practical applications of smart farming in field crop systems.			

Module 56

Code	Course/Module Title	ECTS	Semester
AEP4292	AGRICULTURAL ENGINEERING PROJECT2	2	8
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
0	3	47	3
Description			
The "Agricultural Engineering Project" module provides students with hands-on experience in applying engineering principles to solve real-world agricultural problems. Throughout the course, students will work on individual or group projects that focus on designing, developing, and implementing innovative solutions in areas such as irrigation systems, machinery design, and sustainable farming practices. Emphasis will be placed on project planning, resource management, and technical communication. Students will also engage in critical analysis and evaluation of their designs through feedback and peer review. By the end of the module, participants will gain valuable skills in project management and practical engineering applications within the agricultural sector.			



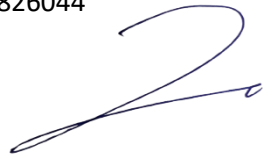
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