University of Mosul

جامعة الموصل

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

بكالوريوس علوم زراعة - المحاصيل الحقلية

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1. Mission & Vision Statement

Vision Statement

Striving for leadership, innovation, and academic and research excellence in the field of field crop sciences by actively contributing to the development of sustainable agriculture and achieving food security in service of society, in alignment with local and global directions.

Mission Statement

To contribute to sustainable development by preparing qualified and specialized agricultural engineers capable of working in various fields of field crops, committed to professional ethics, and equipped with high scientific and practical competence—fulfilling labor market requirements and serving the community through scientific research and continuous self-learning.

2. Program Specification

Program code:	BSc-FIL. SC.	**ECTS**	240
Duration:	4 levels, 8 Semesters	**Method of Attendance:**	Full Time

Write something like:

The Field Crops Department provides educational, training, and research opportunities encompassing industrial crops, cereals, forages, pastures, and edible legumes. Comprising 29 academic staff (including one professor, eight assistant professors, three lecturers, nine assistant lecturers, and eight research assistants), the department's educational focus is on current field crop cultivation and breeding practices. Research activities encompass agronomic, physiological, ecological, biochemical, biotechnological, and genetic aspects of these crops, with a particular emphasis on developing regionally appropriate crop rotation systems. Furthermore, the department actively engages in farmer training programs, seminars, and field demonstrations, and houses a seed technology laboratory.

In **Level 1**, students are introduced to the fundamentals of agricultural sciences in general and Field Crops sciences in particular, suitable for progression within the global agricultural and forestry program group. Core topics specific to the program are covered in **Level 2**, paving the way for specialized research-led modules in **Levels 3 and 4**. Consequently, graduates of Field Crops from the university are trained to understand how research contributes to education, according to the mission statements of the university and the college.

In **Levels 2, 3, and 4**, students have the freedom to choose more than half of their module credits, provided that they select a diverse range of modules that reflect their specific specialization, along with various other sciences that complement their field. This ensures a broad scope of knowledge expected from graduates of the Field Crops, allowing students to develop their wide-ranging interests

in Agronomy. Decisions regarding what to study are made in consultation with personal academic tutors.

The concept of research is reinforced and deepened from the outset through practical training, which is either integrated into lecture modules or taught in dedicated practical modules, alongside research seminars and specialized tutorials. In **Level 4**, all students undertake an independent research project, which may be a library-based or data analysis project (worth a certain number of credits) or a field or laboratory-based project (also worth a certain number of credits).

Academic tutorials in **Levels 1 and 2** are conducted with the same academic tutor, who is also the personal tutor for the students, providing continuity and progressive guidance. Tutorials in **Levels 1 and 2** include several workshops to teach skills, such as library use and presentation skills, followed by assessed exercises like essays and presentations, serving as opportunities to practice these skills in a subject-specific context.

Opportunities for international study years and industrial placements are also offered, and individual needs are discussed with the appropriate tutor and accommodated whenever possible

3. Program Objectives

1. Prepare graduates with advanced knowledge and practical skills in the production and management of field crops.
2. Develop an educational system that integrates theory with practice and relies on modern agricultural technologies.
3. Support scientific research in field crops through field projects and applied studies that address agricultural production problems.
4. Prepare personnel capable of working in multidisciplinary teams with a sense of social responsibility.
5. Instill the concepts of agricultural sustainability in students and train them to manage natural resources efficiently to protect the environment.
6. Encourage initiative and innovation in improving agricultural production using modern technologies.
7. Support agricultural leadership and innovation through collaboration with research and production institutions.
8. Develop students' skills in resource management and problem-solving in agricultural projects, with a focus on sustainability, environment, modern technologies, and the scientific method.
9. Promote the use of artificial intelligence, geographic information systems (GIS), and digital transformation in crop management.
10. Instill principles of professional ethics and adherence to national and international agricultural regulations.
11. Create a stimulating educational and research environment that contributes to graduating leaders in the field of field crops.

4. Student Learning Outcomes

No.	learning outcome code	learning outcome
1	LO#1,B1	He Using sufficient theoretical knowledge in mathematics, languages, fundamental and human sciences, and agricultural engineering.
2	LO#2,D1	He works in the core field of field crops such as cereal and legume crops, industrial plants, forage pasture crops, and energy crops. He knows about the problems and solutions in plant physiology, agriculture, biotechnology studies, sustainable agriculture, breeding, and the development of new varieties of these plants, as well as integrated pest management.
3	LO#2,D2	He employs his expertise in field crops and agricultural engineering, seed production, problems of field crops, maintaining high-quality seeds and post-harvest product storage, managing professional standards, and the ability to work in a discipline-specific team to solve problems.
4	LO#3,C1	He carries out field studies related to field crops and designs agricultural experiments with the ability to interpret research results.
5	LO#3,C2	He identifies the production requirements of field crops, such as irrigation, fertilization, disease and pest detection, mechanization, and post-harvest storage. He accesses information and follows developments in science, technology, and sustainability.
6	LO#4,A1	He identifies the sources of environmental, biological, technical, productive, and economic problems that may negatively affect the desired level of yield and quality in field crop cultivation and effectively proposes plant-based solutions through research and information technologies.
7	LO#4,A2	He is familiar with the latest information in field crops, research, evaluation, report writing, providing consultations and expertise, and preparing and implementing effective design, production reports, and presentations based on clear and understandable instructions.
8	LO#5,B	He applies his acquired expertise in managing agricultural, environmental, and genetic resources in field crops and pest management, and he is able to work effectively either individually or within interdisciplinary teams.
9	LO#3,E1	He adheres to ethical principles in field crops and agricultural engineering, has professional and moral responsibility, and is aware of engineering applications.
10	LO#6,E2	He participates in analyzing agricultural problems to reach innovative and sustainable solutions based on scientific evidence.
11	LO#6,E3	He is aware of the legal consequences of engineering solutions. He is informed about the impacts of agricultural engineering practices on health and the environment at both local and global levels and contemporary issues reflected in the engineering field.

Field Crops is the study of the organization and operation of Agronomy and natural resources at the molecular, cellular, organism, and population levels. Graduates obtain information on the historical, technical. The department offers a Bachelor of Science in Field Crops with a concentration in Crops Management; Sustainable Natural Resource Management; and Molecular Biology. Additionally, the department offers courses to a large number of students from other departments and supports pre-professional programs. The field crops curriculum and experiences are designed to prepare students, in part, for entry into environmental health programs, graduate studies, technical careers, and education.

Outcome 1

Identification of Complex Relationships

The student should be able to recognize the fundamentals of basic and applied sciences, as well as modern technologies related to agriculture and food, and the principles of planning and executing agricultural operations.

Outcome 2

Oral and Written Communication

The student should be able to propose commercial production plans for plant, animal, and food crops according to market systems by assessing the economic situation of the market and understanding its needs.

Outcome 3

Laboratory and Field Studies

Graduates will be able to perform laboratory experiments and field studies, by using scientific equipment and computer technology while observing appropriate safety protocols.

Outcome 4

Scientific Knowledge

Graduates will be able to demonstrate a balanced concept of how scientific knowledge develops, including the historical development of foundational theories and laws and the nature of science.

Outcome 5

Data Analyses

Graduates will be able to demonstrate scientific quantitative skills, such as the ability to conduct simple data analyses.

Outcome 6

Critical Thinking

Graduates will be able to use critical-thinking and problem-solving skills to develop a research project and/or paper.

5. Academic Staff

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6. Credits, Grading and GPA

Credits

University of Mosul is following the Bologna Process with the European Credit Transfer System (ECTS) credit system. The total degree program number of ECTS is 240, 30 ECTS per semester. 1 ECTS is equivalent to 25 hrs. student workload, including structured and unstructured workload.

Grading

Before the evaluation, the results are divided into two subgroups: pass and fail. Therefore, the results are independent of the students who failed a course. The grading system is defined as follows:

GRADING SCHEME مخطط الدرجات			
Group	**Grade**	**Marks (%)**	**Definition**
Success Group (50 - 100)	A - Excellent	90 - 100	Outstanding Performance
	B - Very Good	80 - 89	Above average with some errors
	C - Good	70 - 79	Sound work with notable errors
	D - Satisfactory	60 - 69	Fair but with major shortcomings
	E - Sufficient	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	(45-49)	More work required but credit awarded
	F – Fail	(0-44)	Considerable amount of work required
Note:			
Number Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.			

Calculation of the Cumulative Grade Point Average (CGPA)

1. The CGPA is calculated by the summation of each module score multiplied by its ECTS, all are divided by the program total ECTS.

   CGPA of a 4-year B.Sc. degree:

   CGPA = [(1st ᵐodule score x ECTS) + (2nd ᵐodule score x ECTS) + ……] / 240

7. Curriculum/Modules

Semester 1 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
UOM1031	**COMPUTER 1**	47	28	3.00	B	
UOM1040	**DEMOCRACY and HUMAN RIGHTS**	32	18	2.00	B	
UOM1021	**ENGLISH LANGUAGE 1**	32	18	2.00	B	
MAT1010	**MATHEMATICS**	63	112	7.00	S	
ACE1020	**AGRICULTURE CAREER ETHICS**	62	63	5.00	S	
END1030	**ENGINEERING DRAWING**	63	87	6.00	S	
AET1040	**AGRICULTRAL ENGINEERING TECHNIQUES TRANSFER**	63	62	5.00	C	

Semester 2 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
UOM1011	**ARABIC LANGUAGE 1**	32	18	2.00	B	
BSS1050	**BIOSAFETY and SECURITY**	47	28	3.00	S	
AGS1060	**AGRICULTURAL STATISTICS**	78	47	5.00	C	
BIO1070	**BIODIVERSITY**	63	62	5.00	C	
AGI1080	**AGRICULTURAL INFORMATICS**	63	62	5.00	C	
SUD1090	**SUSTANIBLE DEVELOPMENT**	62	63	5.00	C	
AMT1100	**AGRICULTURAL MARKETING TECHNIQUES**	32	93	5.00	C	

Semester 3 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
UOM1012	**ARABIC LANGUAGE2 2**	32	18	2.00	B	**ARABIC LANGUAGE1**
UOM2050	**CRIMES of the BAATH REGIME in IRAQ**	32	18	2.00	B	
IPM2110	**INTEGRATED PEST MANAGEMENT**	63	62	5.00	C	
AEM2120	**AGRICULTRAL ENGINEERING PROJECT MANAGEMENT**	78	72	6.00	C	
DAE2160	**DESIGN AND ANALYSIS of EXPERIMENTS**	63	62	5.00	C	
APT2140	**AGRICULTURAL PRODUCTION TECHNOLOGIES**	63	62	5.00	C	
FTP2150	**FOOD TECHNOLOGIES and HEALTH AGRICULTRAL PRODUCTS**	63	62	5.00	C	

Semester 4 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
UOM2022	**ENGLISH LANGUAGE2**	32	18	2.00	B	**ENGLISH LANGUAGE1**
UOM2032	**COMPUTER SKILLS2**	47	28	3.00	B	**COMPUTER SKILLS1**
APT2130	**AGRICULTURAL PRODUCTION MECHANIZATION TECHNIQUES**	63	62	5.00	C	
DPF2170	**DESIGN and PLANNING of AGRICULTURAL FACILITIES**	63	62	5.00	C	
PEI2180	**BENEFICIAL INSECTS**	63	62	5.00	C	
SWS2190	**SOIL and WATER SUITBILITY**	63	62	5.00	C	
BIA2210	**BIOCHEMICAL ANALYSIS**	63	62	5.00	C	

Semester 5 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
PLG3230	**PLANT GENETICS**	48	27	3.00	C	
FPS3240	**FUNDAMENTALS of PLANE SURVEYING**	63	12	3.00	B	
PLP3330	**PLANT PHYSIOLOGY**	63	62	5.00	C	
PGR3340	**PLANT GROWTH REGULATORS**	63	37	4.00	C	
FCT3620	**FIBER CROPS TECHINQUE**	63	62	5.00	C	
FCP3230	**FIELD CROPS SEED PRODUCTION**	63	62	5.00	C	
IOC3640	**INDUSTRIAL OIL CROPS**	63	62	5.00	C	

Semester 6 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ENC3650	**ENRGY CROPS**	48	52	4.00	C	
AGE3660	**ENVIORNMENT AGRICULTURAL**	63	62	5.00	C	
CLC3670	**and LEGUMES CROPS CERIALS**	63	62	5.00	C	
SCC3680	**CONTROL CERTIFICATION SEED**	63	62	5.00	C	
FCT3690	**CROPS PRODUCTION TECHNOLOGY FIELD**	63	62	5.00	C	
SWM3700	**WEEDS MANAGEMENT SUSTAINABLE**	63	62	5.00	C	
SEM3260	**SEMINARS**	17	8	1.00	C	

Semester 7 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
MIT4350	**MODERN IRRIGATION TECHNIQUES**	63	12	3.00	C	
GEE4710	**GENETIC ENGINEERING**	63	62	5.00	C	
WCT4320	**WEED CONTROL TECHNOLOGY**	63	62	5.00	C	
FCT4730	**FIELD CROPS STORAGE TECHINQUES**	63	62	5.00	C	
MAT4360	**MEDICINAL and AROMATIC PLANTS PRODUCTION TECHNIQUES**	63	62	5.00	C	
FOC4260	**FORAGE CROPS**	63	62	5.00	C	
AEP4290	**AGRICULTRUAL ENGINEERING PROJECT1**	47	3	2.00	C	

Semester 8 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
PLN4370	**PLANT NUTRITION**	63	12	3.00	C	
FCC4770	**FIELD CROPS and CLIMATE CHANGE**	63	62	5.00	C	
PAM4760	**PASTURE MANAGEMENT**	63	62	5.00	C	
PBT4280	**PLANT BREEDING TECHNIQUE**	63	62	5.00	C	
OCS4780	**ORGANIC CROPS PRODUCTION SYSTEMS**	63	62	5.00	C	
SAT4280	**SMART AGRICULTURAL TECHNIQUES**	63	62	5.00	C	
AEP4292	**AGRICULTRUAL ENGINEERING PROJECT2**	47	3	2.00	C	

8. Contact

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		تحديد العلاقات المعقدة	التواصل الشفهي والكتابي		دراسات المختبرية والميدانية		المعرفة العلمية		تحليل البيانات	التفكير النقدي		
	اسم المادة بالانكليزي	LO#1	LO#2A	LO#2B	LO#3A	LO#3B	LO#4A	LO#4B	LO#5	LO#6A	LO#6B	LO#6C
First stage	COMPUTER 1	*			*		●	●			●	
	DEMOCRACY and HUMAN RIGHTS	●		*		*				●		●
	ENGLISH LANGUAGE 1	●				*		*			*	
	MATHEMATICS	●		*				*	*		●	
	AGRICULTURE CAREER ETHICS	●		●					●	●		●
	ENGINEERING DRAWING	●		●	●			●		●		
	TRAL ENGINEERING TECHNIQUES T	●		●		●	●			●		
	ARABIC LANGUAGE 1	●			●	●		●				
	BIOSAFETY and SECURITY	●	●		●					●		●
	AGRICULTURAL STATISTICS	●			●	●		●			●	
	BIODIVERSITY	●	●	●			●					●
	AGRICULTURAL INFORMATICS	●	●			●		●	●			
	SUSTANIBLE DEVELOPMENT	●	●			●	●				●	
	RICULTURAL MARKETING TECHNIQ	●		●		●	●					●
Second Stagt	ARABIC LANGUAGE2 2	●	●		●	●		●				
	CRIMES of the BAATH REGIME in	●		●				●			●	
	INTEGRATED PEST MANAGEMENT	●	●			●			●			●
	AGRICULTRAL ENGINEERING	●		●		●		●				●
	DESIGN AND ANALYSIS of	●			●	●		●			●	
	AGRICULTURAL PRODUCTION	●	●			●	●				●	
	NOLOGIES and HEALTH AGRICULTRA	●	●			●	●			●		
	ENGLISH LANGUAGE2	●				●		●			●	
	COMPUTER SKILLS2	●			●		●	●			●	
	AGRICULTURAL PRODUCTION	●	●			●	●			●		
	DESIGN and PLANNING of	●		●	●			●		●		
	BENEFICIAL INSECTS	●		●		●			●		●	
	SOIL and WATER SUITBILITY	●		●		●	●			●		
	BIOCHEMICAL ANALYSIS	●		●		●	●		●			
Third Stage	PLANT GENETICS	●	●	●					●	●		
	FUNDAMENTALS of PLANE	●		●		●	●			●		
	PLANT PHYSIOLOGY	●	●	●	●					●		
	PLANT GROWTH REGULATORS	●	●		●	●				●		
	FIBER CROPS TECHINQUE	●	●		●		●				●	
	FIELD CROPS SEED PRODUCTION	●		●			●		●	●		
	INDUSTRIAL OIL CROPS	●	●	●	●					●		
	ENRGY CROPS	●	●	●	●					●		
	AGRICULTURAL ENVIORNMENT	●		●			●		●			●
	CERIALS and LEGUMES CROPS	●	●	●	●					●		
	SEED CONTROL CERTIFICATION	●		●	●		●			●		
	FIELD CROPS PRODUCTION	●	●		●		●			●		
	SUSTAINABLE WEEDS	●	●			●			●			●
	SEMINARS	●	●			●		●			●	
Forth Stage	MODERN IRRIGATION TECHNIQUES	●	●			●	●					●
	GENETIC ENGINEERING	●		●			●		●	●		
	WEED CONTROL TECHNOLOGY	●	●			●			●			●
	FIELD CROPS STORAGE	●		●		●	●			●		
	MEDICINAL and AROMATIC	●	●		●		●			●		
	FORAGE CROPS	●	●	●	●					●		
	AGRICULTRUAL ENGINEERING	●	●		●			●				●
	PLANT NUTRITION	●	●	●		●				●		
	FIELD CROPS and CLIMATE	●	●		●				●			●
	PASTURE MANAGEMENT	●	●	●	●					●		
	PLANT BREEDING TECHNIQUE	●	●				●		●			●
	ORGANIC CROPS PRODUCTION	●	●			●	●					●
	SMART AGRICULTURAL	●	●			●	●				●	
	AGRICULTRUAL ENGINEERING	●	●		●			●				●

جامعة الموصل
كلية الزراعة والغابات
قسم المحاصيل الحقلية