



Ajloun National University

جامعة عجلون الوطنية

Faculty of Agriculture
Department of
Agricultural Extension and Marketing

Study Plan for the Bachelor's Degree

**Department of Agricultural Extension and
Marketing**

Academic year 2023/2024



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Vision

The Agricultural Extension and Marketing Department aims to prepare qualified and distinguished graduates who can face today's challenges and work at the national, regional and international levels in the fields of agricultural extension and marketing.

Mission

Preparing qualified human cadres to conduct scientific research, university teaching, spreading purposeful culture, and providing services at high quality and professional levels in the fields of agricultural extension and marketing.

Goals

1. That the college be a distinguished educational center in this specialty at all local, regional and international levels.
2. Preparing human cadres in the fields of agricultural extension and rural sociology who are able to absorb modern methods and technologies that contribute to the successive improvement of the population of rural communities and enable them to use the resources available to them while preserving them and ensuring their use for the benefit of future generations.
3. Creating continuous development in education programs that keep pace with and benefit from the experiences and expertise of developed countries in this regard.
4. Providing distinguished education to prepare graduates and researchers with the ability to keep pace with developments in the field of agricultural marketing.
5. Providing the appropriate climate for the student to make the maximum possible benefit from the available educational opportunities, helping him keep pace with the labor market and its development.
6. Raising the level of graduates by holding training courses in the field of evaluating and managing agricultural projects and marketing their products.
7. Developing scientific research activities and encouraging research and studies that contribute to serving the surrounding environment and the national economy in general and agriculture in particular.
8. Conduct applied academic research that helps develop scientific research methods and develop social measurement tools, with a focus on adopting technological methods to provide informed decisions that represent the cornerstone of integrated rural development programs.
9. Conduct applied scientific research with feasible economic returns.
10. Conducting technical, financial and economic feasibility studies for agricultural projects of various types.



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Learning Outcomes

Knowledge

To be familiar with the basic concepts of marketing.

To be familiar with the implementation of pricing and distribution strategies.

To be familiar with the determination of the extension methods used in agricultural extension.

Skills

Ability to implement field extension services operations.

Ability to use the necessary methodologies, tools, devices, systems, and technology in the fields of marketing and agricultural extension.

Ability to apply modern technologies in the field of agriculture.

Competencies

The ability to serve agricultural crops.

The ability to take administrative and technical decisions based on scientific and methodological foundations.

The ability to acquire information, the correct ways to use it, and the correct guiding method to convey it to others.

The ability to perform technical management through optimal exploitation of agricultural production inputs (both plant and animal) and human resources.



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Contents of the Study Plan

The study plan for the bachelor's degree in Agricultural Extension and Marketing of (140) credit hours distributed as follows:

Certified On Campus learning (1+1, An hour and a half of on campus learning + one half hour of campus learning).

Certified Electronic (1+1, An hour and a half synchronous Electronic + campus learning).

Certified Blended (1+1, An hour and a half synchronous Blended + campus learning).

| Number | Type of Requirement | Credit Hours | percentage% |
|--------|---------------------------|--------------|-------------|
| First | University Requirements | 27 | 19.2 % |
| Second | Faculty Requirements | 21 | 15.00 % |
| Third | Compulsory Requirements | 80 | 57.24 % |
| | Elective Requirements | 09 | 06.42% |
| Fourth | Free Elective Requirement | 03 | 02.14% |
| Total | | 140 | 100% |

University Coding System

Faculty Code Department Code (Level Year) Knowledge Area Course sequence

7

17

0 Remedial
1 First
2 Second
3 Third
4 Fourth



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| Knowledge Area | | |
|------------------|---------------------------------------|------------------------|
| Knowledge Number | Knowledge Area | Number of Credit Hours |
| 1 | University requirements | 27 |
| 2 | College requirements | 21 |
| 3 | Mandatory specialization requirements | 80 |
| 4 | Elective specialization requirements | 9 |
| 5 | Electives | 3 |



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First: University Requirements (27) Credit Hours

A. University Compulsory Requirement (12) Credit Hours

| Course code | Course Name | Credit Hour | Prerequisite | Learning Type | | |
|-------------|--------------------------------------|-------------|--------------|---------------|---------|-----------|
| | | | | Electronic | Blended | On Campus |
| 704107 | Entrepreneurship and Innovation | 1 | | | √ | |
| 704109 | Leadership and Social Responsibility | 1 | | | √ | |
| 704116 | Life Skills | 1 | | | √ | |
| 704117 | English Language Skills (1) | 2 | 714099 | √ | | |
| 704118 | Arabic Language Skills (1) | 2 | 704099 | | √ | |
| 704119 | National Education | 2 | - | | √ | |
| 704200 | Military Sciences | 3 | - | √ | | |

B. University Elective Requirements (15) Credit Hours

| Course code | Course Name | Credit Hour | Prerequisite | Learning Type | | |
|-------------|--|-------------|--------------|---------------|---------|-----------|
| | | | | Electronic | Blended | On Campus |
| 201101 | The Law in our Lives | 3 | | | √ | |
| 202132 | Human Rights | 3 | | | √ | |
| 401100 | Principles of Administration | 3 | | | √ | |
| 701140 | Arab Library and Lexicography | 3 | - | √ | | |
| 704103 | International and Arab Contemporary Issues | 3 | | | | √ |
| 704104 | Islamic Culture | 3 | - | √ | | |
| 704108 | Integrity and Transparency | 3 | | | √ | |
| 704110 | Digital Culture | 3 | | | √ | |
| 704112 | Arabic Language Skills (2) | 3 | 704118 | | √ | |
| 704113 | Art of Rhetoric and Dialogue | 3 | | | | √ |
| 704115 | Development and Family Planning in Islam | 3 | | | √ | |
| 704141 | History of Jerusalem | 3 | | | √ | |
| 704151 | Computer Skills (1) | 3 | 724099 | | √ | |
| 704152 | Computer Skills (2) | 3 | 704151 | | √ | |
| 704163 | Foreign Language other than English | 3 | | | √ | |
| 704172 | Sports and Health | 3 | | | | √ |



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Second: Faculty Requirements (21) Credit Hours

| Course code | Course Name | Credit Hour | Prerequisite | Learning Type | | |
|-------------|---|-------------|--------------|---------------|---------|-----------|
| | | | | Electronic | Blended | On Campus |
| 901113 | Principles of agricultural extension | 3 | - | | √ | |
| 901135 | Principles of agricultural economics | 3 | - | | | √ |
| 901153 | Principles of agricultural statistics | 3 | - | √ | | |
| 901161 | Principles of plant production | 3 | 901162 | | √ | |
| 901165 | Principles of animal production | 3 | 901162 | | | √ |
| 901167 | Principles of plant protection | 3 | - | | √ | |
| 901265 | Principles of nutrition and food processing | 3 | 901162 | | | √ |

*: Courses contain an implicit laboratory

Third: Department Requirements (80 Credit Hours)

| Course code | Course Name | Credit Hour | Prerequisite | Learning Type | | |
|-------------|--|-------------|--------------|---------------|---------|-----------|
| | | | | Electronic | Blended | On Campus |
| 502108 | general chemistry | 3 | - | | √ | |
| 502109 | General chemistry practical | 1 | 502108 | | | √ |
| 901162 | Principles in biology | 3 | - | | √ | |
| 901211 | Digital agricultural extension | 3 | 901113 | √ | | |
| 901215 | Modern techniques in agricultural extension | 3 | 901113 | | √ | |
| 901229 | Communication skills in the field of agricultural extension | 3 | 901113 | | √ | |
| 901236 | Planning, implementing and evaluating agricultural extension programmers | 3 | 901113 | | √ | |
| 901249 | Principles of agricultural marketing | 3 | - | | √ | |
| 901268 | Principles in practical biology | 1 | 901162 | | | √ |
| 901315 | Farm management and risk analysis | 3 | 901135 | | | √ |
| 901317 | Educational theories in agricultural extension | 3 | 901113 | √ | | |
| 901318 | Educational guidance methods | 3 | 901113 | | √ | |
| 901319 | Field training in agricultural extension and agricultural marketing | 3 | 90 hours | | | √ |
| 901320 | Scientific research methods/agricultural marketing and extension | 3 | - | √ | | |
| 901326 | Adult education/for agricultural extension and marketing students | 3 | 901113 | | √ | |
| 901327 | Agricultural media | 3 | 901229 | | √ | |



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| | | | | | |
|--------|--|---|----------|---|---|
| 901333 | Agricultural economic development | 3 | 901135 | | √ |
| 901334 | Rural development | 3 | 901113 | √ | |
| 901361 | Vegetable production and protected agriculture | 3 | 901161 | | √ |
| 901362 | Fruit tree production | 3 | 901161 | √ | |
| - | Agricultural cooperation | 3 | 901247 | | √ |
| 901366 | Production of field crops | 3 | 901161 | | √ |
| 901445 | Agricultural finance | 3 | - | √ | |
| 901446 | Farm business management | 3 | - | | √ |
| 901447 | Evaluation of agricultural projects | 3 | 901135 | | √ |
| 901448 | Agricultural price analysis | 3 | 901135 | | √ |
| 901457 | Agricultural operations research | 3 | 901135 | | √ |
| 901466 | graduation project | 3 | 90 hours | | √ |

A. Department Elective Requirements (9) Credit Hours

| Course code | Course Name | Credit Hour | Prerequisite | Learning Type | | |
|-------------|---|-------------|--------------|---------------|---------|-----------|
| | | | | Electronic | Blended | On Campus |
| 601101 | Calculus(1) | 3 | - | | √ | |
| 901364 | Plant diseases and economic insects | 3 | - | | | √ |
| 901263 | Principles of agricultural machinery | 3 | - | | | √ |
| 901264 | Agricultural insurance | 3 | - | | √ | |
| 901266 | Principles of soil science and irrigation | 3 | 704186 | | | √ |
| 901267 | Agricultural risk management | 3 | 901135 | | √ | |
| 901341 | E-Marketing | 3 | 901249 | √ | | |
| 901396 | Marketing Services | 3 | - | | √ | |
| 901363 | Beekeeping | 3 | - | | | √ |
| 901462 | Poultry farm management | 3 | 901165 | | | √ |
| 901463 | Food security | 3 | 901135 | | √ | |

Fifth: Free Elective Requirements (03) Credit Hours

The students studies a free course offered by the university with (3) credit hours



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First Year

First Semester

| Course Number | Course Name | Credit Hours | Prerequisite |
|---------------|--------------------------------------|--------------|--------------|
| 502108 | general chemistry | 3 | - |
| 502109 | General chemistry practical | 1 | 502108 |
| 601101 | Calculus (1) | 3 | - |
| 704104 | Islamic culture | 3 | - |
| 704118 | Arabic language skills (1) | 2 | 704099 |
| 901113 | Principles of agricultural extension | 3 | - |
| Total | | | 15 |

Second Semester

| Course Number | Course Name | Credit Hours | Prerequisite |
|---------------|---------------------------------------|--------------|--------------|
| 704117 | English language skills (1) | 2 | 714099 |
| 202132 | Human Rights | 3 | - |
| 704141 | History of Jerusalem | 3 | - |
| 704119 | National Education | 2 | - |
| 901135 | Principles of agricultural economics | 3 | - |
| 901153 | Principles of agricultural statistics | 3 | - |
| 901211 | Digital agricultural extension | 3 | 901113 |
| Total | | | 19 |



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Second Year

First Semester

| Course Number | Course Name | Credit Hours | Prerequisite |
|---------------|---|--------------|--------------|
| 704108 | Integrity and transparency | 3 | - |
| 704200 | Military sciences | 3 | - |
| 901162 | Principles in biology | 3 | - |
| 901165 | Principles of animal production | 3 | 901162 |
| 901167 | Principles of plant protection | 3 | - |
| 901265 | Principles of nutrition and food processing | 3 | 901162 |
| 901268 | Principles in practical biology | 1 | 901162 |
| Total | | | 19 |

Second Semester

| Course Number | Course Name | Credit Hours | Prerequisite |
|---------------|--|--------------|--------------|
| 901229 | Communication skills in the field of agricultural extension | 3 | 901113 |
| 901236 | Planning, implementing and evaluating agricultural extension programmers | 3 | 901113 |
| 901249 | Principles of agricultural marketing | 3 | - |
| 901315 | Farm management and risk analysis | 3 | 901135 |
| 901317 | Educational theories in agricultural extension | 3 | 901113 |
| 704107 | Entrepreneurship and Innovation | 1 | - |
| 704109 | Leadership and Social Responsibility | 1 | |
| 704116 | Life Skills | 1 | |
| Total | | | 18 |



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Third Year

First Semester

| Course Number | Course Name | Credit Hours | Prerequisite |
|---------------|---|--------------|--------------|
| 704110 | Digital culture | 3 | - |
| 704172 | Sports and Health | 3 | - |
| 901319 | Field training in agricultural extension and agricultural marketing | 3 | 90 hours |
| 901333 | Agricultural economic development | 3 | 901135 |
| 901341 | E-Marketing | 3 | - |
| 901346 | Marketing Services | 3 | - |
| Total | | | 18 |

Second Semester

| Course Number | Course Name | Credit Hours | Prerequisite |
|---------------|---|--------------|--------------|
| 901318 | Educational guidance methods | 3 | 901113 |
| 901215 | Modern techniques in agricultural extension | 3 | 901113 |
| 901320 | Scientific research methods/agricultural marketing and extension | 3 | - |
| 901326 | Adult education/for agricultural extension and marketing students | 3 | 901113 |
| 901327 | Agricultural media | 3 | 901229 |
| 901334 | Rural development | 3 | 901113 |
| Total | | | 18 |



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Fourth Year

First Semester

| Course Number | Course Name | Credit Hours | Prerequisite |
|---------------|--|--------------|--------------|
| 901361 | Vegetable production and protected agriculture | 3 | 901161 |
| 901445 | Agricultural finance | 3 | - |
| 901446 | Agricultural business management | 3 | - |
| 901448 | Agricultural price analysis | 3 | 901135 |
| - | 3hours chosen by the student from outside the plan | 3 | - |
| Total | | | 15 |

Second Semester

| Course Number | Course Name | Credit Hours | Prerequisite |
|---------------|-------------------------------------|--------------|--------------|
| 901362 | Fruit tree production | 3 | 901161 |
| 901247 | Agricultural cooperation | 3 | - |
| 901366 | Production of field crops | 3 | 901161 |
| 901466 | Graduation project (1) | 3 | 90 hours |
| 901447 | Evaluation of agricultural projects | 3 | 901135 |
| 901457 | Agricultural operations research | 3 | 901135 |
| Total | | | 18 |



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Courses Description

Faculty Compulsory Requirements (21 Credit Hours)

| | |
|---------------|--|
| Course Number | : 901113 |
| Course Title | : Principles of agricultural extension |
| Credit Hours | : 3 |
| Prerequisites | : - |

It aims to introduce the role of agricultural extension workers, study the origins of the growing agricultural campaign, realize its goals and philosophy that participate in its effectiveness, and provide the student with information that will help him prepare the following programs, their dates, the history of the liberalization of the agricultural liberalization service, its goals and functions, its current status, and ways to increase its effectiveness.

| | |
|---------------|--|
| Course Number | : 901135 |
| Course Title | : Principles of agricultural economics |
| Credit Hours | : 3 |
| Prerequisites | : - |

Economic principles, which include the relationship of inputs to production and the relationship of inputs to outputs. Study of production functions, production laws, and cost studies. This course also addresses the position of agriculture in the economic structure and the characteristics that characterize work in agriculture, then addresses the various branches of the agricultural economy, while shedding light on the agricultural policies followed in some Arab countries.

| | |
|---------------|---|
| Course Number | : 901153 |
| Course Title | : Principles of agricultural Statistics |
| Credit Hours | : 3 |
| Prerequisites | : - |

The course aims to develop an understanding of the basic ideas of statistical thinking. which statistical analysis to use, and how to interpret the results of statistical analysis. The course introduces statistical concepts and presents descriptive and inferential statistical methods



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for analyses and their applications in agribusiness. Students are expected to understand and apply statistical concepts in a thoughtful way, and numerical calculations.

Course Number : 901161
Course Title : Principles of plant production
Credit Hours : 3
Prerequisites : -

The course includes the foundations of choosing and preparing the orchard site, selecting appropriate roots and varieties, knowing the growth patterns and fertility of fruit trees and their morphological and anatomical characteristics to choose the best practices in planting, fertilizing, irrigation and pruning.

Course Number : 901165
Course Title : Principles of animal production
Credit Hours : 3
Prerequisites : -

The course covers the general foundations of animal production, farm animal products, meat, milk, eggs, types of cows, sheep, and poultry and their breeds, physiological processes related to reproduction, milk production, digestion in farm animals, adaptation of animals to environmental conditions, and methods of feeding and caring for farm animals.

Course Number : 901167
Course Title : Principles of plant protection
Credit Hours : 3
Prerequisites : -

This course seeks to achieve in-depth knowledge of the farms and local individuals within the intended farm activity area, through engagement and collaboration with local and small farms already established in the area while taking into account their entire ecosystem (e.g. local supply chains, farmers markets, farming communities, etc).



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Course Number : 901265
Course Title : Principles of nutrition and food processing
Credit Hours : 3
Prerequisites : -

It focuses on basic concepts in food science, preservation, processing and pollution prevention. It also focuses on the manufacture of various agricultural and plant products, such as vegetables, fruits, grains, and animal products such as meat and milk derivatives, in addition to the foundations of food engineering, food analysis, and quality control of industries.

Compulsory Department Requirements (80 Credit Hours):

Course Number : 502108
Course Title : General chemistry
Credit Hours : 3
Prerequisites : -

This course includes the basic theoretical rules related to scientific methods of measurement, chemical calculations, the periodic table, electronic structure, chemical bonds, thermochemistry, chemical reactions, the gaseous state, states of matter, properties of solutions, acids and bases, and the equilibrium of acids and bases in solutions Watercolor.

Course Number : 502109
Course Title : Chemistry laboratory
Credit Hours : 1
Prerequisites : 502108

This course deals with how to perform chemical calculations and measurements, study chemical and physical properties, elementary formulas, calculate moles of water in compounds containing water, titration, and study the measurement of antacids.



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Course Number : 901162
Course Title : **Principles in biology**
Credit Hours : 3
Prerequisites : -

This course included studying some basic concepts of organic and inorganic chemistry Study of the cell from the structural and functional aspects, energy transformations, plant and animal tissues, the functional aspect of living organisms, which includes the digestive, respiratory, and nervous systems and sensory receptors.

Course Number : 901211
Course Title : **Digital agricultural extension**
Credit Hours : 3
Prerequisites : 901113

It aims to determine the requirements for using digital agricultural extension (administrative, technical, financial, and human, as well as the requirements for integrating agricultural extension workers) from the point of view of agricultural extension workers, diagnosing the problems of using digital agricultural extension, and revealing the relationship between the level of requirements for using digital agricultural extension and some independent factors.

Course Number : 901215
Course Title : **Modern techniques in agricultural extension**
Credit Hours : 3
Prerequisites : 901113

The course focuses on clarifying the role and stages of the adoption process, in addition to the role of agricultural extension in adopting and disseminating modern agricultural technologies in light of the changes and fluctuations in the surrounding atmosphere. It also addresses the factors affecting the adoption process and the things that must be followed to encourage the adoption of good practices and modern technologies.



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| | |
|----------------------|--|
| Course Number | : 901229 |
| Course Title | : Communication skills in the field of agricultural extension |
| Credit Hours | : 3 |
| Prerequisites | : 901113 |

The course focuses on the issue of effective communication as an important necessity in all fields of science in general and the field of agricultural extension in particular. The course reviews the definition of effective communication, its types, its nature and objectives, and how to measure its effectiveness, along with an explanation of the reasons for the success or failure of the communication process. The course also shows the types of change that result from any communication process and focuses on the change that is intended to be brought about in agricultural extension and farmers. The course also explains the issue of misunderstanding and how to overcome it in order to send a clear message to the future. There is a focus on the topic of listening, the types of listening, and the qualities required of a good listener. The course explains verbal and non-verbal communication and the differences between them, as well as symbolic communication and the role of each in the agricultural extension process. The course also covers topics of oral and written communication and the steps that must be followed to enhance them, with the need to pay attention to body language as a type of communication. There is a detailed explanation of symbolic communication and its role in enhancing the communication process correctly. The course also addresses the obstacles to the effective communication process from all aspects, such as environmental aspects, from the perspective of the receiver and the sender, and ways to avoid and reduce them. The course explains the nature of instructive communication, its principles, and the use of audio-visual aids to enhance the effectiveness of the communication process.

| | |
|----------------------|--|
| Course Number | : 901236 |
| Course Title | : Planning, implementing and evaluating agricultural extension programmes |
| Credit Hours | : 3 |
| Prerequisites | : 901113 |

The course focuses on the role of planning in agricultural development in general, and in preparing agricultural programs in particular, and its role in achieving food security. The course also shows the types of planning and specifications of scientific planning and when



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to use each of them as a major element in directing efforts aimed at increasing farm productivity and improving its quality. The topic also focuses on the principles that must be known in order for extension work to be compatible with development requirements and meet the needs of farmers, ensuring their actual participation in extension activities through planning, implementation and evaluation.

Course Number : 901249
Course Title : Principles of agricultural marketing
Credit Hours : 3
Prerequisites : -

This course covers marketing principles through research into marketing skills and services and the study of the laws of supply and demand and prices of agricultural commodities under markets of perfect competition, monopolistic competition, monopoly and bargaining in marketing.

Course Number : 901268
Course Title : Principles in practical biology
Credit Hours : 1
Prerequisites : 901162

This practical course covers most of the concepts and topics that were presented in the theoretical part of the general biology course for agricultural students. This course is considered an introduction to food industry technology and its development from the harvesting stage to the stage of its arrival to the consumer, through the manufacturing and packaging processes of foodstuffs. This course includes studying the characteristics of primary and fresh foodstuffs. The focus of this course is on preventing the causes of food spoilage from a biological, microscopic, physical and chemical perspective. It includes a general description of the theoretical foundations of the process units used in the food industries, including a detail of the devices used in practical industrial application, and ways to save energy and manpower and improve product quality. Finally, the impact of process units used in food industries on the sensory and nutritional properties of products, and the various fields in food manufacturing, will be presented.

Course Number : 901315
Course Title : Farm management and risk analysis

Credit Hours : 3
Prerequisites : 901135



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This course covers the most important basic concepts related to farm management and its functions, the application of economic principles for decision-making, and a theoretical

Course Number : 901317
Course Title : Educational theories in agricultural extension
Credit Hours : 3
Prerequisites : 901113

The course addresses the subject of learning theories and how to apply them in the fields of agricultural extension. The course first reviews the definition of the meaning of education, learning and teaching and the difference between them. Then it reviews the difference between modern learning and traditional learning, especially in the information revolution and the Internet. The course also shows the most important theories in learning, the characteristics of each, and the difference between learning and teaching theories. In addition to the above, there is an explanation of Gang's nine steps of education.

Course Number : 901318
Course Title : Educational guidance methods
Credit Hours : 3
Prerequisites : 901113

This course deals with the preparation of agricultural programs in particular, and its role in achieving food security. The course also explains the types of planning and planning specifications. This course deals with the indicative methods used in the fields of agriculture in general and rural and sustainable development in particular. The course also contains the types of these methods - individual, group and mass - in detail and the sections of each type.

Course Number : 901319
Course Title : Field training in agricultural extension and marketing
Credit Hours : 3
Prerequisites : 90 Hours

Training students on the uses of computers in agricultural economics, financial statements, and evaluation of agricultural projects. Training students on production processes in other departments at the college in terms of agriculture and its timing related to protected and open crops, and informing them about poultry and cow breeding farms and breeding methods.



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Course Number : 901320
Course Title : **Scientific research methods/agricultural marketing and extension**
Credit Hours : 3
Prerequisites : -

This course covers the foundations related to defining the statistical population to identify production and products of agricultural crops and livestock, how to prepare questionnaires, tabulate information, and methods of collecting information, in addition to field applications.

Course Number : 901326
Course Title : **Adult education/for agricultural extension and marketing students**
Credit Hours : 3
Prerequisites : 901113

The course focuses on the importance of the principles of the adult education process as a complementary and parallel process to informal education, such as agricultural extension, and the things that must be taken into consideration when dealing with adults who did not have the opportunity to learn as children. The topic also focuses on the efforts that should be directed to enhance the educational capabilities and skills of this group, which cares for adults outside the traditional educational environment. There is also a focus on the differences between adult education and everything related to this group and compulsory formal school education. The course also focuses on the principles and foundations followed and the conditions that must be met in the adult education process .

Course Number : 901327
Course Title : **Agricultural media**
Credit Hours : 3
Prerequisites : 901229

agricultural news writing; Scientific writing, agricultural knowledge and information systems, technology development and transfer, communication development, content analysis; Citation analysis; Advertising, marketing, public relations; Edutainment and ICT in rural development, aesthetic considerations in exhibitions, defining what Displays for different purposes and audiences places.



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Course Number : 901333
Course Title : Agricultural economic development
Credit Hours : 3
Prerequisites : 901135

Basic concepts of agricultural marketing, basic objectives of agricultural marketing, research methods in agricultural marketing studies, marketing functions and services, studying markets, their types and functions, studying intermediaries and marketing channels, estimating marketing costs and margins, measuring marketing efficiency, analyzing problems for storage.

Course Number : 901334
Course Title : Rural development
Credit Hours : 3
Prerequisites : 901113

Definition of an operating system, the history of operating system development, types of operating systems, structure and functions of operating systems, processor scheduling, The course discusses the fields of rural sociology and its concepts, the nature of social systems and ways of life in the countryside, the basic features of Jordanian rural society, its functions and characteristics, the problems that the countryside suffers from, and the differences between rural and urban communities.

Course Number : 901361
Course Title : Vegetable production and protected agriculture
Credit Hours : 3
Prerequisites : 901161

Basics of production and manufacturing of vegetable seedlings. Vegetable crops: their importance, division, appropriate environmental conditions for their growth, The various agricultural operations for its production, flowering, fruiting, maturity, harvesting and storage.

Protected agriculture: its importance, its facilities (greenhouses, plastic houses, and tunnels), design, components, installation and maintenance of these facilities.

Agricultural operations for the production of economic crops under protected conditions, with a focus on modern technical technologies.



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Course Number : 901362
Course Title : **Fruit tree production**
Credit Hours : 3
Prerequisites : 901161

The course addresses the importance of planting fruit trees, classifying fruit trees, and establishing orchards (choosing the site, varieties, origins, and planting systems).

Agriculture, frost resistance), flowers, fruit setting, fruit fall, growth and ripening of fruits, and agricultural operations (Breeding systems, pruning, fruit thinning, fertilization, irrigation, and pest resistance), harvesting and handling of fruits, and the use of plant growth regulators.

Course Number : 901364
Course Title : **Plant diseases and economic insects**
Credit Hours : 3
Prerequisites : 901167

Insects and arthropods, principles of insect control, geographical distribution, damage, life cycle, and methods of control.

Economic agricultural insects that infect vegetables, fruit trees and field crops

Plant diseases: basics of plant pathology, types of pathogens, disease life cycle, disease causing mechanisms, infection symptoms, plant defense mechanisms, examples of the most important plant diseases, and methods of control.

Course Number : 901366
Course Title : **Production of field crops**
Credit Hours : 3
Prerequisites : 901161

Economic and nutritional importance, plant division, most important field crops, original habitat, botanical description, production areas, Its environmental needs, appropriate soil and fertilization, preparing the land for planting, sowing quantities and dates, service operations. After planting, ripening and harvesting, ways to benefit from field crop products.



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Course Number : 901445
Course Title : **Agricultural finance**
Credit Hours : 3
Prerequisites : -

Explaining the concept of agricultural financing, the main processes in which capital is used, the goals and objectives of agricultural financing, its sources and forms, classification of agricultural loans, the mechanism for monitoring them, evaluation mechanisms for borrowing and collection operations, evaluating the performance of lending institutions, and studying agricultural insurance.

Course Number : 901446
Course Title : **Agricultural business management**
Credit Hours : 3
Prerequisites : -

This course aims to introduce the student to the goals, objectives, and functions of executive management, including planning, organizing, directing, and controlling, and their methods and procedural management, which work to achieve goals with global production efficiency, as well as identifying the mechanism for setting decisions, imposing authority, defining responsibilities, clarifying methods of communication between them, and holding them accountable Through an organizational structure in a climate based on cooperation, specialization and friendship.

Course Number : 901447
Course Title : **Evaluation of agricultural projects**
Credit Hours : 3
Prerequisites : 901135

This course covers agricultural projects and their role in development plans. The method of calculating the project and the project cycle, calculating costs and returns, analyzing the economic and financial feasibility of agricultural projects after preparing them, and how to choose projects that are economically and technically feasible.



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Course Number : 901448
Course Title : Agricultural price analysis
Credit Hours : 3
Prerequisites : 901135

This course covers an analytical study and the factors affecting supply and demand. Price and income elasticities, supply elasticities, and deriving supply and demand curves using linear equations.

Course Number : 901457
Course Title : Agricultural operations research
Credit Hours : 3
Prerequisites : 901135

The course covers the basic methods and practical skills for propagating fruit trees, ornamental plants, and vegetables, including seed propagation, and vegetative propagation of its various types, including cuttings, grafting, and layering, and the use of different plant parts and organs and tissue culture. It also includes the use of agricultural facilities, such as greenhouses, and various agricultural media.

Course Number : 901466
Course Title : graduation project
Credit Hours : 3
Prerequisites : Pass 90 credit hours

Introducing scientific research, its importance, how to test the research problem, and training in collecting data, in addition to developing the student's abilities to design research in the field of agricultural economics and extracting research results by conducting field or office research.



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جامعة عجلون الوطنية

Elective Department Requirements (9 Credit Hours):

Course Number : 901247
Course Title : **Agricultural cooperation**
Credit Hours : 3
Prerequisites : -

structures, while addressing the experience of some Arab and foreign countries in the field of cooperation. It also includes the main concepts of cooperation, as well as addressing credit, cooperation, cooperative marketing, and studying the cooperative movement in Palestine.

Course Number : 901264
Course Title : **Agricultural insurance**
Credit Hours : 3
Prerequisites : -

Basic concepts in cryptography such as encryption and decryption, sender verification, data reliability, non-repudiation, classification of attacks (cipher text-only, known plaintext, chosen plaintext, chosen cipher text), symmetric encryption (DES and AES algorithms), asymmetric encryption (RSA algorithm), information theory-based security (one-time pad, Shannon's theory), key exchange, and digital signatures.

Course Number : 901266
Course Title : **Principles of soil science and irrigation**
Credit Hours : 3
Prerequisites : 704186

Identifying soil components, chemical and physical soil properties, soil composition, soil structure, soil salinity, soil water, soil microbes, organic matter in the soil, nutrients available in the soil, taking soil samples, estimating soil moisture, soil density, soil permeability, Soil colour, soil acidity

Course Number : 901341
Course Title : **E-Marketing**
Credit Hours : 3
Prerequisites : -



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The courses of this specialization highlight the role of various means of modern technology in planning and implementing marketing activities, including focusing on the latest methods and strategies and designing and managing websites, in a way that serves business organizations as they move to wards digitizing their activities and services and reaching customers in creative ways.

Course Number : 901396
Course Title : Marketing Services
Credit Hours : 3
Prerequisites : -

This course aims to introduce students to the specificity of marketing financial services in terms of their high intangibility, as well as to explain the vital role of banks, insurance and financing companies in securing various investment opportunities, by meeting customers' needs using a marketing mix specifically designed to create a competitive advantage for financial organizations that enable them to During which he keeps up with opportunities

Course Number : 901363
Course Title : Beekeeping
Credit Hours : 3
Prerequisites : -

Beekeeping in the past and present 0 Insects close to honey bees and social life 0 Honey bee caste, anatomy External and internal, communication activities and language, nutritional needs of the bee colony, diseases and pests, bee colony products 0 Beekeeping tools and equipment.

Course Number : 901462
Course Title : Poultry farm management
Credit Hours : 3
Prerequisites : 901165

This course deals with. Economic importance and description of the plant... Field exercises on the plant. Daily and seasonal routines on poultry, sheep, and dairy cow farms....



Ajloun National University

جامعة عجلون الوطنية

Course Number : 901463
Course Title : Food security
Credit Hours : 3
Prerequisites : 901135

Introducing new topics in the fields of cybersecurity and cloud computing, a series of advanced topics in cybersecurity and cloud computing, diverse subjects covering technological updates related to a specific pathway in cybersecurity and cloud computing, in-depth study of topics covered in other courses, and an introduction to advanced concepts. The department is responsible for determining the content of this course.

Course Number : 901901364
Course Title : Plant diseases and economic insects
Credit Hours : 3
Prerequisites : 901161

Introduction to insects and arthropods, principles of insect control, geographical distribution, damage, life cycle, and methods of control for the most important economic agricultural insects that infect vegetables, fruit trees, and field crops.

Plant diseases: basics of plant pathology, types of pathogens, disease life cycle, disease causing mechanisms, infection symptoms, plant defense mechanisms, examples of the most important plant diseases, and methods of control.