1

Course Syllabus

1	Course title	Algebra II
2	Course number	0301742
3	Credit hours	3
	Contact hours (theory, practical)	3
4	Prerequisites/corequisites	0301741 Algebra I
5	Program title	Master
6	Program code	
7	Awarding institution	
8	School	Science
9	Department	Mathematics
10	Course level	Elective
11	Year of study and semester(s)	2nd year, 1st and 2nd semesters
12	Other department(s) involved in teaching the course	
13	Main teaching language	English
14	Delivery method	☐Face to face learning ☒Blended ☐Fully online
15	Online platforms(s)	☒Moodle ☒Microsoft Teams ☐Skype ☐Zoom ☐Others…………
16	Issuing/Revision Date	16th Jul. 2021

17 Course Coordinator:

Name: Prof. Emad Abuosba   Contact hours: Sun + Tue: 16 – 71:30 pm
Office number: 308   Phone number: 22088
Email: eabuosba@ju.edu.jo

18 Other instructors:

Name:
Office number:
Phone number:
Email:
Contact hours:
Name:
Office number:
Phone number:
Email:
Contact hours:

19 Course Description:

As stated in the approved study plan.
R-modules, products and sums of R-modules, exact sequences and split exact sequences, simple and semisimple R-modules, essential and small submodules, the ring of endomorphisms of an R-modules, projective and injective modules, regular rings, the radical and socle of an R-module, Noetherian and Artinian R-modules. Field extensions, algebraic elements, splitting fields.

20 Course aims and outcomes:

A- Aims: Upon completing this course the student is expected to:

A1. Developing effective critical thinking with a high ability to abstract and providing them with knowledge and skills in pure mathematics.

A2. Develop skills for effective communication.

A3. use technological tools to solve mathematical problems.

B- Students Learning Outcomes (SLOs):

Upon successful completion of this course, students will be able to:

B1. Read and write algebraic proofs.

B2. Write small essay

B3. Represent his work in front of his colleges

B4. Use Mathematica to solve some algebraic problems

B5. Use the electronic library to find solutions and articles

B6. Work in small teams

SLOs SLOs of the course	SLO (1)	SLO (2)	SLO (3)	SLO (4)	SLO (5)	SLO (6)	SLO (7)	SLO (8)
B1	■							
B2	■							
B3			■					
B4				■				
B5								■
B6							■	

21. Topic Outline and Schedule:

مركـز الاعـتـماد
وضمان الجودة
ACCREDITATION & QUALITY ASSURANCE CENTER

Week	Lecture	Topic	Intended Learning Outcome	Learning Methods (Face to Face/Blended/ Fully Online)	Platform	Synchronous / Asynchronous Lecturing	Evaluation Methods	Resources
1	1.1	Field of Fractions	B1		Microsoft Teams			Text Book
	1.2	Rings of Quotients	B1		Microsoft Teams			Text Book
2	2.1	Localization	B1		Microsoft Teams			Text Book
	2.2	Local Rings	B1		Microsoft Teams			Text Book
3	3.1	Rings of Polynomials	B1		Microsoft Teams			Text Book
	3.2	Power Series	B1		Microsoft Teams			Text Book
4	4.1	Factorization in polynomial Rings	B1		Microsoft Teams			Text Book
	4.2	Factorization in polynomial Rings	B1		Microsoft Teams			Text Book
5	5.1	Noetherian Rings	B1		Microsoft Teams			Text Book
	5.2	Noetherian Rings	B1		Microsoft Teams			Text Book
6	6.1	Modules	B1		Microsoft Teams			Text Book
	6.2	Homomorphisms	B1		Microsoft Teams			Text Book
7	7.1	Exact Sequences	B1		Microsoft Teams			Text Book
	7.2	Exact Sequences	B1		Microsoft Teams			Text Book
8	8.1	Free Modules	B1		Microsoft Teams			Text Book
	8.2	Free Modules	B1		Microsoft Teams			Text Book
9	9.1	Projective Modules	B1		Microsoft Teams			Text Book

Week	#	Topic	SLOs		Platform			Resources
	9.2	Injective Modules	B1		Microsoft Teams			Text Book
10	10.1	Fields Extensions	B1		Microsoft Teams			Text Book
	10.2	Field Extensions	B1		Microsoft Teams			Text Book
11	11.1	Algebraic Extensions	B1		Microsoft Teams			Text Book
	11.2	Algebraic Extensions	B1		Microsoft Teams			Text Book
12	12.1	Splitting Fields	B1		Microsoft Teams			Text Book
	12.2	Splitting Fields	B1		Microsoft Teams			Text Book
13	13.1	Splitting Fields	B1		Microsoft Teams			Text Book
	13.2	Splitting Fields	B1		Microsoft Teams			Text Book
14	14.1	Review	B1		Microsoft Teams			Text Book
	14.2	Review	B1		Microsoft Teams			Text Book
15	15.1	Review	B1		Microsoft Teams			Text Book
	15.2	Review	B1		Microsoft Teams			Text Book

22 Evaluation Methods:

Opportunities to demonstrate achievement of the SLOs are provided through the following assessment methods and requirements:

Evaluation Activity	Mark	Topic(s)	SLOs	Period (Week)	Platform
Midterm	30		B1		Classroom
Homework	10		B1+B6		Microsoft Teams
Essay	10		B2+B4+B5		Microsoft Teams

Presentation	10		B3		Classroom
Final Exam	40		B1		Classroom

23 Course Requirements

students should have a computer, internet connection, webcam, account on Microsoft teams

24 Course Policies:

1. The student is not allowed to take the course and its pre-requisite in the same time.

2. Attendance is absolutely essential to succeed in this course. You are expected to attend every class; please notify your instructor if you know you are going to be absent. All exams must be taken at the scheduled time. Exceptions will be made only in extreme circumstances, by prior arrangement with the instructor.

3. If a student is absent for more than 10% of lectures without an excuse of sickness or due to other insurmountable difficulty, then he/she shall be barred from the final examination also he/she will get a failing grade in this course.

4. Medical certificates shall be given to the University Physician to be authorized by him. They should be presented to the Dean of the Faculty within two weeks of the student's ceasing to attend classes.

5. Test papers shall be returned to students after correction. His/her mark is considered final after a lapse of one week following their return.

6. Solutions for the exams questions and marks will be announced at the elearning platform

7. Cheating is prohibited. The University of Jordan regulations on cheating will be applied to any student who cheats in exams or on home works.

25 References:

A- Required book(s), assigned reading and audio-visuals:

Algebra by Thomas Hungerford, 2nd edition.

B- Recommended books, materials, and media:

Abstract Algebra by David Dummit and Richard Foote, 3rd edition.

26 Additional information:

Name of Course Coordinator: Prof. Emad Abuosba Signature: ---------------------- Date: ------------------	
Head of Curriculum Committee/Department: -------------------------- Signature: ------------------------------	
Head of Department: --- Signature: ---------------------------	
Head of Curriculum Committee/Faculty: -------------------------------------- Signature: -------------------------	
Dean: --- Signature: ---	