



مركز الاعتماد
وإضمان الجودة
ACCREDITATION & QUALITY ASSURANCE CENTER



The University of Jordan

Accreditation & Quality Assurance Center

COURSE Syllabus

1	Course title	<i>Quantum Field Theory I</i>
2	Course number	<i>0302958</i>
3	Credit hours (theory, practical)	3 hours
	Contact hours (theory, practical)	
4	Prerequisites/corequisites	
5	Program title	Ph.D
6	Program code	
7	Awarding institution	
8	Faculty	Science
9	Department	Physics
10	Level of course	Ph.D
11	Year of study and semester (s)	First Semester 2016/2017
12	Final Qualification	Through tests
13	Other department (s) involved in teaching the course	None
14	Language of Instruction	English
15	Date of production/revision	

16. Course Coordinator:

Office numbers, office hours, phone numbers, and email addresses should be listed.

Noureedine Chair

Physics Department, office number 10, n.chair@ju.edu.jo

17. Other instructors:

Office numbers, office hours, phone numbers, and email addresses should be listed.

None

18. Course Description:

As stated in the approved study plan.

Classical field Theory; Free field theories: Klein-Gordon and Dirac Fields; Interacting Field Theories: S-Matrix and Feynman Diagrams; Quantum Electrodynamics

20. Topic Outline and Schedule:

Topic	Week	Instructor	Achieved ILOs	Evaluation Methods	Reference
Classical Theory	1	N.Chair		Solving Problems in the Class, Through Examples and Exames	Lectures of Quantum field theory by John Strathdee (ICTP)
Canonical Quantization	2	N.Chair			
Quantized Oscillators, Fermion and Bosons	3,4	N.Chair			
The forced Oscillator, S-Matrix Perturbation Theory	5,6	N.Chair			
Free fields, Greens's Functions and Wick's theorem	7,8	N.Chair			
Interacting fields, Perturbation theory, Cross sections	9,10,11,12	N.Chair			
Feynman Graphs	13	N.Chair			

Interacting

21. Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:
 Give the Physical motivation to the subjects, then discuss the different methods to be used in the course

22. Evaluation Methods and Course Requirements:

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

Students are supposed to solve some suggested problems during the course, this would give us some feedback and thus, we can see those Students who need to do more work in order to reach our goals

23. Course Policies:

A- Attendance policies:

We check attendance in every class

B- Absences from exams and handing in assignments on time:

We should be strict in these cases

C- Health and safety procedures:

D- Honesty policy regarding cheating, plagiarism, misbehavior:

Students should be respect these facts, if not, they should be punished

E- Grading policy:

F- Available university services that support achievement in the course:

None

24. Required equipment:

None

25. References:

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

Lectures of Quantum field theory by John Strathdee (ICTP) and the Classic book Quantum field by CLAUDE ITZYKSON and JEAN-BERNARD ZUBER, McGraw-Hill, Inc, 1980

B- Recommended books, materials, and media:

26. Additional information:

Name of Course Coordinator: Nouredine Chair-----Signature: -----

Date:17/12/2016 ----- Head of curriculum committee/Department: -----

Signature: -----

Head of Department: ----- Signature: -----

Head of curriculum committee/Faculty: ----- Signature: -----

Dean: ----- -Signature: -----

Copy to:
Head of Department
Assistant Dean for Quality Assurance
Course File