

1	Course title	Fundamentals of Geophysics
2	Course number	0305271
3	Credit hours (theory, practical)	3 hours weekly
	Contact hours (theory, practical)	(09:00-10:00) three times a week.
4	Prerequisites/co requisites	0305101 General Geology (Geo101)
5	Program title	Geology
6	Program code	---
7	Awarding institution	Department of geology
8	School	Science
9	Department	Geology
10	Level of course	Bachelor
11	Year of study and semester (s)	2017\2018 Spring semester (First semester)
12	Final Qualification	
13	Other department (s) involved in teaching the course	No other department (s) involved in teaching the course
14	Language of Instruction	English
15	Date of production/revision	18.09.2017

16. Course Coordinator:

Office numbers, office hours, phone numbers, and email addresses should be listed. 211, Sun, Mon and Thur (10:00-11:00 and 12:30-14:00), m.hseinat@ju.edu.jo, Dr. Mu'ayyad Al Hseinat
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17. Other instructors:

Office numbers, office hours, phone numbers, and email addresses should be listed.
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18. Course Description:

As stated in the approved study plan. A 3 hours credit undergraduate course covers topics related mainly to study of various geophysical methods, instrumentation and field methodology. Analysis of physical parameters and geophysical anomalies, to interpret sub-surface geological structures. Geophysical methods include gravity, magnetic, electric, seismic, geothermal and integrated geophysical studies.

19. Course aims and outcomes:**A- Aims:**

- The course will provide the students with the basic understanding of applied Geophysics, i.e., classifications; development; application: exploration for oil & gas, underground water, ore deposits, other applications.
- The topics covered in this course will allow the students to better understanding of the different geophysical techniques and their importance, i.e., reflection seismic, refraction seismic, Electrical & Electromagnetic Methods, Gravity & Magnetic Methods.

B- Intended Learning Outcomes (ILOs): Upon successful completion of this course students will be able to

Skill Outcomes Knowledge and

1- Identify the term geophysics and understand its classification and development.

2- Understand what the different types of geophysics are.

3- Understand the benefit of each individual method on the exploration field.

20. Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:

- Lectures, discussion groups, tutorial, problem solving, debates .etc.
- The use of power Point presentations, Illustrations with modules, educational animations, and movies.

21. Evaluation Methods and Course Requirements:

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

First exam 30%

Second exam 30%

Final exam 40%

Total 100%

22. Course Policies:

A- Attendance policies: Students must attend 85% of the lectures and field trips. Otherwise the course is dropped.

B- Absences from exams and handing in assignments on time: Medical excuses are accepted for retaking the missed exams.

C- Health and safety procedures: Field safety procedures are explained at the beginning of classes
 D- Honesty policy regarding cheating, plagiarism, misbehaviour: As University rules.

23. Required equipment: (Facilities, Tools, Labs, Training....)

Seismic, gravity, resistivity equipments are available and will be introduced in the course.

24. References:

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

- Dobrin, M. B., 1981, Introduction to geophysical prospecting, 3rd ed., McGraw-Hill, Auckland.
- Sharma, P. V., 1986, Geophysical methods in geology, 2nd ed., Prentice Hall, New Jersey.
- Nettleton, L. L., 1976, Gravity and magnetics in oil prospecting, McGraw-Hill, New York.
- Blakely, R. B., 1995, Potential theory in gravity & magnetic applications, Cambridge Univ. Press.

25. Additional information:

In addition, some geophysical software will be introduced.

Name of Course Coordinator: -----Signature: ----- Date: -----

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

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

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

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