

1	Course title	Geophysical Exploration Methods
2	Course number	0305772
3	Credit hours (theory, practical)	3 Credit hours
	Contact hours (theory, practical)	(13:00-14:00) three times a week.
4	Prerequisites/co-requisites	No
5	Program title	Environmental and Applied Geology
6	Program code	305
7	Awarding institution	Department of geology
8	School	Science
9	Department	The University of Jordan
10	Level of course	Master
11	Year of study and semester (s)	2023\2024 Second semester
12	Final Qualification	Master of Geology
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	7.02.2024

16. Course Coordinator:

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

210, Sun, Mon and Thur (9:00-12:00), m.hseinat@ju.edu.jo, Dr. Mu'ayyad Al Hseinat

17. Other instructors:

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

No

18. Course Description:

As stated in the approved study plan.

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

19. Course aims and outcomes:

<p>A- Aims:</p> <ul style="list-style-type: none"> - The course will provide the students with advance understanding of Geophysical exploration methods, i.e., classifications; development; and application: exploration for oil & gas, underground water, ore deposits, and other applications. - The topics covered in this course will allow the students to better understand of the different geophysical techniques and their importance, i.e., GPR, MASW, reflection seismic, refraction seismic (SRT), Electrical, and electromagnetic Methods, Gravity, and magnetic Methods. <p>B- Intended Learning Outcomes (ILOs): Upon successful completion of this course students will be able to</p>
Skill Outcomes Knowledge and
At the end of this module, students will be at least able to:
1. the term geophysical exploration and understand its classification and development.
2. Understand what the different types of geophysics are and how to select a geophysical method based on the target and conditions.
3. Understand the benefit of each individual method on the exploration field.

20. Teaching Methods and Assignments:

<p>Development of ILOs is promoted through the following teaching and learning methods:</p> <ul style="list-style-type: none"> -Lectures, discussion groups, tutorial, problem solving, debates .etc - The use of power Point presentations, Illustrations with modules, educational animations, and movies.
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21. Evaluation Methods and Course Requirements:

<p>Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:</p> <p>First Exam 30%</p> <p>Second exam 30%</p> <p>Final Exam 40%</p> <p>Total 100%</p>

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

E- Grading policy: Reports are graded and returned to students

F- Available university services that support achievement in the course: Field Trips, equipment (compasses, hummers, GPS, etc.....)

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

The available geophysical instruments will be introduced.

24. References:

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

- John M. R., 2011. An Introduction to Applied and Environmental Geophysics, 2nd ed. John Wiley & Sons, Ltd, The Atrium, Southern Gate, Chichester, West Sussex, PO19 8SQ, UK.
- 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.

25. Additional information:

Introduce several geophysical software/s.

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

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

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

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

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