

Course Specifications

Programme(s) on which the course is given: Post-Graduate (Geophysics)
Major or Minor element of programmes: Major.
Department offering the programme: Geology
Department offering the course: Geology
Academic year / Level: 00/Post Graduate
Date of specification approval:

a- Basic Information

Title: Geoelectric

Code: G664

Credit Hours: 3 Credit
Hour

Lecture: 2 Credit

Tutorial:

Practical: 2 Hours

Total: 3 Credit Hour

b- Professional Information

1 – Overall Aims of Course:

- To introduce the basic principles and methodology of geoelectric technique.
- To give initial training in the operation of basic geoelectric geophysical instruments and data interpretation

2 – Intended Learning Outcomes of Course (ILOs)

- a- Knowledge and Understanding:** By the end of this course, the student should be able to:
- a1-** Understand the basic principles of electrical methods of exploration geophysics.
 - a2-** Familiarize with the geological applications of electrical geophysics.
- b- Intellectual Skills:** By the end of this course, the student should be able to:
- b1-** Planning and carrying out a simple geoelectric survey
 - b2-** Compare between different application using geoelectric method.
- c- Professional and Practical Skills:** By the end of this course, the student should be able to:
- c1-** Draw and plot the raw data from the geoelectric measurements.
 - c2-** Perform the geoelectric field measurements.
- d- General and Transferable Skills:** By the end of this course, the student should be able to:
- d1-** Work as a part of team.
 - d2-** Solve exploration problems.

3. Contents

Topic	Credit hours	Lecture	Tutorial/Practical
Introduction	3	2	2
Current flow in a homogeneous isotropic earth	6	4	4
Horizontal interface	3	2	2
Multiple horizontal interface	3	2	2
Field procedures	6	4	4
Quantitative interpretation	6	4	4
Applications of electrical resistivity	6	4	4
Other electrical methods	9	6	6

4 – Teaching and Learning Methods

- 4.1-** lectures.

4.2- Lab Practical

5- Student Assessment Methods

5.1- Regular written exam.

to assess a1, a2

5.2- Mid-term exam.

to assess a2, c1

5.3- At the end of term exam.

to assess a1-a2, b1-b2, c1-c2

5.4- Reports and discussions

to assess d1-d2

Assessment Schedule

Assessment 1: short exam (class activities)

every two weeks

Assessment 2: mid-term (written and practical)

week 7

Assessment 3: final-term (written and practical)

week 15-16

Weighting of Assessments

Written

Mid-Term Exam.: 20%

Final-term Examination: 60%

Semester Work (including reports, oral and discussion): 20%

Total: 100%

Practical

Mid-Term Exam.: 20%

Final-Term Exam.: 60%

20%

100%

6- List of References

6.1- Course Notes:

6.2- Essential Books (Text Books):

6.3- Recommended Books:

6.4- Periodicals, Web Sites, ... etc

7- Facilities Required for Teaching and Learning

Data show and Lab. equipments

Course Coordinator: Prof. Hassan El Shayeb

Head of Department: Prof. Ahmed Al-Boghdady

Date: / /2012