

Course Specifications

Programme(s) on which the course is given: Post-Graduate (Hydro-Petroleum)

Major or Minor element of programmes: Major

Department offering the programme: Geology

Department offering the course: Geology

Academic year / Level: 00/ Post Graduated

Date of specification approval:

a- Basic Information

Title: Advanced Subsurface Geology and correlation

Credit Hours: 2 Credit Hours

Credit Hours

Tutorial: -

Credits

Practical:

Code: G651

Lecture: 2

Total: 2

b- Professional Information

1 – Overall Aims of Course

- To explain the main tools of studying the subsurface geological condition.
- To illustrate the different types of the subsurface maps.
- To clarify the importance of the subsurface geology in the exploration for both petroleum and ground water

2 – Intended Learning Outcomes of Course (ILOs)

- a- **Knowledge and Understanding:** By the end of this course, the student should be able to:
- a1- Understanding the different methods of well drilling
 - a2- Summarize the different geophysical methods (their techniques and tools).
 - a3- Describe the subsurface structure features.
- b- **Intellectual Skills:** By the end of this course, the student should be able to:
- b1- Estimate the subsurface geologic conditions.
 - b2- Analyze the reservoir parameters.
 - b3- Compare the subsurface geological conditions form the different data derived from drilling and geophysical methods
- c- **Professional and Practical Skills:** By the end of this course, the student should be able to:
- c1- Use raw data from logs to estimate the reservoir parameters.
 - c2- Draw different types of subsurface maps
- d- **General and Transferable Skills:** By the end of this course, the student should be able to:
- d1- Use internet critically for communication and searching on the course topics
 - d2- Give effective presentations using appropriate methods

3- Contents

Topic	Credit hours	Lecture
Introduction	2	1
Sources of data for subsurface geology	4	2
Methods of drilling	4	2

Geophysical methods	4	2
Borehole geophysics	4	2
Lithology identifications using well log data	2	1
Reservoir parameters Estimation	2	1
Subsurface mapping	4	2
Integration of geophysical Data in Subsurface mapping		
Well correlation	2	1
Total	28	14

4- Teaching and Learning Methods

4.1- Professional lectures

4.2- Class discussion.

4.3- Preparation of scientific reports during the semester.

5- Student Assessment Methods

5.1- Regular written exam.

to assess a1-a3

5.2- Mid-term exam.

to assess a2, c1-c2

5.3- At the end of term exam.

to assess a1-a3, b1-b3, c1-c2, d1-d2

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)

week 7

Assessment 3: Final-term (written and verbal)

week 15-16

Weighting of Assessments

Semester Work and discussions:

20 %

Mid-Term Examination :

20%

Final-term Examination :

60%

Total:

100%

6- List of References

6.1- Course Notes:

6.2- Essential Books (Text Books)

Subsurface Geology (Moody)

6.3- Recommended Books

6.4- Periodicals, Web Sites, ... etc

Journal of Petrophysics

7- Facilities Required for Teaching and Learning

Data show for lectures presentation

Course Coordinator: Dr. Mohamed Farouk Abu-Hashish

Head of Department: Prof. Ahmed Al-Boghdady

Date: / /2012