Course Specifications

Programme(s) on which the course is given: Post-Graduate (Mineralogy and Petrology)
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: Cement Manufacturing Technology **Code:** G656

Credit Hours: 2 Credits **Lecture:** 2 Credits

Tutorial: **Practical:** ------ **Total:** 2 Credit Hours

b- Professional Information

1 – Overall Aims of Course

- Understanding the complete cement manufacturing process.

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 process of manufacturing of cement.
a2- Understand terminology, nomenclature and classification used in cement technology.
a3- Identify factors that affect material selection.

b- Intellectual Skills: By the end of this course, the student should be able to:

b1- Create, apply and disseminate knowledge within the field of cement manufacturing.
b2- Differentiate between different types of cement.

c- Professional and Practical Skills: By the end of this course, the student should be able to:

c1- Apply and adopt the course topics into professional application.
c2- Explain the technological systems approach and how it relates to manufacturing: inputs (materials, labour, capital), processes (material processing), and output (for industry or the consumer market).

d- General and Transferable Skills: By the end of this course, the student should be able to:

d1- Critically use the internet as a mean of communication and as a source of information.
d2- Communicate effectively to a variety of audiences in written, verbal and graphical forms.

3. Contents

Topic	Credit hours	Lecture
Cement manufacturing fundamental	4	4
Raw materials for cement manufacture (exploration, extraction, processing and mixing of cement raw materials)	4	4
Pyroprocessing 1 - Chemical, physical and mineralogical transformation from raw mix to cement clinker	4	4
Pyroprocessing 2 - Process and equipment evolution for cement clinker manufacture	4	4
Cement grinding and dispatch	4	4

Sustainability in cement manufacture. Meeting corporate, customer, social and environmental obligations in the manufacture of cement	8	8
Total	**28**	**28**

4 – Teaching and Learning Methods

4.1- Professorial lectures
4.2- Class discussions
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 b1-b2
5.3- At the end of term exam.	to assess 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 exam (written)	week 7
Assessment 3: Final-term exam (written and verbal)	week 15-16

Weighting of Assessments

Semester work :	20%
Mid-Term Examination:	20%
Final-term Examination:	60%
Total:	100%

6- List of References

6.1- All course topics will be given from published international journals.
6.2- Periodicals, Web Sites, … etc
Cement and Concrete Research (Elsevier), Construction and building materials (Elsevier), Cement and Concrete composites (Elsevier), Advanced Cement Based Materials (Elsevier).

7- Facilities Required for Teaching and Learning

Laptop, data show, internet, international journals.

Course Coordinator: Prof. Ibrahim khalaf, **Other Staff:** Prof.

Head of Department: Prof. Ahmed Al-Boghdady

Date: / /2012