University: Cairo Faculty: Engineering Department: Aerospace Engineering

Course Specifications

Programme(s) on which the course is given B.Sc. Aerospace Engineering

Major or Minor element of programmes Structures

Department offering the programme Aerospace Engineering

Department offering the course Aerospace Engineering
Academic year / Level 1st Year

Date of specification approval: March, 2015.

A- Basic Information

Title: Analysis of Structures Code: AER103B
Credit Hours: 3 Lecture:2
Tutorial: 1 Practicals: Total: 3

B- Professional Information

1 – Overall Aims of Course

To calculate the stresses and deformations due to thrust, shear, bending and torsion in uniform beams with symmetric cross-sections.

2 – Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:
Basic information, Concepts

b- Intellectual Skills

*□ analysis □ creative thinking *□ problem solving

c- Professional and Practical Skills

□ managing □ engineering design
*□ computer programme □ ability to diagnose
*□ ability to identify the problem
□ ability to estimate cost □ Others specify

d- General and Transferable Skills

*□ computing □ communication
□ management □ working in group
*□ use of technological tool

3- Contents

Topic	No. of hours	Lecture	Tutorial/Practical
Properties of Beam Sections	4	4	2
The Analysis of Thrust	6	4	2
The Analysis of Bending	6	6	3
The Analysis of Shear	6	6	3
The Analysis of Torsion	6	4	2
Revision	4	2	2
	40	26	14

4– Teaching and Learning Methods

□ information collection
□ research assignment
*****□ lecture
*****□ class activities
*****□ discussions
□ field v. set
□ practical training / lab
□ case study

5- Student Assessment Methods

5.1…Class test (1) ……. to assess …Understanding...
5.2…Class test (2) ……. to assess …Understanding...
5.3… Reports …… …. to assess Problem Solving
5.4…Mid term exam … . to assess gains of completed topics….

Assessment Schedule

Assessment 1……. Week ……4…….
Assessment 2 …… week ……8…….
Assessment 3……. Week …..11…..
Assessment 4……. Week … 14…….

Weighting of Assessments

Mid-Term Examination	16	%
Final-term Examination	67	%
Oral Examination.		%
Computer Lab Examination		%
Semester Work	17	%
Other types of assessment		%
Total	100	%

6- List of References

6.1- Course Notes
Aircraft Structures for Engineering Students, T.H.G. Megson, Edward Arnold Publishing, London.

6.2- Essential Books (Text Books)

6.3- Recommended Books
Any Structural Analysis Book ……
……..

6.4- Periodicals, Web Sites, … etc
…….
…….

7- Facilities Required for Teaching and Learning
Screen, new reference in library

Course Coordinator: Dr. Ahmed Rashed

Head of Department: Prof. Ayman H. Kassem

Date: March, 2015.