**COURSE OUTLINE TEMPLATE**

**COURSE CODE**
EENG342

**COURSE TITLE**
ELECTRONICS II

**COURSE LEVEL**
Third year

**COURSE TYPE**
Department core

**CREDIT VALUE**
(4, 1) 4

**ECTS VALUE**
6 (projected)

**PREREQUISITES**
EENG341

**COREQUISITES**
EENG341

**DURATION OF COURSE**
One semester

**Semester and year**
Fall

**Year**
2008

*ECTS STANDS FOR EUROPEAN CREDIT TRANSFER SYSTEM THAT WILL BE ADOPTED BY EU COUNTRIES IN 2010 WHICH IS KNOWN AS BOLOGNA PROCESS

**WEB LINK**
http://faraday.ee.emu.edu.tr/suysal

**Instructors**
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**Assistant(s)**
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**EE 110**

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2765

**CATALOGUE DESCRIPTION**

OPAMPS; feedback amplifier topologies; feedback loading; stability and compensation. Amplifier frequency response. Passive filters; passive-to-active transformation; active filters. Diode and transistor oscillators.

**AIMS & OBJECTIVES**

At the completion of the course students should be able to:

i. Analyse and design OPAMP circuits for various applications.

ii. Analyse feedback amplifiers and transistor oscillators.

iii. Calculate approximate frequency response diagrams of amplifiers.

iv. Design lowpass filters and any other filter type using lowpass filter design principles.

v. Demonstrate understanding and skills in the design of passive-to-active filters.

**GENERAL LEARNING OUTCOMES (COMPETENCES)**

On successful completion of this course, all students will have developed knowledge and understanding of:

- OPAMPS
- FEEDBACK CONCEPTS IN AMPLIFIERS
- MEANING OF NEGATIVE FEEDBACK
- MEANING OF POSITIVE FEEDBACK
- FREQUENCY DEPENDENCE OF AMPLIFIERS
- FREQUENCY BANDWIDTH OF AMPLIFIERS
- THE NEED FOR FILTERS
- THE REASONS FOR ACTIVE FILTERING
- THE NEED FOR DIFFERENT FILTERS
- THE CONDITIONS FOR OSCILLATIONS
- THE MEANING OF AN OSCILLATOR
- STABILITY AND INSTABILITY

On successful completion of this course, all students will have developed their skills in:

- ENGINEERING DESIGN OF AMPLIFIERS, FILTERS AND OSCILLATORS
- ANALYSING COMPLEX ELECTRONIC CIRCUITS

On successful completion of this course, all students will have developed their appreciation of, and respect for values and attitudes to:

- ENGINEERING DEFINITIONS OF ELECTRONICS
- DIVERSITY OF ELECTRONICS CIRCUITS AND INNOVATIVE APPROACHES

**GRADING CRITERIA**

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<thead>
<tr>
<th>Grade</th>
<th>Description</th>
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<tr>
<td>A (excellent)</td>
<td>An excellent demonstration of KNOWLEDGE, UNDERSTANDING AND SKILLS in the subject</td>
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<tr>
<td>B (good)</td>
<td>Demonstration of good ANALYTICAL SKILLS in solving and designing electronic circuits</td>
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<tr>
<td>C (average)</td>
<td>Demonstration of an acceptable level of acquired UNDERSTANDING of the subject</td>
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<tr>
<td>D</td>
<td>(barely sufficient)</td>
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<td>D-</td>
<td>(narrowly fail)</td>
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<td>F</td>
<td>(fail)</td>
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**RELATIONSHIP WITH OTHER COURSES**

Please see the Undergraduate Catalogue for Academic Year 2007-2008

**LEARNING TEACHING METHODS**
Lecture slides, tutorials, details explained using Whiteboard, **ANALOGIES**

**ASSIGNMENTS**
Not yet decided

**METHOD OF ASSESSMENT**
- **LAB** 10%
- **QUIZZES** 20%
- **MIDTERM EXAM** 30%
- **FINAL EXAM** 40%

**ATTENDANCE**

*POOR ATTENDANCE WILL BE AN NG*

**TEXTBOOK/S**

**RECOMMENDED READING**

**COURSE CONTENT AND SCHEDULE**
- The lecture topics within the semester are as in the following schedule

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<tr>
<th>Week</th>
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<td><strong>OPAMPS</strong></td>
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<td><strong>FEEDBACK CONCEPT</strong></td>
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**ACADEMIC HONESTY - PLAGIARISM**
Cheating is copying from others or providing information, written or oral, to others. Plagiarism is copying without acknowledgement from other people’s work. According to university by laws cheating and plagiarism are serious offences punishable with disciplinary action ranging from simple failure from the exam or project, to more serious action (letter of official warning suspension from the university for up to one semester). Disciplinary action is written in student records and may appear in student transcripts.

**ANY OTHER RELEVANT INFORMATION**

PLEASE KEEP THIS COURSE SYLLABUS FOR FUTURE REFERENCE AS IT CONTAINS IMPORTANT INFORMATION