OFFICIAL COURSE OUTLINE INFORMATION

Students are advised to keep course outlines in personal files for future use.
Shaded headings are subject to change at the discretion of the department and the material will vary - see course syllabus available from instructor

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<th>FACULTY/DEPARTMENT: PHYS 342</th>
<th>Faculty of Science, Health &amp; Human Services / Physics</th>
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<tbody>
<tr>
<td>COURSE NAME/NUMBER</td>
<td>FORMER COURSE NUMBER</td>
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<tr>
<td>Analog Electronics Laboratory</td>
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<td>COURSE DESCRIPTIVE TITLE</td>
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CALENDAR DESCRIPTION:

PHYS 342 is the laboratory portion of PHYS 332. Students enrolling in PHYS 342 must in the same semester enroll in PHYS 332. This course will introduce and provide the students with experience and practice in wiring and designing circuits, how passive and active circuit devices are used in circuits, and how to check the circuits by employing the electronic measuring and test equipment used in modern laboratories. The lab computers will be used to check how the actual circuits function in comparison with the computer simulated circuits.

PREREQUISITES:

PHYS 222

COREQUISITES:

PRE or CO-REQUISITES:

PHYS 332

SYNONYMOUS COURSE(S)

(a) Replaces: n/a
(b) Cannot take: n/a for further credit.

SERVICE COURSE TO:

(Office #) (Department/Program)

(Office #) (Department/Program)

TOTAL HOURS PER TERM: 45

TRAINING DAY-BASED INSTRUCTION

STRUCTURE OF HOURS:

Lectures: Hrs
Seminar: Hrs
Laboratory: Hrs
Field Experience: Hrs
Student Directed Learning: Hrs
Other (Specify): Hrs

LENGTH OF COURSE: HOURS PER DAY:

MAXIMUM ENROLLMENT: 24

EXPECTED FREQUENCY OF COURSE OFFERINGS:

Once every two or three yrs

WILL TRANSFER CREDIT BE REQUESTED? (lower-level courses only)

☑ Yes ☐ No

WILL TRANSFER CREDIT BE REQUESTED? (upper-level requested by department)

☑ Yes ☐ No

TRANSFER CREDIT EXISTS IN BCCAT TRANSFER GUIDE:

☑ Yes ☐ No

AUTHORIZATION SIGNATURES:

Course Designer(s): Peter Mulhern
Chairperson: Gillian Mimmack (Curriculum Committee)

Department Head: Norm Taylor
Dean: Jackie Snodgrass

UPAC Approval in Principle Date: UPAC Final Approval Date: December 14, 2005
LEARNING OBJECTIVES / GOALS / OUTCOMES / LEARNING OUTCOMES:
This course is designed to provide students with:
1. practical experience in constructing and testing the classroom circuits;
2. practice in using computer simulators to check and to model laboratory circuits;
3. experience of using modern electronic measuring equipment;
4. appreciation of how actual circuits can be designed to perform specific functions

Students, after successfully completing this laboratory course, will have a good understanding of the limitations and effectiveness of the classroom theory, how modern computers are used to model and test electronic circuits, and how to construct, test and design electronic circuits.

METHODS:
The lab consists of multiple prepared experiments. They are designed to dovetail with the lecture material. Additionally, there will be student designed projects. Oral presentations and seminars will be used whenever possible.

PRIOR LEARNING ASSESSMENT RECOGNITION (PLAR):
Credit can be awarded for this course through PLAR (Please check:)  ☒ Yes ☐ No

METHODS OF OBTAINING PLAR:
Departmental Review and / or Course Challenge

TEXTBOOKS, REFERENCES, MATERIALS:
[Textbook selection varies by instructor. An example of texts for this course might be:]

References:

SUPPLIES / MATERIALS:
Fully-equipped physics lab

STUDENT EVALUATION:
[An example of student evaluation for this course might be:]
Lab Reports 70%
Projects 30%

COURSE CONTENT:
[Course content varies by instructor. An example of course content might be:]
1. Optoelectronic Devices
2. Common Emitter Connection
3. Q Points and Bias
4. The CE Amplifier
5. AC Load Lines
6. JFET Curves and JFET bias
7. JFET Amplifiers and Applications
8. Op Amps and Negative Feedback
9. Oscillators: Wein-Bridge, LC
10. Voltage Regulation
11. The Frequency Mixer