COURSE DESCRIPTION:
This course teaches the use of hand tools, drilling and other metal working methods as well as correct soldering and repair techniques. These skills will be applied to chassis construction and wiring. Student also gains experience in working with printed circuit boards.

Text (s): None

Prerequisites: None

Co-requisites:

Credits: 2 Lecture Hours: 1 Studio/Lab Hours: 3

Course Coordinator: D.T. DeFino Latest Revision: Fall 2017

Office: ET130

Hours: TBD

Email: definod@mccc.edu

Phone: 609-570-3456
Mercer County Community College is in compliance with both the ADA and section 504 of the Rehabilitation Act. If you have, or believe you have, a differing ability that is protected under the law please see Arlene Stinson in LB216 {570-3525 stinsona@mccc.edu} for information regarding support services.

**Attendance Policy:**

Mercer County Community College does not have a “cut system.” Students are expected to attend all classes of every course on their schedules. Only illness or serious personal matters may be considered adequate reasons for absence.

It is the prerogative of the instructor to excuse absences for valid reasons, provided the student will be able to fulfill all course requirements.

**IF YOU MISS A CLASS IT IS YOUR RESPONSIBILITY TO GET NOTES FROM SOMEONE IN THE CLASS**

Student performance in classes is formally verified as each project is completed. If a student’s attendance has been infrequent or performance unsatisfactory, he or she may receive notification in the mail. At any time, the instructor may withdraw the student from class for insufficient attendance.

**Academic Integrity:**

Students are required to perform all the work specified by the faculty and are responsible for the content and integrity of all academic work submitted, such as papers, reports, and examinations. A student will be guilty of violating the Rule of Academic Integrity if he or she:

- Knowingly represents the work of others as his or her own;
- Uses or obtains unauthorized assistance in any academic work;
- Gives fraudulent assistance to another student;
- Intentionally damages any contents of the lab or classroom
- Is found to have stolen anything from the lab or classroom

**Penalty:**

First Violation for stealing or damaging is F in the course.
First violation on test or project is an “F” grade for the test or project.
Second violation is “F” in the course.
Temporary Grade Policy:
If you do not complete the course requirements by the end of the semester, and you have a prior agreement with the instructor, you may be given an “I” (incomplete). “I” indicates that the instructor is affording extra time to earn a grade in the course. The amount of extra time is determined by the instructor, up to a maximum of 16 calendar weeks after grades are submitted. An “I” grade which has not been resolved within 16 calendar weeks is changed to an F or NC (no credit) grade, as appropriate to the course.

Audit:
If you audit the course, you will receive an “AU” grade—this cannot be changed to a letter grade.

Withdrawal Course Requirements: Deadline (see college calendar)
To receive a W grade for any course, a student must consult with the course instructor or an appropriate division representative and then withdraw officially before two-thirds of the course has been completed by submitting a withdrawal form to the Office of Student Records. Withdrawal after this point results in a grade other than W (usually F). At any time before two-thirds of the course has been completed, the instructor may also withdraw with a W grade any student who has been absent excessively. A student thus withdrawn will not be entitled to any refund of tuition or fees. The student may appeal this action.

GENERAL OBJECTIVES

General Education Knowledge Goals [GEKG]

Goal 1. Communication. Students will communicate effectively in both speech and writing.

Goal 3. Science. Students will use the scientific method of inquiry, through the acquisition of scientific knowledge.

Goal 4. Technology. Students will use computer systems or other appropriate forms of technology to achieve educational and personal goals.

MCCC Core Skills [CS]

Goal A. Written and Oral Communication in English. Students will communicate effectively in speech and writing, and demonstrate proficiency in reading.

Goal B. Critical Thinking and Problem-solving. Students will use critical thinking and problem solving skills in analyzing information.

Goal D. Information Literacy. Students will recognize when information is needed and have the knowledge and skills to locate, evaluate, and effectively use information for college level work.

Goal F. Collaboration and Cooperation. Students will develop the interpersonal skills required for effective performance in group situations.
In general, upon completion of this course, the student will be able to:

1. Identify circuit symbols and components used in electronics.
2. Fabricate a chassis from sheet aluminum and hard wire the circuit.
4. Prototype a circuit using wire wrap techniques.
5. Read instruction manuals, including engineering change notices (ECN's), and follow the instructions given.

GRADING

This is predominantly a skills course, however there will be at least 3 quizzes which can impact your grade. The manual skills learned in the shop will be practiced and put to use in the fabrication, wiring and assembly of several projects. The three main projects are a PC board FM transmitter, a hard wired light controlled on/off switch, and a wire wrapped flashing LED.

Each finished project will then be evaluated, based upon:

1. Chassis Fabrication
2. Component Layout
3. Soldering Techniques
4. Wiring quality
5. Circuit Operation
6. Ability to follow directions and pay attention.

Each of the three projects will be graded based on a total of 30 points, you be given a rubric for each project so you will see how the point value for your work will be determined.

This totals 90 points, the remaining 10 points will come from quizzes, class participation, and instructor's assessment of performance in the lab.
**Letter Grades:**

The project grades will be averaged and used to determine the final grade as follows:

<table>
<thead>
<tr>
<th>Letter grade</th>
<th>Nominal %</th>
<th>Definition</th>
<th>QPA quality points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93-100</td>
<td>Superior achievement</td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td>90-92</td>
<td></td>
<td>3.7</td>
</tr>
<tr>
<td>B+</td>
<td>87-89</td>
<td></td>
<td>3.4</td>
</tr>
<tr>
<td>B</td>
<td>83-86</td>
<td>Above average achievement</td>
<td>3.0</td>
</tr>
<tr>
<td>B-</td>
<td>80-82</td>
<td></td>
<td>2.7</td>
</tr>
<tr>
<td>C+</td>
<td>77-79</td>
<td></td>
<td>2.4</td>
</tr>
<tr>
<td>C</td>
<td>70-76</td>
<td>Average achievement</td>
<td>2.0</td>
</tr>
<tr>
<td>D</td>
<td>60-69</td>
<td>Minimally passing</td>
<td>1.0</td>
</tr>
<tr>
<td>F</td>
<td>0-59</td>
<td>Academic failure</td>
<td>0.0</td>
</tr>
</tbody>
</table>