**Date** 2012-13 **Name of Administrative or Educational t Unit:** \_\_\_\_\_Electronic Engineering Technology\_\_\_\_\_

**Contact name:** Dave Galley **Contact email:** Dgalley@collin.edu **Contact phone:** **Office Location:**

**Mission:**

|  |
| --- |
| Students in the Electronic Engineering Technology Program will receive training in several diversified areas of electronics. This program emphasizes the application of mathematical theorems and applied physics toward the design and analysis of electronic circuits. Students will be exposed to a combination of classroom theory and hands-on laboratory design and analysis experiments. |

**PART I: Might not change from year to year**

| A. Outcomes(s)  Results expected in this department/program | B. Measure(s)  The instrument or process used to measure results | C. Target(s) The level of success expected |
| --- | --- | --- |
| |  | | --- | | 1. Demonstrate an understanding of the Engineering Algorithm and Structural Design by building a Toothpick Bridge and creating an appropriate Engineering Design Laboratory Log. (ENGR 1201 – Introduction to Engineering) | | |  | | --- | | Bridge Project Rubric for  Final Toothpick Bridge Project in ENGR 1201. | | |  | | --- | | (Min. 70% on Assessment) | |
| |  | | --- | | 2. Demonstrate an understanding of how to technically describe “How Things Work in Engineering” by writing a term paper on exactly how your chosen device or invention works in technical detail. (ENGR 1201 – Introduction to Engineering) | | |  | | --- | | Criteria for Final Technical Paper in ENGR 1201. | | Min. 70% on Assessment |
| 3. Design Linear Operational Amplifier to produce specified voltage waveform.  (CETT 1457- Linear Integrated Circuits) | Amplifier Project Rubric | Min. 70% on Assessment |
| 4. Design of a working device that functions off the specified Microprocessor. The project is to include  the project idea proposal, documentation in the form of a journal, assembly and test of the device, and in-class presentation of the device. The build quality and performance will be taken into account in grade determination.  (CETT 1445- Microprocessor) | Microprocessor Project Rubric | Min. 70% on Assessment |
| 5. Design of a working Digital Signal Processing System. The system will be judged based on the proposal, the documentation in the journal, the execution of the project build, and the in-class final presentation.  (CETT 1448- Digital Signal Processing) | Digital Signal Processing System Project Rubric | Min. 70% on Assessment |
| 6. Development of an Energy Plan for the United States. (HART 2472- Alternative Energy Perspectives, Energy Sources, Energy Storage, and Energy Distribution) | Energy Plan Project Rubric | Min. 70% on Assessment |

**PART II: For academic year (enter year i.e. 2011-12)**

**From Part I**

| A. Outcomes(s)  Results expected in this department/program | D. Action Plan Years 5 & 2  Based on analysis of previous assessment, create an action plan and include it here in the row of the outcomes(s) it addresses. | E. Implement Action Plan  Years 1 & 3  Implement the action plan and collect data | F. Data Results Summary  Years 2 & 4  Summarize the data collected | G. Findings  Years 2 & 4  What does data say about outcome? |
| --- | --- | --- | --- | --- |
| |  | | --- | | 1. Demonstrate an understanding of the Engineering Algorithm and Structural Design by building a Toothpick Bridge and creating an appropriate Engineering Design Laboratory Log. (ENGR 1201 – Introduction to Engineering) | | |  | | --- | | In order to improve student understanding and performance, it was decided that the second (just prior) toothpick bridge assignment would be a Team (2 or 3 student) Project. Thereby, allowing students to take the knowledge from Bridge #1 and share their intellectual property on the second “Team Project Bridge” prior to building the Final Toothpick Bridge Project. | | Implement the action plan and collect data | |  | | --- | | Fall 2011 and Spring 2012:  Final Toothpick Bridge Project- 161 out of 176 met std.  Average= 85.5, High= 110, Low= 0 | | Standard Met; improve student understanding and performance |
| 2. Demonstrate an understanding of how to technically describe “How Things Work in Engineering” by writing a term paper on exactly how your chosen device or invention works in technical detail. (ENGR 1201 – Introduction to Engineering)   |  | | --- | |  | | |  | | --- | | In order to improve student understanding and performance, it was decided to move up the project due date by 2 weeks. Thereby, a student’s performance would improve based on not having everything due in the 15th and 16th week of the class. | | Implement the action plan and collect data | |  | | --- | | Fall 2011 and Spring 2012:  Technical Research Paper- 153 out of 176 met std.  Average= 81.5, High= 100, Low= 0 | | Standard Met; Improve student understanding and performance |
| 3. Design Linear Operational Amplifier to produce specified voltage waveform.  (CETT 1457- Linear Integrated Circuits) | See action plan in #1 & #2. | Implement the action plan and collect data | Spring 2012:  Operational Amplifier Project- 17 out of 17 met std.  Average= 92.9, High= 98, Low= 90 | Standard Met |
| 4. Design of a working device that functions off the specified Microprocessor. The project is to include  the project idea proposal, documentation in the form of a journal, assembly and test of the device, and in-class presentation of the device. The build quality and performance will be taken into account in grade determination.  (CETT 1445- Microprocessor) | See action plan in #1 & #2. | Implement the action plan and collect data | Spring 2012:  Microprocessor Project- 19 out of 19 met std.  Average= 90.5, High= 94, Low= 82 | Standard Met |
| 5. Design of a working Digital Signal Processing System. The system will be judged based on the proposal, the documentation in the journal, the execution of the project build, and the in-class final presentation.  (CETT 1448- Digital Signal Processing) | N/A | Implement the action plan and collect data | Class Not Taught Fall 2011 or Spring 2012 | N/A |
| 6. Development of an Energy Plan for the United States. (HART 2472- Alternative Energy Perspectives, Energy Sources, Energy Storage, and Energy Distribution) | N/A | Implement the action plan and collect data | Class Not Taught Fall 2011 or Spring 2012 | N/A |

Data is available by term and slo in 2012-13 CIP Workforce file.