COURSE OUTLINE

ELEC 203 – ENGINEERING TECHNOLOGY PROJECT

Prepared By: Stephen E. Frempong

SCHOOL OF ENGINEERING TECHNOLOGY
ENGINEERING SCIENCE & ELECTRICAL ENGINEERING
TECHNOLOGY DEPARTMENT
SPRING 2012
ELEC 203 – ENGINEERING TECHNOLOGY PROJECT

A. TITLE: ENGINEERING TECHNOLOGY PROJECT

B. COURSE NUMBER: ELEC 203

C. CREDIT HOURS: 1

D. WRITING INTENSIVE COURSE: NO

E. WEEKS PER SEMESTER: 15

F. SEMESTER OFFERED: SPRING

G. HOURS OF LECTURE, LABORATORY, RECITATION, TUTORIAL, ACTIVITY: 3- Hours Lab/Discussion

H. CATALOG DESCRIPTION:
Senior project (capstone) course that gives the student an opportunity to think, design, construct, and present a finished product based on knowledge/experience from previous or current courses such as electronic circuits, telecommunications, microprocessors, and industrial controls. Each team is expected to do a classroom presentation on the final project. Examples of design project: High Power Emergency Power Supply (Alternative Energy), Industrial Monitoring System (using sensing devices), and Electronics/Communication Systems. All project proposals must be approved by course instructor.

I. PRE-REQUISITES/CO-COURSES: ELEC141, ELEC215, and ELEC231, or permission of instructor.

J. GOALS (STUDENT LEARNING OUTCOMES)
By the end of this course, the student will be able to:

a. Propose a technical project based on electrical, electronics, power, and telecommunications
b. Apply critical thinking in practical design project
c. Design and build a working product from a theoretical knowledge, or re-engineering to improve an existing device/equipment
d. Perform electrical calculations, and use test equipment
e. Use computer technology to research for project information
f. Demonstrate presentation skills through PowerPoint
g. Work as a team, share responsibilities and solve technical problems
**Institutional Student Learning Objectives (SLO)**

(1) Communication  (2) Critical Thinking   (3) Professional Competence  
(4) Inter-Intrapersonal Skills

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<th>Course Objectives</th>
<th>Institutional SLO</th>
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| a. Propose a technical project based on electrical, electronics, power, and telecommunications | 2. Critical Thinking  
3. Professional Competence |
| b. Apply critical thinking in practical design project                           | 2. Critical Thinking                   |
| c. Design and build a working product from a theoretical knowledge, or re-engineering to improve an existing device/equipment | 2. Critical Thinking  
3. Professional Competence |
| d. Perform electrical calculations, and use test equipment                      | 2. Critical Thinking                   |
| e. Use computer technology to research for project information                  | 3. Professional Competence             |
| f. Demonstrate presentation skills through PowerPoint                              | 1. Communication                      |
| g. Work as a team, share responsibilities and solve technical problems          | 4. Inter-Intrapersonal Skills          |

h. **TEXTS:** No textbook required.

L. **REFERENCES**


Robert T. Paynter, *Introductory Electronic Devices and Circuits,*  

Jeffrey S. Beasley, and Gary M. Miller, *Modern Electronic Communication,*  

Joseph J. Carr, and John M. Brown, *Introduction to Biomedical Equipment*  

M. **EQUIPMENT:** Regular EET laboratory will be used
N. **GRADING METHOD:** (P/F, A-F, etc.) A-F

O. **MEASUREMENT CRITERIA/METHODS:** Final grade is based on the Following: Proposal, Weekly Updates, Team problem solving capabilities, Quality of work, Project demonstration, Presentation skills, and Final paper

P. **DETAILED TOPICAL OUTLINE**

   I. Team project proposal submission
   
   II. Project approval
   
   III. Project management software introduction
   
   IV. Project research discussion
   
   V. Final paper requirements and discussion
   
   VI. Project design
   
   VII. Obtain components needed
   
   VIII. Project updates/questions and answers (every two weeks)
   
   IX. Weekly construction and testing
   
   X. Final paper submission and class presentation (PowerPoint)
   
   XI. Project demonstration
   
   XII. Final discussion by instructor