Howard University
Department of Electrical and Computer Engineering

EECE404 Senior Design II

Catalog Description:
3crs. Fundamentals of design principles and engineering applications, design methodologies with analysis, synthesis and evaluations. the impact of engineering economy, ethics, and alternative solutions will be discussed . Pre-req: EECE 401 Senior Design 1

Instructor and Coordinator:
Dr. Charles Kim
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Office Hours:
TR 3:30 - 5 & by appointment

Text:
No Textbook is required.

References:
1. Becoming a Technical Professional, by Vern Johnson and Reid Bailey, published by Kendal/Hunt Publishing Co. 3rd Edition. ISBN 13:978-0-7575-2765-4.
2. Design for Electrical and Computer Engineers, by Salt and Rothery. Wiley publication
3. Design for Electrical and Computer Engineering, by Ford and Coulston. McGraw-Hill

Goals:
This course extends the engineering design processes and principles, "applying technical knowledge to meet people's needs," and the process of design to meet the needs under constraints and rules and codes, introduced and exercised in EECE 401 Senior Design I, so that students generate alternative solutions, choose the top design, and implement the top design before the final presentation date.   Along the process, students further exercise team playing and effective communication. Most of all, the main goal of the course is to give students the holistic experience of the engineering design process.

Topics:
1. Alternative Design Generation
2. Screening and Selection for Top Design
3. Progress Report and Presentation
4. Implementation Design
5. Solution Implementation
6. Soft Skills - communication, ethics, social impact, sustainability
7. Applying a design process to meet a set of needs

Safety/Ethics: Safety and professional ethics are emphasized in this course. See "safety manual."

ABET category Content: Engineering Science 1.0
                                          Engineering Design: 2.0

Course Grade:
　　　　Attendance (10%)
　　　　Team Activities (40%)
　　　　Progress of Project (40%)
　　　　Participation in public speech or professional communication (10%)

Learning Outcomes:
(a) Students should obtain the ability to apply knowledge of mathematics, science, and
　　 engineering.
(d) Students should obtain the ability to design a system component, process, and system
(d) Students should obtain the ability to function on multi-disciplinary teams
(g) Students should obtain an ability to communicate effectively
(j) Students should obtain knowledge of contemporary issues