

CET246 – ELECTRONIC DESIGN AUTOMATION

FALL 2019

SYLLABUS

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1. Basic Course Information

Prerequisites: CET236 Circuit Analysis or CET233 Advanced Electrical Circuits. All with a grade of C- or higher.

Recommended Textbook: Printed Circuit Boards: Design, Fabrication, and Assembly
by R. S. Khandpur (978-0071464208)

Class Time: CET246-01 MW 10:50pm-12:30pm

Class Room: Copernicus Hall 125-01

Office: Copernicus Hall 125-03

Office Hours: MW 2:30-4:30pm, F 11:10-12:10pm

Final Exam: CET246-01 Wednesday December 11th, 10:30am-12:30pm, Copernicus Hall 125-01

2. Grade

Your grade for the course will be comprised of the following parts

Homework & Quizzes (20%)

Laboratory Experiments & Reports (20%)

Midterm (20%)

Final Project (20%)

Final (20%)

2.1 Homework: Homework will be assigned throughout the semester. Assignments will be due as indicated on each assignment. Most assignments will be completed using WeBWork (<https://webwork.davidbroderick.com/webwork2>).

2.2 Late Work: All students are required to submit all assigned work on time. Work is late if submitted after the time indicated on the assignment. Late work is subject to penalty, ranging from 0 to 100%.

2.3 Quizzes: Quizzes will be given covering the material in the class. It is your responsibility to be prepared for quizzes covering any material that has been presented in class. Be sure to bring all necessary tools (calculator, etc.) you may need for a quiz to every class period.

2.4 Exams: If you can not take an exam because of medical reasons or another type of emergency, please notify me in advance and hand in your university approved excuse in writing. Make-up exams will be scheduled only in those cases with documented proof.

2.5 Final: All students will be required to take the final exam. It will be given at the time scheduled by the university.

3. Academic Honesty

Your academic and professional success depends on honesty. You must be honest with yourself regarding their own abilities and honest with your peers regarding your achievements. Given the importance of this characteristic I will not hesitate to report all violations of academic honesty as outlined here: <http://web.ccsu.edu/academicintegrity/academicmisconductpolicy/default.asp>.

4. Special Needs

Any student who feels s/he may need an accommodation based on the impact of a disability should contact me privately to discuss your specific needs. I will need a copy of the accommodation letter from Student Disability Services in order to arrange your class accommodations. Contact Student Disability Services, Room 241, Copernicus Hall, if you are not already registered with them. Student Disability Services maintains the confidential documentation of your disability and assists you in coordinating reasonable accommodations with your faculty.

5. Topics Covered

- 1) History of Fabrication
- 2) Printed Circuit Board Fundamentals
- 3) Manufacturing Processes
- 4) Standards
- 5) Components & Connectors
- 6) Test Procedures
- 7) Temperature Effects on Components
- 8) Technical Drawings
- 9) Mechanical, Electrical, and Thermal Effects of PCB
- 10) Layout Procedures
- 11) Design Rules
- 12) High Frequency Design
- 13) High Power Design
- 14) Assembly, Soldering, and Rework Methods
- 15) Quality and Reliability
- 16) Testing and Acceptance