GEORGIA INSTITUTE OF TECHNOLOGY SCHOOL of ELECTRICAL & COMPUTER ENGINEERING

ECE 3043: Electrical and Electronic Circuits Laboratory

**GTL** -**SPRING** **2019- Syllabus & Schedule**

**Instructor:** Dr. Suresh Sundaram, Email:  ssundara@georgiatech-metz.fr (Please include “ECE 3043” in the subject line.)

**Office**:  GTL 102

**Office** **Hours:**

Monday between 14.00 am to 17.00 pm or Walk-ins, or by appointment

**Class** **Details:**

Lecture (Brown Room): Tuesday 8:30 am- 9:30 am

Lab (Inst. lafayette): Thursday 9:30 am-12:30 pm

**Prerequisites**:

ECE 2040 , ECE 3040 (taken concurrently)

**Course** **Websites**:

<http://t-square.gatech.edu/> , <http://canvas.gatech.edu>

http://users.ece.gatech.edu/∼tbrewer/ece3043/

**Course** **Materials:** **Required** **Text:**

William M. Leach, Jr., Thomas E. Brewer, and R. Allen Robinson, “Experiments in Electrical and Analog Electronic Circuits”, (1st Edition) ISBN: 978-0757596513

**Other** **Materials:**

Proto-Board or Breadboard (supplied by GTL) ECE 3043 Parts or Chip Set (supplied by GTL) Calculator  USB Flash Drive

**Attendance** **Policy:**

Attendance is expected for the lecture session and mandatory for all laboratory sessions. Any absence from an exam or laboratory session will result in a grade of zero, which may be made up at the discretion of the instructor. An absence from a pop quiz will not be made up and a grade of zero will be assigned.

**Grade Policy:**

10% – Laboratory Quizzes 20% – Homework  25% – Laboratory Reports 10% – Lecture Exam 1 10% – Lecture Exam 2 25% – Final Exam

\*Up to 10% of your total grade can be lost for not keeping the lab clean.

All letter grade assignments are made by the instructor. All assignments are individual assignments. This includes pre-lab work, laboratory reports, homework assignments, computer simulations, and exams.

Lab quizzes are open-book and open-note. They are, however, closed-Internet and closed-neighbor.

Pop quizzes, if given, will count as one homework assignment.

All three exams will take place during the lecture hour of the course. The entire period will be given to take the exam. All exams are closed book and closed notes, but you may use a standard or programmable calculator.

**Late Work:**

Assignments turned in late but within 48 hours of the due date will be penalized 10%. If they are turned in within one week of the due date they will be penalized 20%. No assignments will be accepted after one week of the due date or after the last day of Dead Week. Exceptions may be made if there is an official excuse from the Dean of Students.

**Open Lab:**

Hopefully you will complete all lab assignments during your allotted time. If you need more time, you may use the lab during other class sections (including ECE 2031) provided there is enough equipment. Priority always goes to students in the current section. I have yet to decide whether or not it will be necessary to hold additional open lab hours.

**Final Exam and Dead Week:**

Georgia Tech rules and regulations require that I inform you that you will have a lab during Dead Week. The lab report will be due during Dead Week.

In order to accommodate the last lab, the final exam for this course will not be held during Finals Week. Dead Week policy prohibits me from administering an exam during Dead Week. Therefore, the “Final Exam” will be held the week before Dead Week. The final exam is comprehensive and comprises 25% of your grade.

**Academic Misconduct:**

All students taking this course are required to strictly adhere to the Georgia Tech Honor Code, whose complete text may be found at http://honor.gatech.edu/content/2/the- honor-code. Any violations of the Code are considered academic misconduct and will be submitted to the Office of the Dean of Students for appropriate action.

**Collaboration:**

Students may discuss assignments in general terms with one another, but all work should be generated individually. Likewise, students may receive assistance on assignments from the course instructors/TAs. However, all of the assignments in this course are to be completed individually. Copying or allowing peers to copy all or portions of any assignment is considered plagiarism and is expressly forbidden.

**TENTATIVE SCHEDULE FOR ECE3043- SPRING 2018- GTL**

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| **week of**  | **Lab description**  | **Lecture topic** |
| 7th JAN | None | Orientation, Mathcad, Matlab, and SPICE |
| 14th JAN | Exp 1–Orientation, Stand Alone Instruments | First-Order Passive Circuits |
| 21st JAN | Exp 2–Computer Control of Laboratory Instruments | Second-Order Passive Circuits |
| 28th JAN | Exp 3–First-Order Passive Circuits | Basic Op-Amps |
| 4th FEB | Exp 4–Second-Order Passive Circuits | Exam 1  |
| 11th FEB | Exp 5–Op-Amps I | Active Op-Amp Filters |
| 18th FEB | GTL recess | GTL recess |
| 25th FEB | Exp 6–Op-Amps II | Linear Op-Amp Oscillators |
| 4th MAR | Exp 7–First-Order Active Op-Amp Filters | Relaxation Op-Amp Oscillators |
| 11thMAR | Exp 8–Second-Order Active Op-Amp Filters | Semiconductor Diodes |
| 18thMAR | Exp 9–Linear Op-Amp Oscillators | Exam 2  |
| 25thMAR | Exp 10 –Relaxation Op-Amp Oscillators | BJT |
| 1st APR | Exp 11–Semiconductor Diodes | MOSFETs |
| 8th APR | Exp 12–BJTs | Review for Final Exam |
| 15th APR | Exp 13–MOSFETs | Final Exam  |
| 23rd APR | Reading period and finals  | Reading period and finals |