Instructor:

Prof. S. Ciccarelli, Office: GOL (70) -1353

Office Hours: **Monday** 8:00 - 9:50AM
Wednesday 8:00 - 9:50AM
Wednesday 1:00 - 1:50PM
By appt (see me directly/email me your availability)

Please see our myCourses site and my door for the most up to date office hours and of course feel free to stop in whenever my door is open. When possible, email me ahead of time if you will be stopping by during these hours as I occasionally get called to the lab or a meeting.

Phone: (585) 475-4736 or x5 4736 from on campus
E-mail: smceee@rit.edu (**preferred method of contact** instead of the telephone)

Course Name: DC Circuits Lab
Credit Hours: 1

Prerequisite: Precalculus (MATH-111)
Co requisite: DC Circuits (EEET-111)

Course Time and Location: EEET-112-01 Tuesday 8:00AM - 9:50AM, ENT-3125
EEET-112-05 Thursday 8:00AM - 9:50AM, ENT-3125

*** Note – You must achieve a "C" or better grade in order to progress to AC Circuits and AC Circuits Laboratory ***

Course Description:

DC Circuits Lab develops skills and practice in the design, fabrication, measurement and analysis of practical DC circuits used in electronic devices. Topics include measurement relative to: resistance, current, and voltage with circuit techniques of Ohm's Law; current and voltage division; simplification of series, parallel, series-parallel circuits: bridge and ladder networks: Kirchhoff's Laws; power; and transient circuit behavior. Laboratory verification of DC analytical and techniques is included. Printed circuit board (PCB) design, fabrication, and assembly is also included emphasizing the development of soldering skill proficiency.

Course Learning Objectives:

A student who successfully fulfills the course requirements will have demonstrated the ability to:

(1) Analyze DC circuits using analytical means

(2) Individually use data analysis and plotting packages to plot experimental data

(3) Use circuit simulation packages to analyze circuits in the time domain

(4) Individually generate experimental results and plots demonstrating circuit principles

(5) Perform DC measurements in simple and relatively complex circuits

(6) Properly follow a schematic to construct basic circuits

Required Materials:

- *Introductory Circuit Analysis*, by R.L. Boylestad, Prentice Hall Publishing, 13th Edition
    - This text is also used in EEET-111 (DC Lecture), EEET 121 (AC-Lecture) and EEET-122 (AC Lab) so please do NOT discard it at the end of the semester.
- SHARP EL-W516TBSL calculator (also used in EEET-111)
    - This is the ONLY approved calculator for quizzes and exams in EEET-111 and as such will be utilized extensively in lecture.
    - A more advanced graphing calculator that handles complex numbers, equations and calculations is required for EEET-121, EEET-122 and multiple department follow-on courses. Examples include the TI-89, TI-Nspire, HP-50G and HP-Prime series.
- Proto Board (also used in EEET-122)
- EEET-112 Consumables Fee

Laboratory Topics and Schedule:

Week	Week Beginning (Mon)	Activity	Topic
1	27-Aug	DC Lab Orientation	Course, Student, Instructor Intros and Lab #1 Discussion
2	3-Sep	Lab 1	Resistor Color Code, DMM and Protoboard
3	10-Sep	Lab 2	Series Circuits and KVL
4	17-Sep	Lab 3	Ohm's Law, Parallel Circuits, and KCL
5	24-Sep	Project 1 - Week 1	Series-Parallel Circuits and Equivalent Resistance
6	1-Oct	Project 1 - Week 2	
7	8-Oct	NO LAB (Columbus Day)	
8	15-Oct	Lab Practical 1	
9	22-Oct	Lab Practical re-take	Practical 1 (retake by invitation, max grade of 70%)
10	29-Oct	Lab 4	Schematic Capture with Multisim
11	5-Nov	Lab 5	Mesh and Nodal Analysis
12	12-Nov	Lab 6	Superposition and Thevenin's Theorems
13	19-Nov	NO LAB (Thanksgiving)	
14	26-Nov	Project 2 - Week 1	Project #2 – Maximum Power Transfer / PCB Intro
15	3-Dec	Project 2 - Week 2	Project #2 – Maximum Power Transfer / PCB Intro
16	10-Dec	NO LAB (Final Exams)	

Laboratory Administration:

- The majority of lab experiences in EET-112 this semester will be performed in teams of 3 or 4 although some elements will be graded individually.
- Detailed lab documentation expectations and due dates will be established on an individual lab basis, however, in general:
    - Lab handouts will be posted on myCourses approximately 1 week before lab period in order to give you plenty of time to work the prelab and seek out clarifications or help.
    - Prelab work must be completed before attending your scheduled lab as you will complete a prelab quiz at the beginning of your assigned lab period (don't be late to lab).
- Laboratory exercises are typically one-week assignments and involve pre-lab calculations and a quiz, lab work, and appropriate post-lab activities (quiz, questions, etc). Two lab projects will be assigned that will require more detailed documentation.

- There is one lab practical exam that is designed to assess the student's knowledge and skill in one or more areas e.g. DMM, circuit simulation, circuit construction, etc. The exam is 50 minutes long and results must be submitted before leaving lab.

General Laboratory Process:

1. Read the entire (POSTED) lab handout for familiarity and understanding of the expectations and procedures
2. Know your assigned role for the specific lab well. The four roles you will rotate through for the various lab activities are:
    a. **Team Lead** - Reads the handout(s) well before lab in significant detail, works out expectations and ensures the team follows procedures for the lab. Asks questions regarding the handouts or procedures ahead of time.
    b. **Circuit Construction** - Builds the circuit(s) and ensures the entire team is familiar with the protoboard setup. Works closely with the Circuit Measurement team member.
    c. **Circuit Measurements** – Connects the equipment to the circuit, takes measurements and ensures the entire team is familiar with the equipment setup. Works closely with the Circuit Construction team member.
    d. **Interpreting and Communicating Results** - Interprets measurement results and ensures the data passes the "reality check." Communicates the results, answers questions in the handout and makes sure the team is in full agreement. Works closely with the Team Lead.
3. Seek clarification of questionable points (Instructor, library research, fellow students, the internet, etc.)
4. Perform the pre-lab to get a good idea of the expected results and the circuit/system behavior
5. Take the pre-lab quiz (individual activity)
    a. Generally given using myCourses during the first 10 minutes of your lab section and based heavily on the pre-lab work and lab handout
    b. If you are late or miss class, a grade of zero will be assigned
6. Perform the laboratory during your assigned section (team activity)
    a. While performing the lab procedure, give your results and circuit behavior a "reality check" against pre-lab results.
    b. Record your results – those required, desired circuit behavior observations, etc.
    c. Get any required signatures
    d. Make certain all of your team members have access to the lab data (online drop-box)
7. Use "open lab" for any follow-up or deeper exploration
8. Take the post-lab quiz (team activity)
    a. Generally given using myCourses and open from the end of your lab period until the following Monday at 8AM
    b. You are encouraged to take this assessment with your team-mates after completing the lab experiment and write-up.
    c. If you miss the quiz, a grade of zero will be assigned
9. Submit the required lab documentation for grading on the specified date
    a. LATE labs will not be accepted and a grade of zero will be assigned
10. Review your instructor's feedback contained in the graded lab documentation

Excused Absences:

If you must miss lab due to a documentable family emergency, because you are hospitalized, or if a nurse or physician has instructed you not to attend class for medical reasons, the absence will be excused. Other compelling reasons for missing class may be considered acceptable excuses if they are approved by the instructor. Notify the instructor by e-mail either in advance of the absence or immediately afterward. **Written documentation may be required and you will be required to meet the posted deadline for lab submission and instructor signatures on your own accord in these instances.**

Grading Policy:

Laboratory Assignments (6)	48%
Laboratory Projects (2)	32%
Laboratory Practical Exams (1)	20%

The final course-grade will be based upon the following letter grade breakdown:

92 - 100	A
90 - 92	A **-**
88 - 90	B **+**
82 – 88	B
80 – 82	B **-**
78 – 80	C **+**
72 – 78	C
70 - 72	C **-**
60 - 70	D
Below 60	F

Special Needs:

RIT is committed to providing reasonable accommodations to students with disabilities. If you would like to request accommodations such as special seating or testing modifications due to a disability, please contact the Disability Services Office. It is located in the Student Alumni Union, Room1150; the Web site is www.rit.edu/dso. After you receive accommodation approval, it is imperative that you see me during office hours so that we can work out whatever arrangement is necessary.

Incomplete ("I") and Withdraw ("W") grades:

Incompletes will only be given after week 10 of the semester for appropriate hardship situations (unexpected business trip, illness/death in the family, etc.). An incomplete grade WILL NOT be assigned to students failing and/or falling behind in their work.

Course withdrawal may be made online through the 12th week of the semester. In unusual circumstances beyond the control of the student, a "W" grade may be assigned after the 12th week with the approval of the instructor, department chair, & dean of the college. No credit hours are earned and your GPA is not affected by a "W" grade, however a 'W' will show on your transcript. "Unusual circumstances" do not include poor or lacking performance and the instructor will not sign late 'W' requests unless documented circumstances warrant such action.

Other Course Policies:

- Check the course conference (www pages) for additional course content, announcements or messages DAILY. If I need to contact you personally or the entire class, I will use the myCourses system so make sure that you check the conference daily and that your information is current in the system.
    - I strongly suggest you subscribe to SMS and/or email updates from the myCourses system

- I reserve the right to modify the reading assignments, lab topics, test dates and assignments. I will do so with plenty of notice via in-class announcements and/or myCourses announcements.
- E-mail will almost always be responded to within 24 hours during the workweek, please do not expect a 20-minute turnaround although this may often be the case.
- Graded assignments will generally be returned to you within 7-10 days.
- Requests for the instructor to review a graded assignment must be received within 48 hours of the return of the assignment and will be honored at the instructor's discretion. Reviewing a graded assignment will result in a complete re-grade and may/may not have the desired outcome.

Academic Honesty

Rochester Institute of Technology does not condone any form of academic dishonesty.

Any act of improperly representing another person's work as one's own is construed as an act of academic dishonesty.

These acts include, but are not limited to:

- **Plagiarism in any form (including the use of all or parts of computer programs created by others without clearly indicating that you are not the author)**
- **The use of information and materials not authorized by the instructor during an examination**

If a faculty member judges a student to be guilty of some form of academic dishonesty, the student may be given a failing grade for that piece of work, or for the entire course, depending upon the severity of the misconduct.

If the student believes that the action taken by the instructor is incorrect, or that the penalty is too severe, the student may appeal to the Academic Conduct Committee of the college in which the course is offered.

Policy C 6.0: Policy Prohibiting Discrimination and Harassment

RIT is committed to providing a safe learning environment, free of harassment and discrimination as articulated in our university policies located on our governance website. RIT's policies require faculty to share information about incidents of gender based discrimination and harassment with RIT's Title IX coordinator or deputy coordinators, regardless whether the incidents are stated to them in person or shared by students as part of their coursework.

If you have a concern related to gender-based discrimination and/or harassment and prefer to have a confidential discussion, assistance is available from one of RIT's confidential resources on campus (listed below).

1. The Center for Women & Gender: Campus Center Room 1760; 585-475-7464; CARES (available 24 hours/7 days a week) Call or text 585-295-3533.

2. RIT Student Health Center – August Health Center/1st floor; 585-475-2255.

3. RIT Counseling Center - August Health Center /2nd floor - 2100; 585-475-2261.

4. The Ombuds Office – Student Auxiliary Union/Room 1114; 585-475-7200 or 585-475-2876.

5. The Center for Religious Life – Schmitt Interfaith Center/Rm1400; 585-475-2137.

6. NTID Counseling & Academic Advising Services – 2nd Floor Lynden B. Johnson; 585-475-6468 (v), 585-286-4070 (vp).

Remember RIT Resilience

Success depends heavily on your personal health and well-being. **Recognize** that stress is an expected part of the college experience, and it often can be compounded by unexpected setbacks or life changes outside the classroom. Your instructors strongly encourage you to **reframe** challenges as opportunities for growth. **Reflect** on your role in taking care of yourself throughout the term, before the demands of exams and projects reach their peak. Please feel free to **reach out** to your professors about any difficulty you may be having that may impact your performance as soon as it occurs and before it becomes unmanageable. In addition to your academic advisor, you are strongly encouraged to contact a number of other support services on campus that stand ready to assist you.