

ECSE 335

Microelectronics

Prof. Gordon Roberts
Department of Electrical and Computer
Engineering

Rm 516
McConnell Engineering Blding

email: gordon.roberts@mcgill.ca

Fall/2024

Lecture and Tutorial Times

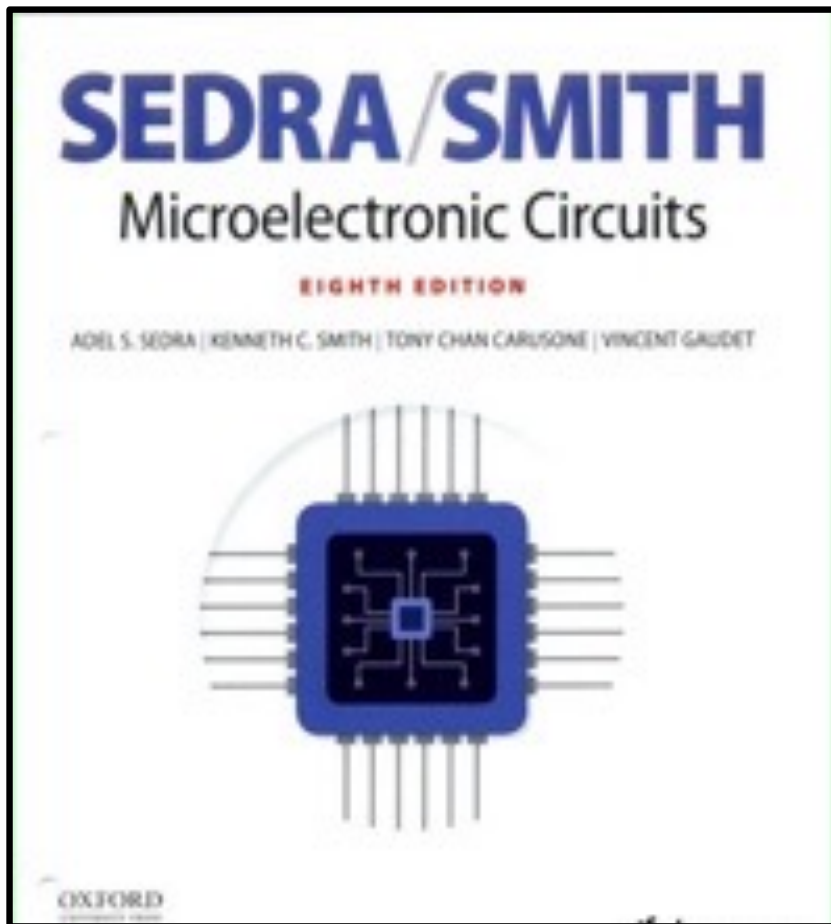
Lectures Times:

Monday and Wed., 10:05 PM - 11:25 PM, ENGTR 2110

Tutorial Times:

Friday 3:35 PM – 5:25 PM, BIRKS 205

Tutorials assignments have been pre-arranged by student through Minerva.



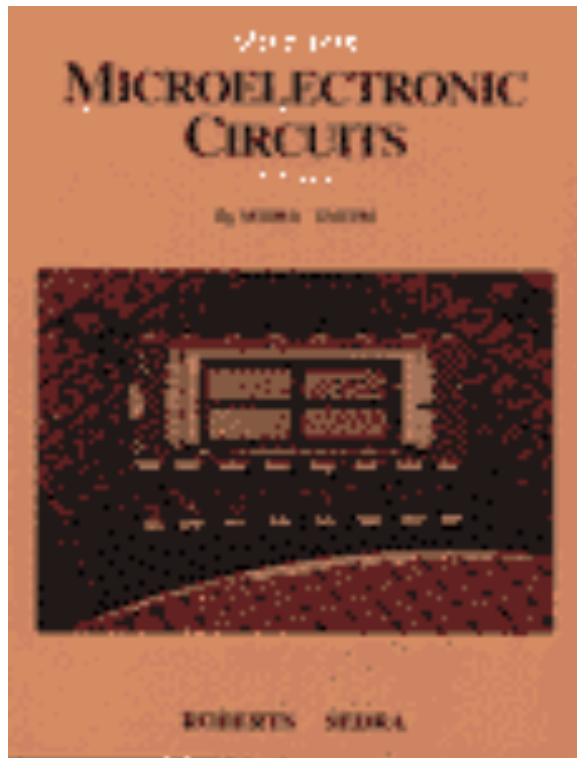
Class Textbook:

**Sedra/Smith,
Microelectronic Circuits 8/e**

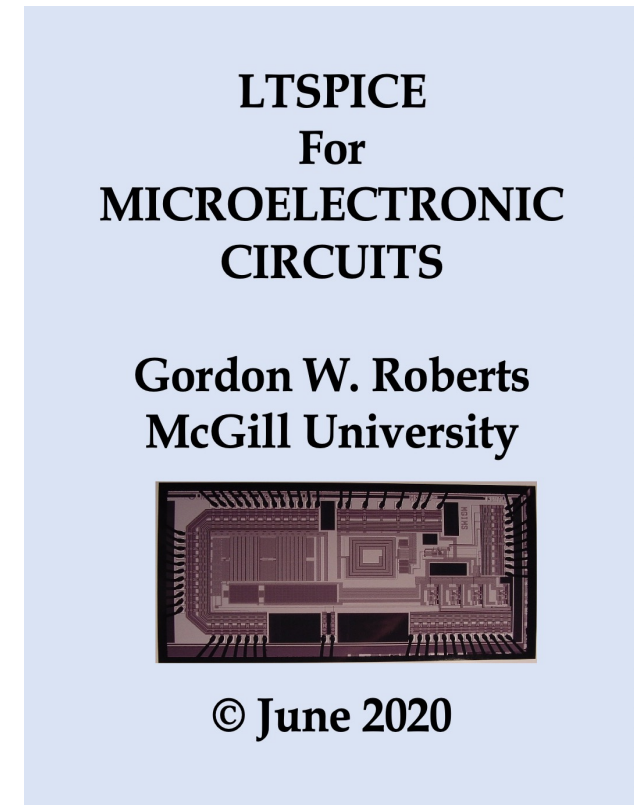
**We will follow this textbook
(Chapter 8 – 13/14) with
some variations along the
way.**

**Less emphasis on analysis
and more emphasis on
design.**

On-Line Spice Textbooks



***(P)SPICE by Roberts and Sedra,
Oxford University Press***



***LTSPICE by Roberts
Roberts Free Press***

What Is To Be Learned From This Course?

- Principles of microelectronic circuits.
- How to ***analyze and design*** microelectronic circuits.
 - Learn the principle of design as it applies to:
 - » Single-stage Amplifiers using current source biasing
 - » Multi-stage Amplifiers
 - » Output Stages
 - » Feedback Principles (robust cct design)
 - » and Op Amp Circuits (High Gain ccts)

Course Communications

- Course notes will be written on blackboard for the student to copy down.
- Additional material for ECSE 335 will be available through the links associated with the course web site via URL:

[*http://www.macs.ece.mcgill.ca/~roberts/*](http://www.macs.ece.mcgill.ca/~roberts/)

and

[*mycourse*](#)

- Communications to the class about this course will be conducted during lectures; some emails will be sent when necessary.

Course Password

- Material to be downloaded from the course web site will generally be password protected.
- The course website login/pswd is:

User: ecse334



Please note the
number

Pswd: roberts327

Teaching Assistant/Grader

Teaching Assistants:

Jasper Yun

jasper.yun@mail.mcgill.ca

saad.yousaf@mail.mcgill.ca

Quiz / Lab Grader:

Jasper Yun

Examination Conditions

- Except for some design questions, you can expect that the any question on a quiz, midterm or final will be very similar to the questions assigned in class each week.

Quiz Conditions

- Exam like conditions;
 - open text book;
 - question(s) very much like problems in weekly problem set;
 - material on quiz covers lecture material up to, and including, last lecture before quiz.
 - top five quiz results out of a maximum of six will be counted towards student grade regardless of circumstance, no exceptions!

Quiz Dates

During the last half-hour of the 1-1/2 hour tutorial, on the following days:

Quiz #	Tuesday
1	Sept. 20
2	Oct. 4
3	Oct. 11
4	Nov. 1
5	Nov. 15
6	Nov. 29

Midterm Date

Wednesday Oct 23rd, 2024

@ 10:05 AM – 11:25 AM

ONLINE

Final Date

**Date To be Determined
by University**

**Will also be conducted
ONLINE**

Laboratory

	ECSE 335 Microelectronics - Experiment Timeline													
\ Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Task \ Date	02-Sep	06-Sep	13-Sep	20-Sep	27-Sep	04-Oct	11-Oct	18-Oct	25-Oct	01-Nov	08-Nov	15-Nov	22-Nov	29-Nov
Lab 1: Current Sources														
Lab 2: Simulate single Tx Volage Follower														
Lab 3: Diff. Amp														
Lab 4: Class AB Stage														
Lab 5: Buffer														
Lab 6: Op-Amp														
Extra Time/Report Writing														

- Lab handout is available for download from course web site.
 - Much information is provided – please read.
- Report details are described in each lab handout.

ECSE 335 Laboratory Times

Laboratory Times:

Tuesday & Thursday 1:35 PM – 3:25 PM, ENGTR 5070

- Laboratory assignments have been pre-arranged by Minerva.
- Laboratory Report from each person is due one week on the Friday after the lab was completed; Softcopy delivered through MyCourses before 5 PM.
 - For example, if Lab 2 ends on Wed. Oct 7th, then report is due on Friday Oct. 16th.

ECSE 335 Grading

Quizzes	15%
One Midterm	25%
Biweekly Lab*	25%
Final	35%

Written Language

- In accord with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French any written work that is to be graded.
- Your French written material will be graded by someone appointed by the university.

Academic Integrity

- McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see www.mcgill.ca/integrity for more information).
- Please don't cross the line; everything becomes difficult for all once the line has been crossed.

Teaching Pedagogy

1. Provide lectures based on course textbook(s).
2. Assigned textbook questions to reinforce learning.
3. Attend tutorials to assist with problem sets; TAs will provide **some** solutions.
4. A quiz will be given every 2 weeks to force synchronization with course material.
5. Problem set solutions will be provided **after** the quiz, not before. (important to learn how to learn, as solutions will not be available on the job!)
6. Midterm and final exam are the main means to check student progress with course material.

Policy Regarding Re-reads Of Class Tests

- You will have seven (7) days from the time that the class test is returned to report any errors in marking.
- We will not entertain requests for re-reads if they are made after the seven-day limit.
- Questions raised about marking is done in writing and submitted along with the class test to the instructor.
- A re-graded exam will be returned to student through the box located just outside my office at Rm MC516.

Absences From Class Test And/Or Final Exam

- If you are absent for class midterm, your final examination will be made worth 70% of course grade rather than the usual 50% provided that you present a valid medical note attesting to your absence.
- The usual university regulations apply regarding absence from a final exam.
- Missing both class test and final exam constitutes an incomplete course grade (K).

Copyright ©

- Instructor generated course materials (e.g., videos, handouts, notes, summaries, exam questions, etc.) are protected by law and may not be copied or distributed in any form or in any medium without explicit permission of the instructor.
- Note that infringements of copyright can be subject to follow up by the University under the Code of Student Conduct and Disciplinary Procedures.

**I hope you enjoy
the course!**