EEE374 – RF Systems Engineering

Professor

- Capt. K.A. Davidson
- kyle.davidson@rmc.ca
- S3209, also found in S5100

Course Schedule

Weight: 3-2-5

- Tuesday 08:00 to 10:50 – S3410
- Thursday 08:-00 to 09:00 – S2107
- Friday 13:40 to 14:30 – S3411

Textbook

Microwave Engineering, D.M. Pozar, 3rd ed.

Course Marking Scheme:

- Assignments – 10 %

- Laboratories – 15 %

- Mid-term – 20 %

- Final Exam – 55 %

Course Description

Microwave circuit analysis using impedance and scattering-matrix representations. Microwave sources, amplifiers and solid state devices. Microwave passive devices; filters, couplers, etc. Microwave integrated circuits (Microstrip) and CAD techniques. Microwaves receivers and transmitters. Overview of communication satellite systems with emphasis on RF components and link consideration.

Assignment and Laboratory Policy

Permission to write the final is dependent on the student submitting all assignments and laboratories with a reasonable amount of effort.

Academic Misconduct

Academic misconduct, including plagiarism, cheating, and other violations of academic ethics, is a serious academic infraction for which penalties may range from a recorded caution to expulsion from the College. The RMCC Academic Regulations Section 23 defines plagiarism as: "Using the work of others and attempting to present it as original thought, prose or work. This includes failure to appropriately acknowledge a source, misrepresentation of cited work, and misuse of quotation marks or attribution." It also includes "the failure to acknowledge that work has been submitted for credit elsewhere." All students should consult the published statements on Academic Misconduct contained in the *Royal Military College of Canada Undergraduate Calendar*, Section 23.

Course Goal

The goal of this course is to provide you with the education and skills, to design, analyze and measure RF systems components.

Topics of Instruction

1. Microwave Network Analysis
2. Directional Couplers
3. Amplifiers
4. Planar Filters
5. Oscilators
6. Mixers
7. Noise
8. Transceivers
9. Link Budgets