



Course Descriptor ECEN 431 Communication Electronics

ACADEMIC YEAR	2020-2021		
Course Code & Title	ECEN 431 Communication Electronics		
Credit hours	3	Level of study	Undergraduate
College / Centre	COE		
Co-requisites		Pre-requisites	ECEN331 Electronics I I

1. COURSE OUTLINE

Analysis and design techniques for modern communication circuits including low noise amplifiers, mixers, oscillators, phase locked loops, and power amplifiers.]

2. AIMS

This course prepares students for engineering practice through analysis and design of communication circuits, components, and subsystems. This course includes engineering topics and engineering design.]

3. LEARNING OUTCOMES, TEACHING, LEARNING and ASSESSMENT METHODS

Learning Outcomes (Definitive)	Teaching and Learning methods (Indicative)	Assessment (Indicative)
Upon successful completion of this course, students will be able to:		
1. Analyze and design low noise amplifiers and design mixer circuits.	Lecturer, Presentation, seminar	Assignments, Written Examination, quizzes
2. Analyze and design oscillators	Lecturer, Presentation, seminar	Assignments, Written Examination, quizzes
3. Analyze phase locked loops	Lecturer, Presentation, seminar	Assignments, Written Examination, quizzes
4. Analyze and design power amplifiers.	Lecturer, Presentation, seminar	Assignments, Written Examination, quizzes
5.		

4. ASSESSMENT WEIGHTING

Assessment	Percentage of final mark (%)
Mid-term examination I	20
Mini Project	40
Final Examination	40
TOTAL	100%

5. ACHIEVING A PASS

Students will achieve **3** credit hours for this course by passing **ALL** of the course assessments [alternatively, list the compulsory pass assessments*] and achieving a **minimum overall score of 50%**



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2. Michael Steer, Microwave and RF Design Modules, 3ed vol.4.
<https://open.umn.edu/opentextbooks/textbooks/microwave-and-rf-design-modules>
3. Michael Steer, Microwave and RF Design Amplifiers and Oscillators, 3ed vol.5.
<https://open.umn.edu/opentextbooks/textbooks/microwave-and-rf-design-amplifiers-and-oscillators>
MITOpenCourseWare "High Speed Communication Circuits"
<https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-776-high-speed-communication-circuits-spring-2005/>