



Study with us

Course Title: Communication Engineering 2

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Part B: Course Detail

The following link provides important information on the topics below:

[Admin essentials](#)

- Academic integrity
- Academic progress
- Appeals
- Assessment adjustments (extensions, special consideration, equitable assessment arrangements)
- Award levels
- Grades
- Student feedback

Teaching Period: Viet3 2023

Course Code: EEET2621

Course Title: Communication Engineering 2

School: 172H School of Engineering

Career: Undergraduate

Campus: RMIT University Vietnam

Learning Mode: Face-to-Face

Primary Learning Mode:

This course will be delivered in blended mode (online lectures and f2f tutorial sessions). Face to Face interaction, online activities, collaboration, consultation and independent learning are all essential features of this course and make up the suite of learning modes.

Credit Points: 12.00

Teacher Guided Hours: 33 per semester

Learner Directed Hours: 77 per semester

Course Coordinator: Prof. Kamran Ghorbani

Course Coordinator Phone: +61 3 9925 5064

Course Coordinator Email: kamran.ghorbani@rmit.edu.au

Course Coordinator Location: 12.07.38

Course Coordinator Availability: Email for appointment

Offering Coordinator: Dr. Dao Thanh Hai

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Offering Coordinator Location: South Saigon Campus (02.04.27)

Offering Coordinator Availability: Please email for appointment

Additional Staff Contact Details

Dr. Dung Le

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Pre-requisite Courses and Assumed Knowledge and Capabilities

Pre-requisite: EEET2254 Communication Engineering, or an equivalent course, or provide evidence of equivalent capabilities.

Assumed Knowledge:

- Fourier Transform: Signal Description in Time and Frequency domains
- Signal Sampling and Reconstruction techniques
- Analogue and Digital Modulation and Demodulation techniques.
- Impedance matching techniques
- Basic operation of optical fibres

Course Description

In this course, you will learn the basic techniques to design and analyse communication systems.

Topics include Thermal Noise, Probability of Error, Signal to Noise Ratio, Level Diagrams, Radio and Optical Fibre Communication Systems.

This course builds on the Modulation topics in the Year 2 course EEET 2254 Communication Engineering.

It also provides useful knowledge and skills for the following Year 4 courses:

- EEET1080 Satellite Communication Systems Engineering
- EEET1083 Mobile and Personal Communication Systems Engineering
- EEET2271 Radar Systems 1
- EEET1074 Antennas for Mobile and Satellite Communications

Please note that if you take this course for a bachelor honours program, your overall mark in this course will be one of the course marks that will be used to calculate the weighted average mark (WAM) that will determine your award level. (This applies to students who commence enrolment in a bachelor honours program from 1 January 2016 onward. See the [WAM information web page](#) for more information.

Objectives/Learning Outcomes/Capability Development:

This course contributes to the following Program Learning Outcomes for the Bachelor of Engineering (Honours):

- 1.1 Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.
- 1.3 In-depth understanding of specialist bodies of knowledge within the engineering discipline.
- 2.1 Application of established engineering methods to complex engineering problem solving.
- 2.2 Fluent application of engineering techniques, tools and resources.

3.2 Effective oral and written communication in professional and lay domains.

On completion of this course you should be able to:

1. Determine noise temperatures and noise figures of communication devices and systems
2. Determine signal to noise ratios in analogue baseband and band-pass communication systems
3. Determine probability of error in digital baseband and band-pass communication systems
4. Perform system dynamic range calculations
5. Perform optical fibre link design calculations
6. Exercise the following skills: problem solving, design, teamwork and leadership, communication, and self-directed learning.

Overview of Learning Activities

Pre-recorded lectures, design examples and case studies are used to explain the main concept and demonstrate current industry practice. These will be available on Canvas.

The weekly problem sheet will develop your problem-solving skills and also in some cases require you to research new information.

Laboratory is designed to develop your practical and communication skills through a real-world design and verification methodology. The laboratory will run both online and onsite. The online laboratory will be available for those who cannot attend the classes.

Student Learning occurs through the following experiences and evaluation processes:

- Tutorials
- Laboratory classes
- Viewing pre-recorded materials

Details of Learning Activities

Students need to attend classes which will be a combination of lectures and tutorials.

Activities encompassing problem solving, lab demonstration, Matlab simulation provided in tutorial sessions will consolidate your knowledge of the topics presented in lectures.

Supplementary materials found on Canvas and the shared Onedrive folder will provide a focus for your private study.

Teaching Schedule

The detailed teaching schedule is fully available and accessible in Canvas.

The following topics will be covered:

- Historical Development of Wireless/Wired Communications
- Signals and Bits
- Passband Signals
- Wireless Signal Propagation
- Cellular Network
- 5G Network

Overview of Learning Resources

RMIT will provide you with resources and tools for learning in this course through our online systems.

Lists of relevant reference texts, resources in the library and freely accessible Internet sites will be provided.

You will also use laboratory equipment and computer software within the School during project and assignment work.

Learning Resources

Prescribed Texts

References

Mahbub Hassan, *Wireless and Mobile Networking*, CRC Press, August 2022 9780367487355

Randy L. Haupt, *Wireless Communications Systems: An Introduction*, John Wiley & Son, 2020 9781119419174

Other Resources

1. Online lecture notes/exercises/tutorials/labs on your course Canvas and shared Onedrive folder
2. Mahbub Hassan, *Wireless and Mobile Networking*, CRC Press, August 2022, ISBN:9780367487355
3. Randy L. Haupt, *Wireless Communications Systems: An Introduction*, John Wiley & Son, 2020, ISBN:9781119419174

Overview of Assessment

This course has no hurdle requirements.

Assessment components are: Assignments and Laboratory Reports

Assessment tasks

Assessment Task 1: Assignment 1

Weighting 20%

This assessment task supports CLOs 1 & 2

Assessment Task 2: Assignment 2

Weighting 25%

This assessment task supports CLOs 2, 3, & 4

Assessment Task 3: Laboratory reports

Weighting 30%

This assessment task supports all CLOs

Assessment Task 4: Assignment 3

Weighting 25%

This assessment supports CLOs 5 & 6

Assessment Tasks

The following Assessment tasks are offered at RMIT Vietnam:

Assessment Task 1: Early feedback assessment (Individual)

Weighting: 25%

This assessment task supports CLOs 1-2.

Assessment Task 2: Laboratory report (Two) (Group and Individual Q&A)

Weighting: 40% (2 x 15%+10%Q&A)

This assessment task supports CLOs 1-4, 6

Assessment Task 3: Final Assessment (Individual)

Weighting: 35%

This assessment task supports CLOs 4-6

To pass this course, a score of **at least 50%** is required for the combined assessments.

Course Overview: [Access Course Overview](#)

Print version

URL: <http://www1.rmit.edu.au/courses/eeet26212393>

Authorised 24 October 2023 by Huy Nguyen

Document history