Accessibility statement

Communication Systems - ELE00048H

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- **Department**: Electronic Engineering
- **Module co-ordinator**: Prof. Paul Mitchell
- **Credit value**: 10 credits
- **Credit level**: H
- **Academic year of delivery**: 2020-21
  - See module specification for other years: [2018-19](#) [2019-20](#)

Module summary

The Communication Systems module provides you with a detailed understanding of how wireless communication systems work, from theoretical concepts through to the design of practical radio systems and networks. Topics include: information theory; wireless link design; signals, radio modulation and demodulation; networks and protocols.

Module will run

Occurrence	Teaching cycle
A	Autumn Term 2020-21

Module aims

Subject content aims:

- To introduce the basic knowledge necessary for transmitting and receiving information using today's communication technologies
- To introduce the coding of information onto a carrier (modulation) which is then transmitted, received and demodulated
- To introduce analogue and digital communication systems emphasizing the transition from analogue to predominantly digital transmission

Graduate skills aims:

- To develop skills in the selection and application of appropriate numeric and algebraic techniques

Module learning outcomes

Subject content learning outcomes

After successful completion of this module, students will:

- Be able to represent information as time-domain or frequency-domain functions with an understanding of the equivalence between these domains
- Understand the operation of analogue and digital communication systems in the time-domain and the frequency-domain
- Understand the basic theory and operation of analogue communication systems, e.g. AM and FM modulation
- Understand the fundamentals of digital communication systems, especially baseband signalling, digital modulation
- Be able to analyse and design simple analogue/digital communications systems

Graduate skills learning outcomes

After successful completion of this module, students will:

- Be able to explain and evaluate advanced technical concepts concisely and accurately
- Be able to select, adapt and apply a range of mathematical techniques to solve advanced problems
- Have developed skills in problem solving, critical analysis and applied mathematics

Assessment

Task	Length	% of module mark
Essay/coursework Communication Systems	N/A	100

Special assessment rules

None

Reassessment

Task	Length	% of module mark
Essay/coursework Communication Systems	N/A	100

Module feedback

'Feedback' at a university level can be understood as any part of the learning process which is designed to guide your progress through your degree programme. We aim to help you reflect on your own learning and help you feel more clear about your progress through clarifying what is expected of you in both formative and summative assessments.

A comprehensive guide to feedback and to forms of feedback is available in the Guide to Assessment Standards, Marking and Feedback. This can be found at https://www.york.ac.uk/students/studying/assessment-and-examination/guide-to-assessment/

The Department of Electronic Engineering aims to provide some form of feedback on all formative and summative assessments that are carried out during the degree programme. In general, feedback on any written work/assignments undertaken will be sufficient so as to indicate the nature of the changes needed in order to improve the work. Students are provided with their examination results within 20 working days of the end of any given examination period. The Department will also endeavour to return all coursework feedback within 20 working days of the submission deadline. The Department would normally expect to adhere to the times given, however, it is possible that exceptional circumstances may delay feedback. The Department will endeavour to keep such delays to a minimum. Please note that any marks released are subject to ratification by the Board of Examiners and Senate. Meetings at the start/end of each term provide you with an opportunity to discuss and reflect with your supervisor on your overall performance to date.

Indicative reading

Digital and Analog Communication Systems by Leon W. Couch, Eighth Edition. Pearson Education (2012)
Communication Systems by Simon Haykin, Fifth Edition. Wiley (2009)
Modern Digital and Analog Communications System by B. Lathi, Zhi Ding. OUP (2009)
Fundamentals of Communication Systems by John G. Proakis , Masoud Salehi. Pearson Education (2014)

Coronavirus (COVID-19): changes to courses

The 2020/21 academic year will start in September. We aim to deliver as much face-to-face teaching as we can, supported by high quality online alternatives where we must.

Find details of the measures we're planning to protect our community.

Course changes for new students