ELEC4338: Special Topics: Introduction to Biomedical Engineering

Contact Details:  NOTE: Email addresses have been obscured - remove the ']' and '[' to make real addresses.

Unit Coordinator

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Other pages about this Unit

• Unit area - http://student.ee.uwa.edu.au/units/elec4338
• Unit Outline - http://student.ee.uwa.edu.au/units/elec4338/unit-outline/

Policies

• School's student policies page - http://student.ee.uwa.edu.au/policies/
• Assessment & Scaling - http://www.ecm.uwa.edu.au/for/students/assess
• Plagiarism - http://www.ecm.uwa.edu.au/for/students/plagiarism
• Examinations & Appeals - http://www.ecm.uwa.edu.au/for/students/exams
• Student OS&H - http://www.safety.uwa.edu.au/students

Supplementary assessment is not available in this unit except in the case of a bachelor’s pass degree student who has obtained a mark of 45 to 49 and is currently enrolled in this unit, and it is the only remaining unit that the student must pass in order to complete their course.

Special Topics are offered subject to sufficient enrolment and staff availability. They can be selected by any student with a free option and meeting any listed prerequisites.

Credit: 6 points  Availability: Semester 1

Outcomes: Students should have appreciated the roles played by electrical, electronic and computer engineering in biomedicine and the scope for application of quantitative, engineering methods to biomedicine. They should understand human anatomy, physiology, and cell biology to a level sufficient to permit this appreciation. They should have developed the ability to apply engineering skills and techniques to biomedical problems drawing from areas including signal processing, control, systems, and electronics. They should have developed an understanding of the issues and processes by which such techniques may be brought into practice. They should have enhanced their ability to work and communicate effectively in a team.

Content: Introduction to anatomy, physiology and cell biology Bioelectricity Biomedical sensors Biotechnology Instrumentation Medical imaging Medical signal processing Bioeffects of nonionising electromagnetic fields

Assessment: This comprises an examination, class tests and assignments. The examination assesses students’ ability to apply electrical, electronic, and computer engineering methods to problems in medicine and biology. Class tests are used for continuous assessment and to enable students to monitor their own progress during the semester. Assignments assess the students’ ability to interpret and apply material developed and to communicate the results.
Unit Rules:
Prerequisites: Signals & Systems 3 ELEC3306 Advisable prior study: Circuits and Electronic Systems 3 ELEC3301 Contact hours—36 (lectures: 24 hrs; tutorials: 12 hrs)

For more information please contact Dr Brendan Kennedy by email: brendank@ee.uwa.edu.au