ELEC4342: Semiconductor Nanoelectronics

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

Unit Coordinator

- Laurie Faraone, L.F. <faraone[@]ee[.]uwa[.]edu[.]au>

Other pages about this Unit

- Unit area - http://student.ee.uwa.edu.au/units/elec8324

Policies

- Plagiarism - http://www.ecm.uwa.edu.au/for/students/plagiarism
- 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.

Outcomes

Students are able to understand the role of compound semiconductors in modern high performance electronics; understand new structures which take advantage of heterostructures; and gain an understanding of which semiconductor families are applicable for various applications; design hetero-structure devices for particular applications; and model hetero-structure based devices.

Content

This unit covers transistor types, their characteristics and design, common compound semiconductors, HBTs, HEMTs, advanced heterostructure devices, and performance calculations

Pre-requisites and Co-requisites (unit specific, technical and software)

Prerequisites: ELEC2304 Physical Electronics 2 (formerly 620.226 Physical Electronics 226/ENGT2304 Physical Electronics 2) or equivalent

Unit Structure and assessment

Assessment: This consists of an examination and laboratory reports. The examination assesses students' understanding of concepts covered in the subject. The laboratory reports assess students' understanding of the area.