

APPS 201 Materials: Properties and Applications

18 points: Semester 2

Description: Aspects of materials, including physical properties, structure, sustainability, manufacturing and use.

Aim: To provide knowledge of the composition, structure and properties of materials and develop skills related to material selection with particular relevance to industry and society.

Objectives: At the end of the course the student will be able to:

- develop knowledge of the interactions among composition, structure and properties of materials, and how these relate to processing and function of selected materials
- identify the key aspects of materials processing, performance and disposal with respect to sustainability
- apply knowledge of materials to a variety of disciplines via case studies

Paper structure: APPS 201 is comprised of lecture and laboratory sessions which are designed to support and explore material properties and applications. The 13 week course is divided into two parts.

1. Exploration of materials in terms of structure, composition, type, processing and sustainability.
2. The second half of the course introduces the application of material use through case studies such as bioengineering, sport etc.

Timetable: Lecture: Monday 2:00 -3.50 pm. Laboratory: Every second Thursday 2:00 -4.50pm

Assessment and due dates: Final grade compilation for APPS 201 is 50% from internal assessment (four assignments based on laboratory work, 3 reports and 1 presentation) and 50% from the final written examination.

Staff

Associate Professor Azam Ali BSc (Hons) MSc (Ju Dakar) PhD (Sci U Malaysia) (course co-ordinator)

Dr Jaydee Cabral BS/MA (College of William & Mary), PhD (ODU/EVMS).

Assoc. Prof. Sarah Wakes BSc (Hons) PhD (Notts) CEng (UK) CMarEng (UK) MIMarEST MIPENZ

Dr. Maree Gould, PhD (Otago)

Guest lecturers may also contribute to selected sections of courses as appropriate.