ELEC4445 – Entrepreneurial Engineering

Units of Credit: 6 Units.

Course Information:

This course was developed by the School of Electrical Engineering and Telecommunications to provide an introduction to business creation and its associated entrepreneurial process. It is intended mainly for 4th year EE&T students. The course assumes no specific business knowledge and focuses on the creation of high-tech ventures related to electronic engineering.

Course Objectives:

At the end of the course students should:

a. Understand what is involved in starting up a high-tech business in an Australian context, the involved risks and the potential rewards;

b. Understand the role of entrepreneurship in today’s society;

c. Understand the entrepreneurial process i.e. the analysis, control and exploitation of business opportunities and available resources;

d. Understand to role of IP and the various mechanism securing its exclusive usage;

e. Understand the various mechanisms for raising capital;

f. Understand the roles of engineers in an entrepreneurial context;

g. Understand alternative career possibilities offered in the context of entrepreneurship.

Learning Outcomes:

1. Be able to analyse and screen business opportunities.
2. Be able to assemble a business plan.
3. Be able to identify various sources of fundings i.e. angel investors, venture capitalists and banking institutions.

Teaching Methods:

Lectures: 2 hrs/week  Tutorials: 1 hrs/week Industry guest lectures: 1 hrs/week

Syllabus:

Course introduction: the entrepreneurial revolution; The entrepreneurial process; Opportunities Recognising and screening; Entrepreneur and the internet; Entrepreneur, manager and team; Obtaining venture and growth capital; Resource requirements; Business plan; Introduction to entrepreneurial finance; Rapid growth and troubled times; Ethics and the entrepreneur; Harvesting the wealth

Guest lecture program (subject to last minute change):
Silanna Pty Ltd: an Australian start-up in micro-electronics – François Ladouceur;
Summertime winebar: a living business plan – Steven Scheeler;
IP: A primer for the entrepreneur – Peter Lightbody;
Virtual Photonics: Incentives and rewards – Dr Rod Vance;
AUSBIRD satellite project: raising money (~$300m) in Australia – Dr Peter Moar;
Better Place: an international start-up in the automotive industry – Guy Pross;
PlantWeave: joining a startup as a young graduate – Nick Cuevas;
New South Innovation: commercialising technology – Steve Brodie

Recommended Text(s):


Assessment Methods:

Assessment is based on two assignments, one intra-semester quiz and one final examination.

Assessment Weighting:

- **Final Examination (50 %):** 3 hour exam covering lectures, tutorials and guest presentations.
- **Quiz (25 %):** 1 hour exam to be held nominally during week 9 covering lectures, tutorials and guest presentations (confirm exact date with lecturer)
- **Assignments:** 2 assignments to be done in groups of three to four people. Assignment 1 (5%) consists in conducting an interview with an entrepreneur. Assignment 2 (20%) consists in developing a business plan for a hypothetical business related to the engineering or the education markets.