

# ELEC4445, GSOE9445

Entrepreneurial Engineering

Term 3, 2022



## Course Overview

### Staff Contact Details

#### Convenors

Name	Email	Availability	Location	Phone
François Ladouceur	<a href="mailto:f.ladouceur@unsw.edu.au">f.ladouceur@unsw.edu.au</a>	Per request	EE&T 342	

### School Contact Information

**Consultations:** Lecturer consultation times will be advised during the first lecture. You are welcome to email the tutor or laboratory demonstrator, who can answer your questions on this course and can also provide you with consultation times. **ALL email enquiries should be made from your student email address with ELEC/TELExxxx in the subject line; otherwise they will not be answered.**

**Keeping Informed:** Announcements may be made during classes, via email (to your student email address) and/or via online learning and teaching platforms – in this course, we will use Moodle <https://moodle.telt.unsw.edu.au/login/index.php>. Please note that you will be deemed to have received this information, so you should take careful note of all announcements.

### Student Support Enquiries

[For enrolment and progression enquiries please contact Student Services](#)

### Web

[Electrical Engineering Homepage](#)

[Engineering Student Support Services](#)

[Engineering Industrial Training](#)

[UNSW Study Abroad and Exchange](#) (for inbound students)

[UNSW Future Students](#)

## Phone

(+61 2) 9385 8500 – Nucleus Student Hub

(+61 2) 9385 7661 – Engineering Industrial Training

(+61 2) 9385 3179 – UNSW Study Abroad and UNSW Exchange (for inbound students)

## Email

[Engineering Student Support Services](#) – current student enquiries

- e.g. enrolment, progression, clash requests, course issues or program-related queries

[Engineering Industrial Training](#) – Industrial training questions

[UNSW Study Abroad](#) – study abroad student enquiries (for inbound students)

[UNSW Exchange](#) – student exchange enquiries (for inbound students)

[UNSW Future Students](#) – potential student enquiries

- e.g. admissions, fees, programs, credit transfer

## Course Details

### Units of Credit 6

### Summary of the Course

Course overview: the entrepreneurial revolution; opportunities, teams, resources; focus on opportunities; the entrepreneur and the internet ; team, resources and capital requirements; disruption; entrepreneurial finance; the deal: valuation, structure and negotiation; rapid growth and troubled times.

### Course Aims

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

### Course Learning Outcomes

1. Explain the role of entrepreneurship in today's society;
2. Explain the roles of engineers in the entrepreneurial context;
3. Survey the alternative career paths for engineers made possible through entrepreneurship;
4. Compare and contrast the Australian high-tech start-up context, the involved risks and the potential rewards;
5. Detail and critique the entrepreneurial process i.e. the analysis, the exploitation of opportunities and the available resources;
6. Review and explain the role of IP and the various mechanism securing its exclusive usage;
7. Survey and explain the various mechanisms for raising capital;

### Teaching Strategies

The course consists of the following elements: lectures, tutorials and guest lectures:

Lectures: The lectures will introduce the basis concepts of entrepreneurial engineering.

Tutorials: The tutorials will covers the more technical aspects of the course, namely corporate finance at an introductory level. They will also serve as guiding sessions for the development of the assignments.

Guest lectures: They will provide the student with insights into the entrepreneurial process from industry participants ranging from Venture Capitalist, past- and current-entrepreneurs, young graduates involves in startup, CTOs of technology related companies, etc.

### Additional Course Information

You are expected to attend all lectures, guest lectures, and tutorials in order to maximise learning. In

addition to the lecture notes/video, you should read the weekly provided *targeted readings*. Reading additional texts will further enhance your learning experience. Group learning is also encouraged. UNSW assumes that self-directed study of this kind is undertaken in addition to attending face-to-face classes throughout the course.

## Assessment

Assessment task	Weight	Due Date	Course Learning Outcomes Assessed
1. Weekly Review Quizzes	16%		1, 2, 3, 4, 5, 6, 7
2. Assignments: Interview, Headlines, Disruption	44%	see Timetable	1, 2, 3, 4, 5, 6, 7
3. Final Exam	40%	TBA	1, 2, 3, 4, 5, 6, 7

### Assessment 1: Weekly Review Quizzes

These 10 minutes on-line evaluations will be held weekly at the beginning of each lecture and will cover the activity of the preceding week including material from the lectures, guest interviews and tutorials. Each quiz will count for 2% and take place weekly starting on week 2, except for week 6 (study week). These quizzes test your general understanding of the course material and are designed to give you feedback on your progress. Marks will be assigned according to the correctness of the responses.

### Assessment 2: Assignments: Interview, Headlines, Disruption

**Due date:** see Timetable

#### Interview (10%)

This assignment consists mainly in a summary of the most important observations and insights you have gathered during an interview with an entrepreneur. You are trying to understand what motivates the entrepreneur and how he perceives his own business, what are his motivations, what he consider to be the critical points along the paths to business creation. You are also trying to understand the process this entrepreneur went through during the various entrepreneurial phases and how his perception of this process changed (e.g. would he do it again the same way).

#### Headlines (14%)

The goal of this assignment is to relate the concepts covered during the class to real life events currently taking place in the technology sector. You are requested to write a 2,000 word essay on one of the headlines made available, focussing on the key concept(s) identified. In doing so, you should:

- Succinctly explain the context of the headline;
- Justify the importance of the headline (why was it a headline?);
- Analyse the situation using the concepts developed within the course e.g. customers, markets, competition, business models, venture money, capitalisation, P/E ratios, etc.
- If appropriate, express your position (agreement of disagreement) with respect to the view expressed.

#### Disruption (20%)

As an entrepreneur, one of your tasks is to recognise opportunities. During the course of the semester, we have seen that opportunities best play out in markets that are nascent, immature or fragmented. In

other words, markets and opportunities cannot be decoupled. As we cover during the lecture entitled “Disruption”, some of the best opportunities are tagged as disruptive *i.e.* that they can lead to

“the transfer of wealth in an industry from dominant incumbents to disadvantaged entrants”.

In this assignment, you are asked to perform a disruption analysis of the potential impact of specific technology covering the following points: the technology, the markets, the players, the economic stakes.

### **Assessment 3: Final Exam**

**Due date:** TBA

Covering all material presented during the term, including guest lectures and tutorials

## Attendance Requirements

Students are strongly encouraged to attend all classes and review lecture recordings.

## Course Schedule

[View class timetable](#)

### Timetable

Date	Type	Content
Week 1: 12 September - 16 September	Lecture	Course overview
	Assessment	Assignment 1: Interview (starts 13/9/22)
Week 2: 19 September - 23 September	Lecture	Opportunities, teams, resources
Week 3: 26 September - 30 September	Lecture	Focus on opportunities
Week 4: 3 October - 7 October	Lecture	The entrepreneur and the internet
	Assessment	Assignment 1: Interview (due 4/10/22) Assignment 2: Headlines (starts 4/10/22)
Week 5: 10 October - 14 October	Lecture	Team, resources and capital requirements
Week 6: 17 October - 21 October	Lecture	Review week
Week 7: 24 October - 28 October	Lecture	Disruption
	Assessment	Assignment 2: Headlines (due 25/10/22) Assignment 3: Disruption (starts 25/10/22)
Week 8: 31 October - 4 November	Lecture	Entrepreneurial finance
Week 9: 7 November - 11 November	Lecture	The Deal: valuation, structure and negotiation
Week 10: 14 November - 18 November	Lecture	Rapid growth and troubled times
	Assessment	Assignment 3: Disruption (due 15/11/22)



## **Resources**

### **Prescribed Resources**

Microsoft Teams will be the main interactive platform used throughout the trimesters. It will serve for live on-line delivery of all content and will host all support materials, including lectures notes, assignments, samples of past examinations and assignments, etc. Furthermore, Teams will be used to disseminate course information as the trimester progresses and will host discussion forums. Lastly, assessment marks will also be made available via Teams. Moodle might be use as a complementation support platform when Microsoft Teams lacks in functionality.

### **Recommended Resources**

1. New Venture Creation – Entrepreneurship for the 21st Century, 6th Edition, J.A. Timmons and S. Spinelli, McGraw-Hill Irwin, 2004.
2. Introduction to corporate finance, A. Frino, T. Cusack, K. Wilson, Prentice-Hall, 2001.

### **Course Evaluation and Development**

The myExperience online tool will be used to gather student feedback

### **Laboratory Workshop Information**

N/A

## **Academic Honesty and Plagiarism**

### **Academic Honesty and Plagiarism**

Plagiarism is the unacknowledged use of other people's work, including the copying of assignment works and laboratory results from other students. Plagiarism is considered a form of academic misconduct, and the University has very strict rules that include some severe penalties. For UNSW policies, penalties and information to help you avoid plagiarism, see <https://student.unsw.edu.au/plagiarism>. To find out if you understand plagiarism correctly, try this short quiz: <https://student.unsw.edu.au/plagiarism-quiz>.

### **General Conduct and Behaviour**

Consideration and respect for the needs of your fellow students and teaching staff is an expectation. Conduct which unduly disrupts or interferes with a class is not acceptable and students may be asked to leave the class.

## Academic Information

### COVID19 - Important Health Related Notice

Your health and the health of those in your class is critically important. You must stay at home if you are sick or have been advised to self-isolate by [NSW health](#) or government authorities. Current alerts and a list of hotspots can be found [here](#). **You will not be penalised for missing a face-to-face activity due to illness or a requirement to self-isolate.** We will work with you to ensure continuity of learning during your isolation and have plans in place for you to catch up on any content or learning activities you may miss. Where this might not be possible, an application for fee remission may be discussed.

If you are required to self-isolate and/or need emotional or financial support, please contact the [Nucleus: Student Hub](#). If you are unable to complete an assessment, or attend a class with an attendance or participation requirement, please let your teacher know and apply for [special consideration](#) through the [Special Consideration portal](#). To advise the University of a positive COVID-19 test result or if you suspect you have COVID-19 and are being tested, please fill in this [form](#).

UNSW requires all staff and students to follow NSW Health advice. Any failure to act in accordance with that advice may amount to a breach of the Student Code of Conduct. Please refer to the [Safe Return to Campus](#) guide for students for more information on safe practices.

### Dates to note

Important Dates available at: <https://student.unsw.edu.au/dates>

## Student Responsibilities and Conduct

Students are expected to be familiar with and adhere to all UNSW policies (see <https://student.unsw.edu.au/policy>), and particular attention is drawn to the following:

### Workload

It is expected that you will spend at least **15 hours per week** studying a 6 UoC course, from Week 1 until the final assessment, including both formal classes and *independent, self-directed study*. In periods where you need to complete assignments or prepare for examinations, the workload may be greater. Over-commitment has been a common source of failure for many students. You should take the required workload into account when planning how to balance study with employment and other activities.

### Attendance

Regular and punctual attendance at all classes is expected. UNSW regulations state that if students attend less than 80% of scheduled classes they may be refused final assessment.

### Work Health and Safety

UNSW policy requires each person to work safely and responsibly, in order to avoid personal injury and to protect the safety of others.

## Special Consideration and Supplementary Examinations

[You must submit all assignments and attend all examinations scheduled for your course.](#) You can apply for special consideration when illness or other circumstances beyond your control interfere with an assessment performance. If you need to submit an application for special consideration for an exam or assessment, you must submit the application **prior to the start** of the exam or before the assessment is submitted, except where illness or misadventure prevent you from doing so. Be aware of the “fit to sit/submit” rule which means that if you sit an exam or submit an assignment, you are declaring yourself well enough to do so and cannot later apply for Special Consideration. For more information and how to apply, see <https://student.unsw.edu.au/special-consideration>.

## Administrative Matters

On issues and procedures regarding such matters as special needs, equity and diversity, occupational health and safety, enrolment, rights, and general expectations of students, please refer to the School and UNSW policies:

<https://student.unsw.edu.au/guide>

<https://www.engineering.unsw.edu.au/electrical-engineering/resources>

## Disclaimer

This Course Outline sets out description of classes at the date the Course Outline is published. The nature of classes may change during the Term after the Course Outline is published. Moodle should be consulted for the up-to-date class descriptions. If there is any inconsistency in the description of activities between the University timetable and the Course Outline (as updated in Moodle), the description in the Course Outline/Moodle applies.

## Image Credit

"What's It Worth? The Economic Value of College Majors" from Georgetown University's Center on Education and the Workforce

## CRICOS

CRICOS Provider Code: 00098G

## Acknowledgement of Country

We acknowledge the Bedegal people who are the traditional custodians of the lands on which UNSW Kensington campus is located.