THE UNIVERSITY OF AUCKLAND
Te Whare Wānanga o Tāmaki Makaurau
NEW ZEALAND

BUSINESS SCHOOL

Course Outline 2017
COMENT 703: COMMERCIALISATION OF SCIENCE AND TECHNOLOGY (15 POINTS)

Quarter 1 (1172)

Course Prescription
Addresses the research-business interface, commercialisation pathways and processes and how IP based projects are evaluated and assessed as they advance through stages of development with the objective of penetrating national and international markets. The course also examines the product development process and different technology transfer models including licensing, partnering, spin-outs and start-ups. It introduces related issues of market and competitor research, IP valuation, risk management, and the financing of different stages in the commercialisation process.

Goals
The goals of the course are to provide students with an understanding why organisations engage in research commercialisation and innovation and of the process of commercialising IP-based projects. The course aims to develop this understanding through class discussions of models, frameworks, case studies and examples.

Learning Outcomes
By the end of this course it is expected that the student will be able to:

1. Understand and be able to analyse and discuss how organisational motives and objectives shape commercialisation pathways and strategies.
2. Use and apply knowledge of innovation management and commercialisation processes to engage with early-stage research commercialisation activities.
3. Communicate key commercialisation aspects related to early-stage science or technology opportunity.

Content Outline
The course content is divided into three subject categories: “Research and innovation,” “Commercialisation processes,” and “Implementation, people and negotiation”.

Subject category	Date	Topic	Presentations	Lecturer
Research, invention and innovation	3PM-7PM, January 13	1. Research and invention 2. Ideation and approaches to finding/creating good ideas from research results/processes	• Overview of course • Exponential change • Where good ideas come from • Networking • *Backbone*	Peter Lee
	9AM-12PM January 14	3. Innovation (What is it and why does it matter?)	• Mastering the dynamics of innovation • Innovators dilemma • Creative Accumulation • **Introducing Assignment 1 /25%**	Peter Lee
	3PM-7PM, January 27	4. Innovation and the economy	• New Zealand paradox • The economics of growth • Innovation and economic growth • **Assignment 1 due** • *Backbone*	Shaun Hendy
Commercialisation Processes	9AM-12PM January 28	5. Innovation ecosystems	• New Zealand's innovation economy • Open innovation	Shaun Hendy
	3PM-7PM, February 10	6. Research and business interface. Market and competitive research. 7. How IP projects are evaluated and assessed. Mapping out commercialisation opportunities of technology.	• Business models and Value proposition design • Competitive forces • Business plan • **Introducing Assignment 2 /25%** • *Backbone (Presentation of Technology Road-mapping –CEO of case study)*	Peter Lee
	9AM-12PM February 11	8. Commercialisation pathways, product development processes and risk management.	• Stage Gate and Portfolio Analysis • Technology Road-mapping • **Introducing Assignment 3&4 /50%**	Peter Lee and Elisabeth Krull
	3PM-7PM, February 24	9. IP evaluation. Different technology transfer models.	• Valuation of ideas and companies • Time value of money • Real options and Decision Trees • *Backbone (Corporate entrepreneurship)* • **Assignment 2 due**	Peter Lee
Implementation: People and negotiation	9AM-12PM February 25	10. Corporate entrepreneurship	• Concept and importance • Corporate context • Roles and responsibilities	Peter Lee
	3PM-7PM, March 10	11. Financing. Negotiation and the role and importance of Term Sheets	• Valuations • Agreeing on Term Sheet • Splitting reward • Allocating control • *Backbone (Pitching for success)*	Peter Lee
	9AM-12PM March 11	12. Presentations and wrap up	• Project presentations • **Assignment 3 due**	Peter Lee
	March 18		• **Assignment 4 due**	

Learning and Teaching

The class will meet for seven hours fortnightly. Class time will be used for a combination of lectures and discussions of case studies and current events. In addition to attending classes, students should be prepared to spend about another 10 hours per week on activities related to this course. These activities include reading the required texts and preparing for assignments.

Teaching Staff

Dr Peter Lee
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Learning Resources

The list of prescribed readings will be available on CANVAS.

Assignments

Task	Type	Learning Outcomes	Value	Due date
1. Essay (Disruption)	Individual	1,2	25%	3:00 pm, Friday January 27, 2017
2. Exercise (Valuation)	Individual	2,3	25%	3:00 pm, Friday February 24, 2017
3. Project presentation (Technology Roadmap)	Team	3	10%	9:00am, Saturday March 11, 2017
4. Report (Technology Roadmap)	Team	1,2, 3	40%	3:00 pm Friday March 17, 2017

Assignment One – Essay on disruption
This is an individual task.
It is worth 25% of your final grade.

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There will be an evaluation of a business disruption. You will identify a business disruption which has recently occurred in an industry and organization with which you are familiar. Describe the situation, consider to what extent this might have been foreseen by the incumbents, what were the strategies of the incumbents and attackers, how might their strategies have bene improved.

Apply the general approach: observe, analyse, reflect and conclude. The observations should rely on personal insights and public sources about the industry and organisations involved. No primary research is allowed. The analysis and refection should draw on the models and tools introduced in class and in the readings.

The essay should be 2000 words (plus minus 10%).

Use APA referencing to format your in-text citations, quotations, and reference list – the course readings that you draw from must be acknowledged accordingly. Please refer to the University of Auckland Library website for more information:
http://www.cite.auckland.ac.nz/index.php?p=faculty_styles
Submit a soft copy of your assignment to Turnitin no later than **Friday 3 pm, January 27, 2017.**

Assignment Two – Technology valuation exercise
This is an individual task.
It is worth 25% of your final grade.

There will be a case study which you will need to evaluate according to a series of questions related to valuation strategy.

Submit a soft copy of your assignment to Turnitin no later than **Friday 3 pm, February 24, 2017**.

Assignment Three – Presentation
This is a team assignment.
It is worth 10% of your final grade.

This assignment is a group presentation and directly relates to assignment four. The presentations will be held **between 9am and 12 on Saturday March 11, 2017** and each team will deliver a 15-minute presentation followed by 10 minutes of Q&A. In this presentation, you will briefly introduce the process you have followed for preparing the technology roadmap and discuss in detail the outcome from the roadmapping process and how that influences the commercialisation of the technology. Submit a soft copy of your presentation by **Saturday 7 am, March 11, 2017**.

Assignment Four – Technology roadmapping project
This is a team assignment.
It is worth 40% of your final grade.

This assignment relates to assignment three (Presentation) and is due after the presentation. Following the process of technology roadmapping, you will be assessing an emerging technology by looking at the commercial and technical sides, i.e. market pull and technology push. A template will be provided that will need to be populated based on the outcomes of your teamwork and which also informs decision making in your team. Having undergone the process of technology roadmapping, you will deliver a report in which you:

1. Provide an executive summary including an overview sufficiently convincing to warrant reading the complete report (approx. 500 words).
2. Outline the process you and your team underwent in order to develop the roadmap and briefly touch on how consensus was reached in terms of decisions made (approx. 1000 words).
3. Referring to the TRM template, provide a brief explanation for the inclusion of each (1) market driver and/or business driver, (2) product features, and (3) technology solution. Each explanation should be no longer than one paragraph (approx. 100-150 words), i.e. 20 paragraphs in total (2000-2500 words). If you identify more items, prioritise accordingly.
4. Identify and explain three core observations on which you base two to three recommendations of what should be further investigated in order to potentially successfully commercialise the technology (approx. 1500 words).
5. Conclude by summarising the key points of your report (approx. 500 words).

The report should be 6000 words (plus minus 10%). Use APA referencing to format your in-text citations, quotations, and reference list – the course readings that you draw from

must be acknowledged accordingly. No primary research is allowed. Please refer to the University of Auckland Library website for more information:

http://www.cite.auckland.ac.nz/index.php?p=faculty_styles

Submit a soft copy of your assignment to Turnitin no later than **Friday 3 pm, March 17, 2017**. Provide peer evaluation feedback on CECIL no later than **Saturday 3pm March 18, 2017**.

Grade Criteria

Grade	%	Meaning
A+	90+	Rare, outstanding
A	85-89	Exceptional and beyond what was expected
A-	80-84	Excellent
B+	75-79	Polished and very good
B	70-74	Covers everything that was expected, comprehensive; demonstrated good understanding
B-	65-69	Good coverage but minor flaws
C+ C	60-64 55-59	Demonstrated adequate understanding of fundamentals, but some gaps
C-	50-54	Just adequate
D+ D	45-49 40-44	Inadequate and lack of understanding
D-	0-39	Very poor

Plagiarism

Plagiarism is a form of cheating. In coursework assignments submitted for marking, plagiarism can occur if you use the work and ideas of others without explicit acknowledgment. Work can be plagiarised from many sources, including books, journal articles, the internet, and other students' assignments. A student's assessed work may be reviewed against electronic source material using computerised detection mechanisms. Upon reasonable request, students may be required to provide an electronic version of their work for computerised review.

Inclusive Learning

Students are urged to discuss privately any impairment-related requirements face-to-face and/or in written form with the course convenor/lecturer and/or tutor.

Student Feedback

Student feedback on course content and process is welcomed. We use this information to continuously identify ways to improve the value students receive from the course.

We will ask students to provide formative mid-course evaluations/fast feedback (timing to be confirmed).