

**Course Outline 2017**  
**COMENT 704: ENTREPRENEURSHIP FOR SCIENCE AND**  
**TECHNOLOGY (15 POINTS)**

**Quarter 4**

---

**Course Prescription**

Studies how entrepreneurs think and act in organising, motivating and leading high performance teams, and introducing and selling innovative science and technology-based products and services into national and international markets. Examines how entrepreneurs create and capture revenues and profits by recognising, assessing, and marketing opportunities for new products or services based on science and technology; developing new strategies and business models; validating markets; and selling into industrial enterprises and markets.

**Goals of the Course**

The goal of this course is to provide students with an understanding of the wider role of entrepreneurial processes and practices in developing ventures. The course aims to develop this understanding through class discussions of theories, frameworks, techniques, case studies, and action learning.

**Learning Outcomes**

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

1. Describe the role of entrepreneurship in developing and growing ventures and outline why risk and uncertainty are inherent to the process.
2. Identify entrepreneurial techniques, models and strategies used in developing and growing science and technology ventures internationally.
3. Apply entrepreneurial processes and practices to plan and execute research for commercialisation of science and technology ventures.
4. Communicate in written and verbal formats plans for how to develop and grow science and technology ventures to the satisfaction of various stakeholders.

**Content Outline**

This course provides a hands-on learning opportunity on how to start a scalable venture. It is not about how to write a business plan, but about creating an entrepreneurial experience. Students will learn both how entrepreneurs zero-in on an opportunity and what techniques can be used to face the uncertainty of how a startup actually works. Students will work in teams and simulate how to turn a great idea into a great company. Students will learn how to apply the concept of lean start-up to craft each part of a company. Students will "get out of the office/classroom" as they test each part of your business model and then share with the rest of the class.

## Teaching Schedule

Date	Session	Topics	Teacher
3PM-6PM 22 Sep	1. The science and technology entrepreneurial process (part I)	<ul style="list-style-type: none"> <li>Course overview</li> <li>Introduction to assignments</li> <li>Rational or causal approach</li> </ul>	DV
9AM-12PM 23 Sep	2. The science and technology entrepreneurial process (part II)	<ul style="list-style-type: none"> <li>Opportunity creation</li> <li>Effectuation</li> <li>Performance outcomes</li> <li>Case study on effectuation</li> </ul>	DV
3PM-7PM 6 Oct	3. Entrepreneurial techniques (ideation)	<ul style="list-style-type: none"> <li>Team profile discussion</li> <li>Idea generation workshop</li> <li><b>Individual Assessment 1 due (marked by DV)</b></li> </ul>	CW
9AM-12PM 7 Oct	4. Entrepreneurial techniques (ideation to opportunity)	<ul style="list-style-type: none"> <li>Idea to opportunity workshop</li> </ul>	CW
3PM-7PM 20 Oct	5. Bootstrapping	<ul style="list-style-type: none"> <li>Forecasting balance sheet and cash flow</li> <li>Valuation of the business</li> <li>Sources of Funding</li> <li>Getting to 'Investment Ready'</li> </ul>	DV
9AM-12PM 21 Oct	6. Ideation: opportunity creation versus opportunity identification	<ul style="list-style-type: none"> <li><b>Team Assessment 2 Part A due (marked by DV)</b></li> </ul>	DV
3PM-7PM 3 Nov	7. Innovation & technology entrepreneurship	<ul style="list-style-type: none"> <li>Ten types of innovation</li> <li>Case study application</li> </ul>	CW
9AM-12PM 4 Nov	8. Product/market fit; populating the business model canvas	<ul style="list-style-type: none"> <li><b>Interim team presentations on:</b> pivots, revenue models; partnerships; activities and costs (feedback by CW)</li> </ul>	CW
3PM-5PM 17 Nov	9. Contemporary topics in entrepreneurship	<ul style="list-style-type: none"> <li>To be confirmed</li> </ul>	CW
5.30-8.30PM 17 Nov	10. Final presentations to panel	<ul style="list-style-type: none"> <li><b>Team Assessment 2 Part B due (marked by panel)</b></li> </ul>	DV
4pm 20 Nov	Final report submission	<ul style="list-style-type: none"> <li><b>Team Assessment 2 Part C &amp; D due (marked by CW)</b></li> </ul>	
9AM-2PM 24 Nov	Oral assessment	<ul style="list-style-type: none"> <li><b>Individual Assessment 3: oral assessment (marked by CW+DV)</b></li> </ul>	

## Learning and Teaching

The class will meet for six 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 carrying out the required readings, assessments, and activities.

## Teaching Staff

Course Coordinator: Daniel Vidal, *MEng, MBA, PGDip(Finance), PGArts(Psychology)*

Adjunct Associate Professor

Phone: 09 923 3283

Email: [d.vidal@auckland.ac.nz](mailto:d.vidal@auckland.ac.nz)

Profile: <http://staff.business.auckland.ac.nz/5533.aspx>

Office: OGGB Level 3, Room 360

Lecturer: Associate Professor Christine Woods, PhD

Phone: 021 467631

Email: [cr.woods@auckland.ac.nz](mailto:cr.woods@auckland.ac.nz)

Office: OGGB Level 4, Room 4109

## Learning Resources

There is no required text book for the course. Readings are available from the library course page.

## Assessment

Assessment consists of two pieces of course work and a final oral assessment.

Assessment	Learning outcomes Assessed	Task	Weighting	Due date
1. <u>Case study analysis</u>	1,2,4	Individual	25%	6 Oct at 3pm
2. <u>Project</u>				
A. Ideation Presentation	2,3,4	Group	5%	21 Oct in class
B. Final Presentation	2,3,4	Group	10%	17 Nov in class
C. Report	2,3,4	Group	25%	20 Nov at 4 pm
D. Peer assessment	2,3,4	Individual	10%	20 Nov at 4 pm
3. <u>Oral Assessment</u>	2,3,4	Individual	25%	24 Nov (time TBA)

## **Assessment One: Case Study Analysis**

**This is an individual task**

**It is worth 25% of your final grade**

**Due 6 October at 3 pm**

Use the *Lanzatech* case study that is available on Canvas to attempt all three questions. The first question is conceptual and should be addressed by using teaching material from class and additional sources.

1. Outline the difference between causal and effectual logic. (600 words max)
2. Describe how Lanzatech applied causal and effectual logic to develop and grow Lanzatech. (600 words max)
3. Based on your description in (2) discuss using two examples what might have triggered Lanzatech to choose the particular logic to develop and grow Lanzatech. (400 words max)

Please note:

- No primary research is allowed, and under no circumstances should you contact the company for any further information.
- Communicate your answers in the form of paragraphs and do not overuse bullet-point format
- Present your assignment in document with your answers numbered 1, 2, and 3 accordingly (a cover page is not required; page breaks are not required).
- Use APA referencing to format your in-text citations, quotations, and reference list – the case study and 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](http://www.cite.auckland.ac.nz/index.php?p=faculty_styles)
- Submit a hard copy of your assignment in class and to Turnitin no later than 3 pm 6 October.
- Late submissions will incur a penalty of 10% per day late.

## **Assessment Two: Hands-on project**

**This is a group assignment**

**It is worth 50% of your final grade and divided into four components**

In this assignment, you will undertake the first few steps of a new science or technology venture creation. You and your team will attempt to find or make an opportunity and follow the steps that you consider appropriate to start-up or ramp-up the venture. Your task is to apply the principles and practices of lean start up, especially customer development. This assignment is kept deliberately open-ended for you and your team-mates to select a path that is suitable and feasible given the risks and uncertainty that you are comfortable to bear.

## **Component 2A: Ideation Presentation**

**It is worth 5 out of 50 points**

**Due 21 October in class**

On 21 October, each team will deliver a 10-minute presentation followed by 5 minutes of Q&A to the rest of the class. You are welcome to use any audio-visual resources that you consider appropriate. Your task is to explain what the opportunity is and the approach taken to either find or make the opportunity. As this is a presentation to the entire class, assignment extensions will not be granted and late submissions will not be accepted.

There will be two ungraded interim presentations (sessions 6 and 8) where the teams will show the application of hypothesis testing and how initial assumptions and pivots are explored.

## **Component 2B: Final Presentation**

**It is worth 10 out of 50 points**

**Due 17 November in class**

On 17 November, each team will deliver a 15-minute presentation followed by 10 minutes of Q&A to a guest panel. In this presentation, you will briefly introduce the opportunity and discuss in detail the steps that you would take to increase the chances of successfully forming a venture. Fundamentally, the teams will consolidate the findings of the application of lean start up. As this is a presentation to a panel, assignment extensions will not be granted and late submissions will not be accepted.

## **Component 2C: Report**

**It is worth 25 out of 50 points**

**Due 20 November at 4 pm**

You will deliver a report with the background explanation of the topics covered in both the ideation, the two interim presentations, and the final presentation. Importantly, you will support your approach with the concepts and ideas of entrepreneurship, reflecting on the reasons why you have taken a particular approach. You will explain the entrepreneurial principles underpinning your work, clearly wrapping the theory around the facts.

As time is limited, your report must be (a) concise-but-thorough, (b) produced in an appropriate professional style and format, and (c) not more than 20 pages in length (excluding references). If essential to your arguments, your report may be supplemented by not more than 10 additional pages of supporting evidence and exhibits.

You will submit: (a) two bound copies of your report, (b) two hard copies of your presentation slides, and (c) a digital copy of your report via email to Chris Woods ([cr.woods@auckland.ac.nz](mailto:cr.woods@auckland.ac.nz)). The hardcopy of your material (i.e., (a) and (b) above should be delivered to Chris Wood's mailbox on Level 4)

Note: Assignment extensions will not be granted and late submissions will not be accepted as the timeframe for reporting grades to the University is very tight.

## **Component 2D: Peer assessment**

**It is worth 10 out of 50 points**

**Due 20 November at 4 pm**

Peer assessment is your opportunity to communicate to your peers about their contribution toward the hands-on project.

You will allocate marks across your team mates and qualitative feedback to help them understand your judgement of their performance. It is important that you raise the

evaluation of people who worked hard for the good of the team and lower the evaluation of those you perceived not to be working as hard. Those who contributed should receive the full worth of the final project grade; those who did not contribute fully should only receive partial credit.

The quantitative feedback for each group member will be collated and used to calculate an individual peer assessment mark. The peer evaluation mark is multiplied with the mark the group received for the final report. More instructions will be communicated via Canvas closer to the date.

**Note:** It is your responsibility to other members of your team to provide feedback to them because they also take the time and care to evaluate your contribution. Timely and thoughtful participation in the peer review process is an element of your individual performance and contribution to the team's collective effort. So, in short, you must complete the peer assessment **on time** to be awarded any grades for this assessment component. If you fail to complete the peer assessment by the due date, you will be awarded zero marks for this component.

**Assessment Three: Oral Assessment**  
**It is worth 25% of your final grade**  
**Due 24 November**

The oral assessment is based on your learning about the entrepreneurial techniques applied in the hands-on project (Assessment Two) in COMENT704. The format of the oral assessment will be explained in class. Up to 15 minutes will be allocated to each student. The specific time of the assessment for each student will be communicated closer to the assessment day.

**Grade Criteria**

<b>Grade</b>	<b>%</b>	<b>Meaning</b>
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