



# **ENGG 2062**

## **Second Year Advanced Engineering Project Business Planning**

*'Turning a Good Idea into Reality'*

UNIT OF STUDY OUTLINE

**Semester 1, 2009**

Tuesday 11-1  
IT Lecture Theatre

**Course Convenor: Professor Ron Johnston  
Ms Jackie Zelinsky  
Australian Centre for Innovation  
<http://www.aciic.org.au>**

Course material available on Faculty of Engineering website  
<http://www.eng.usyd.edu.au/current-students/AdvancedEng/ENGG2062/index.shtml>

## ***Introduction***

This course aims to extend student experience beyond the design and build phase of engineering to the business planning necessary to transform a good idea into a commercial reality. For some students this will build upon their engineering project experience gained in ENGG1001.

All participating students will have the opportunity to develop a range of skills used by professional engineers in a business environment. These skills include planning, strategy development and assessment, business environment and market analysis together with financial management and resource allocation. It is important to recognize that these skills and processes are essential whether the objective is a commercial or a social outcome.

Learning in the course will be facilitated by lecturers from the Australian Centre for Innovation, and guest lecturers from start-up companies and the venture capital industry, all of whom are experienced in business management and in the commercialisation of technology. They will assist and guide students in understanding the mechanics of business planning, the development of effective teamwork and time and project management skills.

Students will engage in research and critique in an active, project-orientated learning environment, supported by regular engagement with their mentors to evaluate issues and progress. Lectures will address the major themes and conceptual tools of business planning. As with all aspects of this course these sessions will aim to foster thoughtful student responses to facilitate the independent research conduct by student teams.

A key feature of the learning approach is that it is based entirely on learning in, and as, teams. Students will form teams to undertake not only their project, but also to engage in developing and refining their capabilities as a team.. The course is designed to be a challenging task and learning experience, but one in which you should have a lot of fun!

## ***Expected Outcomes***

- A well-developed understanding of the process of business planning;
- the ability to analyse complex, non-linear problems where data are limited and the principal variable is people;
- improved leadership, project management, and teamwork skills; and
- enhanced communication skills, particularly to a large public audience.

## ***Teams***

Teams will be formed in the first two weeks. The development and understanding of effective teamwork will form an important part of the course. Students will be required to keep a weekly journal to record their reflections about the group processes.

Teams will need to develop a regular meeting schedule. At these meetings students should report progress against the project plan in their submitted project proposal, as well as discussing issues of group dynamics and performance, and task allocation.

The development of effective teams where all members work together to achieve their common goal is a central learning objective of this course. Successful groups don't just happen. They are the result of deliberate actions and interactions of group members to address both tasks and the operation of the team. Teams take some time to develop cohesion and purpose, and rely critically on appropriate behaviour from team members. This would include:

- treating all members with mutual respect;
- dealing with each other courteously and professionally;
- taking responsibility for agreed tasks and meeting agreed time frames;
- accepting the performance of the team as the key objective and hence contributing positively to all activities;
- addressing differences and conflict openly, whenever they arise, by assessing the needs of the project, the team and the individual;

Should major issues of difference arise, and resolution cannot be achieved by direct discussion within the team, this should be brought to the attention of your business advisor, preferably by the whole team, for advice and/or mediation.

### ***Assessment***

Students will be assessed through a combination of group and individual contributions. Assessment tasks will comprise a group project proposal, an individual case study, a group presentation and a business plan with acknowledged individual contributions, and an individual journal report (1,000 words) based on reflection on the team, and project, development.

<b>Task</b>	<b>Marks</b>	<b>Dates</b>
Project Proposal (group)	10%	Week 4
Written case study of business planning (individual)	20%	Week 7
Presentation (group)	20%	Week 12
Business Plan (group)	30%	Week 12
Journal Report (individual)	20%	Week 13

All assessment tasks must be submitted by 4pm Thursday of the specified week, to the secure ACIIC mailbox, Room 246, Link Building.

### ***Business Planning Competition***

A special feature of this course is the direct connection with the practical world of new business formation via the venture capital industry. This is reflected in a public competition for the best business plan presentation. The presentation takes the form of a 'pitch' to potential investors.

A cash prize will be awarded to the winning group, judged by independent industry representatives at the presentations in Week 12. A wide range of interested parties are invited to attend the presentations, including your parents and friends, and business and university leaders.

In addition, all students who pass the course will receive a certificate of achievement, (very useful for your resume)

**Note** Assessment of the presentation for course marks will be carried out by the academic staff, independent of the public judging.

## ***Assessment Tasks***

### ***1. Project Proposal***

Prepare a short report (1000 words) which provides

- a clear description of your project in technical terms
- an adequate 'concept statement'
- a project management plan including the sequencing of tasks (project timeline) and the division of responsibility between team members.

### ***2. Case Study of Business Planning***

Select two business plans from the following websites, or elsewhere:

<http://www.businessplanarchive.org>

<http://www.bplans.com>

<http://www.businessplans.org>

Analyse and evaluate them, including by comparison and contrast, in the following terms:

- a brief description – maximum 1 page each
- identify the three strongest components of each plan (and why)
- identify the three weakest components of each plan (and why)
- suggest how the business plans could have been improved?
- state five lessons you have learnt about business planning.

Anticipated length – 5-6 pages (approx 1500 words)

### ***3. Presentation***

The task is to develop a highly professional presentation, of about 12 minutes, which will make a 'pitch' to potential investors as to why they should invest in your proposal. Key elements include:

- developing and designing a logical, persuasive, coherent presentation
- tailoring your pitch to your audience
- using appropriate and effective visual aids to assist in audience comprehension
- presenting in a manner to hold audience interest
- managing the time available

More specific details will be provided throughout the course.

#### ***4. Business Plan***

The task is to prepare a detailed high quality business plan, which meets all the criteria explored throughout the course. The plan will be assessed principally on the quality, logic and supporting evidence for the case you have made. Other criteria include:

- appropriate and effective structure, layout and language
- demonstration of mastery of the topics covered in the course
- evidence of systematic research to develop and support coherent arguments
- appropriate referencing

#### ***5. Individual Journal Report***

The individual report, of no more than 1500 words, should:

- describe the major stages in the project development, including difficulties and how they were resolved
- analyse the major issues in team development and effective operation
- reflect upon what was learned from the course at an individual and group level and the significance of this
- comment fairly upon the contribution of individuals within the group.

***Participation*** (not formally assessed, but necessary for team success)

- regularly attends class
- contributes to team progress.
- takes responsibility for project elements.

#### ***References***

***Recommended text:*** B.R. Barringer and R.D. Ireland, 'Entrepreneurship: Successfully Launching New Ventures', Pearson Education (second edition), 2008.

The term 'business planning' will produce 300 million items in a Google search – there is a vast amount of information available. An appropriate starting point is: <http://www.smallbiz.nsw.gov.au/frame.cfm?1=/resources/tools/links.html&r=/resources/tools/planning.html>

Another relevant site is <http://www.ausicom.com/> - the Australian Institute of Commercialisation.

#### ***Course Schedule***

**Week 1**      **Introduction** – overview and objectives of the course; brief outline of the projects; team formation; the importance of managing team issues; presentation on ENGG1001 projects – RJ, JZ  
(Barringer and Ireland – B&I, Ch. 1)

**Team activity** – preliminary exploration of team formation and project selection

**Week 2**      **Generating ideas and recognising opportunities** – formal approaches and barriers to creativity; how entrepreneurs recognise business opportunities. - DSK  
(B&I, Ch. 2)

**Team Activity** – examination of possible projects; applying creativity techniques to your project selection/development/refinement;

**Week 3**      **The concept and practice of business planning** – introduction to the idea, purpose and value of business planning, and its components – the business concept, goals, SWOT analysis, competitor analysis, market identification and evaluation, financial projections, business strategy, and viability determination; project management, developing a concept statement. – RJ  
(B&I, Ch. 4)  
**Guest Lecture** – Commercialising research

**Team activity** – develop goals and business concept

**Week 4**      **Market research, identification and projection** – market analysis, key marketing tools, identification of customers and their characteristics; projected market size, customer needs, characteristics of the sales and distribution industries. - JZ  
(B&I, Ch. 11)

**Team activity** – preliminary identification and characterisation of your market

**Week 5**      **Feasibility, industry and competitor analysis** – how to determine whether an idea represents a viable business opportunity; industry sector analysis; actual and potential competitor identification and evaluation; the basis of competitive advantage.  
(B&I, Ch. 3, 5) - JZ

**Team activity** – conduct industry and competitor analysis

**Week 6**      **Developing an effective business model** – the plan for how to compete, use resources, structure relationships, connect with customers, and create sustainable value. - RJ  
(B&I, Ch. 6)

**Team activity** – develop and refine your business model

### **Mid-Semester Break**

**Week 7**      **Planning for financial viability** – financial needs, income and expenditure projection, balance sheet, profit and loss statement, cash flow statement, break-even analysis, financial plan. - RJ

**(B&I, Ch. 8)**

**Team Activity** – exploration of financial planning issues

**Week 8**      **Writing a Business Plan** – why a business plan is important; who is the audience, guidelines for writing a business plan. -JZ  
**(B&I, Ch. 9)**  
**Guest Lecture** – Venture Capital  
**Team Activity** – preparing your business plan

**Week 9**      **What an investor is looking for** - financial planning, business analysis and intellectual property protection - patents, trademarks and design, strategy for IP management and exploitation - RJ  
**(B&I, Ch. 10, 12)**

**Team meeting**

**Week 10**     **Making Your Pitch to Raise Finance** – why start-up companies need finance; guidelines for an effective presentation. - JZ  
**(B&I, Ch. 10)**

**Team Activity** – preparing your presentation

**Week 11**     **Trial Business Plan Presentations**

**Week 12**     **Public Business Plan Presentation (Thursday 28 May 4-7pm)**

**Week 13**     Individual Journal Reports submitted

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**Statement of Acceptance of Competition Regulations**

You are required to complete and return the following acknowledgment:

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I, ....., SID No. ....  
as a member of the ..... team, in the ENGG 2062 Business Planning Competition acknowledge that the work presented by myself and my group has been produced in consistency with the University Academic Honesty Policy. I accept the advice tendered by my academic advisors and agree that the judges' decision shall be final and not subject to appeal. Any prize will be shared equally between members of the team.

Signature and Date .....