

IENG 474

Course: **IENG 474**

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Semester: **Summer 2008**

Number of Credit Hours: **3**

Description: ***This course will present basic concepts and practices that are necessary to convert a technology idea into an entrepreneurial business.***

Learning Outcomes

At the end of the course students will be able to:

1. Develop a plan to develop an entrepreneurial business from a technology idea.
2. Apply the analytical tools they need to develop a realistic business plan.
3. Apply content from various engineering disciplines into the development of a business concept for the student's technology idea.

Course Topics

A. The Basics of Becoming an Entrepreneur (8 lessons)

Lesson 1	What is a Technology Entrepreneur
Lesson 2	Characteristics of a Technology Entrepreneur
Lesson 3	Entrepreneurialism as a Career for Engineers
Lesson 4	Lifecycle of a Technology Entrepreneurial Business
Lesson 5	Why Technology Entrepreneurs are Important in Our Society
Lesson 6	Assessing Your Entrepreneurial Skills
Lesson 7	An Entrepreneurial Development Plan
Lesson 8	The Importance of a Business Plan in a Technology Business

B. Where Entrepreneurial Ideas Come From (7 lessons)

Lesson 1	Learning to Look for Technology Business Ideas
Lesson 2	The Start of a Technology Business Ideas Case Study
Lesson 3	Case Studies of Successful Technology Entrepreneurial Ideas
Lesson 4	A Technology Idea Scavenger Hunt
Lesson 5	Developing Your Technology Idea into a Business Concept
Lesson 6	Testing the Feasibility of Your Technology Idea
Lesson 7	Protecting Your Idea (Patents, Copyrights, TradeMarks)
Assignment	Describing Your Business to Technology Investors

C. Assessing the Market for Your Idea (5 lessons)

Lesson 1	Using Databases to Identify Market Potential
Lesson 2	Conducting Focus Groups to Evaluate Market Interest in Your Idea
Lesson 3	Evaluating the Realistic Potential for an Idea
Lesson 4	Market Size and Price Relationship
Lesson 5	Doing a Competitive Assessment
Assignment	Describing Your Product or Service
Assignment	Describing Your Competition

D. Developing a Commercialization Plan for Your Idea (4 lessons)

Lesson 1	Understanding What it Will Take to Commercialize Your Idea
Lesson 2	Thinking Through Your Commercialization Options
Lesson 3	Developing a Commercialization Budget (Funding R&D)
Lesson 4	Developing a Commercialization Schedule
Assignment	Describing Your Commercialization Plan

E. Developing a Marketing Plan (6 lessons)

Lesson 1	Basic Marketing Concepts for Technology Business
Lesson 2	Identifying Initial Market Segments for Technology Businesses
Lesson 3	Developing a Technology Marketing Strategy
Lesson 4	Branding Your Technology Idea
Lesson 5	Estimating Your Marketing Costs
Lesson 6	Developing a Marketing Team
Assignment	Describing Your Technology Marketing Strategy

F. Developing Your Business Organization (6 lessons)

Lesson 1	Basic Organizational Concepts
Lesson 2	Assessing the Business Skills You Need to Complement Your Eng'r Skills
Lesson 3	Recruiting Your Organizational Team
Lesson 4	Developing Organizational Responsibilities
Lesson 5	Developing a Compensation Plan
Lesson 6	Different Forms of Legal Structure
Assignment	Describing Your Organization

G. Raising Money for Your Business (9 lessons)

Lesson 1	Developing an Estimate of Start-up Costs
Lesson 2	Developing an Estimate of Annual Costs
Lesson 3	Developing a Pricing Plan
Lesson 4	Developing Revenue Estimates
Lesson 5	Developing a Cash Flow Analysis
Lesson 6	Estimating Your Financial Needs
Lesson 7	Sources for Financial Support
Lesson 8	Understanding the Venture Capital Process
Lesson 9	Keys to Negotiating a Financial Agreement
Assignment	Describing Your Financial Plan

Course Format

This course will be taught as an Internet based course, using the E Campus System.

Student Evaluation

The grade in this course will be based upon three components. The first component will be your response to each assignment. Each assignment is worth 10 points. There will be 55 assignments that will comprise 70% of the final grade in the course. You will be given a schedule to follow to complete the lessons (see attached). You will be given a due date for each assignment. You will lose one point out of 10 for every day the assignment is late.

The second component of the grade will be the quality of your business idea. You will be given frequent feedback on your business. Part of the grade will be determined by how you used the feedback. At the end of the semester, all business ideas will be evaluated based upon the viability of the idea. This component will be 20% of the final grade. You will be given an interim evaluation for your idea at the conclusion of the lessons for section C in the course.

The final component of the grade will be the written business plan. The specific elements of this grade include:

- The technology worthiness of the idea
- The identification of markets that are realistic
- The development of a commercialization plan including an R & D Plan
- The development of a realistic financial plan

Students will complete on-line readings for each lesson. They will then apply what they read in the lesson to their own technology business idea. The professor will respond to each written assignment and students will be expected to adjust their plans to the professor's suggestions. Assignments will be due roughly every day according to a schedule given by the professor. This part of the grade will be 10%.

TextBook

Each Lesson contains a text chapter written by Dr. Jack Byrd, Jr. This is the only text used for the course no other course materials are used in the course.

90-100 = A

80-89 = B

70-79 = C

60-69 = D

< 60 = F

West Virginia University is committed to social justice. Our University does not discriminate on the basis of race, sex, age, disability, veteran status, religion, sexual orientation, color or national origin. The instructor of this course concurs with that commitment and expects to maintain a positive learning environment based upon open communication, mutual respect, and non-discrimination. Any suggestion as to how to further such a positive and open environment in this class will be appreciated and given serious consideration. If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this class, please advise the instructor and make appropriate arrangements with Disability Services (293-6700).