

Ceramic Engineering Venture Analysis
14:635:413
Spring 2005

Instructor

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Pre/Co-Requisites

Junior standing in the School of Engineering

Course Description

This class examines engineering and business techniques applied to technical materials products. It considers the process of innovation and development of venture proposals as related to materials science and engineering as well as to the design, marketing, economics, quality, standards, and intelligence models used in industry for introducing new products and projects or reinvigorating/reengineering existing ones. We will look at topics such as strategic planning, forecasting, marketing, cost models/budgeting, competitive and strategic intelligence, risk/decision analysis, team management, and protection of proprietary information. Case studies from industry will be utilized and students will have *hands-on* experience with *real-world* projects.

Relationship to Program Objectives

Abet A - K Content

A [Apply math, sci, eng]	10%
E [Solve eng'g problems]	15%
F [Prof/ethical resp]	5%
G [Communicate]	15%
H [Global/eco/envir]	10%
I [Lifelong Learn]	10%
J [Contemporary issues]	10%
K [Exp./stat/comp methods]	15%
L [principles of material systems]	10%

Course Industry Focus

The lead crystal glass industry and the lead oxide industry

Course Requirements

Midterm examination (written or oral)	30%
Project	50%
Presentation	20%

Required Text

Aaker, David. *Developing Business Strategies*. 6th Edition. New York: John Wiley & Sons, Inc. 2001.

Grading Scale

- A: 92-100
- B+: 87-91
- B: 82-86
- C+: 77-81
- C: 72-76
- D: 60-71
- F: 59 and below

Schedule of Events

Date	Topic	Assignment
January 18	Business Strategy	Aaker, Chapter 1
January 25	Strategic Market Management/External and Customer Needs/ICF/Lead Oxide	Aaker, Chapters 2 and 3
February 1	Competitor Analysis/Market Analysis/ICF/Lead Oxide	Aaker, Chapters 4 and 5
February 8	Environmental Analysis/Internal Analysis/ICF/Lead Oxide	Aaker, Chapters 6 and 7
February 15	Sustainable Competitive Advantage/Differentiation/ICF/Lead Oxide	Aaker, Chapters 8 and 9
February 22	Cost and Strategic Positioning/ICF/Lead Oxide	Aaker, Chapters 10 and 11
March 1	Growth Strategies and Diversification/ICF/Lead Oxide	Aaker, Chapters 12 and 13
March 8	Declining and Hostile Markets/Global Strategies/ICF/Lead Oxide	Aaker, Chapters 14 and 15
March 15	No Class: Spring Break	
March 22	Midterm Examination	
March 29	Implementation/ICF/Lead Oxide	Aaker, Chapter 16
April 5	ICF	Project
April 12	ICF	Project
April 19	ICF Table Top Show in Manhattan	Project
April 22	Final Project Due Today by 4:00 p.m. in Dr. Crawford's office B-215	Final Project Due
April 26	ICF	In-Class Presentations

Project Areas

- Lead Oxide Manufacturing/Availability
- Crystal Manufacturing/Health/Safety/Regulatory Issues
- Crystal Marketing—Traditional
- Crystal Marketing—IT