ISAT 654: Advanced Technology Management
Fall 2011

COURSE AND INSTRUCTOR INFORMATION

Meeting Times: By Agreement and Online (This is a Blended Course)
Instructor: Nicole Radziwill, Ph.D., MBA
Office: ISAT/CS 325
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NATURE OF COURSE CONTENT

This course covers advanced topics in technology management (654) and selected topics in technology assessment (655) **from the perspective of quality and process improvement**.

654: This course will introduce students to methods, tools, and techniques for effective management of technology development and application including management of technology within a company; R&D management; Test and Evaluation procedures and metrics; investment strategies; intellectual property issues; fostering entrepreneurialism; managing innovation; and technology transfer. The course will also address managing technology as a tool, e.g., equipment modernization. **655**: This course will introduce students to the theory and methods of technology assessment and transfer. Students will apply techniques such as risk analysis, cost-benefit analysis, forecasting, trend impact analysis, and technology sequence analysis to assess the impacts of new technologies on society. In addition, students will study the process of technology innovation, diffusion, and transfer in the context of both developed and developing nations.

GOALS OF THE COURSE

COURSE OBJECTIVES

By the end of this course, you will learn some of the fundamental concepts that drive strategic and tactical thinking for managers of technology. The learning goals for this course are listed below. You will:

1. ***Understand*** and be able to use basic terminology used by managers in the field ***from the perspective of quality and process improvement*** such as: strategic management, process management, product management, customer focus/voice of the customer, innovation, technology transfer, technology assessment, and appropriate technology.
2. ***Describe the key issues, social context, benefits, and limitations*** of techniques available to technology managers

DISCUSSION SCHEDULE

Week 1: **Critical Issues in Technology Management (Online)**

Week 2: **Frameworks for Strategic Management (Online)**

Week 3: **Leadership (Online)**
Readings: Baldrige Criteria, Section 1

Week 4: **Strategy vs. Tactics (Online)**
Readings: Baldrige Criteria, Section 2

Week 5: **Synthesis of Current Concerns of Technology Managers (In Person)**
Braungart, Cradle to Cradle (2002)
Hamel, The Future of Management (2008)

Week 6: **Process Management & Continuous Improvement (Online)**
Readings: Radziwill; Baldrige Criteria, Section 6

Week 7: **Customer Focus & Engagement (Online)**
Readings: Baldrige Criteria, Section 3

Week 8: **Workforce Management & Employee Engagement (Online)**
Readings: Baldrige Criteria, Section 5

Week 9: **Synthesis of Current Concerns of Technology Managers (In Person)**
Hawkens et al., Natural Capitalism (2007)

Week 10: **Measurement, KM and Technology Assessment Techniques**
Readings: Henriksen; Baldrige Criteria, Section 4

Week 11: **Innovation, R&D and Technology Transfer (Online)**
Readings: Christensen; Where is innovation in the Baldrige Criteria?

Week 12: **International Issues and Appropriate Technology (Online)**
Readings: Prahalad, "The Fortune at the Bottom of the Pyramid"

Week 13: **Synthesis of Current Concerns of Technology Managers (In Person)**
Collins & Hansen, Great by Choice (2011)

Week 14: **Final Exam**

Exam Week: **Project Presentations (In Person)**

REQUIREMENTS & POLICIES

REQUIRED TEXTS

There are several readings from books and journals. I will post the journal articles to our Blackboard site, and you can borrow my copies of the books or purchase your own. The books that you should plan to buy or borrow to read in this class are listed under ISAT 654 at http://nicoleradziwill.com/courses.html.

ADD/DROP DEADLINES

All of the dates related to adding, dropping, and withdrawing from this course are in the JMU catalog and are posted on the University Registrar's web site. **YOU ARE RESPONSIBLE FOR KNOWING THESE DATES.** Professors are not required to grant grades of "WP" or "WF" after that date and I do not. If you have an extraordinary situation you may be granted an "I," but only under extraordinary and unanticipated circumstances (that I agree with).

COURSE POLICIES AND PROCEDURES

IN GENERAL, NO LATE WORK WILL BE ACCEPTED. Any accommodations (e.g. for sickness) must be made ahead of time with me before class or the time at which the assignment is due. As long as there is a justifiable reason that I agree with, I will be as flexible as I can to help you complete the requirements for this course. The most important part is *setting my expectations effectively.*

Attendance/Being Late

Attendance is, in general, required because our class relies on discussions of readings. If you can't attend, please let me know in advance – we may be able to reschedule the class meeting for the week that you have the schedule conflict or sickness. I am willing to be very flexible with such a small class size, as long as we complete all required classes in the semester.

Working in Groups

Group work is an important and encouraged part of the projects in this course. However, I expect that you complete the final exam completely on your own.

Class Participation and Assigned Reading

Please read the material before coming to class, otherwise we will have no basis for discussion.

Honor Code

You are expected to abide by the JMU Honor Code at all times. Examples of academic dishonesty that are violations of the Honor Code include, but are not limited to, the following: turning in work under only your own name that you did not actually do completely yourself (for collaborative work, *always* list the names of your collaborators), plagiarizing other people's words or computer code (and that includes text off the Internet), receiving unauthorized help on an exam, providing unauthorized help on an exam (and that includes talking about an exam before all students have taken it), and misuse of materials that are permitted for an exam. Violations of the JMU Honor Code will be dealt with in accordance with the policy that permits professors, at their own discretion, to assess and penalize students for cheating. All incidents of academic dishonesty will be reported to the Honor Committee, according to the requirements of the university.

METHODS OF EVALUATION

GRADING

1. Weekly Assignment Responses on the Discussion Board – 25%
2. Discussion Participation (on Discussion Board and In Person) – 25%
3. Project - 20%
4. Final Exam - 30%

The bulk of your grade will be based on **participation in class and on the Discussion Board** where you will record what you learn from the readings and why you think it is important - to the world as well as to yourself, on a personal level.

For the **project**, you will read *one significant technology management book* that is appropriate to modern technology management and prepare a one-hour session where you share the most important points with your classmates, supplemented by any other material that you think is relevant and illuminating to the subject you are presenting. Your classmates will also participate in evaluating your session.

The **final exam** will be all-essay and held during final exam week. It will cover *basic and fundamental* questions about the nature of technology and technology management. If you capture the main points effectively from your readings and record them in your reflection journal, then spend time to try and understand *why* the key aspects of the readings are important and how they will be useful to you after you graduate, you should do well on the final.

90-100 is an A, 80-89 is a B, 70-79 is a C, 60-69 is a D, below 60 is an F.