

# Course Syllabus

**Masters of Engineering Management**

**Robert D. McCormick School of Engineering and Applied Science**

**Northwestern University Spring 2016**

**COURSE: MEM 420 – ORGANIZING FOR INNOVATION**

**CLASS:** Saturdays, 9:00am – 12:00 PM  
Classroom: TBD

## **LEARNING OBJECTIVES:**

- (1) How innovation drives business and society.
- (2) Understanding of, and practice with:
  - a. Organizational culture, mechanisms and decision-making
  - b. Team practices
  - c. Individual skills and practices

## **CLASSROOM NORMS:**

- The Northwestern Academic Code of Conduct will apply to all class time and class work.
- Cell phones should be turned off.
- Laptop computers are discouraged.
- Please have a nameplate and sit in the same place so I can get to know you.
- Feel free to bring your dinner or snacks. 30 minutes before class is a popular time to come and eat dinner. Please pick up after yourself.

## **COURSE OVERVIEW:**

We live in an era of innovation – new ideas that bring new feature/functionality, lower cost points, faster service, simpler lives, etc. Today's markets thrive on innovation, especially but not limited to innovative products. Where do new ideas come from? What does a high-functioning innovative organization look like? How is it structured and how does it make investment decisions? What are some individual best practices for innovation? Why do large, established companies find it difficult to innovate (more difficult than a start-up) and what can those companies do to be more innovative in a way that drives business success? Can innovation be

“directed” without taking the life out of it? Can a company survive and prosper without innovating? These are some of the questions we will attempt to answer.

Throughout my career, I’ve always sought out the challenges that had not been done before, those that also held great business promise. With that desire, with the willingness to embrace change and risk failure, and by setting a compelling direction that leaves a lot of space to innovate, individuals and organizations can learn to be very innovative, and prosper from it.

In this course, using my innovation framework, we will discuss numerous paths innovation efforts must traverse through the organization. We will discuss conceptual KP’s (Key Points) and we will walk through a number of example (both historical and current) to practice and illuminate the concepts. We will dig into concepts, “survey” a good number of approaches (debating pros, cons, and limitations) and apply during class and outside of class.

### **ASSIGNMENTS & GRADING:**

Personal Essay (1) ( <i>individual</i> )	5% (due Saturday 4/2, before class)
Homework ( <i>individual</i> )	10%
Class Participation & On-line Surveys ( <i>individual</i> )	10%
Mid-term Exam ( <i>individual</i> )	25% (on Saturday 5/7, before class)
Final Project – Image Presentations ( <i>individual</i> )	10% (on Saturday 6/4, before class)
Final Project – Paper ( <i>group</i> )	40% (due Mon. 6/6, no later than 6pm)

### **ASSIGNMENTS & EXPECTATIONS:**

#### **Personal Essay (*individual*)**

To use the term “essay” is generous. I ask that you list 3 questions you have about innovation, where you want to gain new insights, to acquire new actionable knowledge, to gain proficiency, etc. Be as specific as possible. There are only 2 possible grades -- either 5/5 or 0/5, where 0 is given only if the exercise was not taken seriously.

#### **Homework (*individual*)**

Reading assignments will be commonplace. In addition, there will commonly be “Innovation All Around Us” homework assignments – an assignment to find an example of what we discussed in class. The write-up should only be a paragraph. Some classroom discussion will follow these, as well.

### **Class Participation & On-line Surveys** (*individual*)

As you no doubt already know, class participation (in discussion, debates, activities and post-activity learnings) is critical. As each student engages and shares their own experiences, their response to readings and “Innovation All Around Us” assignments, the collective learning in the classroom will go up dramatically. To help facilitate the discussion, I will also periodically put out a short survey based on the reading homework. These will not be scored for accuracy – just for whether or not it was done. Then during classroom discussion, expect me to call randomly on students, probing the reasoning behind a particular answer in the survey as part of classroom discussion.

### **Mid-term Exam** (*individual*)

1-hour exam on Saturday 5/7 (week #6).

### **Final Project**

Each group will choose a company. The task is to assess the maturity and effectiveness of the company’s innovation capabilities, noting strengths and weaknesses, and proposing improvements to consider. Personal interviews with company employees playing key roles in innovation should be the main tool to gather information and insights. The assessment should address each of the 10 core elements of the innovation framework (to be covered thoroughly in class):

- (1) Teams & ideation
- (2) Strategic innovation & validation
- (3) Solution-driven innovation & validation
- (4) Company essence & direction
- (5) Direct customer insights
- (6) Discovery
- (7) In-depth analysis of discovery
- (8) Innovation collaborations
- (9) Incubation & go/no-go decision-making
- (10) Communication & influence

Image Presentation – Each member of the team will choose one learning from the project that can be communicated in 2-3 minutes. The task is to crystallize the learning, choose a single image/picture that conceptually represents the learning, and present in front of the class (2-3 minutes). Within a single team, each learning presented should be unique.

Paper (content) - The group is responsible for the final paper. While it is quite reasonable to split up the work, this is a team effort -- all will get the same grade for the paper.

Paper (individual contribution) - I will ask each of you to peer-assess your fellow teammates as to their individual contributions to the paper. And since innovation is a team sport, the peer-assessment will assess whether each cooperated with the team, as one would expect of a “team player.” I will incorporate these into the individual grades.

## **Groups**

You will self-organize into groups on the 1<sup>st</sup> day of class. I also ask that you sit with your groups in class, as we will do group activities in class.

## **NOTICE OF VIDEO AND AUDIO RECORDING**

Students in this course may be subject to periodic audio and video recording. Such recordings will potentially be used by Northwestern University in the future and made available through various means, including web pages, to both students and advisors in the program. By registering for the course, you are consenting to such recording and consenting to having the materials made available for academic and marketing purpose.