The purpose of this course is to expose you to the dynamics of industries driven by technological innovation, and to train you to think strategically about technological innovation. In this course, we will tackle such questions as:

- How and why are dominant standards chosen in “winner-take-all” industries?
- How do firms choose among multiple attractive innovation projects?
- How do firms decide whether to “go it alone” or collaborate, and how do firms develop an effective collaboration strategy?
- How do firms make the difficult choice between protecting their technologies with patents or copyrights, versus rapidly disseminating them to build an installed base and complementary goods?

The course will be lecture, case, and discussion based. Like the industries we will study, the course will be fast-paced, and every effort will be made to make the class both challenging and exciting. We will use a combination of text and cases to explore and apply the topics. Because of the fast-paced nature of the course, it is vitally important that you come to class prepared and ready to discuss the topics. If you stay up on the material you will learn more during the discussions and be successful at the assignments.

**GRADE BREAKDOWN**

<table>
<thead>
<tr>
<th>Category</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Discussion and Exercises</td>
<td>25</td>
</tr>
<tr>
<td>Five Homework Assignments (15 points each)</td>
<td>75</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

**PREPARATION AND PARTICIPATION**

*Class discussion & exercises.* We will use a variety of in-class and out-of-class exercises to give you opportunities to apply and deepen your knowledge of the course content. It is impossible to
make up for missed opportunities to learn and interact in class so please be aware that missed classes will have implications for your grade.

*Homework Assignments.* There are five homework assignments that will enable you to apply, refine, and demonstrate your mastery of the material. Each is worth 15 points. There will be a penalty for homework turned in late.

**SCHEDULE**

<table>
<thead>
<tr>
<th>Class</th>
<th>Topics and Readings</th>
</tr>
</thead>
</table>
| 1     | **Sources of Innovation**  
      | **Read:** Strategic Management of Technological Innovation, Chapter 2  
      | **Assignment** (please turn this in, typed, single-spaced, with references, no more than two pages):  
      | Pick an innovator you admire and answer the following questions:  
      | 1. What is/are the key innovation(s) that this person created?  
      | 2. What kind of education & work experience did they have?  
      | 3. How would you describe their personality?  
      | 4. What factors do you think enabled them to be innovative? What factors impeded them? |
| 2     | **Types and Patterns of Innovation**  
      | **Read:** Strategic Management of Technological Innovation, Chapter 3  
      | **Mini Case:** Segment Zero Threat to Microsoft  
      | **Assignment** (please turn this in, typed, with references):  
      | Read up on the current position (market share, advantages) of Android and iOS in the smartphone/tablet markets, and create a table that lists the advantages of Android in the left column, and the advantages of iOS in the right column. Then write a single paragraph explaining whether you think one will rise to dominate the market, and if so, which one it will be and why. |
| 3     | **Standards Battles and Design Dominance**  
      | **Read:** Strategic Management of Technological Innovation, Chapter 4  
      | **Mini Case:** A Battle Unfolding in Online Payments  
      | **Assignment** (be prepared to discuss the following questions in class):  
      | 1. What influences the technological utility, installed base value, and complementary goods value of the different mobile payment systems?  
      | 2. What would customers want if they could have anything they wanted (even products/services that do not yet exist)?  
      | 3. Which companies are best positioned to provide the features you described above for question 2? What constraints/biases do the companies face? |
| 4     | **Timing of Entry**  
      | **Read:** Strategic Management of Technological Innovation, Chapter 5  
      | **Tesla Motors case** |
Assignment (please turn this in, typed, single-spaced, no more than three pages):
1. Answer each of the nine questions under “Factors Influencing Optimal Timing of Entry” in the chapter for the Tesla Model S.
2. In one or two paragraphs, explain why you believe the car was a) too early, b) about right in timing, or c) too late.
3. Is there anything you would recommend to Musk in order to improve the chances of success of the Model S or Tesla Motors in general?

5 Collaboration Strategies
Read: Strategic Management of Technological Innovation, Chapter 8
Case: Ending HIV? Sangamo Sciences and Gene Editing
Assignment: (please turn this in, typed, single-spaced, no more than three pages):
1. What are the advantages and disadvantages of Sangamo collaborating on the HIV project versus working alone?
2. If Sangamo chooses to collaborate, which method of collaboration would you recommend and why?
3. If Sangamo chooses to collaborate, how do you think Sangamo should choose a partner? Pick a real world company that you think would make a good partner choice, and explain why.

6 Protecting Innovation
Read: Strategic Management of Technological Innovation, Chapter 9
Assignment (please turn in your answer for #1, typed, no more than two pages):
1. Create a table with three columns. In the leftmost column list the 6 following types of intellectual protection strategies (No protection, Patents with very limited or no licensing, Patents with liberal licensing, Copyrights, Trademarks, Trade Secrets). In the second column, provide an example of a product or service for each (not from your textbook). In the third column provide the advantages and/or disadvantages of that type of protection strategy for the product or service you listed as an example.
2. Be prepared to take a stand: What are the pros/cons of IP protection for music?

CLASSROOM POLICIES
We will use the Stern default classroom policies:

Laptops, Smartphones, & Other Electronic Devices: May not be used in class.

Attendance: Required and part of grade. Faculty will excuse absences only in the case of documented serious illness, family emergency, religious observance, or civic obligation. If you will miss class for religious observance or civic obligation, you must inform your instructor no later than the first week of class. Recruiting activities are not acceptable reasons for absence from class. Absence from the first day of an intensive course will result in removal from the course.
Arriving Late, Leaving Early, Coming & Going: Students are expected to arrive to class on time and stay to the end of the class period. Arriving late or leaving class early will have impact on the course grade. Students may enter class late only if given permission by the instructor and can do so without disrupting the class. (Note that instructors are not obligated to admit late students or may choose to admit them only at specific times and instructors are not obligated to readmit students who leave class.)

Late Submission of Assignments: Late assignments will either not be accepted or will incur a grade penalty unless due to documented serious illness or family emergency. Instructors will make exceptions to this policy for reasons of religious observance or civic obligation, only when the assignment cannot reasonably be completed prior to the due date and the student makes arrangements for late submission with the instructor in advance.

General Behavior: Students will conduct themselves with respect and professionalism toward faculty, students, and others present in class and will follow the rules laid down by the instructor for classroom behavior. Students who fail to do so may be asked to leave the classroom. (Honor Code and Stern policy)

Collaboration on Graded Assignments: Students may not work together on graded assignment unless the instructor gives express permission. (Honor Code)