NYU | TANDON SCHOOL OF ENGINEERING

Department of Technology Management and Innovation
MG GY 8673 Technology Startegy
Spring 2018

Professor: Robert Richardson

Contact Details: rr149@nyu.edu

Office/Hours: Tuesdays, 9:00 am – 10:00 am, Thursdays 9:00 am – 10:00 am

Class Schedule: Wednesdays 8:35 – 11:05 pm

Course Pre-requisites: Graduate Standing

Course Description:

The complexity of the increasingly global, urban, and connected world – defined by a rich, interlacing network of infrastructure, platforms, systems, applications, and processes that cuts across the public, private, and non-profit sectors – requires that any large and/or innovative technology project take into account the many factors that go into developing a feasible, viable, and desirable project scope, as well as planning and managing against it. This process starts with strategy. This course will be a practical investigation into frameworks, methods, and tools for developing the strategic perspective in which to scope, plan, and manage innovation and technology projects across all types and sizes of businesses
and organizations.

Course Objective:

This course provides a bridge between theory-based courses that focus on ideas and practice-based courses that are focused on the techniques. It will provide students with an initial set of tools for understanding how to form a (concrete) strategic perspective about potential technology-enabled programs and projects, so that they can participate productively and lead effectively in their being scoped, planned, and managed – especially in light of the uncertainties that define the quickly evolving global context.

Course Structure:

Readings:

Required Text(s): Schilling, Melissa. Strategic Management of Technological Innovation. 5th ed. (New York: McGraw Hill Education, 2016).

Optional Text(s): Burgelman, Robert A., Clayton M. Christensen, and Steven C. Wheelwright (eds.) Strategic Management of Technology and Innovation. 4th ed. (New York: McGraw--Hill Education, 2008).

Course Assignments and Grading:

All requirements are to be completed by the date indicated on the course outline below and are due at the beginning of class. No late work will be accepted. All assignments will b e graded on a standard grading scale.

- Case Memos – 65%
- Final Case / Presentation – 25%
- Class Participation – 10%

Course Topic Outline

Class Date and Topic	Readings, Assignments, & Exams
01/24: Introduction	• Schilling, Chapter 1, "Introduction"
01/31: Sources of Innovation	• Schilling, Chapter 2, "Sources of Innovation" • Abernathy and Utterback,"Patterns of Industrial Innovation" • Garvin,"Building a Learning Organization"
02/07: Types and Patterns of Innovation	• Schilling, Chapter 3, "Types and Patters of Innovation"

	• Christensen, "Exploring the limits of Technology S-Curve, Parts I and II • Christensen,Verlinden and Westerman, "Disruption, Disintegration and the Dissipation of Differentiability"
02/14: The Dominant Design Framework: Static vs. Dynamic Strategy	• Schilling, Chapter 4, "Standards battles and Design Dominance" • Arthur, "Completing Technologies: An overview"
02/28: Creative Destruction & the Attacker's Advantage	• Schilling, Chapter 5, "Timing Entry" • Christensen and Bower, "Customer Power, Strategic Investment and the Failure of Leading Firms" • Lieberman and Montgomery, "First Movers Advantages"* Assignment 1
03/07: Competitive Advantage and Core Competencies	• Schilling, Chapter 6, "Defining the Organization's Strategic Direction" • Christensen and Kauffman, "Assessing your Organization's Capabilities: Resources,

	Processes, and Priorities • Prahalad and Hamel, "The Core Competence of the Coorporation" • Prahalad and Hamel, "Strategic Intent"
03/21: Innovation By Design	• Schilling, Chapter 7, "Choosing Innovation Projects" • White, "Management Criteria for Effective Innovation" • Christensen and Raynor, "How Can We Beat Our Most Powerful Competitors?"
03/28: The Value Chain and Innovation: On Collaboration	• Schilling, Chapter 8, "Collaboration Strategies" • Burgleman and Mckinney, "Managing the Strategic Dynamics of Acquistion Integration" Assignment 2
04/04: Protecting Innovation	• Schilling, Chapter 9, "Protecting Innovation"
04/11: Organizing Innovation & Technology	• Schilling, Chapter 10, "Organizing for Innovation"

	• Burgleman and Grove, "Strategic Dissonance" • Burgleman and Grove, "Let Chaos Rein, Then Reign in Chaos- Repeatedly"
04/18: Managing Innovation & Technology	• Schilling, Chapter 11, " Managing New Product Development" • Henderson and Clark, "Architectural Innovation: The Reconfiguration of Existing Product Technologies and the Failure of Established Firms" • Maidique and Zirger, "The New Product Learning Cycle" • Wheelwright and Sasser, "The New Product Development Map"
04/25: Implementing Innovation & Technology: On Iterations and Cycles	• Schilling, Chapter 12, "Managing New Product Development Teams" • Tushman and O'Rielly, "Ambidextrous Organizations: Managing Evolutionary and Revolutionary Change" • Wheelwright and Clark, "Creating

	Project Plans to Focus Product Development" • Wheelwright and Clark, "Accelerating the Design-Build-Test Cycle for Effective New Product Development" Assignment 3
05/02: Deploying Innovation & Technology	• Schilling, Chapter 13, "Creating a Deployment Strategy" • Moore, "Crossing the Chasm-and Beyond" • Gourville, "Eager Sellers and Stony Buyers"
05/09: Final Case Due and Class Presentations	

Academic Integrity:

All students are responsible for understanding and complying with the NYU Statement on Academic Integrity.

Academic Integrity for Students at NYU

This policy sets forth core principles and standards with respect to academic integrity for students at New York University. Each school at New York University may establish its own detailed supplemental guidelines for academic integrity, consistent with its own culture, and consistent with the University-wide general guidelines described in this document.

At NYU, a commitment to excellence, fairness, honesty, and respect within and outside the classroom is essential to maintaining the integrity of our community. By accepting membership in this community, students take responsibility for demonstrating these values in their own conduct and for recognizing and supporting these values in others. In turn, these values will create a campus climate that encourages the free exchange of ideas, promotes scholarly excellence through active and creative thought, and allows community members to achieve and be recognized for achieving their highest potential.

In pursuing these goals, NYU expects and requires its students to adhere to the highest standards of scholarship, research and academic conduct. Essential to the process of teaching and learning is the periodic assessment of students' academic progress through measures such as papers, examinations, presentations, and other projects. Academic dishonesty compromises the validity of these assessments as well as the relationship of trust within the community. Students who engage in such behavior will be subject to review and the possible imposition of penalties in accordance with the standards, practices, and procedures of NYU and its colleges and schools. Violations may result in failure on a particular assignment, failure in a course, suspension or expulsion from the University, or other penalties.

Faculty are expected to guide students in understanding other people's ideas, in developing and clarifying their own thinking, and in using and conscientiously acknowledging resources - an increasingly complex endeavor given the current environment of widely available and continually emerging electronic resources. In addition, students come to NYU from diverse educational contexts and may have understandings regarding academic expectations that differ from those at NYU. NYU values and respects all academic traditions; however, while at NYU, students are expected to adhere to the norms and standards of academic integrity espoused by the NYU community and will be assessed in accordance with these standards. Students should ask their professors for guidance regarding these standards as well as style guide preferences for citation of sources for assignments in their courses.

Following are examples of behaviors that compromise the academic and intellectual community of NYU. The list is not exhaustive. Students should consult the websites and guidelines of their individual schools for an extended list of examples and for further clarification.

1. Plagiarism: presenting others' work without adequate acknowledgement of its source, as though it were one's own. Plagiarism is a form of fraud. We all stand on the shoulders of others, and we must give credit to the creators of the works that we incorporate into products that we call our own. Some examples of plagiarism:

- a sequence of words incorporated without quotation marks
- an unacknowledged passage paraphrased from another's work
- the use of ideas, sound recordings, computer data or images created by others as though it were one's own

2. Cheating: deceiving a faculty member or other individual who assess student performance into believing that one's mastery of a subject or discipline is greater than it is by a range of dishonest methods, including but not limited to:

- bringing or accessing unauthorized materials during an examination (e.g., notes, books, or other information accessed via cell phones, computers, other technology or any other means)
- providing assistance to acts of academic misconduct/dishonesty (e.g., sharing copies of exams via cell phones, computers, other technology or any other means, allowing others to copy answers on an exam)
- submitting the same or substantially similar work in multiple courses, either in the same semester or in a different semester, without the express approval of all instructors
- submitting work (papers, homework assignments, computer programs, experimental results, artwork, etc.) that was created by another, substantially or in whole, as one's own

- submitting answers on an exam that were obtained from the work of another person or providing answers or assistance to others during an exam when not explicitly permitted by the instructor
- submitting evaluations of group members' work for an assigned group project which misrepresent the work that was performed by another group member
- altering or forging academic documents, including but not limited to admissions materials, academic records, grade reports, add/drop forms, course registration forms, etc.

3. Any behavior that violates the academic policies set forth by the student's NYU School, department, or division.

Moses Center Statement of Disability
If you are student with a disability who is requesting accommodations, please contact New York University's Moses Center for Students with Disabilities at 212-998-4980 or mosescsd@nyu.edu. You must be registered with CSD to receive accommodations. Information about the Moses Center can be found at www.nyu.edu/csd. The Moses Center is located at 726 Broadway on the 2nd floor.