Learning Objectives

Many undergraduates pursuing an engineering degree will work and eventually manage and lead organizations in technology companies. Today’s technology companies, large and small, face rapidly evolving and changing user trends, intense competition, huge risk/reward opportunities, and unfortunately, a sometimes-fickle workforce. Though all technology companies are different, most share similar generic challenges surrounding building high-impact teams, creating compelling products, managing growth, working effectively within a larger ecosystem of partners, and repeating this cycle over and over again.

Leading teams effectively in this highly innovative environment is greatly aided by lots of experience. However, new managers in technology companies find themselves with little to draw on as they embark on their early management assignments. Technology Management 150 focuses on developing the fundamental knowledge required to move into the technology management role. By covering the most critical elements necessary to effectively manage in technology companies, this course will serve to alert you to what to watch for as you work as an individual contributor and how to prepare for that move into technology management. It will provide you with the key tools to apply within your organization in your early management career and beyond, which if effectively applied, will help you build a competitive and high-impact team, department, or company.

The goals of this course are to help you to: (1) understand the general nature of managing technology and innovation in large and small companies, (2) develop an intellectual framework, based on technology management theory, to help you work as a collaborative leader in building your team, developing your product or business plan, and implementing that plan with ecosystem partners, (3) analyze real world examples from
seasoned technology managers to test and validate the theory, (4) develop skills and confidence in key elements of managing technology through cases and exercises, and (5) experience a microcosm of working and managing in a technology environment through a unique team project.

**Relevant Theory**

Course theory and concepts come primarily from the course textbook:


The learning method is partly experiential and focuses on the development of practical knowledge and skills. The class involves brief lectures, in-class exercises, case studies, guest lectures, and a course team project. The instructor will augment the lectures with brief and related stories from his technology management experience in big companies and a successful start-up. In-class exercises will provide hands-on experience in real team management situations. Case studies will come from a variety of sources including the Stanford Graduate School of Business. The Stanford case studies are based on businesses the instructor led. Guest lecturers from technology companies will highlight key course topics. The course team project will focus on developing a mini-business plan presentation that highlights the critical elements of managing technology and innovation.
Course Schedule and Student Preparation

SESSION 1 (April 3)
Overview of Technology Management
- **Readings:** White and Bruton: General Electric, Chapter 1, Chapter 2. (1-63)
- **Exercise:** (Groups of 4)
  - Get to know each other
  - Discuss course expectations
  - Tell us top two things you want to get from the course
- **For Friday Discussion Session:** Discuss similarities and differences between General Electric through the years and Apple.
- **For Next Tuesday:** Readings/”Best Stuff on Earth” handouts and teams/Learning Journal Goal Statement/Learning Journal Session 1

SESSION 2 (April 10)
Business Planning
- **Readings:** White and Bruton: GlaxoSmithKline, Chapter 3. (83-114)
- **Due Today:**
  - Learning Journal goal statement
  - Learning Journal Session 1
- **Exercise:** “Best Stuff on Earth”
- **For Friday Discussion Session (Tentative):**
  - Discuss key takeaways from “Best Stuff on Earth”
  - Discuss key takeaways from GlaxoSmithKline
    - How does GSK decide what to develop internally vs. externally?
    - What industry trends does GSK pay most attention to and why?
    - What other companies does GSK remind you of and why?
- **For Next Tuesday:** Readings/Learning Journal Session 2/Read and understand WIS/Meet with team (not on email) and hand in Team Contract (Not graded).
SESSION 3 (April 17)
Building a Great Team

- **Readings:** White and Bruton: Chapter 4. (121-145)

- **Due Today:**
  - Learning Journal Session 2
  - Team Contract

- **Exercise:** “Words in Sentences”

- **For Friday Discussion Session (Tentative):**
  - Discuss key takeaways from Chapter 4 reading
  - Discuss key takeaways from WIS

- **For Next Tuesday:** Readings/Learning Journal Session 3

SESSION 4 (April 24)
The product roadmap and project management

- **Readings:** White and Bruton: Chapter 5, Appendix 2. (151-195)

- **Due Today:**
  - Learning Journal Session 3

- **Exercise:** “Tanagram” (Handout)

- **Guest Lecture:** Phases of new product development and introduction, the product roadmap - Claude Dupuis, Senior VP Products and Technology, Qumu

- **For Friday Discussion Session (Tentative):**
  - Discuss key takeaways from Tanagram
  - Discuss key takeaways from guest lecture

- **For Next Tuesday:** Readings/Learning Journal Session 4/Select product and company name for Final Group Presentation/Exam 1
SESSION 5 (May 1)
Breakthrough Marketing Leadership

- **Readings:** White and Bruton: ACER Group, Chapter 6, Chapter 7. (200-255)

- **Due Today:**
  - Learning Journal Session 4
  - Product and company name for Final Group Presentation
  - Exam 1

- **Guest Lecture:** Marketing – Bethany Mayer, Senior Vice President and General Manager, HP Networking, Hewlett-Packard Company

- **For Friday Discussion Session (Tentative):**
  - Discuss key takeaways from guest lecture
  - Discuss ACER Group

- **For Next Tuesday:** Readings/Learning Journal Session 5

- **EXAM 1**

SESSION 6 (May 8)
Competing through Alliances

- **Readings:**
  - White and Bruton: Chapter 8, Appendix 3. (261-303)
  - HBS CASE: Suzy Wetlaufer. “The Team That Wasn’t”. (Study.net)

- **Due Today:**
  - Learning Journal Session 5

- **Exercise:** “Federated Science Fund” (Handout)

- **Exercise:** “The Team That Wasn’t” (FireArt Case)

- **For Friday Discussion Session (Tentative):**
  - Discuss “Federated Science Fund”
  - Discuss “The Team That Wasn’t”

- **For Next Tuesday:**
  - Readings/Learning Journal Session 7
SESSION 7 (May 15)
Sales: Hitting the Numbers Through Virtual Teams

- **Readings:**
  - MIT Sloan: Kumar and Shah. “Can Marketing Lift Stock Prices?” (Study.net)
  - MIT Sloan: Antorini, Muniz, Askildsen. “Collaborating With Customer Communities: Lessons From the Lego Group.” (Study.net)
  - HBS CASE: Regina Maruca. “How Do You Manage an Offsite Team”? (Study.net)

- **Due Today:**
  - Learning Journal Session 6

- **Guest Lecture:** Effective sales: Tactical and Strategic - Andy Lovit, Senior VP and General Manager Americas, AteME

- **Exercise:** Role Play “How Do You Manage an Offsite Team?”

- **For Friday Discussion Session (Tentative):**
  - Discuss key takeaways from guest lecture
  - Discuss “How Do You Manage an Offsite Team?”

- **For Next Tuesday:** Readings/Learning Journal Session 7/Exam 2

SESSION 8 (May 22)
Creating and Sustaining Growth

- **Readings:**
  - White and Bruton: Google, Chapter 9. (306-333)
  - STANFORD CASE: SkyStream Networks (A) (Study.net)

- **Due Today:**
  - Learning Journal Session 7
  - Exam 2

- **Discuss:** SkyStream Networks (A) Case

- **For Friday Discussion Session (Tentative):**
  - Discuss Google Case from White and Bruton
  - Discuss STANFORD CASE on SkyStream Networks

- **For Next Tuesday:** Readings/Learning Journal Session 8

- **EXAM 2**
SESSION 9 (May 29)
Taking the Long View

- **Readings:**
  - White and Bruton: Chapter 10, Appendix 4 (338-374)

- **Due Today:**
  - Learning Journal Session 8

- **Guest Lecture:** From Undergrad to Ph.D. to Company Founder – Lucas Arzola, Founder, Inserogen. Ph.D. Candidate, Chemical Engineering with Emphasis in Biotechnology, UC Davis

- **Exercise:** “Vacation Plans” (Handout)

- **Wrap-up Lecture**

- **For Friday Discussion Session:**
  - Work on Final Presentations

- **For Next Tuesday:**
  - Learning Journal – Final Goal Statement/Final Project presentations/Group Evaluation Form

SESSION 10 (June 5)
Course Summary and Conclusions

- **Due Today:**
  - Learning Journal – Final Goal Statement
  - Final Project presentations
  - Group Evaluation Form

- **FINAL GROUP PRESENTATIONS**

- **Final Thoughts from Jim**

- **FILL OUT COURSE EVALUATIONS**

- **For Friday Discussion Session:**
  - Work on Final Presentations

- **For Next Tuesday:**
  - Final Project presentations

FINAL EXAM SESSION (June 12, 8:30-10:30)
The End
• **Due Today:**
  o Final Project presentations

• **FINAL GROUP PRESENTATIONS**

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**Grading and Evaluation**

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Course and Team Participation</td>
<td>25%</td>
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<tr>
<td>Learning Journal</td>
<td>15%</td>
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<tr>
<td>Exams (2)</td>
<td>20%</td>
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<tr>
<td>Final Team Paper and Presentation</td>
<td>40%</td>
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1. **Course and Team Participation (25% of grade):** Attendance and class participation are an essential part of the learning process in this course. If a reading is listed in the syllabus for discussion, you should be prepared to contribute to the class discussion of that reading. Most importantly, you should be ready and willing to participate fully in all discussions, cases, and exercises. Because this class only meets once a week, and teams will often be designed a week in advance, it is very important that you attend all classes. If you cannot attend class, make sure to notify me at least 24 hours in advance via e-mail. **If you are absent more than two times, you will fail the class.** If you anticipate missing more than two classes due to other demands on your time, please do not enroll in the course.

   The other component of your participation grade will consist of a “team participation score” from your teammates. You will be assigned to a team toward the beginning of the quarter and you and your team will work throughout the quarter on a Final Presentation. You are expected to pull your weight and work equally hard as your other teammates each week. Your “team participation score” will be determined by your teammates upon completion of your final project presentation.

2. **Learning Journal (15% of grade):** You will keep a learning journal to help you reflect on your development and your learning from the exercises in class. See the guidelines attached to this syllabus for a description of what the journal requires. You are expected to complete the learning journal entries for each session within one week of the session. These will each be submitted on SmartSite. I will not accept late Journals.

3. **One Hour Exams (20% of grade):** Two one-hour exams will be administered during the quarter, one in Session 5, and the other in Session 8. These will be a combination of multiple choice and short essay exams.

4. **Final presentation (40% of grade):** You will be required to make a final group presentation of a short business plan. This will be centered on a product idea of your
group’s choosing (fictitious) or one that already exists in the market. The presentation should demonstrate what you have learned in the course and convince the audience to “invest” in your company. The presentation should use PowerPoint slides and last 15 minutes. You will hand in copies of your power point slides the day of the presentation. There will be no paper accompanying your presentation

Academic Integrity

All students who take this course are governed by the University of California's standards of ethical conduct for students, in particular, the sections on academic conduct and integrity. These sections set forth the responsibilities of students and faculty to maintain a spirit of academic honesty and integrity at U.C. Davis. It is essential that you are aware of this code of conduct and the disciplinary actions that may be taken in the event of a violation. A copy of the Code of Academic Conduct may be found in your student handbook or at: http://sja.ucdavis.edu/pdf/CAC.pdf. Further details may be obtained from the GSM Associate Dean or the Office of Judicial Affairs.

Specifically, academic integrity for this course boils down to the following:

1. You are expected to be prepared and on time for all negotiation exercises (see attendance policy).
2. Do not show your confidential role instructions to the other side, although you are free to tell the other side whatever you would like about your confidential information.
3. Do not discuss cases with people outside of class.
4. Class discussion stays in class. In negotiations debriefs, sometimes tensions run high. Comments should not stray to the personal, but focus on analyzing the negotiation process.
5. For paper assignments, do not misrepresent the written work of others as your own written work.
Learning Journal Guidelines

The learning journal is a confidential, written record of your personal learning. It can be useful to you during the course and long afterwards. The first entry in your journal should be an initial statement of your specific goals for the course. The last entry in your journal should be a review of these goals, a summary of what you feel you learned or accomplished during the quarter, and a statement of what you feel you still or now desire to learn about technology management. The rest of the journal entries consist of post session analyses.

For each and every exercise you participate in during the quarter, you are expected to write an entry recording the insight you gained and the application of principles you learn from lectures and readings. Use your journals to explore your feelings about the course material and what you feel you are learning. Finally, these journals will remain confidential.

(1) Initial Goal Statement: One half to one single spaced page goal statement is due after the first class session. You should discuss your current understanding of technology management (prior to this course) and set concrete goals for the quarter. **This should be posted on SmartSite by the second class session.**

(2) Eight Post Session Analyses: One half to one single spaced page that reflects on your experience and your classmates’ experiences in each of the in-class exercises. These should not be a detailed report of everything that happened in the exercise or lecture, but rather key insights. Also, record the insights you gained from each session and your overall feelings about what you are learning.

(3) Final Goal Statement: One half to one single spaced page goal statement that reviews the most powerful things you’ve learned in the course and reflects on and sets goals for continued understanding of technology management. Review your class notes, in-class exercises, and your initial goal statement before writing this paper. **The final goal statement is due at the final class, session #10.** This statement should:

(a) Discuss accomplishments/knowledge gained in terms of your initial goals.
(b) Analyze valuable learning points from exercises, class, and readings.
(c) Set future goals.

Logistics for handing in Learning Journal Assignments

We will be using SmartSite’s assignment tool for handing in and grading assignments. For the Learning Journals, you will post your assignment each week before class in the “Inline” format.

The page limit on the journal assignments is 1 single-spaced page in Word, which is the equivalent of about 450 words. It will be easier to read and grade online in a single
spaced format (with a space between paragraphs), so please format your submissions this way. (I recommend saving these assignments in Word, converting them to PDF format, and then just copying and pasting them into the form.)
Final Group Presentation Guidelines

The best way to demonstrate the knowledge you’ve gained from Technology Management 150 is to present it in the form of an investor presentation of a short business plan. Imagine that you and your team have founded a start-up company based on a unique product idea and are “pitching it” to investors to finance it. You’d like to raise $1 million and launch your company!

In this course, you will learn a great deal about structuring, managing, and leading the key functions in a technology company. You will also learn the ten key success factors in a successful technology company and how to nurture those and present them in a compelling fashion. You will be given a well-tested outline for a successful investor presentation, and some examples to help you craft your presentation.

During one of the last sessions of the course, you will be required to make your final group presentation of a short business plan. This will be centered on a product idea of your group’s choosing (fictitious) or one that already exists in the market. The presentation should demonstrate what you have learned in the course and convince the audience to “invest” in your company. The presentation should include no more than 15 PowerPoint slides, include an organization chart showing where your first 15 employees will work, and should last 15 minutes. You will hand in copies of your power point slides the day of the presentation. There will be no paper accompanying your presentation.

Inform me of your group’s choice of a product and company name by Session 5.