Technical processes are only a small part of innovation. Managing innovation effectively requires moving outside a technical focus to pay attention to the social, cultural, political, and strategic processes that make consistently successful innovation possible. Successful managers of innovation create routines and organizational designs that increase the quantity and quality of innovative ideas, gain support for development of ideas through power and influence, and strategically enter new markets with an innovation. This course will aid students in identifying where they should focus efforts to improve innovation and provide managerial tools to improve innovation within the firm. This class takes a pragmatic approach to learning so students will be innovating during the class and encountering problems to spur active search for solutions. Course content includes readings, case analyses, written assignments, in-class exercises and discussion, and innovation development projects. The goal is to provide theories that help students critically explore the many misconceptions about innovation, and to provide practical help for managing innovation now and in the future.

**Required Texts**


Reading packet of articles and cases.
## Overview

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### Highlights of class requirements

(Note: this is not a substitute for reading the syllabus. You are responsible for all of it)

- Papers are double spaced, 1" margins, no cover sheet, marked down for missing format. Do not exceed word limits.
- No late papers; all due beginning of class.
- Attendance counts. Everyone gets one free absence.
- Two group innovation projects, one due week 5, other week 10.
- New groups assigned in week 1 and week 5. Every group must have a signed contract.
- Two examples of recombinant innovation due by beginning of week 6; bonus points for turning them in early.
- Bring a hardcopy for each person in the class of your recombinant innovation example papers.
- The Wednesday class before Thanksgiving will be held as usual.
**Topic 1: Introduction**


**Questions**

What are the characteristics of innovators? Name 3 of the most innovative people you know and why they are innovative.

How do you measure the value of an innovation for a firm? For society?

What are the characteristics of innovations that have higher than average value?

**Topic 2: Managing Creativity and Innovation**

Chapters 1 and 2, *How Breakthroughs Happen*


“The History of the Zipper” Robert Freidel.


**Questions**

What are two factors that limit your creativity? What changes would you make to remove these limits?

What was revolutionary about mass production at the Ford Motor Company? Why was this innovation revolutionary?

Henry Ford is credited as the inventor of mass production, but he did not do it alone. What did Henry Ford do that was necessary for innovation at his firm? What did he do that was not necessary but aided innovation? What did he do that hindered innovation?

First group contract due, printed and physically signed by every group member. Defines expectations, work processes, decision rules, and anything else useful.
**Topic 3: Forming and Moving Outside Small Worlds**

Chapters 3 and 4, *How Breakthroughs Happen*


Hargadon & Hounshell. Ford Motor Company (B): Barriers to change. UC Davis Business Case.

Questions
What happened to Ford Motor Company in the 1920's?

How did Henry Ford’s management style influence the change process from 1921-1927?

How did the technology at Ford Motor Company influence the change process?

Are small worlds the ultimate fate of all successful innovations? Is this bad? Why and why not?

**Topic 4: Creating New Small Worlds**

Chapter 5, *How Breakthroughs Happen*


Questions
What was a great innovation that failed to catch on? Using the readings, explain why it failed, and what you could have done differently to help make it succeed. Ideally, you should choose an innovation that you are personally familiar with either as a participant or a close observer.

**Topic 5: Designing Process: Technology Brokering Strategies**

Chapter 6-9, *How Breakthroughs Happen*

Questions
Consider either yourself or a firm in which you have worked. Using the readings, what are the explicit strategies towards innovation right now or in the near future? Considering the social worlds and social processes in place, how do they support or hinder that strategy? How would you change the network position or social interaction routines to improve innovation?
**Topic 6: Designing Your Venture: Design of Innovating Organizations**

“Top ten IT failures”.


**Questions**

Consider some emerging technology or innovation – one that is developed enough to begin implementing but is still not widely accepted. Ideally it should be one that you know about personally.

What characteristic of the technology as it is now represented in an actual product (features, components, dependencies with other technologies, the way it makes people work with it, its location in the value chain, financial characteristics, etc.) will make it difficult to implement? (Note: Do not focus on what is outside the technology in the product (budgets for implementation, team members, etc. Instead, focus on the characteristics of the product that is the embodiment of that technology).

Second group contract due, printed and physically signed by every group member. Defines expectations, work processes, decision rules, and anything else useful.

**Topic 7: Power and Influence for Organizing Innovation**


**Questions**

Consider an innovation you know about that was killed by one group over the opposition of another. What did the opposition have to gain? The supporters?

Why did the group prevail over the other? What way could the losers have overcome the opposition? (Note: consider the bases of power for each and untapped power available for the losers).
**Topic 8: First vs. Second Mover Strategies**


**Questions**

Find three products you know about that are new – either about to enter a market or just have. (A good source is inventor conventions, conventions of consumer products, mentions of “hot” new products in lifestyle magazines, etc.) Is this product better introduced as a first mover, or to wait and enter as a second mover? How was it introduced? Support your claim with the theory from the readings.

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**Topic 9: Competitive Innovation: Disruptions and Opportunities**


**Questions**

Conflicting theories teach us more than those that agree. Conflict opens up our assumptions to new examination, but to do that requires critical analysis to discover those conflicts.

The readings today consider a classic questions of innovation: when are established and dominant firms displaced by innovation? This is the process the political economist Schumpeter famously referred to as “creative destruction” because renewal requires the old to give way to the new. Think critically about the theories in today’s readings – are they consistent with what we have already learned? Find two ways that they are inconsistent with previous theories or examples. Why are they different? Is it based on a different conception of an innovation, include different forces, focused on different unit of analysis, etc.? What can you learn from these inconsistencies?

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**Topic 10: Final Class Presentations**

Final group project papers are due at the beginning of class.
Course Requirements

Examples of Recombinant Innovation (200 points): By the beginning of the 6th class you must have turned in 2 analyses of recombinant innovations that you will pass out to each class member. The innovations should not be so technical that you cannot easily explain them to a managerial audience. Each one of the papers has two parts: a description and an analysis.

When you turn in your example, you should BRING A HARDCOPY FOR EVERY PERSON IN THE CLASS PLUS ONE FOR THE PROFESSOR. You will be handing out the descriptions to others so they can learn from your analysis.

The innovation must be new to the class. It cannot be one from your group project, from our readings, or one that has already been written about by a classmate.

The first section of the paper should be a description of the innovation that includes one picture and no more than a paragraph of description (100 words max.). The picture can be anything from a photograph to a hand drawn diagram. If this task is very difficult, you probably are getting into the technical details too much for a general managerial audience.

The written analysis can be no longer than one page (250 words) and is required to:
- Identify the recombined parts (person, object, idea, place) and their origins
- Evaluate the impact of the innovation. There should be some numerical data (such as market share, profit, popularity, etc.), even if you must estimate and create an end note for your reasoning. (End note does not count towards word limit).
- Explain why you think the innovation had the impact that it did. Make an argument.

There is a bonus for turning in the example papers early. Any turned in at week 2 will get an additional 4% on the grade, week 3 gets 3%, week 4 gets a 2% increase, week 5 gets 1%. Note that we will not discuss in detail recombination until week 2, but you can read the articles and chapters for week 2 before class.

Do not exceed the word limit. This limit will require you to communicate directly and sharpen your writing. It is harder to write briefly than at length, so a single draft is unlikely to be successful. There is a required format for all papers described in the syllabus – follow it carefully. Also, be particularly scrupulous in citing all sources. In the day of the Internet, this is often overlooked, but it is still plagiarism and will be treated as such.

Assignments are due at the beginning of the class. If for some reason you know you are going to be absent (even if it is excused), you must turn in the paper before the class. It would be unfair for anyone to have the benefit of class discussion before writing their paper.

Late papers will not be accepted, with the exception of absences that are both unforeseeable and excused (see policy below). For those emergency situations the grading will be determined on a case-by-case basis. Note that technical difficulties in printing do not constitute an excuse.

In the final section where you are explaining why the innovation had a high or low impact, make sure to have a clear argument; do not repeat facts. Tell the audience something they don’t know even after they have read about the innovation.

Class Participation (100 points): The class discussion is an important chance to learn, so participation is taken seriously. In class you can learn from your fellow students and practice the verbal skills of communication and dialogue.
If you are absent from a class without an excuse (see policy below), your participation grade for
day will be zero. You need to participate actively. If you attend every class but are not
engaged, your grade will be a “C”. An “A” or a “B” will be earned by activity in the classroom.

Given that there are unexpected and uncontrollable events in everyone’s life, one class can be
missed without any penalty to your grade (except the final group presentations).

I will cold call (ask you to speak even if you have not volunteered). BE PREPARED FOR
DISCUSSION EVERY CLASS.

Listen to what other students are saying and respond to them directly.

Be civil, courteous, and professional at all times. Disagreement is helpful when discussing a
complex issue, but keep the conflict at a professional, not personal, level.

Pay attention to the discussion. Part of participation is making an active audience for others.

Participation grades will be reduced for unprofessional comments, lack of attention, or ignoring
your fellow students’ comments.

Experimental Group Project (100 points): The experimental group project will be a chance for you
to design an innovation and learn from the process for the final group project. Each group will
develop a proposal for a recombinant innovation (using people, objects, places, or ideas).
Innovations should be complete and ready to implement the next day, not speculative or simply
plans for developing innovations later.

The paper will have the following parts:

- Description of the innovation (1-2 pages)
- Value of the innovation as a business venture (1-2 pages)
  - Why do you think it is valuable? Make an argument.
- List other innovations you considered for the project with brief descriptions (1 page)
- Explanation of why you chose one innovation over the others for the assignment. (1-2 pages)
  - Be honest; there is no wrong answer. If you chose it just to stop group conflict, write
    that.
  - Would you change the selection process in the future? How?
- A description by each group member of how they personally obtained an evaluation of a
  prototype from an outsider (1-2 pages per person). Each member of the group must take out
  a prototype and get an evaluation personally without the rest of the group. You should
  include in your description:
  - What prototype did you use?
    - While a prototype should be as close a facsimile as possible, you do not
      need to make a physical prototype; it may just be a vivid example or picture.
  - Who did you talk to?
    - NOTE: You must talk to someone outside of the UC Davis GSM. No
      students, faculty, administration, etc.
    - How do you know this person?
  - What useful suggestions did they give, if any? If not, why?
  - What lessons have you learned by this interaction for future innovation?
- Conclusion of lessons learned you would apply to innovation in the future (1-2 pages).

Your grade will also depend on your individual effort within the group. Each member of the group
will be asked to evaluate every other group member anonymously on the following
dimensions: attendance at group meetings, effort, meeting deadlines, and quality of work. If any
student receives unsatisfactory ratings from the rest of their group, their grade will be marked
down accordingly.
**Final Group Project (150 points):** The final group project will be a chance for you to design an innovation project and apply the lessons you learned from your first project. Each group will develop a plan to apply an existing technology or process to an existing market or business. Innovations should be complete and ready to implement the next day, not speculative or simply plans for developing innovations later.

The first part of the project will be a written analysis of 8-10 pages that explains your innovation, the likely impact of the innovation, and any challenges in development and implementation and your plan for overcoming those challenges (100 points). The second part of the project will be a presentation and in-class exercise on the final class day (50 points).

Your grade will also depend on your individual effort within the group. Each member of the group will be asked to evaluate every other group member anonymously on the last day of class on the following dimensions: attendance at group meetings, effort, meeting deadlines, and quality of work. If any student receives unsatisfactory ratings from the rest of their group, their grade will be marked down accordingly.

**Grading Conversions:** Grades will be on percentage scale of A+ (98% and above), A (93% and above), A- (90% and above), B+ (87% and above), B (83% and above), B- (80% and above), C+ (77% and above), C (73% and above), C- (70% and above), D (67% and above), D- (64% and above), Failing (64% and below).

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**Class Policies**

**Absences**
Attendance is necessary for participation, and participation is critical to your learning, so the class participation for any missed class is zero. There is no way to make-up participation, as it requires being in class. Please attend all classes.

Given that there are extenuating circumstances in life, a student is allowed one (1) absence without penalty, with the exception of the final group project presentations. There will be no excused absences other than those defined by University policy. Absences that will not be excused include (but are not limited to) work schedules, business trips, interviews, airline or other travel delays due to anything other than severe and unpredictable conditions, and non-emergency events such as weddings, anniversaries, family vacations, etc.

**Late Class Assignments**
Papers are due at the beginning of class; late papers will not be accepted. The final group project will also not be accepted late because there will be class discussion of those projects the final day of class as well that require the paper to be finished.

If you have a foreseeable excused absence, any excused late papers must still be prepared BEFORE the class discussion of those topics to be turned in for a grade. In the rare cases where you have an excused and unforeseen absence, you will be required to do an independent, makeup assignment of equal difficulty.

**Late Final Group Projects and Missing the Final Class Day**
Any final group project turned in late will be immediately marked down. This will be dealt with on a case-by-case basis, but at the very least, any late project will be marked down a full letter grade.
If anyone misses the discussion and presentation of final group projects, that person will receive a zero for that portion of the grade if it is an unexcused absence. In the rare case it is an excused absence, then the student will have to schedule a make-up time for a presentation to the instructor.

Collaboration, Helping, Cheating, and Dishonesty
One of the goals of this course is to encourage students to communicate with each other, and to help each other learn. Learning management is a process of communication, debate, and argument, not a set of isolated exercises to be performed in private. The limitation to collaboration and helping, however, is when a student is no longer carrying the burden of learning. Some students are particularly adept at using the guise of collaboration and helping as a means to merely exploit others, and not do their own work. You may discuss case analyses, but you cannot copy from another’s analyses, or use their written analyses as a basis for your own paper. This subverts the meaning of education, and the potential value it has for improving our minds and our community discussions.

Academic honesty is very important. The instructor will energetically investigate any failure to follow the academic honesty standards of the University.

Particularly important is the issue of misrepresentation or plagiarism. In the era of Internet information it takes discipline to document one’s sources for written work. Students are reminded that they must be particularly scrupulous in this regard.

Written Assignment Requirements and Format
Papers are turned in as hardcopy; no emails.

Use a 12-point font, DOUBLE SPACED, 1” margins all around. Always have page numbers. Staple papers only; no binding, folders, clips, or anything other than plain paper that will weigh down the instructor even further than usual.

Always put your name on the front page. A title sheet is only necessary for the final paper (which will not count towards the page limits).

DO NOT put your social security number on your paper or any other information that is confidential. Your papers are not treated as confidential information, so protect yourself.

Do not exceed state lengths; beyond those lengths will not be graded. Exhibits (graphs, tables, pictures, etc.) are not counted against the page length (within reason).

Exhibits, or any numerical analyses, should always have a clear title explaining the exhibit, and footnotes stating clearly any assumptions or additional data created for the exhibit. If the reader cannot replicate your exhibit from the notes, then it is not sufficient.

Any cited references or other material that is not the author’s should be clearly cited in a bibliography that follows a widely accepted format. The bibliography does not count towards page limits.

Accommodations for Students with Disabilities
There will be accommodations made for students with disabilities, in accord with university guidelines.