Course Title: The Greatest Innovations of Silicon Valley
Course Code: BUS 117
Instructors: John Kelley and Eugene Shteyn

Course Summary:

The spirit of innovation invigorates Silicon Valley, and we will explore that spirit by examining a dozen inventions that creative and insightful innovators right in our own backyard have brought to commercial success. By analyzing Silicon Valley’s greatest global contributions—including the integrated circuit, recombinant DNA technology, Apple’s iOS products, and Twitter—we will discover what made them so extraordinary. We will investigate these outstanding creations from multiple perspectives.

What makes innovations great? How do they work? Who invented them? What inspired their inventors? Which teams perfected the original inventions and propelled them to commercial success? How did these innovations differ from earlier efforts? Why did they succeed? What can these innovations teach us about inventing and innovating more effectively?

Guest speakers will help us to answer these questions while sharing their unique views on Silicon Valley’s achievements. BUS117/SCI117 is a highly interactive course, especially suitable for students who would like to participate in class discussions and exercises. By discovering some of the secrets of Silicon Valley’s seminal innovations, you will come to understand our region in entirely new ways.

Whether you create, produce, sell, invest in, or simply use exemplary innovations, “The Greatest Innovations of Silicon Valley” will present numerous concrete examples of exemplary innovations and offer insights to help you make your own contributions back to this dynamic region.

*Please see course page for full description and additional details.

Course Objectives:

• To understand what makes an innovation great
• To identify Silicon Valley’s greatest innovations
• To understand why these innovations constituted both technological and economic breakthroughs
• To address several fundamental questions concerning them:
• How do they work?
• Who invented them?
• What inspired their inventors?
• How did these innovations differ from earlier efforts?
• Why did they succeed?

• To present diverse perspectives concerning these issues through guest speakers
• To encourage you to express your own viewpoints concerning these questions
• To have a fascinating, productive time exploring these issues
• To evaluate the nature and significance of future innovations
• To enhance your abilities to innovate, to invest, and to contribute back to Silicon Valley wisely

Guest Speakers:

We expect to have guest speakers to present diverse viewpoints and to answer questions. At the present time, we plan to have the following guest speakers join us:

Leslie Berlin, Ph.D., “Project Historian for the Silicon Valley Archives at Stanford University and author of The Man Behind the Microchip: Robert Noyce and the Invention of Silicon Valley, a biography of Robert Noyce, co-inventor of the microchip and co-founder of Intel and Fairchild Semiconductor.”

John Markoff, “senior writer for The New York Times, who “writes for the paper’s science section...,” and who in 2013 “was part of the team awarded the Pulitzer Prize for Explanatory Reporting....” He has also written several books, including Machines of Loving Grace: The Quest for Common Ground Between Humans and Robots and What the Dormouse Said: How the Sixties Counterculture Shaped the Personal Computer Industry.

John P. Morgridge, Chairman Emeritus of Cisco. “Morgridge joined Cisco in 1988 as President and CEO, and grew the company from $5 million to more than $1 billion in sales and from 34 to more than 2,250 employees. In 1990 he took Cisco public, in 1995 was appointed chairman, and in 2006 became chairman emeritus.”

Please note: Other guest speakers may join us, and all expected appearances by guest speakers are contingent and subject to possible change, based upon scheduling, future events, and other circumstances.

1 http://themanbehindthemicrochip.com/
2 http://topics.nytimes.com/top/reference/timestopics/people/m/john_markoff/index.html
3 http://newsroom.cisco.com/execbio-detail?articleId=33773
Grade Options and Requirements:

• No Grade Requested (NGR)
  o This is the default option. No work will be required; no credit shall be received; no proof of attendance can be provided.

• Credit/No Credit (CR/NC)
  o A passing grade (for “Credit”) = at least 90% of expectations for this grade option accomplished.
  o Expectations for this grade option are as follows:
    ▪ Attend all classes 50%
      • NOTE: you will be required to sign in for each session to receive credit for attending.
    ▪ Participate in class discussions 50%

• Letter Grade (A, B, C, D, No Pass)
  o Expectations for this grade option are as follows:
    ▪ Attend all classes 25%
      • NOTE: you will be required to sign in for each session to receive credit for attending.
    ▪ Participate in class discussions 25%
    ▪ Paper or, with permission of instructors, class presentation or other formal submission expressing your views on one of the fundamental questions addressed in the course 50%
      • During the first session, we will discuss alternative ways in which you may present your views. (One of those ways will be by submitting a short (4-6 page) paper, but we will discuss other alternatives as well.)

*Please Note: If you require proof that you completed a Continuing Studies course for any reason (for example, employer reimbursement), you must choose the Credit/No Credit or Letter Grade options. Courses taken for NGR will not appear on official transcripts or grade reports.

Materials and Resources:

Required and recommended books will be included on the Continuing Studies website and in registration materials.

Links to certain articles that will constitute required readings will be distributed electronically prior to each session. (During the first session, we will discuss the manner in which we will distribute such links.)
Participation:

Your active participation in the class and in class discussions is strongly encouraged.

Tentative Weekly Outline:

**PLEASE NOTE:** This tentative weekly outline is preliminary and subject to change. The course is intended to be somewhat flexible, especially with regard to guest speakers. Among other things, students may be asked to respond to an optional pre-course survey, to submit information concerning areas of interest, and to provide feedback as the course progresses. The content and order of the syllabus may change before or during the course.

Tentative Course Schedule

This is our course schedule at the present time. The order of topics may change, and some topics may be added or deleted, depending on the availability of guest speakers.

NOTE: No class on October 15th or November 26th (Thanksgiving)

Session 1  Introduction to the Greatest Innovations of Silicon Valley:  
A Course Overview and a Look at the Valley's Beginnings

  Theme: The Valley's Uniqueness

Session 2  The Cold War, Silicon, and Venture Capital

  Theme: Defense contractors, semiconductor manufacturers, and venture firms

Session 3  Personal Computing Leads to the PC

  Theme: Computers bring a new wave of innovation to the Valley

Session 4  Having Fun Can Be Serious Business

  Theme: Entertainment can drive innovation

Session 5  Biomedical/Biotech/Bioinformatics Revolutions
Theme: Advances in biology, medicine, and related fields can drive innovation

Session 6  Bigger Systems for Bigger Customers: Databases, Workstations, and Networks

Theme: Innovation for the enterprise

Session 7  With the Internet, It’s a Whole New Ballgame

Theme: Infrastructure changes can drive innovation

Session 8  Where the Ether Meets the Road

Theme: Cloud Computing, Communications, Smartphones, and Apps

Session 9  Generating Content, Promoting Sustainability, and Pursuing Intelligence

Theme: Social Networking, CleanTech, AI & Robotics

Session 10  “Just Keep Truckin On”

Theme: The future of innovation in Silicon Valley
Is the Valley Itself Its greatest innovation?

Anticipated Session Dates and Times:

Thursdays, September 24 - December 10 (No class on October 15th or November 26th, Thanksgiving), 7:00 - 8:50 pm

Possible Recording:

**PLEASE NOTE:** We may seek to make video or audio recordings of one or more sessions for future publication on the web, in print, or in other media. Before doing so, however, we will comply with Stanford University’s procedures for obtaining consent. Please look for additional information regarding requests for consent to recording in connection with particular sessions.