

TIM 80C: Starting a New Technology Company (SNTC)

Instructor: Subhas Desa

Office: Engineering 2, Room # 561

Phone: 831-426-1361

E-mail: sdesa@soe.ucsc.edu

Office Hours: Wednesday, 2-4 PM

TA: Tianchi Zeng

Office: Engineering 2, Room 486

E-mail: tzeng1@ucsc.edu

Office Hours: Wednesday, 3-5 PM

Lecture Location/Time:

E2, Room 192, TuTh, 1-4:30PM

Course Website:

<https://courses.soe.ucsc.edu/courses/tim80c/Summer16/01>

About the course:

TIM 80C is an introduction to the process, methods, and tools that are useful in creating a new technology enterprise (a.k.a. “Startup”). The lectures will focus on developing five important components of a startup: (1) the **product concept**, (2) the **market**, (3) the **business strategy**, (4) the **cash flows**, and (5) the **business plan** for financing the startup. Homework assignments, a comprehensive team project, a midterm examination, and a final examination will be used to develop understanding and mastery of the course content. Case studies and occasional presentations by guest speakers from actual startups will be used to illustrate and augment the tools developed in the lectures.

Learning Objectives of the course:

- To understand the process of creating a startup from idea to initial public offering (IPO)
- To develop and apply tools for designing the **product** (P) concept
- To assess and size the **market** for a product, and then develop a **business** strategy for commercialization of the product concept
- To develop and apply financial tools for assessing **cash flows** in the enterprise
- To develop a **business plan** that integrates product (P) strategy, marketing (M) strategy, business (B) strategy, and cash flow analysis with the business goals of the startup
- To develop a financial plan for **funding** the growth of the startup
- To gain experience in starting a new technology enterprise through a team project

Grading:

- Homework: 25%
- (Team) Project: 25%
- Midterm Exam (8/9/16): 20%
- Final Exam (8/25/16): 30%

Project Plan: (dates indicate when reports are due)

- Project teams formed and preliminary project proposal developed: 7/26/16
- Phase 1, Project Proposal completed; Preliminary Conceptual Design developed: 8/2/16
- Phase 2, Product Strategy completed; Preliminary Marketing and Business Strategy developed: August 8/9/16
- Phase 3, Marketing and Business Strategy completed; Preliminary Cash Flow Analysis developed: August 8/16/16
- Phase 4, Business and Financial Plan completed; Final Project Report draft : 8/23/16

- Final Project Report due: 8/25/16, or 8/26/16

General comments on the course:

- No single textbook covers the diverse set of topics and tools that constitute this course. It is therefore critical that you attend the lectures and take good notes. **Class handouts** will be provided as appropriate to supplement the key topics covered in the lectures.
- **This course is interactive.** We will be actively discussing homework, case studies, and project work (including presentations) in class. **Therefore, attendance is mandatory.**
- **Keep a project notebook**, which will be used when grading your term project.
- In class please work **strictly** on TIM 80C material that is being covered in the lecture.
- If you have any problems related to the course, please see me immediately so that we can quickly resolve the issue.

Textbook:

1. (Required) Jerry Kaplan, “Startup, A Silicon Valley Adventure”, Penguin books, 1996 (paperback). This book is an extended case study on an actual startup in Pen Computing. Readings will be assigned as part of the homework assignments.
2. (Recommended) John L. Nesheim, “High Tech Start Up (HTSU), Revised and Updated: The Complete Handbook for Creating Successful New High Tech Companies”, Free Press, First Edition, March 16, 2000. This text is referred to as HTSU in the table below.

Course Content: (P = Product; M = Marketing; B = Business)

| Topic | Methods/Tools | Reference |
|---|--|-------------------------------------|
| Introduction: Overview of the course; Process for starting a technology enterprise | _____ | HTSU, Chapters 1,2,3, and Chapter 6 |
| Idea Generation | Structured Brainstorming | Class Notes |
| Structured Problem Solving | General Problem Solving Methodology | Class Notes |
| Product Dissection | Function Analysis Systems Technique (FAST) | Class Notes |
| P: From Developing a Product Concept to Product Strategy | Function Structure, Morphological Analysis | Class Notes |
| Project Planning (optional) | GANTT and PERT charts | Class Notes |
| Creating and Working as a Team | Cross Functional Integration | HTSU, Chapters 6, 8 |
| M: From Assessing and Sizing the Market (for the product) to Market Strategy | Market Segmentation and Revenue Map | Class Notes |
| B: From Competitive Analysis of the Business Landscape to Business Strategy | Porter’s Five Forces Framework | Class Notes |
| Aligning Product (P), Marketing (M), and Business (B) strategy | Business-Technology-Marketing Map | Class Notes |
| Cash Flow Analysis/Finance (F) | Net Present Value (NPV) | Class Notes |
| Creating a Business Plan | Integration of P, M, B, F | HTSU, Chapters 4, 5 |
| Financing the Tech Enterprise Venture | Valuation, Venture Capital | HTSU, Chapters 7, 9-12 |
| Closure | Initial Public Offering (IPO) | HTSU, Chapter 13 |