

Course Syllabus

New Product Development Projects

Instructor

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Teaching Assistant

TBD

Course objectives

In today's world New Product Development (NPD) projects are critical to the success and survival of organizations. This course is aimed at teaching the tools and techniques developed to support the NPD process, to gain insight from real NPD success and failure case studies and to implement the tools, techniques and insights in a simulated environment.

COURSE MATERIALS

Textbook

Shtub, A. , M. Rosenwein, Project Management: Processes, Methodologies, and Economics, 3/E, Pearson, 2016.

Software

The Project Team Builder simulator developed at the Technion will be used as a platform for hands on, active learning of the course material.

<http://www.sandboxmodel.com/>

Tentative Schedule

Session	Date	Topic	Assignment Due
1		Introduction	-
2		Starting the NPD Process	Individual Presentations
3		Planning the NPD Process part 1	Individual Presentations
4		Planning the NPD Process part 2	Individual Presentations
5		Planning the NPD Process part 3	Individual Presentations
6		Executing the NPD Process	
7		Final Presentations	Team NPD Project Presentation
-			Team NPD Project Final Report due

ATTENDANCE

This is a flipped classroom (“an instructional strategy and a type of blended learning that reverses the traditional learning environment by delivering instructional content, often online, outside of the classroom. It moves activities, including those that may have traditionally been considered homework, into the classroom. In a flipped classroom, students watch online lectures, collaborate in online discussions, or carry out research at home and engage in concepts in the classroom with the guidance of a mentor.” – Wikipedia). Students are expected to attend all classes. Missing a class means missing a part of the course. Necessary absences and tardiness must be discussed with the instructor or the TA and approved in advance. At most one class can be missed with permission.

COURSE DESCRIPTION

The percentage of sales of successful business organizations tied to the successful Introduction of new products and services is high. Given the fact that the failure rate of these introductions is also high there is a need for tools and techniques to manage New Product Development (NPD) projects. This course will focus on the tools, techniques and best practices developed to support the initiation, planning, execution, monitoring and control of projects aimed at development and marketing new products and services.

The course will cover the following issues:

Introduction

The NPD environment, Critical Success Factors (CSF) in NPD.

Starting the NPD process

Front End Loading: Understanding the market and the voice of the customers, mapping the Stake holders, selecting alternatives and deciding when to introduce the new product or service to the market.

Planning the NPD process

Time, cost and risk considerations. Team Building. Integration of requirements using the Pareto Efficient frontier.

Executing the NPD process

Monitoring and control of the NPD process.

GRADING

1. Class Participation and individual eLearning assignments 10%.
2. Individual presentation and class discussion 10%.
3. New Product development game (week **six**) 10%
4. New Product Development project team presentation (week **seven**) 20%.
5. New Product Development project final team report (a **week after the last class meeting**) 50%.

Assignments

Individual assignment:

- 1) Each student must take the eLearning course:
Project Management Success: Learn by Managing 8 Projects
<https://www.udemy.com/project-management-success-learn-by-doing/#reviews>
Each student will submit all the course assignments before the 5th class meeting.
- 2) Each student will participate in a New Product Development game in which the student will use the PTB simulator to manage a New Product Development project.

Individual presentations

- 1) Each student will select a product or a service that was thought to be the "next big innovation", each student will have 10 minutes to present the case during the course. The presentation will focus on the "story" and on analysis based on **Individual research and a literature search** as well as on **course material**. The presentation will lead to class discussion on lessons learned (there is no time limit on the duration of the class discussion – the longer the better).
- 2) The presentation should describe what the product or service was and what the target market was, explain what happened in the project and present recommendations for future development of similar products or services.
- 3) Presentations will be graded by students in class as well as the instructor and the TA.

Team Assignment- New Product Development presentation and final project

Each student will be assigned to a New Product Development project team.

Each team will present its final project during the last class meeting. Each team will prepare PowerPoint slides of the presentation that will be handed in to the instructor and TA by **midnight (EST) of the day before the seventh class meeting**. Each team will have 15 minutes to present the "story" as well as preliminary analysis **based on course material and research based on any material relevant to the project**.

The team will use the Project Team Builder platform to simulate the NPD process and will submit the following reports **one week after the last class meeting**.

1. NPD project description: A detailed description of your project including:

- Introduction to the product or the service and to the environment
- Stakeholders, Voice of the Customers and requirements
- Economic aspects
- Competition, regulation and the market
- Scope aspects
- Organization aspects
- Scheduling aspects
- Resources aspects
- Budgeting aspects
- Risk aspects
- Monitoring and control aspects

The project description is a Word document of up to 10 pages. You can add an appendix with pictures videos and links to websites.

2. Scenario file based on the above information.

This is a file created by the Scenario builder program that comes with the PTB simulator (.scn file).

3. NPD Project plan.

A Word document of up to 10 pages that explains the logic you used in planning the NPD project including: the voice of the customer and technology issues, the value to the customer, the efficient frontier and trade off analysis, how you decided to select dates and modes for each activity, how you decided on the resources used including hiring and firing decisions, your budget and cash flow considerations and your risk analysis and risk mitigation.

4. Results of NPD project execution on PTB (summary reports of ten runs based on the above plan).

The results are summarized and explained in a Word document of up to 10 pages. The focus is on the Pareto efficient frontier of possible NPD approaches and the selected NPD solution. You can add an appendix with PDF reports generated by the PTB.

5. Summary and lessons learned

A Word document of up to 5 pages that explains the results you got in light of the plan you created. Please explain why your plan is the right one in light of the simulation results and the efficient frontier, what in your opinion are the main lessons learned from the assignment and how in your opinion the assignment could be improved.

6. Appendix:

- Additional information such as videos, excel files etc.

Presentations will be graded by students in class as well as the instructor and the TA.

Evaluations:

Each student will submit an evaluation form for each of the individual and team presentations. Evaluation forms will be submitted by midnight of the day of the presentation (EST).

Evaluation form

Date _____

Presentation title _____

Presenters _____

Evaluator _____

Criterion	Maximum Possible Points	Points awarded	Comments
1. Organization and Clarity	10		----- ----- ----- -----
2. New knowledge and insight provided	35		----- ----- ----- -----
3. Application of knowledge discussed in the class	15		----- ----- ----- -----
4. Significance of conclusions	25		----- ----- ----- -----
5. Effective answers to questions	15		----- ----- ----- -----
Total score			

Additional comments

Commitment

Students will be assigned to teams. Team work is a very important aspect of this course. Team members from different countries will have the opportunity to work together and to get to know each other. It is essential that students registered for the course and assigned to teams will be fully committed and will not drop the course, as every team member counts. **If you are not sure that you can attend all lectures and do all the assignments please do not register to the course.**

Canvas

A tutorial of the Canvas system will be scheduled before the first class meeting. **Participation is mandatory as each student will have to use Canvas to participate in this course.**