IE 7400 Product development capstone

Winter 2014

Lead Faculty: Leslie Monplaisir
Classroom:
Class Hours:
Contact:
Office:
Office Hours:
Course Website: https://blackboard.wayne.edu

Text Book:

Course Description:

This course is aimed to learn and review principles methods of product development in simulated real situation environment. Students are supposed to experience how to operate effectively in integrated multidisciplinary environment. The course will be project based and will cover whole product development process from product specification and conceptual design through detailed design and manufacturing process development process. Students are asked to give biweekly individual and group reports. Using different NPD tools will enable students to gain a practical experience in different fields such as conceptual design, customer-oriented product design, multi-disciplinary design, design for X, product architecture, virtual prototyping and simulation, design decision making.

Course objectives

- Experience the whole new product development process
- Build a broader understanding of NPD Process
- Develop skills in using different NPD tools
• Understand the role multiple functions such as marketing, finance, engineering and production in developing a new product
• Emphasize on important role of holistic approach, system, process and information integration in product development
• Build skills to coordinate multiple interdisciplinary tasks in order to launch a product

Learning Outcomes
• Describe the systematic development process
• Determine customer needs by using the Quality Function Deployment process
• Identify product features through gathering product information, decomposing product, identifying product features, and conducting product benchmarking study
• Establish target specification to satisfy customer needs
• Generate multiple concepts to address the customer needs
• Select the best concepts for further consideration
• Test the concepts and set the final specifications
• Define product architecture
• Plan for product launch

Product development project:
To learn, review and experience principles and methods of NPD, students will be asked to develop and design a new product. This project will be a group project. Groups will give biweekly written report based on work progress and completed steps. Also each student needs to submit weekly report based on his/her contribution to group activities.

Class discussion and Participation:
For each class sections reading assignments will be assigned, students need to study and be prepared for in class discussions.

Grading:

- Biweekly project reports 25%
- Paper reading and presentation 15%
- Class discussion and participation 15%
- Project presentations 20%
- Project final report 25%