Developing and marketing successful new products is often critical to the success of firms competing in technology-based industries. We will start with an overview of core new product development fundamentals and then break into small product development teams to develop a prototype of new product design. We will step through the new product development process in detail, learning about available tools and techniques to execute each process step along the way. Each team will use their prototype to gather data from prospective target markets that will be used to suggest product refinements and assess the viability of their design in the marketplace.


Other required supplemental information: This course will use the Canvas learning platform and students are required to access the course site frequently to obtain posted supplemental reading materials and other assignments.

Student learning outcomes: At the conclusion of the class, students should be able to...

1. Describe the stages of the new product development process;
2. Generate new product concepts using a variety of NPD approaches;
3. Elicit potential customer input using a variety of techniques
4. Apply a variety of tools and methodologies that improve identification of new product development opportunities.

Brief list of topics covered:

1. The strategic elements of product development.
2. Opportunity identification and selection.
3. Finding and solving customer’s problems.
4. Analytical attribute approaches.
5. Product concept testing.
6. Sales forecasting and financial analysis.
7. Product Design and use testing.
8. Strategic product launch planning and launch management.
9. Market testing.
10. Prototyping throughout the Product Development Process

Policy on academic integrity/misconduct: The Colorado School of Mines affirms the principle that all individuals associated with the Mines academic community have a responsibility for establishing, maintaining an fostering an understanding and appreciation for academic integrity. In broad terms, this implies protecting the environment of mutual trust within which scholarly exchange occurs, supporting the ability of the faculty to fairly and effectively evaluate every student’s academic achievements, and giving credence to the university’s educational mission, its scholarly objectives and the substance of the degrees it awards. The protection of academic integrity requires there to be clear and consistent standards, as well as confrontation and sanctions when individuals violate those standards. The Colorado School of Mines desires an environment free of any and all forms of academic misconduct and expects students to act with integrity at all times.

Academic misconduct is the intentional act of fraud, in which an individual seeks to claim credit for the work and efforts of another without authorization, or uses unauthorized materials or fabricated information in any academic exercise. Student Academic Misconduct arises when a student violates the principle of academic integrity. Such behavior erodes mutual trust, distorts the fair evaluation of academic achievements, violates the ethical code of behavior upon which education and scholarship rest, and undermines the credibility of the university. Because of the serious institutional and individual ramifications, student misconduct arising from violations of academic integrity is not tolerated at Mines. If a student is found to have engaged in such misconduct sanctions such as change of a grade, loss of institutional privileges, or academic suspension or dismissal may be imposed.


Grading Procedures. Each student’s final course grade will comprise the following components:

1. **Product Development Assignments** (subtotal 10%)
   - 50 Product Concepts 5%
   - Customer Interviews 5%

2. **Marketing Assignments** (subtotal 10%)
   - Analytical Attributes 5%
   - Branding 5%

3. **Quizes** (subtotal 20%)
   - Quiz I. 10%
   - Quiz II. 10%

4. **Team Project** (subtotal 50%)
   - Team assessment of your contribution 10%
   - Low-resolution prototype 10%
   - Written NPD proposal 15%
   - Team presentation (with slides) 15%

**Team Project Description:** The most important assignment you will be completing this semester is an NPD team project consisting of three final deliverables for the company your team represents: (1) a low-resolution (rapid) prototype for a new product design; slides for a team presentation directed to that proposed product; and (3) the final written product NPD proposal. Students will also be required to evaluate the relative contribution of each of their team members.
You will work in groups of 3-4 for this assignment and be required to work together outside of our class sessions at time(s) and locations selected by your team. Each group will select an existing consumer products company that the team will “represent” for this project. Typical projects will focus on developing a design for a new tangible consumer product for their company. Each team will create three (3) low-resolution prototypes that will be used to collect preliminary market data and to refine your product concept. Using your prototype(s), you will then assess the commercial viability of the design in a target market relevant to your selected company.

The team project deliverables will include: (a) a written team report (1/3 of team project grade component); (b) a short, in-class business presentation by each team to your student peers (1/3 of team grade); and delivery of your team’s final prototype (1/3 of the team grade).

More details about the project deliverables and team project grading will be provided during class. Students are encouraged to utilize the resources of the Mines Writing Center. The Writing Center can help you and your teams develop and organize your report; correctly cite research and published sources; and/or fine-tune your writing for polish, clarity, adherence to grammatical conventions, etc. To visit the Writing center, go online to http://inside.mines.edu/LAIS-Writing-Center- to make an appointment.

5. Class Participation (subtotal 10%)

The exchange of ideas and perspectives between students is an important learning component of this course. Students are required to have read the assigned reading(s) prior to each class session and to prepare for class discussions. You are encouraged to study in groups to prepare for class. Each student is expected to participate in class discussions frequently and add insight and/or ask meaningful questions that advance the discussion. As a guideline, if you are not adding to the class discussion verbally at least once each week (each 2 class sessions), you are not meeting a “B” level for the class participation component of the overall course grade.

Note: There is no final for this course.

Coursework Return Policy: Assigned coursework that is required to be turned-in (quizzes, assigned deliverables) will normally be returned to students within one week. The team project written report and prototype will be due near the end of the semester and will not be returned.

Absence Policy: Generally, students are expected to attend every class session. Your participation in each class benefits all students in the class as we all learn from each other’s contributions, experiences and ideas. It is this sharing of ideas and differing perspectives communicated by class discussions that distinguish the in-class experience from one that could be provided from merely reading the assigned materials. Therefore, excused or unexcused absences will reflect negatively on your in-class discussion/participation grade component. In the event that you anticipate not being able to attend a class session due to illness or a work related or personal obligation, you are expected to contact the instructor in advance by email or phone notifying of your expected absence. In the event of an unanticipated absence (i.e., emergency or unavoidable circumstances), please contact the instructor as soon as reasonably possible to communicate the nature of the absence. Absences that are reasonable (determined at the discretion of the instructor) will be deemed excused, all others will be deemed unexcused.

Assignments & Quizzes:

• Assignments must be turned in on or before the time it is due – plan ahead. Late submissions may receive a grade of zero at the discretion of the instructor.

• Quizzes: If you will be absent during a scheduled quiz, you should schedule a make-up time beforehand. Missed quizzes can be made-up only upon the agreement of the instructor; otherwise a missed quiz will result in a grade of zero for that quiz.

Additional Information: Please see Mark Mondry during the first two (2) weeks of class if you have a documented disability and need academic adjustments or special accommodations. All discussions will remain confidential.
Detailed Course Schedule: See attached EBGN 576 Class Schedule and Assignments (subject to change during the semester by notice of an instructor).