

Example Activities to Promote Development of the Entrepreneurial Mindset in Engineering Courses



1. KEEN Idea - Who's Your Audience?

Divide the class into groups of 5 or 6. Each member of the group selects a fundamental tool or innovation (think: the wheel, the lever, fire, etc.). Each member of the group develops a 60-second pitch for their innovation for a particular target audience (investors, a development team, customers, the CEO of their company) that includes a headline, three benefits and at least one support for each benefit. Each member of the group presents their pitch to the group. The other members of the group try to guess the target audience.

Technology enhancement: This activity can be done only in an asynchronous discussion area by having students submit their pitch as an initial post in the discussion area by a particular date, then having students guess others' target audiences in a response with a deadline a day or two later.

2. KEEN Idea - Baiting the Hook

Divide the class into groups of 5 or 6. Either assign the class a tool or innovation or have the class select one. Each group is assigned a type of audience (investors, a development team, customers, a group of company CEOs). Each group brainstorms adjectives to describe the assigned/selected tool or innovation they think would appeal to their assigned type of audience. Have a representative of each group write their adjectives on a whiteboard or flipbook. As a class, have students compare and contrast the lists of adjectives each group brainstormed and share their observations about similarities and differences between them and offer reasons for them.

Technology enhancement: Have each group of students enter the adjectives describing the innovation or tool via the online brainstorming tool Answer Garden. Each group must have its own Answer Garden. Export each group's Answer Garden to a Wordle (this export feature is available via Answer Garden). Have the class share observations comparing and contrasting the groups' Wordles.

3. KEEN Idea - Setting the Hook

Divide the class into groups of 5 or 6. Assign or have each group select a mundane tool or innovation (think: pencil, button, safety pin, etc.) and have each group develop a 30-second hook to capture an audience's attention about their tool or innovation. Perhaps Ren and Stimpy's "Log" commercial as inspiration - <http://www.nick.com/videos/clip/stimpys-big-day-log-song-1.html> - may provide inspiration. To increase the stakes of this activity, consider having students vote for

their favorite “hook.” The winning group might win bragging rights, extra credit or a set of the mundane tools/innovations that were used in this activity.

4. KEEN Idea - I’m the Champ

Have each student select a tool or innovation with which they are very familiar and think is important (this could be something simple like a wheel or more advanced like a car) and list as many ways in which they are well-suited for championing its use. Have each student present their list of bona fides and the rest of the class provide feedback and suggestions.

5. KEEN Idea - It’s All in the Ask

Assign or have students select:

- a simple tool or innovation (a pencil, chalkboard, desk, mirror, tweezers, teabag, etc.)
- a development stage (initial idea, prototype, initial production, etc.)
- a target audience

Based on those parameters, have students identify for what they would ask from their audience at the end of a pitch for their product at that stage of development, and then present to the class a brief description of the tool or innovation, three of its benefits and what they want from the audience to further their product’s development. After each student presents their “ask,” the rest of the class discusses which “ask” they found the most compelling based on the clarity of the request, whether it is reasonable, and if it is appropriate for the product’s developmental stage and target audience.

Example Discussion Prompts to Promote Development of the Entrepreneurial Mindset in Engineering Course Online Discussions

CURIOSITY
DEMONSTRATE constant curiosity about our changing world
EXPLORE a contrarian view of accepted solutions

CONNECTIONS
INTEGRATE information from many sources to gain insight
ASSESS and **MANAGE** risk

CREATING VALUE
IDENTIFY unexpected opportunities to create extraordinary value
PERSIST through and learn from failure

	Introduction to Engineering	Computer Integrated Manufacturing	Engineering Statistics
Alex Milovic – What is a pitch? Social styles and how do they frame your pitch? Elements to focus on the end game of your pitch	<p><u>Curiosity:</u> During Design Day, you are required to pitch your design and answer questions. Considering each of the 4 types of social styles, what questions do you think each may ask about your design?</p> <p><u>Connections:</u> TV commercials are one way companies “pitch” to potential customers their new innovation. Use YouTube to identify 2 commercials for a new innovation that focus on 2 of the 4 social styles (analyticals, drivers, amiables, expressives). Describe the pitch and explain why it works?</p> <p><u>Creating Value:</u> Imagine you are trying to get your boss’s approval for investing in your design project. Pick two different social styles and in 3 sentences each, pitch the idea to your boss.</p>	<p><u>Curiosity:</u> As a manufacturing engineering for Company X, you are contemplating replacing 10 assembly line workers with one robot. Identify the pros and cons from the perspective of the assembly line workers, the quality control department, and your boss.</p> <p><u>Connections:</u> Select an automation or technology project you would like to implement at Manufacturing Company X. Identify at least 4 groups of internal customers you should get feedback from before giving the pitch in front of the entire company. Explain why.</p> <p><u>Creating Value:</u> Imagine you are trying to get your boss’s approval for investing in a robot to replace 10 assembly line workers. Pick two different social styles and in 3 sentences each, pitch the idea to your boss.</p>	<p><u>Curiosity:</u> Politicians need to pitch themselves and their agenda to get the approval of voters. Provide an example of how a political group could statistical manipulate data in its favor.</p> <p><u>Connections:</u> TV commercials are one way companies “pitch” to potential customers their new product or innovation. Use YouTube to identify 2 commercials for a new innovation that use statistics to persuade customers. Describe the pitch and explain why it works?</p> <p><u>Creating Value:</u> Identify a commercially available product. Be creative and come up with a hook that incorporates some form of statistics to get customers engaged.</p>