

PH398 Developing Creativity and Innovation in Physics (Spring 2011)

Coordinators:

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Text

"Six Thinking Hats," by de Bono

Overview

Employers routinely cite a desire for creative, innovative employees. Science and engineering programs excel at providing technical and mathematical skills, but rarely emphasize other abilities. Yet, there exists evidence that creativity and innovation can be taught, or at least supported through instruction. In this class, we'll be studying one specific approach to fostering creativity, involving so-called "thinking hats." The class will feature, among other things:

- A breakdown of the components that go into innovative thinking.
- Historical examples of innovation in physics and industry.
- Tools for measuring creativity, and the opportunity to develop a new tool suited to physics

Grading

50% class participation. Students are expected to contribute to their groups and to the class overall. 50% final project. Students will tackle an end-of-semester problem that requires a creative and/or innovative solution. Grading will be based more on the quality of the solution approach, and less on whether the problem is completely solved (the problem may be a currently unsolved problem in physics, for example).

Assignment for Jan 20

Read chapter on Green Hat Thinking (pp 115-132)

Academic Dishonesty Policy

The campus-recommended consequence for any confirmed instance of academic dishonesty is a failing grade in the course. If you have any doubt as to whether an action counts as academic dishonesty, ask.