Principles of Invention and Innovation

Instructor: Eugene Shteyn

Dates

Class sessions: 5 Thursdays, June 25, July 9, July 16, July 23, July 30, 7:00 – 8:50 pm;
Workshop: Saturday, August 1, 10:00 am – 4:00 pm

Objectives:

1. Strengthen participants’ ability to invent and innovate:
   - focus on high-value problems
   - transition from ad-hoc approach to proactive, scalable innovation methods
   - learn patterns of inventions and apply them in problem-solving
   - develop flexible multi-level (“outside the box”) thinking

2. Have a fascinating, productive time
   - hands-on invention experience: learn by doing
   - network with other participants to create better ideas

Organization:

This is a lecture-lab course in which the instructor introduces concepts, describes modern invention/innovation methods, and guides students through interactive brainstorming sessions. The course includes five two-hour classes and a full-day invention workshop. The students are split into several groups. Using methods learned during face-to-face sessions, they work in class and off-line to identify high-value problems and develop initial ideas. By the last session, the most promising problem is selected by the class and solved during the workshop. This course format enables participants to learn by doing and helps them leverage each other’s creative and professional skills. There are no prerequisites for the course. Nevertheless, students are expected to be familiar with general innovation topics, such as inventions, brainstorming, startups, business methods, etc.

Grade Options and Requirements:

- No Grade Requested (NGR)
  - This is the default option. No work will be required; no credit shall be received; no proof of attendance can be provided.
• Credit/No Credit (CR/NC)
  o Score will be determined by student attendance and participation.
• Letter Grade (A, B, C, D, No Pass)
  o In addition to attendance and participation, the final paper (a 2-page written report) will determine a student’s grade.

Textbooks

1. Eugene Shteyn and Max Shtein, 2013. Scalable Innovation. (First reading assignment will be provided in electronic form) - Required

2. Daniel Kahneman, 2011. Thinking Fast and Slow. – Recommended

3. Eric Ries. 2011. The Lean Startup. – Recommended

4. Peter Thiel, 2014. Zero to One: Notes on Startups, or How to Build the Future. – Recommended

Additional texts (provided in electronic form):


Videos

1. BBC News. Wild crows inhabiting the city use it to their advantage. http://www.youtube.com/watch?v=BGPGknnpq3e0


3. Everything is Remix Part 3. http://www.youtube.com/watch?v=wq5D43qAsVg