

NYU Stern

INNOVATION & DESIGN SYLLABUS

Professor: Luke Williams
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Fall Semester: WEDNESDAY, 1.30-4.20 pm

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Office Hours: W.R. Berkley Innovation Lab (4th Floor, Tisch)
Appointments scheduled by Teaching Fellow

COURSE DESCRIPTION

Innovation and design thinking are the key drivers of success for many of today's leading startups and Fortune 500 companies. Some of the most dramatic gains in shareholder value over the last few years (e.g., Google, Apple) are due to a culture of innovation. Indeed, a culture of innovation is commonly recognized as the only sustainable competitive advantage.

This course will focus on developing innovative ways of thinking, which are different from those typically learned in MBA programs. It represents a process broken into a set of tools. Pick and choose which techniques work best for your context and your selected focus area. Use the tools alone or combine them with methods learned in other classes to imagine and implement new solutions.

The course provides many opportunities to apply these new ways of thinking through class exercises and a course project, where you will develop innovative concepts for a chosen topic. Teams will submit their work at the end of two separate project phases (i.e., Discover Phase & Deliver Phase).

Course Material on Stern Web Site

A course web site is available on NYU Classes, <http://sternclasses.nyu.edu>. This site contains the course syllabus. Powerpoint presentations and other handouts will be posted after each class.

Course Objectives

The premises of this course are that (i) all people are naturally innovative and (ii) everyone's innovation abilities can be improved (just like all of your other

abilities) through learning and practicing certain skills and techniques. The course is intended for students who want to enhance their innovation and design thinking skills in business and other domains. More specifically, the course is designed to help students:

1. Stimulate innovation in yourself and others.
2. Incorporate design thinking into your analysis of business situations.
3. Apply innovation methodology to a real-world business situation.
4. Learn how to build and lead an innovation team.

Suggested Reading

- *Disrupt: Think the Unthinkable to Spark Transformation in Your Business*, Luke Williams (2nd Edition, Oct 2015)

Course Grade

Your course grade is based on the following components:

Group Project:	Discover Phase Presentation and Document	30%
	Deliver Phase Presentation and Document	40%
Class Participation		30%

Grades for your project and presentation will incorporate peer evaluations.

Course Content

The course uses a combination of:

1. Lectures and Readings
2. Group Project
3. Class Participation and In-Class Exercises

1. Lectures and Readings

Lectures and readings introduce new tools, frameworks, and concepts. Lectures will be interactive, so be prepared to ask and answer questions. Some lectures may include outside speakers.

2. Group Project

The group project will focus on a process used to describe a way of thinking and a set of key outputs and deliverables associated with creative concept exploration and development. To do this, students will talk to real users; observe people in their native environments; think about real physical, technical, and social constraints; and understand real market pressures. This process will yield innovative concepts that have the potential to create traction in the marketplace, and forge emotional connections with users. The group project will be used as the basis for the collaborative working sessions.

Group Project Goal

The goal of the project is to discover insights, design concepts, and visually communicate an experience using creative methods and research heuristics. The project task is to create a market- and technology-appropriate consumer offering that has the potential to disrupt its category.

Group Project Teams

Students will work in teams of five. The greatest cause of disappointing team assignments is the inability to coordinate work effectively. Some ways to prevent this occurrence are:

1. Choose team members who can meet at times that are convenient for other team members.
2. Take notes of your meetings so your decisions and assignments are clear.
3. Plan sufficient time to discuss your analyses, make decisions, and prepare the final presentation and report.

We can help resolve team conflicts, but the final responsibility is yours. Teams may issue a written warning to any student who is not contributing fairly or constructively. This warning should state the problems and list specific steps to resolve these problems. All other members of the group should sign the warning and you should give a copy to us. At the end of each project stage, you will evaluate the relative contribution of your team members.

4. Class Participation and In-Class Exercises

The best learning experiences occur when students participate actively. We will have several in-class workshops throughout the semester. These will require you to think creatively. Please set aside your inhibitions and enjoy yourself. These exercises give you the opportunity to stretch your creative cognition skills.

These are elements we will consider in evaluating your class participation:

1. Are you a good listener?
2. Are you willing to test new ideas and new ways of thinking?

3. Do you promote an environment where everyone feels free to express their ideas and stretch their thinking?
4. Do you contribute to the learning environment by *sharing your thoughts and experiences*?
5. Do you ask constructive questions of other students that help to deepen everyone's understanding?
6. Are you willing to share ideas and information in a collegial fashion?
7. Are you willing to interact with your classmates to help refine ideas?
8. Do your comments build on earlier comments to advance the discussion?
9. Do your comments incorporate concepts presented in lectures, readings, and earlier classes?
10. Do you make your points succinctly?

5. Design Notebook

Each student is encouraged to maintain a notebook throughout the semester to record your insights from the course, your observations and insights on the course project, and any other creative insights you have throughout the semester on any topic. The notebook will be a personal record of your creative activity throughout the semester. You should approach this mental exercise with the same energy you would devote to physical exercise when training for a sporting event. When writing about course material, please record the key points plus your thoughts about all of our in-class exercises and ideas you have that relate to the course project. Beyond course material, please record anything you find creative, spontaneous, exciting, challenging, troubling, etc. You can capture your insights and ideas in writing, pictures, drawings, or any other visual representation that you can think of. The notebook is for your personal use. It will not be evaluated as part of your course grade.

ADMINISTRATION

1. Students are expected to attend every class. If you cannot attend a class, please send a report of your class preparation prior to the class you're missing in order to receive partial credit for class participation.
2. Please complete all readings before class and hand in all assignments at the beginning of class. Late assignments will be downgraded.
3. Please minimize disturbances during class, i.e., talking, arriving late, leaving the room, etc.
4. Laptops may not be used during lectures and discussions but are fine to use during the break-out sessions when you're working on the course project.
5. Students are expected to adhere to the school's honor code. Please ask us if you have any questions about how the honor code applies to a specific situation.

- 6. No extra credit assignments will be given.
- 7. Deviations from the syllabus may be necessary.

COURSE SCHEDULE

Date	Lecture & Workshop	External Project Work (Dates are for starting assignment.)
<p>OVERVIEW & PROJECT</p> <p>The goal for any organization—no matter what the size—should be to generate a steady stream of new ideas that alter the trajectory of a business, revive stagnant markets or completely reinvent the competitive dynamics of an industry. And that’s exactly what this course is designed to do. Think of “Innovation & Design” as the business equivalent of a cookbook that provides you with the framework and motivation you need to discover and execute bold new ideas.</p>		
September 7	<p>Lecture: Course Overview Syllabus Review Cliché Audit</p> <p>Workshop:</p> <ol style="list-style-type: none"> 1. Select the high-level situation in the category you want to disrupt. 2. Define in one sentence. 	<p>Group Project Work: Select your team and project focus.</p> <p>Reading: Disrupt, Chapters 6 & 7 Disruptive Innovation, <i>HBR</i></p>

DISCOVER PHASE

It all starts with a wild question. In simple terms, a disruptive hypothesis is the fill-in-the-blank part of the question, “I wonder what would happen if we .” The next step is to take the hypotheses you just crafted and hone them into something usable. You’ll start by looking at the real-world context your hypothesis will exist in. Who lives there now? What do they need? What motivates them? Defining a disruptive opportunity is designed to be quick and informal, intuitive and qualitative, and above all, accessible. It shouldn’t take you more than a week, and you’ll be able to complete part of the research in two or three hours of class time.

September 14	<p>Lecture: Disruptive Hypotheses</p> <p>Workshop:</p> <ol style="list-style-type: none">1. Identify the clichés—the assumptions and conventions that influence the way producers and consumers think about the situation you’ve selected.2. Take the clichés and twist them like a Rubik’s cube, subjecting them to fresh scrutiny. This exercise is designed to challenge your established way of looking at the category.	<p>Group Project Work: Audit category and make a list of clichés. Craft three hypotheses for your focus area.</p> <p>Reading: Disrupt, Introduction & Chapter 1</p>
September 21	<p>Lecture: Design Research Methods</p> <p>Workshop:</p> <ol style="list-style-type: none">1. Determine the kinds of information you’d like to gather by making a list of questions based on your hypotheses.2. Define the relevant audience: a mix of the target customer population, potential customers, and/or outlier customers.3. Work out the timing required. Your decision will depend on the size and complexity of your focus, but it should be a rapid immersion—2–3 hours for a quick informal study, 2–3 days for a longer one.4. Set up interviews and observations in the	<p>Group Project Work: Prepare 4-5 page research plan. Execute research plan and record observations</p> <p>Reading: Disrupt, Chapter 2 Tension Point Articles</p>

	environment where people use the products and services relevant to your situation.	
September 28	<p><u>Lecture:</u> In-Field Research Activity</p> <p><u>Workshop:</u></p> <ol style="list-style-type: none"> 1. Do at least two of the following: Open-ended interview and observation; Noninvasive observation; Intercept interviews. 2. Look for tension points, not pain points (nagging issues that linger for a long time without receiving much attention). These include Workarounds, Values, Inertia, and Shoulds versus Wants. 3. Make sure that you document everything you're doing in at least two ways—notes and photographs. 	<p><u>Group Project Work:</u> Execute research plan and record observations.</p>
October 5	<p><u>Guest Lecture:</u> Synthesizing Design Research</p> <p><u>Workshop:</u></p> <ol style="list-style-type: none"> 1. Ground your data by printing or transcribing your observations. Print key photographs, sketches, or other images you collect. 2. Find a surface that's large enough for you to move and arrange all of your observations and supporting information. 3. Cluster related observations together and identify key themes, and then seek to turn observations into insights. 4. Match your insights with the relevant hypotheses to determine the best fit. 5. Define three opportunities that provide the most fertile ground for putting your hypotheses into action. 	<p><u>Group Project Work:</u> Describe three opportunity areas. Prepare Discovery Phase presentation.</p> <p><u>Reading:</u> Break Free from the Product Life Cycle, <i>HBR</i></p>

	6. Describe each opportunity in a three-part sentence.	
October 12	NO CLASS	
October 19	Discover Presentations: Phase One Deliverable	Group Project Work: Each team to present results from the Discovery Phase (i.e., three opportunity areas).

DESIGN PHASE

Opportunities by themselves don't lead to profits or lasting change. So, the big question in this phase is: How do you transform an opportunity into an idea? Well, the first thing to realize is that any old ideas won't do. We're looking for disruptive ideas—ideas that have the power to influence and to shape behavior. Ideas that stir the imagination and inspire a sense of possibility. We'll spend part of this phase learning how to move past the typical stumbling blocks and generate the kind of ideas that transform a compelling opportunity into a commercial offering.

October 26	<p>Lecture: Design Phase Introduction Idea Generation Techniques</p> <p>Workshop:</p> <ol style="list-style-type: none"> 1. Break down your opportunity into a number of focus points for generating ideas. 2. Think creatively about the answers to each question, and generate as many new ideas as you can. 3. For inspiration, use the random object provided to figure out how you could connect the entire stimulus or part of the stimulus to your situation. 	<p>Group Project Work: Generate multiple ideas for each opportunity area.</p> <p>Reading: Disrupt, Chapter 3</p>
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November 2	<p>Lecture: Business Models & Visualization Methods</p> <p>Workshop:</p> <ol style="list-style-type: none"> 1. Refine the value proposition for the end customer. 2. Determine key revenue sources and much customers will pay. 3. Work out how the solution delivers value to each stakeholder involved. 	<p>Group Project Work: Refine and articulate 3 concepts. Prepare for concept testing.</p> <p>Reading: Disrupt, Chapter 4</p>
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November 9	<p><u>Lecture:</u> Concept Testing Methods</p> <p><u>Workshop:</u> Run participants through the following activities:</p> <ol style="list-style-type: none"> 1. Individual ranking: Guide participants through each idea and ask them to individually rate the ideas' attributes on a 1–5 scale. 2. Group ranking: Have participants work together to rank the ideas against a list of attributes and their polar opposites. 3. Improvement exercise: Have participants work together to mix and match attributes and features from the ideas they have been shown. By doing this, they agree on the one idea that seems ideal. 	<p><u>Group Project Work:</u> Document results of concept testing and make a list of recommendations for the refinement of one solution.</p> <p><u>Reading:</u> Disrupt, Chapter 4</p>

DELIVER PHASE

Disruptive ideas are great, but they're only half the story. Unless you can make those ideas feasible, they can't deliver value. In this phase, we change our focus from conceiving ideas to transforming them into practical solutions. Remember: There's a simple but critical difference between an idea and a solution: A solution is always feasible. If it's not, it's not really a solution. The final output of this process is a 9-minute pitch that takes your audience from their initial, pre-presentation, "Why should I care about this?" through the mid-presentation, "I'm curious to see where this is going." attitude, to a post-presentation, "Hey, this is great! How do we implement it?"

November 16	<p>Lecture: User Scenario Storyboards and "Explainer" Videos</p> <p>Workshop:</p> <ol style="list-style-type: none"> 1. Create a storyboard that illustrates the interactions end users will have with your idea. 2. Highlight the service and information components of the idea. 3. Produce a series of video scenes of someone using your idea in its proposed environment (context). This will convey how the product, service, and information pieces work together to form a cohesive experience. 	<p>Group Project Work: Pre-production planning of video</p> <p>Reading: VOSS Artesian Water from Norway, <i>HBR</i></p>
November 23	NO CLASS (THANKSGIVING)	
November 30	<p>Lecture: Prototyping Methods</p> <p>Workshop:</p> <ol style="list-style-type: none"> 4. Create physical mock-ups (low fidelity) of your solution. 5. As you and your review team are working with and evaluating the prototypes, collect as much feedback as you can. 6. At the end of each cycle, review the prototype with other people and "iterate" it in the next cycle based on feedback. 7. Each cycle of iteration narrows the range of 	<p>Group Project Work: Develop an "explainer" video for chosen solution.</p> <p>Reading: TBD</p>

	possibilities until the solution is refined.	
December 7	<p>Lecture: Creating a Solutions Pipeline Pitching Your Solution</p> <p>Workshop:</p> <ol style="list-style-type: none"> 1. Establish the inadequacy of current clichés (The Status Quo). 2. Explain why this is an issue (The Observations). 3. Explain how that’s frustrating the target customer (The Story). 4. Tell them something they don’t know (The Insight). 5. Provide a sense of how this knowledge could be used (The Opportunity). 6. Use a familiar example to help them understand the potential (The Analogy). 7. Reveal your answer to the opportunity (The Solution). 8. Explain the motivation for customers and stakeholders to make the change you’re suggesting (The Advantages). 9. Communicate the solution’s higher purpose and potential (The Ethos). 	<p>Group Project Work: Complete post-production of “explainer” video. Prepare Delivery Phase presentation.</p> <p>Reading: Disrupt, Chapter 5</p>
December 14	<p>Deliver Presentations: Phase Three Deliverable – 9-minute pitch for your solution.</p>	<p>Group Project Work: Each team to present results from the Delivery Phase.</p>