INTRODUCTION TO RISK INNOVATION
CEE598 • SOS598 • PAF591 • HSD 598
Syllabus: Fall 2015

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Meeting Time: Thursdays, 3:00 PM – 5:45 PM
Meeting Place: Tempe – WGLH 401
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OVERVIEW
Risk runs through every aspect of our lives. It governs our physical, mental and emotional health and wellbeing; it underpins fiscal and environmental security; and it is fully intertwined with our ethical, moral and spiritual identities. In a very real sense, being alive and living are defined by risk. And yet we are surprisingly poor at understanding risk and using this understanding in ways that helps us pursue and maintain what we value – both as individuals and as a society. This is a growing issue in today’s increasingly complex and connected world. Interactions between society, the environment, and the ever-more complex technologies we are developing, are leading to a risk-landscape that is becoming progressively disconnected from how we typically approach and address risks. And this is exacerbating vulnerabilities across multiple sectors, as we struggle to tackle challenges such as (for example) disease treatment and prevention, climate change mitigation and adaptation, and the development of transformative new technologies.

Risk Innovation is an emerging concept that aims to transform how we think about and act on risk, in the pursuit of increasing and maintaining “value” in all its various guises. Risk Innovation incorporates the development of highly creative approaches to risk, and their use in developing robust and resilient approaches to emerging challenges and opportunities. It draws on synergistic understanding and insights from across science engineering and technology, the social sciences and humanities, the arts, and beyond. As a concept, risk Innovation is very much grounded in the culture of innovation and entrepreneurship, and provides an intellectual and practical experimental space for developing and testing new ideas around “using” risk to create value within society.

Given the emergent nature of Risk Innovation, this course uses a workshop approach to explore, develop and apply novel approaches to risk in the context of value creation – where “value” covers a multitude of individual, organizational, and societal metrics of value and worth. It utilizes a combination of lectures, seminars, improvisation, creative “play”, problem solving, and group projects, to develop basic concepts around Risk Innovation; to develop associated operational principles; and to explore their application to specific challenges.
LEARNING OBJECTIVES

At the end of this course, you will be able to:

1. Explain how, in the context of risk, creativity, imagination, and cross-disciplinary insights can lead to innovative approaches to value creation.
2. Describe Risk Innovation, and the core concepts and principles embedded in it.
3. Create innovative, context-specific risk constructs.
4. Appraise emerging societal and technological challenges and opportunities from a Risk Innovation perspective.
5. Use Risk Innovation in formulating effective problem and opportunity statements
6. Apply Risk Innovation to support the creation of social, economic and/or environmental value

CLASS FORMAT

As Risk Innovation embodies novel approaches to problem solving and value creation that are not yet described by a body of literature, much of the course will be devoted to developing new ideas, insights and skills through research, experimentation, discussion, and practice. Key elements will include:

Lectures: Most of the class will be based on exercises, assignments and discussions. However, there will be some didactic content focused on developing key concepts.

Assignments: In-class and homework assignments will be used throughout the course to help develop and enrich cross-cutting ideas and concepts around risk innovation. These will typically be used as the basis of class discussions and explorations. Assignments will vary from relatively conventional literature readings, analyses and synthesis, to exercises in creative thinking and analysis.

Discussions and exercises: In-class discussions will form a core part of developing concepts around risk innovation, and its application. These will be augmented by exercises designed to challenge, stretch and solidify thinking on risk and innovation, and will include techniques such as improvisation and “creative play”.

Problem/solution exploration: Learning through multi-perspective problem and solution exploration will be a key element of the class. In-class assignments will include developing highly creative and innovative risk-based approaches to complex issues, ranging, for example, from the use of gene-editing to create designer-babies, to social challenges such as sanitation in developing economies. Participants will be encouraged to draw on ideas and practices across the arts, humanities and sciences in their explorations, with the aim of developing novel insights into risk that have the potential to lead to innovations in value creation.

Projects: The latter part of the course will include an extended project where principles of risk innovation are applied to a specific challenge. There will be the option to work either individually or as a group on these projects.

Improv: Basic improvisation exercises will be used throughout the course to support creative thinking and exploration around understanding and applying principles of risk innovation.

Throughout the class, there will be a strong emphasis on combining intellectual rigor with creativity and imagination in developing and applying principles of risk innovation.
GRADING

Attendance: 20%
Homework assignments: 40%
Final project: 40%

EXPECTATIONS

The value of this course is highly dependent on the willingness of participants to actively engage in contributing to the group understanding of Risk Innovation and its application. You will be expected to spend between 3 – 5 hours a week outside class time on research, analysis and creative thinking/exploration. In class, you will be expected to participate fully in discussions and activities. The class will involve activities that involve improvisation and creative play as part of developing creative approaches to risk innovation.

Because some participants will be less comfortable than others with some aspects of the class, it is important that everyone contributes to the class being a safe, supportive and respectful environment.

Bringing a computer, tablet or similar to class is strongly recommended, both for use in in-class research, and for some of the activities.

Finally, come to the class expecting to work hard, be challenged, learn, and have fun – the “fun” bit is important as it opens the door to creative ideas that are at the heart of Risk Innovation.

SCHEDULE

Weeks 1 – 5: Fundamentals
The need for novel approaches to risk, and the underlying framework for risk innovation; defining risk, innovation, and risk innovation; the roles of creativity, imagination and trans-disciplinary insights in risk innovation; wicked problems and risk innovation.

Weeks 6 – 12: Risk innovation and value
Risk perception; value protection/creation; risk innovation, serendipity and eclecticism; risk innovation and the arts; risk innovation and technology innovation; risk-improvisation; stress-testing; developing and applying principles of risk innovation.

Weeks 13 – 15: Group/individual projects
Applying risk innovation to specific challenges.
ASSIGNMENTS
Homework assignments will be set on a weekly basis – not every week will have an assignment. These will vary from literature reviews to creative assignments. Typically, assignments will require a half page summary or synthesis to be submitted, which will form a basis for in-class discussions, and will be used in grading. Homework assignments will account for 40% of the class grade.

FINAL PROJECT
In the final weeks of the course, you will be expected to work on a project that applies Risk Innovation to a specific challenge. You will be able to select the particular topic you work on, in consultation with the instructor, and will be free to work on this on your own or as part of a group (although small group work is recommended). The last week of the course will be dedicated to project presentations.

Further details of project requirements will be circulated closer to the time. However, elements will include:

1. Application of Risk Innovation principles to a well-defined “wicked” issue or opportunity;
2. Extensive research around the issue or opportunity, including academic research which is relevant to the application of risk innovation;
3. Evidence of creativity applying risk innovation;
4. A 5 – 10 minute class presentation on the project (using whatever format best suits the project)
5. A 3 – 5 page summary report of the project

The project will be worth 40% of the class grade, and will be graded on the presentation, and the summary report.

STUDENT ACADEMIC INTEGRITY
Students are required to adhere to the policy on student conduct identified in the ASU Student Academic Integrity Policy (http://www.asu.edu/studentaffairs/studentlife/judicial/academic_integrity.htm) and the Arizona Board of Regents Policy Manual (http://www.abor.asu.edu/1_the_regents/policymanual/chap5/chapter_v.htm#C.%20CODE%20DE%20

STATEMENT ON SEXUAL VIOLENCE AND HARASSMENT
Title IX is a federal law that provides that no person be excluded on the basis of sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed on the basis of sex can seek support, including counseling and academic support, from the university. If you or someone you know has been harassed on the basis of sex or sexually assaulted, you can find information and resources at http://sexualviolenceprevention.asu.edu/faqs/students.
ADA STATEMENT

The Americans with Disabilities Act (ADA) is a federal antidiscrimination statute that provides comprehensive civil rights protection for persons with disabilities. One element of this legislation requires that all qualified students with documented disabilities be guaranteed a learning environment that provides reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation please contact the Disability Resource Center at ASU Polytechnic located in Student Affairs Quad #4 or call 480-727-1039/TTY 480-727-1009. Eligibility and documentation policies online at http://www.asu.edu/studentaffairs/ed/drc