Entrepreneurship 579
Grand Challenges for Entrepreneurs

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**Course Objectives**
Grand Challenges for Entrepreneurs explores big problems and opportunities facing society, ranging from healthcare and education, to poverty. The course examines how solutions to these massive challenges can be researched, validated, and implemented using such entrepreneurial skills such as design thinking, opportunity recognition, business models, and pivoting.

Students in the class demonstrate the entrepreneurial mindset; when others see insurmountable problems, entrepreneurs look for opportunities to use technology and innovative thinking to solve real world problems. An entrepreneurial perspective is also a wonderful way of thinking in order to tackle new opportunities in social entrepreneurship, whether it is in government, NGOs or for-profit companies.

**Methods of Instruction**
Through lectures, workshops, and projects that cover a variety of the big challenges in the world today this course provides the student with the tools necessary to successfully identify a real problem and to devise strategies to address it.
We will cover material related to the following grand challenges, as well as a variety of entrepreneurial topics:
1. Education
2. Energy
3. Food & Water
4. The Environment
5. Medicine

**How Will You Learn in this Course?**
Entrepreneurship is both an individual and team activity. Therefore, this course incorporates both individual and group efforts. I encourage students to build groups with people that have a variety
of disciplines, experiences and backgrounds. Teams will prepare papers and in class presentations on a grand challenge of their choice. In addition, students will submit individual assignments.

**Submitting Assignments**

All assignments should be uploaded by the time indicated on Canvas, as well as in the assignment overview documents. Assignments must always be uploaded to canvas unless otherwise instructed in the assignment overview.

**Course Materials**

- Purchase readings via the HBSP link on Canvas
- The majority of readings are available on Canvas
- URL’s for additional videos and materials are on the course website. The Daily Prep pages which videos and readings are required and which are optional.

**Policies**

Students will be evaluated based on contribution to in-class discussions and sections, as well as timely completion of assigned readings and assignments. Think of this as an opportunity to stretch yourself and learn skills like teamwork, public speaking, persuasive writing, and defending your ideas, as well as the fundamentals of the entrepreneurial process. I will endeavor to create a supportive environment, where there is no penalty for taking a definite stance and expressing new ideas.

There are only ten weeks in this course, barely the minimum necessary to cover the essentials of this topic. If you anticipate missing more than one class, please consider not taking the course. Not participating in more than two classes will cause a decrease in your course grade. If you expect to miss a class, please let me know ahead of time via email. It will be your responsibility to find out from your classmates or myself what material was covered, what additional assignments were made, and to obtain any handouts you may have missed. Read all course web pages thoroughly and often, and never come to class without reading that day's online agenda.

Given the importance of class participation and its grading, I will do my best to get to know you quickly. Feel free to discuss the course and your learning progress with me at any time. I am always happy to discuss items of interest. Given the pace of this course, I will do all that I can to use class time effectively and ask you to do the same. This includes starting and ending on time. Our distinguished guest instructors and speakers are aggressive, successful, and articulate.

*******Please note that if you are interested in using a project topic that you have used in a different course, you must first clear it with Professor Pahnke*******

**Grading Policy and Assignments**

In this class we will be grading based on a point scale. The class will be out of 100 points. The weighting system is as follows:

**Individual Grade Components**

- Participation (including peer evaluations) (20%)
- Personal Grand Challenge (15%)
- Evaluation of an existing entrepreneurial approach to a grand challenge (15%)

**Team Grade Components**
- Grand Challenge Assignment (40%) **Note this assignment has several deliverables
- $5 Creativity Exercise (10%)

Final grades are at the discretion of Professor Pahnke, and are subject to change based on class performance and peer evaluations. If you have questions regarding your grade, do not wait until the end of the quarter to ask me about them! Grades will be curved to a predetermined target course median of 3.4. The curve will not be administered until the end of the course; and therefore will not be reflected in each assignment grade.

**University Code of Conduct & Academic Integrity**
The University of Washington Student Conduct Code states that students are expected to “Practice high standards of academic and professional honesty and integrity.” This means that students will not engage in activities like plagiarism, multiple submissions, (submitting a paper for credit to more than once class), turning in a paper, or part of a paper, that you didn’t write. Academic dishonesty WILL NOT BE TOLERATED in any form. Copying other’s assignments or exams, looking at assignments or tests from previous quarters (other than what is posted on Canvas by the instructor), sharing course materials with students who may take the class in the future, obtaining full or partial answers or case notes from the internet, or any other form of academic dishonesty will result in a zero grade on the assignment and/or exam and you will be referred to the Dean for an academic misconduct hearing.

If you are unclear about how the code applies to assignments for this course, please ask for clarification.

**Class Sessions**
Participation is mandatory at all sessions. Class starts promptly. Participating in classroom discussions, freely and without fear, is strongly urged. No opinion is held in disregard, and only through active discussion can we arrive at some consensus of reasonable action. It is never my intention to embarrass anyone. Being punctual, present and prepared for our class sessions is an important part of contributing to the learning community. Thanks for your commitment to be an active contributor to the Entre 579 class discussions.

Students will be evaluated on their participation in classroom discussions. The grading of classroom participation is difficult because of an element of subjectivity not present in grading written assignments. Nevertheless, it is a vital part of the course. Most students feel comfortable in speaking up with thoughtful comments and questions, but some do not, and I wish to be fair to everyone. I will not be grading solely on "air time", but rather on the quality of the question or comment. Specifically, I will evaluate:

1) the frequency of your class contributions (online and in class)
(2) the quality of your contributions (ability to draw on course materials and your own experience productively; ability to advance or sharpen our discussions; willingness to take risky or unpopular points of view; use of logic, precision, and evidence in making arguments)

(3) the professionalism of your conduct (punctuality, preparedness, respecting class members and their contributions, and refraining from conduct that is distracting, including allowing your cell phone to ring and using your laptop or any other electronic or communication device during class)

**Required Readings**
All assigned readings are to be completed before the session. Each required reading has been specifically chosen to provide a certain insight or skill; thus, every assignment is mandatory. All Entre 579 lectures, study questions, assignments, and exams assume a fundamental understanding of many concepts provided by the readings. Consequently, failure to keep up with the assignments will have an adverse effect on a student's grade.

**Recommended Readings**
Supplementary readings are suggested that provide additional depth and richness for the topics considered each day. These readings are not required. While I hope that you will return to these readings as time permits, you are not expected to have completed the readings prior to class.

**Study Questions**
The study questions (under the “Think About” section on each session page) are helpful preparation aids before each class discussion.

**Individual Assignments** - *These assignments MAY be discussed in teams, unless the assignment explicitly states otherwise.* However, each person must write up their own assignment and submit work which is their own. Online assignments should be clear and concise, and expressed in the same style as case analysis submissions.

**Student Submissions for Discussion**
Students are encouraged to send insights and articles related to course discussion topics to the instructor—I will gladly share them with the rest of the class (with attribution). Such contributions will be considered as contributions to your participation grade.
Education like you give a damn: A student & instructor manifesto for working on Grand Challenges

“Grand Challenges” are the tough, seemingly unsolvable problems facing humanity (think of climate change, global poverty, clean air, clean water, gender empowerment, racial inequality). The top-ten list below outlines a philosophy for students and educators to work on addressing Grand Challenges.

**Education matters**
*The purpose of knowledge is to solve problems and improve the human condition.* Uncovering new knowledge and learning from existing knowledge are vital. If you want to address injustice, have positive impact, save the environment, improve health, or otherwise help the planet, deep subject knowledge will help you be effective. Knowledge gained via formal and informal education are both important.

**The real world and the people in it can teach us a lot**
*Effective solutions require engaging outside the comfort of a classroom, laboratory, or office.* Get outside—into the street, lake, forest, landfill, community, or wherever the problem you care about is happening. Talk to experts, mentors, and people involved with the issue; ask the right questions; listen deeply; make observations; form your own opinion.

**See the world through others’ eyes**
Who are the stakeholders, and why should they care about your solution? *Your opinion is less important than stakeholders’ opinions.* Your solution will not work unless the people involved in the problem see sufficient value; those people might be customers, beneficiaries, investors, journalists, private citizens, regulators, employees of existing organizations working on this problem, or anyone else whose actions and opinions will influence your success. How do they see this problem? Cultural differences are sometimes obvious, sometimes less so, but they are critical to understanding problems and solutions.

**Multidisciplinary teams are the first step to solving big problems**
Grand Challenges exceed the capacity of any one person or academic discipline; solutions reflecting just one discipline or viewpoint are less likely to succeed. Being effective demands *multidisciplinary teams working on interdisciplinary solutions.* Work with people from different backgrounds and who see the world differently than you do. In your team, talk about motivations, concerns, roles and responsibilities; over time, they may change.

**Instructors and students are in this together**
During engaged instruction, such as one might find in a teaching hospital, *students are asked to investigate, evaluate, and perform like a junior colleague;* learning takes place where the

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1 The credit for this manifesto goes largely to Julian Marshall who developed it when we co-taught an undergraduate course on grand challenges for entrepreneurs.
problems occur; and, students investigate problems that might lack a clear answer. To give students the necessary autonomy and agency, students should define the problems they wish to tackle, identify the solutions they wish to work on, and be held to high standards. Solutions they propose must be holistic, realistic, and reflective of the true complexity of the Grand Challenge considered. Grand Challenge classes aim to provide tools to do that effectively.

**Sustained Impact**
To have real impact, *strive to identify solutions that last, and that can scale to the size of the problem*, i.e., would work beyond a single location or for only a brief time. Doing so requires consideration for financial self-sustainability, for making adaptations necessary for local context, and for the multiple paths one can take to have impact. Solutions must have social and financial value, that is, have positive impact on the Grand Challenge and also deliver sufficient economic value to be financially sustainable. A critical component of the social value proposition is a Theory of Change: a step-by-step description of how the team’s actions will impact the Grand Challenge and how the world will be different with their solution versus without it.

**Go, do!**
*Don’t wait for someone’s permission to fix a problem, just go solve it.* Think big, start small, move fast. Learn by doing, but make sure you aren’t causing harm along the way.

**Failure is healthy**
If you aren’t failing, you aren’t taking risks or operating outside your comfort zone. *Failure is learning.* Innovation is rarely failure-free; strive to fail faster (again, making sure not to cause harm). Be self-skeptical, test your assumptions, drop approaches that don’t work to make space for approaches that do. Whatever your ideas are, someone has probably tried something similar, elsewhere; learn about research and best practices in your area.

**Technology is only part of the puzzle**
*Technology is important, but it is merely a means to an end; technical solutions lacking social, political, and economic consideration rarely last.* One must understand the problem and its socio-political context to find effective solutions. History is littered with marvelous solutions that solved the wrong problem. *Think deeply about the problem you aim to solve, the underlying reasons that problem persists (and linking these understandings to your Theory of Change), why you wish to work on it, and what impact you hope to have.*

**Have fun! Do what is meaningful to you.**
*Work on problems you care about deeply.* Grand Challenge problems are hard to solve. (If they were easy, they would have been solved already.) If you work on topics you aren’t passionate about, when things get tough you’ll leave. Why bother? Instead, take time to find something you care about (it might take a while) and that is worthy of your effort, then attack with fervor. Stay curious, get feedback, never stop learning.