Foster
School of Business
UNIVERSITY *of* WASHINGTON

Entrepreneurship 579
Grand Challenges for Entrepreneurs

Professor:	Emily Cox Pahnke	**Office Hours:**	by appointment, at your convenience
Office:	Paccar 422		
Email:	eacox@uw.edu	**website:**	**https://canvas.uw.edu**

Course Objectives
Grand Challenges for Entrepreneurs explores big problems and opportunities facing society, ranging from healthcare and education to poverty and climate change. 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. 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, established organizations, or a new for-profit company you found.

Methods of Instruction
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?
Class time will be used to learn from subject area experts, collaborative learning activities, discussions and lectures. 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 a few 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. Click on the homepage on the course Canvas site and scroll down to see links for each day's preparations.

Grading Policy and Assignments
The grades in this 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
- $5Creativity Exercise (10%)

*******Please note that if you are interested in using a project topic that you have previously used for a school or work assignment, you must first clear it with Professor Pahnke. This is to ensure that all team members will be able to contribute*******

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.

Class Participation
Participation is mandatory, unless excused, at all sessions. Class starts promptly. Participating in classroom discussions, freely and without fear, is strongly urged. Students will be evaluated on their participation in classroom discussions. 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 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)

(2) 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.

(3) the frequency and consistency of your class contributions (online and in class). Missing more than 1-2 sessions may result in a lower 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

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. 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.

Required Daily Preparation
All assigned readings, videos and podcasts are to be completed before the session. Each required prep material 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 Resource
Supplementary resources 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.

Meeting with the Professor
Quick questions and clarifications can be asked during the break in class, or immediately after class. If you would like to set up a meeting with me, please email so that we can find a suitable time. Please note that meetings are scheduled for 10-15 minute time slots, to ensure that I can

accommodate the needs of all students in the course, and to be respectful of my own time. In the event that meeting requests become excessive, I reserve the right to limit the amount of times we meet during the quarter.

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. I'm always happy to discuss this and there is no penalty for asking me.

Academic Misconduct: WAC 478-1220-020 of 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), 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.

Access and Accommodations: Your experience in this class is important to me. If you have already established accommodations with Disability Resources for Students (DRS), please communicate your approved accommodations to me at your earliest convenience so we can discuss your needs in this course.
        If you have not yet established services through DRS, but have a temporary health condition or permanent disability that requires accommodations (conditions include but not limited to; mental health, attention-related, learning, vision, hearing, physical or health impacts), you are welcome to contact DRS at 206-543-8924 or uwdrs@uw.edu or disability.uw.edu. DRS offers resources and coordinates reasonable accommodations for students with disabilities and/or temporary health conditions. Reasonable accommodations are established through an interactive process between you, your instructor(s) and DRS. It is the policy and practice of the University of Washington to create inclusive and accessible learning environments consistent with federal and state law.

Education like you give a damn: A student & instructor manifesto for working on

Grand Challenges[1]

"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

---

[1] The credit for this manifesto goes largely to Professor Julian Marshall who developed it when we co-taught a course.

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.