90783-A2

Syllabus subject to change.

Course No: 90-793
Course Name: Policy Innovation Lab: Public Interest Technology
Section: A2
Day: Tuesdays
Time: 6:30 - 9:20 PM
Location: HBH 1006 (Pittsburgh)

Professor

Chris Goranson (cgoranso@andrew.cmu.edu), Hamburg Hall 2105B, Office Hours on Canvas.

Teaching Assistant (TA)

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Course website

https://canvas.cmu.edu/courses/

About this course

The Policy Innovation Lab is a new Public Interest Technology initiative that connects students with real policy challenges and introduces an agile, design-driven framework to rapidly create solutions to those challenges. This course is an experiment in improving public policy by working outside the traditional structures of government.

Students will be working with external partners to investigate real problem spaces and building policy-driven prototypes driven by user research. Students will work to solve pressing challenges by redefining the problem in terms of understanding the affected users of systems, conducting user-centered research, designing solutions, testing those same solutions, and iteratively improving those outcomes. This course is designed to take advantage of recent lessons learned in applied innovation in government entities around the world. The actual outcomes will be heavily dependent on both the needs of the problem sets for each course as well as the skills of the students.

The course will apply some methodologies commonplace in industry like agile, design-thinking, and prototyping to deliver open source products and services that have the potential to live on beyond the course. For public-facing projects, work will be done in a transparent manner where possible in order

to encourage external participation. Students will be expected to embrace a culture that expects and encourages rapid iteration, express a willingness to fail early in order to discover a solution that ultimately works, and a flat structure that provides students with an opportunity to deliver for our government partners.

Prerequisites

This course is designed for graduate-level experience that have at a minimum basic computer proficiency skills. This means you should feel comfortable working with data in spreadsheets, an ability to write clearly and organize materials well, an interest in exploring new programs and present a willingness to learn something outside of your comfort zone.

Learning outcomes

1. Apply agile methodologies and iterative design strategies to understand how to support innovation in a government agency.
2. Use agile and lean methods to make cross-disciplinary teams and government partner interactions functional and valuable.
3. Conduct conduct user research to design better experiences for citizens.
4. Build prototypes quickly, test them, and repeat the process with stakeholder involvement.
5. Develop and document a final Minimum Viable Product and deliver clean handoff to the partner.

Learning Resources

There is one required text you'll need for this course:

Knapp, Jake, John Zeratsky, and Braden Kowitz. *Sprint: How to Solve Big Problems and Test New Ideas in Just Five Days*. 2016.

Other reference materials include:

- Readings and videos provided on Canvas
- Slides used in lectures provided on Canvas
- Dataset provided on Canvas or through external links

Calendar

Week one

First class begins on **Tuesday, October 22nd, 2024.**

Assignments:
- Intro workshop #1: "How might we"
- Setting up teams, and completing project preferences survey.

- Week one graded discussion

Assigned readings and other reference materials are on Canvas.

Week two (10/29-11/04)

Workshop: Virtual workshop with partner agencies and organizations. Management and project scoping, intro to user-centered design. Project teams finalized.

Assignments:
- Intro workshop #2: "Project management and sprint planning"
- Setting up project management structure, sprint and project documentation

Assigned readings and other reference materials are on Canvas.

Week three (11/05-11/11)

User centered design & user research

Assignments:
- Sprint and project documentation, and creation of your research plan and conducting user interviews.

Assigned readings and other reference materials are on Canvas.

Week four (11/12-11/18)

User research, intro to prototyping.

Assignments:
- Sprint and project documentation. Synthesizing user research into a report, creation and demo of first prototype.

Assigned readings and other reference materials are on Canvas.

Week five (11/19-12/25)

Prototyping & defining the MVP.

Assignments:
- Sprint and project documentation. Synthesizing user research into a report, creation and demo of first prototype.
- Workshop #3: "Prototyping"

Assigned readings and other reference materials are on Canvas.

Week six (12/26-12/02)

Usability testing, and development / testing of the MVP

Assignments:

- Sprint and project documentation. MVP, final documentation.
- Workshop #4: "Premortem"

Assigned readings and other reference materials are on Canvas.

Week seven: Final Delivery (12/03-12/07*)

- **Last class is 12/03, but you have until 12/07 to turn in your final MVP and deliver to your partner.**
  - Final delivery (MVP), project handoff
  - Final testing of MVP
  - Final presentations
  - Workshop #5: "Course retro"

Assignments:

- Final sprint and project documentation and related materials.
- Delivery: final demo and handoff of MVP to partner agency.

Assigned readings and other reference materials are on Canvas.

Assessments

The final course grade will be calculated using the following categories:

Assessment	Percentage of Final Grade
Workshop(s)	10%
Week one sprint	10%
Week two sprint	10%
Week three sprint	10%
Week four sprint	10%
Week five sprint	10%

Week six sprint   10%

Final delivery (MVP), project handoff   30%

Workshop(s) - 10%

The introductory workshop(s) will be our opportunity to set the stage for managing projects throughout the duration of the course. During these workshops we'll cover a number of topic areas that will be relevant, including project / product management, user research, sketching and prototyping, and delivery.

You will be expected to fully participate in the workshop to develop resources and approaches that you'll apply throughout the duration of the course. Some of the resources you develop may constitute assets you'll later turn in as part of an assignment related to introductory workshops.

The final workshop(s) will be both presentations as well as hands-on work to take what you've developed and apply it as guidance and a methodology that can be used by your partner and others to improve future outcomes.

Timely class participation and attendance for this course is critical, since in many cases you will be working in teams in support of an external partner.

Weekly sprints (weeks one through six) - 60%

Team projects will vary widely depending on the needs identified by our partners and available resources. Team projects will be delivered iteratively each week, meaning that for a seven-week project you will be expected to incrementally deliver each week.

Specific deliverables will vary quite a bit depending on the need, but might include things like:

- A policy recommendation.
- Visualizations of key data or outcome findings.
- An economic analysis.
- A prototype of a product.
- Sketches, wireframes, storyboards or other design artifacts.
- A final deliverable (presentation, interactive work, etc.) that is publicly accessible.
- A final presentation.
- A protocol for user research.

Part of your challenge will be working with the partner to identify how to be most effective within the time you have available. Because every project will be different, some will require more prototyping, while others will require more research and user interviews. These activities are not mutually

exclusive however; you'll need to work within your team to address how to handle multiple demands on your time each week, and how to prioritize tasks.

At the conclusion of each sprint you will conduct a retrospective. The retrospective will identify what went well, what could have been improved, and what didn't go very well. This is an opportunity to both assess your progress alongside input from the external partner as well as apply any lessons learned to the next week.

Final sprint, delivery (MVP) and project handoff - 30%

Your final project - the creation of the Minimum Viable Product (MVP) is where you'll be taking all of your work from the previous weeks and handing off what you've created and learned to your project partner.

Grading Policies

Late-work policy: Late work for this course will not be accepted after the due date unless previously arranged with the professor to do extraordinary circumstances (for example, illness, family emergency, out of town). It is important to stay up-to-date on assignments since much of the work builds on previous assignments and will impact your ability to be effective in providing solutions for projects.

Re-grade policy: If you think there has been a technical error in the grading of your assignment, you should e-mail the grader within one week of receiving the grading assignment, otherwise the assignment will not be regraded. You must provide justification for the re-grade in writing along with your request.

Course Policies

Open Source First

This is an "Open Source First" course - meaning, that unless otherwise specified, artifacts created through this class will be completed and released under a Creative Commons / Open Source license (e.g. Apache License, 2.0). Since the work performed with our partners is intended to serve as examples of Public Interest Technology, this arrangement will allow our partners and other government agencies to learn from, adopt and benefit from the work once complete. This obviously doesn't apply to any information that your partner may share that is sensitive or proprietary in nature, but a key goal for this course is to demonstrate impactful work in a transparent and accessible manner.

Academic Integrity & Collaboration

This course will follow Heinz College policies on ethics and discipline as stated in student handbooks. Specific policies of this course are outlined below:

Homework assignments: This course will involve both individual and group-work since you will be working together in teams to complete assignments. In the case of individual work, do not copy or modify homework solutions for your homework solutions. You may consult each other on clarification, technical and conceptual issues, but you must do individual problem solving and derive your own solutions, including your own computer work. You are not permitted to be in possession of any assignments from another student or other source either from the current semester or from past semesters whether they are electronic or paper. Possession of or sharing such files constitutes an infraction of the academic integrity policies of this course.

Working with AI tools like ChatGPT, DALL-E, etc: Working with AI tools is an emerging skill and as such I want you to get exposure to using it to problem-solve and how it can be helpful in other situations. Therefore, in some instances you'll be welcome to use generative AI programs (ChatGPT, DALL-E, etc.) in this class.

However, your responsibilities as a student remain the same. **You must follow the academic integrity guidelines of the university and of this class**. So, if you use one of these generative AI tools to develop content for an assignment, you are required to cite the tool's contribution to your work. So, while you can use generative AI tools to do things like brainstorm and / or work to develop a better understanding of a problem (much like you would using a search engine), cutting and pasting content from any source without citation would be considered plagiarism. Likewise, paraphrasing content from a generative AI without citation is plagiarism. Similarly, using any generative AI tool without appropriate acknowledgement will be treated as plagiarism. The **university's policy on plagiarism (https://www.cmu.edu/policies/student-and-student-life/academic-integrity.html)** applies to all un-cited or improperly cited use of work, whether that work is created by human beings alone or in collaboration with a generative AI.

Examples of how you might use AI tools for this class include:

- Brainstorm approaches to hard-to-solve policy questions by fusing ideas and information together
- Develop example outlines or approaches to your work
- Research topics, or generate different ways to talk about a problem

Examples of unacceptable use of AI tools in this class include, but are not limited to:

- Generate content that you cut and paste into an assignment with a written component without quotations and a citation
- Generate content that is not adequately paraphrased without a citation
- Generate bibliographies for topics that you haven't researched yourself
- Generate other content (images, video, others) unless expressly permitted and following provided guidance

- Otherwise use or present generative AI content that you pass off as your own work, when really it is not

If you have any questions about what's acceptable and what's not, you should talk to be before using these tools - not afterwards when my options for helping you will be much more limited.

It is also important that you recognize that large language models frequently provide users with incorrect information, create professional-looking citations that are not real, generate contradictory statements, incorporate copyrighted material without appropriate attribution, and can sometimes integrate biased concepts. Code generation models may produce inaccurate outputs. Image generation models may create misleading or offensive content.

Finally, it is important to note that you understand **you are ultimately responsible for the content that you submit.** Work that is inaccurate, biased, unethical, offensive, plagiarized, or incorrect will be penalized.

Accommodations for students with disabilities: If you have a disability and have an accommodations letter from the Disability Resources office, I encourage you to discuss your accommodations and needs with me as early in the semester as possible. I will work with you to ensure that accommodations are provided as appropriate. If you suspect that you may have a disability and would benefit from accommodations but are not yet registered with the Office of Disability Resources, I encourage you to contact them at **access@andrew.cmu.edu (mailto:access@andrew.cmu.edu)** .

Statement on student wellness: As a student, you may experience a range of challenges that can interfere with learning, such as strained relationships, increased anxiety, substance use, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may diminish your academic performance and/or reduce your ability to participate in daily activities. CMU services are available, and treatment does work. You can learn more about confidential mental health services available on campus at: **http://www.cmu.edu/counseling/ (http://www.cmu.edu/counseling/)** . Support is always available (24/7) from Counseling and Psychological Services: 412-268-2922.

Laptops Mobile Devices: In general this is a course that uses a lot of technology, so it's expected that on most days you'll have your laptop and phone with you. With that said, it's your responsibility to be respectful when using these devices. Keep your phone on silent, don't talk on the phone while in class, don't distract others by viewing content on your laptop not relevant to the course, and no technical devices are allowed for any quizzes or tests administered through this course unless explicitly stated by the professor.

Diversity, Equity and Inclusion

We must treat every individual with respect. We are diverse in many ways, and this diversity is fundamental to building and maintaining an equitable and inclusive campus community. Diversity can

refer to multiple ways that we identify ourselves, including but not limited to race, color, national origin, language, sex, disability, age, sexual orientation, gender identity, religion, creed, ancestry, belief, veteran status, or genetic information. Each of these diverse identities, along with many others not mentioned here, shape the perspectives our students, faculty, and staff bring to our campus.

Each of us is responsible for creating a safer, more inclusive environment. Unfortunately, incidents of bias or discrimination do occur, whether intentional or unintentional. They contribute to creating an unwelcoming environment for individuals and groups at the university. If you experience or observe unfair or hostile treatment, you can take advantage of the following resources:

- **Center for Student Diversity and Inclusion: csdi@andrew.cmu.edu (mailto:csdi@andrew.cmu.edu)** , (412) 268-2150
- **Report-It (http://www.reportit.net/)** **online anonymous reporting platform: reportit.net (http://www.reportit.net/)** username**:** *tartans* password**:** *plaid*

All reports will be documented and deliberated to determine if there should be any following actions.

Additional Support

The **Student Academic Success Center (SASC) (https://www.cmu.edu/student-success/)** provides a number of resources to help students learn better. You can find the center's **free workshops here (https://www.cmu.edu/student-success/programs/workshops/index.html)** . Below are some additional resources that may be helpful to students in this course (descriptions below are from SASC):

- **Academic Coaching (https://www.cmu.edu/student-success/programs/coaching.html)** --This program provides holistic, one-on-one peer support and group workshops to help undergraduate and graduate students implement habits for success. Academic Coaching assists students with time management, productive learning and study habits, organization, stress management, and other skills. Request an initial consultation **here (https://docs.google.com/forms/d/e/1FAIpQLSfMAnCWkyPdXRb0zOsMar7nzpUau8hqN_gIFm3OISY5QMWwyw/viewform)** .
- **Communication Support (https://www.cmu.edu/student-success/programs/communication-support/index.html)** --Communication Support offers free one-on-one communication consulting as well as group workshops to support strong written, oral, and visual communication in texts including IMRaD and thesis-driven essays, data-driven reports, oral presentations, posters and visual design, advanced research, application materials, grant proposals, business and public policy documents, data visualisation, and team projects. Appointments are available to undergraduate and graduate students from any discipline at CMU. Schedule an **appointment (https://www.cmu.edu/student-success/programs/communication-support/make-an-appointment.html)** (in-person or video), attend a **workshop (https://www.cmu.edu/student-success/calendar.html)** , or consult **handouts or videos (https://www.cmu.edu/student-success/other-resources/index.html)** to strengthen communication skills. Specific **resources**

(https://docs.google.com/document/d/1_0K64z6Auu_bse6wmst5xamYbnrk9Ymd2QgMUKCIZSo/edit?usp=sharing) for multilingual students are also available.

- **Language and Cross-Cultural Support (https://www.cmu.edu/student-success/programs/language-support/index.html)** --This program supports students seeking help with language and cross-cultural skills for academic and professional success through individual and group sessions. Students can get assistance with writing academic emails, learning expectations and strategies for clear academic writing, pronunciation, grammar, fluency, and more. **Make an (https://docs.google.com/forms/d/e/1FAIpQLSfMAnCWkyPdXRb0zOsMar7nzpUau8hqN_glFm3OISY5QMWwyw/viewform) appointment (https://docs.google.com/forms/d/e/1FAIpQLSfMAnCWkyPdXRb0zOsMar7nzpUau8hqN_glFm3OISY5QMWwyw/viewform)** with a Language Development Specialist to get individualized coaching.

Class Recordings

This class is not designed to be recorded on a regular basis. The expectation is that you attend each course, whether in-person or remote at the time and place where it is offered. However, under special circumstances, there may times when there is a need to record a class for synchronous and / or asynchronous access. This allows for the remote viewing of course lectures and in limited cases the participation in some activities.

Recordings of course sessions are provided solely for educational use by students enrolled in the course (and only students in this course) and may not be distributed to any other person or posted on the internet without the express written permission of the course instructor. No student may record any classroom activity without express written consent from the instructor. Please note that you are not allowed to share or repost these recordings. This is to protect your FERPA rights and those of your fellow students.

Please note that breakout rooms will not be recorded. I will try to make any recordings available on Canvas as soon as possible after each class session (usually within 3 hours of the class meeting). Recordings will live in our Canvas website.

If you have (or think you may have) a disability such that you need to record or tape classroom activities, you should contact the Office of Disability Resources to request an appropriate accommodation.

COVID-19 Considerations

Please see the **university's minimum requirements (https://www.cmu.edu/coronavirus/preparing-campus/min-requirements.html)** for policies and guidance related to displaying COVID-19 symptoms. If you display symptoms or have been diagnosed, the current guidance is that you must stay home. You can contact me at your earliest convenience to make alternate arrangements.

Other things you are welcome to do to help protect yourself and others include:

- entering and exiting the classroom while maintaining appropriate physical distancing,
- wearing a facial covering throughout class,
- sitting in the seats with appropriate spacing (and not moving furniture),
- following good social distancing practices at all times,
- using the sanitizing wipes available in the classroom to wipe surfaces (e.g., your desk, tablet arm) upon entry and exit.