Research & Development Lab

Spring 2025 Syllabus

# Course Overview

This course is an interdisciplinary lab focused on exploring innovative approaches to public stewardship, sustainable development, and personalized learning frameworks. Through research, prototyping, and collaboration, you will build foundational projects that align with your personal and professional goals.

* **Credits:** 3
* **Format:** Mixed (MOOC + Lab)
* **Schedule:** Friday, 1-4 pm

# Course Objectives

1. Develop and test prototypes across **key focus areas**:
   * Public stewardship of Florida’s conservation lands.
   * Sustainable and affordable housing solutions using GIS and reality capture technology.
   * The "School Me" framework for personalized learning.
2. Explore partnerships and potential business development opportunities.
3. Reflect on the iterative process to identify promising directions for future work.

# Focus Areas

1. **Florida Conservation Lands**:
   * Empower public stewardship through tools like Story Maps and engagement activities.
   * Prototype a project that demonstrates value to stakeholders and garners community interest.
2. **Sustainable and Affordable Housing**:
   * Explore applications of GIS and drone technology for housing projects.
   * Develop a conceptual demo showcasing sustainable, resilient development.
3. **School Me Framework**:
   * Refine curriculum templates and test their utility as a personalized learning platform.
   * Develop an initial repository or system for sharing and collaborating on learning plans.

# Assignments & Deliverables

1. **Stakeholder Outreach (Ongoing)**:
   * Identify and engage with key stakeholders or collaborators.
   * Develop pitches or proposals to test ideas and build partnerships.
2. **Reflection & Iteration Journal (Weekly)**:
   * Document progress, challenges, and insights for each focus area.
   * Use reflections to refine prototypes and identify cross-domain synergies.
3. **Research Summaries (Bi-Weekly)**:
   * Conduct research relevant to each domain and summarize findings.
   * Include actionable insights and potential applications.
4. **Prototypes (Monthly)**:
   * Deliver at least one prototype for each focus area by the semester’s end.
   * Examples:
     + A Story Map for a Florida conservation area.
     + A conceptual demo for a sustainable housing solution.
     + A functional template or repository for "School Me."

# Course Schedule

| **Week** | **Focus Area** | **Activity/Deliverable** |
| --- | --- | --- |
| 1-2 | School Me | Design and share a curriculum template. |
| 3 | Public Stewardship | Draft a Story Map prototype. |
| 4-5 | Sustainable Housing | Begin GIS/drones research; outline a conceptual demo. |
| 6 | Collaborative Outreach | Develop pitch materials for potential partners. |
| 7-8 | Integration & Iteration | Identify synergies between projects; iterate prototypes. |
| 9 | Public Stewardship | Engage stakeholders for feedback. |
| 10-12 | Final Prototypes & Presentations | Finalize prototypes and prepare a polished presentation. |

# Recommended Materials

## Books

* **Required**: *Lean Impact* by Ann Mei Chang
* **Recommended**:
  + *The Cathedral & the Bazaar* by Eric S. Raymond
  + *Don’t Make Me Think* by Steve Krug
  + *Design Justice* by Sasha Costanza-Chock
  + *The Field Guide to Human-Centered Design* by IDEO.org
  + *Street Design: The Secret to Great Cities and Towns* (2nd Edition) by John Massengale and Victor Dover. [Link on Amazon](https://www.amazon.com/Street-Design-Secret-Great-Cities/dp/1119892953/ref=sr_1_2?crid=3FTEURCAR8V21&dib=eyJ2IjoiMSJ9.QxIN16_8mxPjihmyIy6LI3nFk6rWV7l-lfZOBJ6B3VSslwhj7FAguPHwGu_8n-ivArUvVbMOq4iYr1b11HCOLnBkEm5jz-RuXS18Y0rE-6RVF-mCrDu6LJdVb3jz7ERKyrb6ahjN4--NnOvboy7sDw.nr0I3bCBqDplEUzILs_rRJoqL2vSy0bYazdeN6JjYpI&dib_tag=se&keywords=street+design+victor+dover&qid=1735611611&s=books&sprefix=street+design+victor+dover%2Cstripbooks%2C138&sr=1-2)
  + *Pocket Neighborhoods: Creating Small-Scale Community in a Large-Scale World* by Ross Chapin and Sarah Susanka. [Link on Amazon](https://www.amazon.com/Pocket-Neighborhoods-Small-Scale-Community-Large-Scale/dp/160085107X/ref=sr_1_1?crid=O7COPU4VGZC0&dib=eyJ2IjoiMSJ9.YZO6Im-MaICAkloIkNMCihJ6tyQpOT-LG5SavVyNN5nGjHj071QN20LucGBJIEps.kyT5wYsBsMQuvwRi1J_Qe0tgnf7AiXZ6sDcyiEtOuxk&dib_tag=se&keywords=ross+chapin+pocket+nei&qid=1735611739&s=books&sprefix=ross+chapin+pocket+nei%2Cstripbooks%2C130&sr=1-1)
  + *Design Thinking for Social Innovation* by Jeanne Liedtka.
  + *A Pattern Language* by Christopher Alexander (sustainable housing).

## Apps & Tools

* **Required**: Miro
* **Recommended**:
  + Esri ArcGIS Desktop and Online Applications
  + GitHub
  + Slack
  + Google Workspace
  + Notion or GitHub for managing "School Me" templates.

## Communities

* Public Stewardship of Florida Conservation Lands
  + Protect Jonathan Dickinson State Park (Facebook group)
  + Protect Florida State Parks from Golf, Hotels, etc. (Facebook group)
  + iNaturalist
  + Friends of Jonathan Dickinson State Park
* Affordable Housing
  + Center for New Urbanism (CNU). <https://www.cnu.org/>
* School Me
  + Nerdfighteria/Vlogbrothers

# Final Deliverables

1. **Prototypes**: One tangible prototype per focus area, showcasing feasibility and innovation.
2. **Pitch Materials**: A polished pitch or proposal for each project, targeting potential partners.
3. **Reflection Portfolio**: Comprehensive documentation of progress, insights, and next steps.