**URSP 708**

**Community Planning Studio**

**Innovation Networks in Howard County, Maryland**

**Fall, 2015**

Class: Tuesdays, 7:00 to 9:30

Lab: Thursdays, 4:00 to 6:45

Room ARC 1119

Architecture Building

Dr. C. Scott Dempwolf

1223 Architecture

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**Course Description and Goals**

Economic growth is increasingly driven by innovation. In recent years the inadequacy of current metrics and methods of analysis used in economic development planning have become more apparent to economic development practitioners. Responding to this need Professor Dempwolf’s research focuses on developing new network-based methods of modeling and measuring innovation activities and their impacts. When used in combination with existing methods of economic and spatial analysis, innovation network analysis can yield new insights and suggest new economic development strategies that traditional analysis alone cannot. Economic developers in Howard County Maryland are very interested in applying these new methods and strategies as part of the broader PALS initiative with the University of Maryland. The [Howard County Economic Development Authority](http://www.hceda.org/) has therefor engaged our studio to develop analysis-driven Innovation-Led Economic Development (ILED) strategies for the County.

Our studio has three project goals for this semester.

1. Analyze the innovation and entrepreneurial ecosystem in Howard County using multiple methods
2. Identify potential ILED opportunities based on the analyses
3. Develop detailed actionable ILED strategies around one or two of the identified opportunities

This course will consist of three four-week modules. In module one students will learn innovation network analysis using NodeXL, an open source extension for Microsoft Excel and will use these new skills to model and analyze innovation networks in Howard County. They will also learn how innovation influences economic growth. In module two students will learn traditional methods of spatial and economic development analysis and apply these methods to Howard County. *Students may also use Mapbox, a new tool for simultaneous spatial mapping and dynamic data visualization. [Pending discussions with Mapbox software developers]*. Based on the results of these analyses students will identify and characterize potential ILED opportunities. Module two will conclude with a presentation to the county detailing the analysis findings, potential ILED opportunities, and recommendations on which opportunities can / should be developed immediately. With County input and approval, module three will proceed with the development of ILED strategies for the selected opportunities. Students will be introduced to methods and practices of innovation-led economic development and will apply these methods and practices to the development of targeted ILED strategies for Howard County. The course will conclude with a final report and presentation to the County on the ILED strategies developed and recommendations for further action by the County.

**Class Format**

Tuesday classes will typically introduce new material related to innovation-led economic development through lectures, guest speakers and discussion of assigned readings.

Thursday lab sessions will typically introduce new methods through brief lectures, hands-on exercises and project applications.

**Expectations of Students**

The Community Planning Studio is one of two “capstone” activities required for the Master’s of Urban Planning degree. The studio provides a structured opportunity for students to apply their accumulated knowledge, skills and abilities to real problems in the world of practice. The studio is a six-credit course and students are expected to commit significant time and effort both individually and in collaboration with other students. As with other courses, students are expected to commit three hours of prep time for every hour in the classroom for a total of 18 hours of effort per week in addition to the class and lab meetings.

**Books and Software**

Pentland, A. (2015). ***Social Physics: How Social Networks can make Us Smarter***. New York, Penguin Books.

Hwang, V. and Horowitt, G. (2012). ***The Rainforest: The Secret to Building the Next Silicon Valley***. Los Altos Hills, CA, Regenwald.

Hwang, V. (2013). ***The Rainforest Blueprint: How to Design Your Own Silicon Valley***. Los Altos Hills, CA, Regenwald.

Feld, B. (2012). ***Startup Communities: Building an Entrepreneurial Ecosystem in Your City***. Hoboken, NJ, John Wiley & Sons.

Stephan, P. (2015). ***How Economics Shapes Science.*** Cambridge, MA, Harvard University Press. Available from <http://www.hup.harvard.edu/catalog.php?isbn=9780674088160>.

Hansen, D., Shneiderman, B. and Smith, M. (2009). Analyzing Social Media Networks with NodeXL: Insights from a connected world. Burlington, MA, Morgan Kaufmann.

**Readings**

Prior to first class

Watch ***Humanity from Space*** <http://www.pbs.org/program/humanity-from-space/>

Dempwolf, C. & Lyles, W. (2012). The Uses of Social Network Analysis in Planning: a Review of the Literature. *Journal of Planning Literature*. February 2012 27: 3-21, first published on October 5, 2011 doi:10.1177/0885412211411092.

For 9/15/2015 - Guest lecture by Andrea Foertsch

Foertsch, A. (2013). Innovation in Manufacturing: Makerspaces. Boston, MassDevelopment. <http://ampitupma.com/pdf/makerspacesreport_april2013.pdf>

Foertsch, A. (2013). Workplace Innovation Today: The Coworking Center. Herndon, VA, NAIOP Research Foundation. <http://www.naiop.org/~/media/Research/Research/Research%20Reports/Workplace%20Innovation%20Today%20Coworking%20Spaces/Workplace%20Innnovation%20Today.ashx>

Unit 1 (9/1/2015 – 10/1/2015)

Pentland, A. (2015). ***Social Physics: How Social Networks can make Us Smarter***. New York, Penguin Books.

Dempwolf, C. (*forthcoming 2015)* Modeling and Analyzing Innovation with Networks. In ***Think Link: Connecting to the Power of Social Media with NodeXL****.* San Francisco, Social Media Research Foundation. (Draft chapter for forthcoming e-book; available on Canvas site)

Illinois Science & Technology Coalition (2014). *Illinois Science & Technology Roadmap*. Chicago, IL. Illinois Science & Technology Coalition. <http://www.illinoisinnovation.com/science-technology-roadmap>.

Hwang, V. and Horowitt, G. (2012). ***The Rainforest: The Secret to Building the Next Silicon Valley***. Los Altos Hills, CA, Regenwald.

Unit 2 (10/6/2015 – 10/29/2015)

Fang, L. (2015). Do Clusters Encourage Innovation? A Meta-Analysis. Journal of Planning Literature.

U.S. Cluster Mapping website & resources (<http://www.clustermapping.us/content/clusters-101>)

StatsAmerica website & resources (<http://www.statsamerica.org/>)

Unit 3 (11/3/2015 – 12/1/2015)

Hwang, V. (2013). ***The Rainforest Blueprint: How to Design Your Own Silicon Valley***. Los Altos Hills, CA, Regenwald.

Feld, B. (2012). ***Startup Communities: Building an Entrepreneurial Ecosystem in Your City***. Hoboken, NJ, John Wiley & Sons.

Dempwolf, C.S., Auer, J., and D’Ippolito, M. (2014). *Characteristics and Motivations that Define Innovation Accelerators.* Washington, DC. U.S. Small Business Administration.

**Course Outline**

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| Class Topic | Date |
| **Introduction** | **Tue 9/1/15** |
| Course overview | Tue 9/1/15 |
| Intro to NodeXL | Thu 9/3/15 |
| **Unit 1: Innovation Network Analysis** | **Tue 9/8/15** |
| Innovation as an economic driver | Tue 9/8/15 |
| Network data | Thu 9/10/15 |
| The nature of innovation | Tue 9/15/15 |
| Network visualization | Thu 9/17/15 |
| Measuring innovation & impacts | Tue 9/22/15 |
| Network metrics | Thu 9/24/15 |
| Innovation-led economic development | Tue 9/29/15 |
| Network interpretation | Thu 10/1/15 |
| **Unit 2: Regional Innovation Clusters** | **Tue 10/6/15** |
| Industry cluster analysis | Tue 10/6/15 |
| Cluster analysis lab | Thu 10/8/15 |
| Spatial analysis | Tue 10/13/15 |
| Geocoding & GIS analysis | Thu 10/15/15 |
| Introduction to Mapbox | Tue 10/20/15 |
| Mapbox lab | Thu 10/22/15 |
| Identify potential project targets | Tue 10/27/15 |
| Meet with County / present options | Thu 10/29/15 |
| **Unit 3: Innovation-led ED Strategies** | **Tue 11/3/15** |
| Intro to Innovation-led ED strategies | Tue 11/3/15 |
| Preliminary evaluation of selected project(s) | Thu 11/5/15 |
| Innovation-led strategies - TBD | Tue 11/10/15 |
| Strategy-development lab | Thu 11/12/15 |
| Innovation-led strategies - TBD | Tue 11/17/15 |
| Strategy-development lab | Thu 11/19/15 |
| Innovation-led strategies - TBD | Tue 11/24/15 |
| Strategy-development lab | Tue 12/1/15 |
| **Final presentation & report** | **Thu 12/3/15** |
| Work on final presentation & report | Thu 12/3/15 |
| Work on final presentation & report | Tue 12/8/15 |
| Final Rehearsal Presentation | Thu 12/10/15 |
| Final report due | TBD |
| Final Presentation to County | TBD |

**Code of Academic Integrity**

 The University is an academic community. Its fundamental purpose is the pursuit of knowledge. Like all other communities, the University can function properly only if its members adhere to clearly established goals and values. Essential to the fundamental purpose of the University is the commitment to the principles of truth and academic honesty. Accordingly, The Code of Academic Integrity is designed to ensure that the principle of academic honesty is upheld. While all members of the University share this responsibility, The Code of Academic Integrity is designed so that special responsibility for upholding the principle of academic honesty lies with the students.

1. Definitions

ACADEMIC DISHONESTY: any of the following acts, when committed by a student, shall constitute academic dishonesty:

a. CHEATING: intentionally using or attempting to use unauthorized materials, information, or study aids in any academic exercise.

b. FABRICATION: intentional and unauthorized falsification or invention of any information or citation in an academic exercise.

c. FACILITATING ACADEMIC DISHONESTY: intentionally or knowingly helping or attempting to help another to violate any provision of this Code.

d. PLAGIARISM: intentionally or knowingly representing the words or ideas of another as one's own in any academic exercise.

2.  Responsibility to Report Academic Dishonesty

 Academic dishonesty is a corrosive force in the academic life of a university. It jeopardizes the quality of education and depreciates the genuine achievements of others. It is, without reservation, a responsibility of all members of the campus community to actively deter it. Apathy or acquiescence in the presence of academic dishonesty is not a neutral act. Histories of institutions demonstrate that a laissez-faire response will reinforce, perpetuate, and enlarge the scope of such misconduct. Institutional reputations for academic dishonesty are regrettable aspects of modern education. These reputations become self-fulfilling and grow, unless vigorously challenged by students and faculty alike.  All members of the University community, students, faculty, and staff share the responsibility and authority to challenge and make known acts of apparent academic dishonesty.

**Grading Method**

TBD