11.407-408 Economic Development Tools and Techniques: Fall 2017

Instructors
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Teaching Assistant:

Course Details
Meeting Times: TR (9:30-11:00) (10-401)

Classroom: Rm Bldg 10-401
Units: 12
Course Website: https://stellar.mit.edu/S/course/11/fa17/11.407/

Summary and Learning Objectives

Every planning process starts with three elements: a project or problem, a baseline analysis, and an aim to provide a future scenario. Baseline studies are the bread and butter of any planning activity. Prior to proposing solutions, planners seek to understand their communities inside and out, as they seek to identify the forces for change. Economic development planning also utilizes theories to help guide our understanding of how a local economy works.

Whether you are a land use planner, urban designer, community social services manager, a political advisor or a planning consultant, baseline studies are the foundation of the planning process. Regardless of whether you are planning a development project, creating or updating a master plan, meeting a state-mandated requirement, or serving a client, baseline investigations are at the heart of planning. This class teaches you the basic planning methods planners use to understand a locality. Along the way, you will develop expertise in deploying these tools effectively and efficiently. Your goal should be to develop an intuition about how the characteristics of a place influence your options as a planner.

The course entails two streams of knowledge that together form an innovative curriculum, which allows us to get to the essence of the course content quickly: to teach you how to analyze the current situation, to interpret the analysis, and to make projections based on your empirical results. For the first two-thirds of the course you will learn basic economic development theories, sources of data and how to access them, tools of data analysis, and techniques of interpretation. In the last third, you will then apply the theories, tools, and techniques to develop a baseline study of a community.

In this course, you will learn the basic tools practitioners use in economic development policy and planning:

- How to collect data for and analyze local economic indicators (both current and historical)
- Understand theories and practice of local economic growth and development
- How to calculate a location quotient (a measure of relative concentration of aspects of a community’s economic base)
- How to do a shift-share analysis (a measure of a) the components of a local economy; b) changes in the economic base over time)
• How to construct a demographic profile of a community, both requirements for economic development
• How to construct a population projection and accurately understand the consequences of demographics as drivers of local change
• Understand the structure of labor markets, the process of job generation, and the meaning of the skill content of jobs
• How to calculate a living wage for a specific area and identify jobs that pay living wages
• Economic vulnerability, poverty and income security
• How to access and understand the use and application of input-output analysis
• How to evaluate the assets of a specific location
• Labor market and household data combined: putting people (demographics) and place (economics) together

In this class we venture beyond conventional practice by introducing a new tool and framework that characterizes the conditions of a community. Halfway through the course we introduce the measurement of community assets. Assets represent the qualities of the underlying components of an economy that reflect value, definition and distinction to an economy. While conventional economic development theory touches on the conception of “assets,” their measurement and explicit utilization are still relatively uncommon in economic development practice. Assets are attributes of local resources that enable a community to change over time. Combining assets with our conventional picture of a local economy offers us a new dimension of activity that can be acted upon to bring about economic change.

Course Structure

The course combines short lectures, in class lab work, and discussion.

Each week, prior to class meetings students prepare for class by reviewing readings and other materials. This is critical to the success of the class and we all rely upon one another to do our part in coming to class prepared. On Tuesdays, class begins with a short presentation by either the professor or a visitor charged with presenting the basics of that week’s economic development theory or method and discussing the logic behind the tools and techniques we will discuss that week. After the presentation, students jump in and learn about the basic concepts and techniques by hands-on use of web-based and spreadsheet tools. Students use the tools and techniques to investigate their assigned place, which they will investigate throughout the course. The last half hour of Tuesday’s class is used to share results and discuss how to interpret findings. On Thursdays, we meet in the classroom and work together to complete the exercises.

Assignments

The assignments consist of short papers students produce as they learn the tools and techniques.

We are focusing on the state of Massachusetts and the state’s storied Gateway cities and their surrounding communities. Our objective is to identify hidden assets of these once vibrant industrial cities (some of which are better considered as 19th century suburbs of Boston). Students will be assigned a location as their study area. A select few of the assignments (input-output) will be constrained by the specific scale of data availability.
Massachusetts Gateway cities and their industrial suburbs are exemplary of communities in the U.S., but also areas found in other countries around the world. You will develop an intuition about the past experiences of the communities that surround former industrial centers. This will help you understand the meaning of interconnectivity and the historical consequences of technological change.

Gateways and Urbanization Around the World

In light of globalization, almost all of the general concepts learned in this class can apply in international contexts. For practical reasons, we focus on the U.S. and Massachusetts. We will discuss the results and students write short memos summarizing their findings. We will provide guiding questions to stimulate students’ thinking about the purposes behind the tools and the tools in context with other tools. Taken together, the course will yield an economic base assessment, demographic analysis, population projection, living wage analysis, local asset evaluation, impact and input-output analysis and a labor market and population analysis for the assigned location. A textbook is being assigned to provide one coherent voice of the story behind the practice of regional and local economic development. The book can be purchased on Amazon and we did not order it from the book store.

The individual assignments are designed to add up to the final report, an economic and demographic baseline study of communities assigned to students. In the final quarter of the class, the class will meet informally (The professor will be around and present at the regularly scheduled class time) and this time is available to enable students to complete this professional-quality report. The final report is a synthesis of the findings of the tools and techniques applied to an individual locale.

In general, the memos need not include more than two to four pages of single-spaced text, plus supporting charts, tables, and graphs. The objectives of student products are to: 1) demonstrate mastery of the techniques; 2) illustrate comprehension of the underlying concepts associated with the tools; and 3) explain limitations of the tools and discuss questions raised as part of the analysis exercise.

General Procedures and Points of Information for the Class

Color Coding, Yellow week, Green 1st day of class, Grey reading, Blue assignment

Grading

A grading rubric for the memos and final report will be distributed separately. Given the variety of materials we will be utilizing in the class, the rubrics are general and follow the assignments. A portion of each assignment grade relates to the physical form of the final product (graphical presentation, labeling, etc.). A portion of the grade is related to the use of the data in conjunction with the theory. Submissions are expected to be of professional quality.

The nine memos will account for 63% of the final grade (seven pts for each memo). The final synthesis report will account for 25% of the final grade. 12% of the grade accounts for and rewards participation in class discussions and class attendance (this includes discussion of materials from the readings). Readings are posted. We refer to readings starting on Tuesday and discuss them interactively on Thursdays. We also provide examples of the use of the tools we will be learning and using in the class.
Introduction of the tools and techniques begins on Tuesdays and we explore them on Thursdays. Each week, on Thursdays a student(s) will be asked to summarize a section of the required readings from the textbook. At the beginning of Thursday’s discussion, students will respond to one or two key questions posed to guide the conversation. Since for almost everyone this is new material, there is no wrong question and all answers are considered. My point is, we can’t learn if we can’t talk. In order to talk we must ask questions. All questions are welcome.

References

For each week, readings are assigned, topics covered are highlighted, and tools and techniques referenced. A textbook is assigned for reading and reference starting the first week. We do this to ensure you have adequate exposure to the underlying theory and practice of local and regional economic development. In addition, supporting texts have been placed on reserve in the Rotch Library. Reference texts are supporting evidence to strengthen students’ familiarity with the broader field of local economic development, and sometimes they go beyond the content discussed in this course. Please note, many of the required references are classics. While there are more current texts on these tools, older references are often more straightforward and easier to comprehend.

Required text


References


• Stimson, Robert J., Roger Stough, and Brian H. Roberts. 2002. *Regional economic development: analysis and planning strategy*. New York: Springer. Introduction to more advanced economic and econometric analysis techniques, including cluster analysis, multi-sector analysis, and decision support tools.


During the course of the class, assignments start with the use of this toolbox
• Poverty in America Community Development Resources:  
  http://povertyinamerica.mit.edu/products/tools/resources/

Disabilities

If you have a documented disability, or any other problem you think may affect your ability to perform in class, please contact the teaching staff as early as possible so that arrangements may be made to accommodate you.

Academic Misconduct

As a faculty member, we are required to make a public statement outlining the rules of behavior in the class. No one likes to write this section of the syllabus, and yet we must. Here is a condensed version for this class. Plagiarism and cheating are not tolerated. Never (1) turn in an assignment that is not your own original work, or (2) turn in an assignment for this class that you previously turned in for another class. Anyone caught cheating on an assignment will be reported to the Provost in line with recognized university procedures. This may result in a failing grade for the class, and possibly even suspension from MIT. Please see the instructor if you have any questions about what constitutes plagiarism, and visit the MIT policy on Academic Integrity: http://web.mit.edu/academicintegrity/

Weeks 1 Sept 4:
Economic Indicators and Analysis

First day of class Sept 6

Topics:
• The fields of economic and regional economic development
• Economic indicators and data sources
• Tools and Techniques
• The importance of intuition
• Community Economic Toolbox - http://economictoolbox.mit.edu/

Week 2 Sept 11: Economic Development Theory and its Relationship to Measurement

Readings due (Tuesday Sept 12):

Theory:
• Chapter 3 Part 1: Concepts and Theories of Local and Regional Development. Pg 58-90.
• Chapter 3 Part 3: Concepts and Theories of Local and Regional Development Pg. 151-178


**Examples of Practice Applying Techniques**

- Dallas Labor Market Study
- Jefferson Parrish, Louisiana Labor Market Study.

**Week 3 Sept 18 Economic Development Practice**

**Due Date: Monday Sept 18 Assignment 1 Community Economic Toolbox**

**Readings due (Tuesday, September 19)**

**Theory**

*Chapter 3 Part 2: Concepts and Theories of Local and Regional Development*. 91-129

**Tools and Measures**


  Ashley Leach. 2015. Accessing Employment Data for Counties & Smaller Geographies Regional Review Quarterly Labor Market Information Across New Mexico

**Examples of Application of Techniques**

- Martin, Amanda and Amy Glasmeier. “A Study of Key Trends and the Labor Market in the Northern Appalachian Forestry and Woods Products Industry.” (review for methods and data)


**Technical videos for assignments:**
• Lee-Chuvala, Christa. Calculating a Shift-Share Analysis in Excel. http://www.youtube.com/watch?v=MZEhcwqGEwE

Additional resources:
• “Chapter 5: Regional Growth and Development,” pp. 89-114 from Blair (above).
• U.S. Census County Business Patterns - http://www.census.gov/econ/cbp/
• BLS Quarterly Census of Employment and Wages - http://www.bls.gov/cew/

**Weeks 4 (Sept. 25): Demographic Analysis, Statics**

**Due Date: Monday, September 25 Assignment 2: Location Quotient and Shift Share Analysis**

**Theory:** geographic specialization, economic structure, regional embeddedness, drivers of change

**Topics:**
• Demographics concepts and terms
• Using Census data
• Cohort-component projection method

**Tools:**
• U.S. Census Bureau’s American Factfinder
• Population projection spreadsheet model

**Readings (Tuesday, September 26):**

**Theory and Tools**

• Chapter 3 Part 1: Concepts and Theories of Local and Regional Development. Pg 91-150.

**Tools**
• TBA: Technical readings on Census Variables. One short document will be assigned per person in the class.

**Techniques**
Week 5 October 2: Demographic Analysis and Dynamics

Due Date: Monday, October 2  Assignment 3: Demographic Analysis Population Pyramids

Readings due (Tuesday, October 3):

Theory: demographic structure, dependency, prospective concerns


Tools

- For an optional discussion of the cohort-component technique, a more nuanced projection method than covered in the exercise, see Chapters 4-8 in Klosterman (above)

Technical Videos for assignments:

“How to Make a Population Pyramid in Excel.” [http://www.youtube.com/watch?v=U3a5p-D8MQk](http://www.youtube.com/watch?v=U3a5p-D8MQk)

Additional resources:

- Class handout: “Where to find U.S. county population data”
- U.S. Census Bureau (Decennial Censuses and American Community Survey) - [http://factfinder2.census.gov/](http://factfinder2.census.gov/)

Week 6 Oct 9  Two days in class analysis, interpretation and discussion

Week 7 October 16 Poverty Measurements and Cost of Living Measures

Due Date: Monday, October 16  Assignment 4: Population Projections

Theory: structural change, developmental potential

Topics:

- Poverty definitions in the United States
- Cost of living/living wage estimation
- History of the living wage/standard budget

Tool:

- Poverty In America Living Wage Calculator – [http://livingwage.mit.edu](http://livingwage.mit.edu)

Readings due (Tuesday, October 17)
Theory: Absolute vs relative, economic mobility, wealth and income, time and space constraints (American adage: everyone deserves a chance and you are expected to make it on your own).


Techniques

Additional Resources:
- Basic Family Budget Calculator - http://www.epi.org/resources/budget/
- Center for Women’s Welfare’s Self Sufficiency Standard - http://www.selfsufficiencystandard.org/

Week 8 October 23 Cost of Living Estimates

Monday, November 6 Assignment 5: Cost of Living Analysis

Readings due (Tuesday, October 24)

Theory: endogeneity vs endogeneity, income and wealth, system dynamics and structural constraints


Tools

Techniques
• Farrigan, Tracey L. and Amy K. Glasmeier. Living Wage and Job Gap Study of Beaufort County, South Carolina.

Week 9 October 30: Asset-Based Development

Monday October 30 Assignment 6 Poverty Analysis

Readings due (Tuesday, October 31)

Theory: factor endowment

Topics:
• Forms of capital and asset indicators
• Development strategies

Tool:
• Wealth indicator assessment spreadsheet tool

Readings:
• UCLA. Asset Mapping. N.D. Center For Health Policy Research. Section 1. This site takes you to six or seven examples of community mapping. UCLA Center for Health Policy Research Health DATA Program – Data, Advocacy and Technical Assistance. N.D.
• Western North Carolina Vitality Index (Review report and website: www.wncvitalityindex.org)
• 2013 Silicon Valley Index (Review report and website: www.siliconvalleyindex.org)
• Boston Indicators Project (www.bostonindicators.org)

Additional Resources:
• The Asset-Based Community Development Institute - [http://www.abcdinstitute.org/] and also see Kretzmann, John P., and John L. McNight. 1993. Building Communities from
Week 10 (November 06): Quarterly Workforce Indicators

Monday, November 6 Assignment 7: Local Asset Assessment

Theory: markets, location, land use, agglomeration, disequilibrium

Topics Local

Tools

Readings


Week 11 November 13 Input Output Analysis

Monday, November 13 Assignment 8: Quarterly Workforce indicators

Theory: system, interrelatedness, resources, factor endowment, transactions

Topics Measurement and Data

Tools REMI, IMPLAN, Bureau of Economic Analysis.

Readings

Tadayuki (Tad) Hara. N.D. Introduction to Input-Output Framework for Analysis of Tourism as an Industry. Rosen College of Hospitality Management, University of Central Florida & Advisory Committee Member on International Trends on Tourism Statistics, Japan Tourism Agency, Ministry of Land, Infrastructure, Transport and Tourism, USA Japan


**Week 12 Monday November 20:** Final Report Draft Discussion-Presentation: Short and Sweet (Schedule final presentation)

**Monday Nov 20 Assignment 9 Input Output Analysis**

**Week 13 November 27: Final report preparation** (meet with professor 28 or 30th, signup in advance)

**Week 14 December 04** Final report presentation (Schedule TH, 12/07)

**Week 15 December 11** Final report presentation (Schedule T, 12/12)

**Final Classes and Deadlines**

The class will not meet on (11/23, 12/05). Students will have time (weeks 11/23 through 12/05) to work on their final reports or baseline studies of the communities using the tools taught throughout the semester. During Week 12 November 20, we will hold class sessions for student presentations on their locations. Students will be given feedback from the instructors and from their peers to be incorporated into their final reports.

Final reports (professional quality expected) will be due the following week, Monday, December 15, 2013.