URBPLAN 793: Applied Projects in Urban Geographic Information Systems
Syllabus (1/23/19)

Spring 2019—3.0 Credits
W, 1:30 p.m. to 4:10 p.m., AUP Room 194

Course Instructor: Dr. Robert Schneider (rjschnei@uwm.edu)
Schneider Office Hours: M, 11:00 a.m. to 12:30 p.m. & Tu, 10:30 a.m. to 12:00 p.m., AUP Room 334

Course Background

This course is a "capstone" in a series of GIS courses. The primary objective of this course is to use GIS with local data to solve a real problem or address a real issue raised by a client—a local government or other organization. In addition, it provides a structured approach to a GIS project, introducing you to management techniques that are necessary to shepherd a project from its conception through final completion. From a broad perspective, it allows you to understand GIS projects within *an institutional context* and in *a team environment*.

During the course you will learn about developing a project scope of work, working with a team, and explaining GIS concepts to practitioners who may have limited GIS knowledge. You will also gain additional exposure to the data and technology needed to complete a GIS project. This includes ESRI products, but you may also utilize internet GIS, database management systems, and other technologies.

This course is organized into three parts. Part 1 will introduce you to the institutional context for GIS within an organization and practical project management techniques. During Part 2, you will be matched with a client for your group project. This phase will involve developing a vision and scope of work for the project. The vision should meet the needs of the client, so coordination meetings will be necessary. Part 3 will involve conducting GIS analyses and presenting the results to your client.

The course includes lectures, two short assignments, and a group project that will be delivered through two assignments. These are discussed in greater detail, below. For the group project, each student should make a significant contribution to the team. At the end of each group assignment, each individual team member will assess other student contributions to his or her group. The assignments will give you practical GIS, project management, and group coordination experience that will be useful to your future work as a GIS professional or any career path you pursue.

I am looking forward to a great semester with all of you!
Bob

Text

Huxhold, W.E. and A.G. Levinsohn. *Managing GIS Projects*, Oxford University Press, Available from: https://www.amazon.com/Managing-Geographic-Information-Projects-Spatial/dp/0195078691, 1995. (ISBN 0-19-507869-1)

NOTE: Sections of this book are available on the D2L site in digital form.

Readings and Class Participation (10%)

A different topic will be covered each class session. The readings listed under each session below are required readings that should be done before you get to class. Readings will be posted under "Content" on the class D2L website (http://d2l.uwm.edu/, Applied Projects in Urban Geographic Information Systems). All students are expected to read all the assigned readings BEFORE class and to actively participate in discussions.

In order to provide a productive learning environment for everyone, it is important for all students to engage in class. This includes showing up for class and asking questions and participating in discussions. In the interest of promoting a productive learning environment for all, please:

- Arrive on time and stay for the duration of class.
- Turn off or mute cell phones, mobile devices, and alarms for the duration of class.
- Turn off laptops unless instructed otherwise and refrain from accessing the internet on any other device during lecture portions of class. Exceptions include in-class demonstrations.

Assignments (90%)

All assignments should be uploaded to the course D2L site by 5:00 p.m. on the due dates listed. If you have any problems with the D2L site, you can e-mail your assignment to rjschnei@uwm.edu. The assignments are described below.

Assignment #1: Create a Map-Based Infographic to Illustrate Change in Milwaukee County (Individual Assignment; Distribute 1/23/19; Due 1/30/19) (15%)

This individual assignment will give you practice obtaining, analyzing, and mapping American Community Survey (ACS) data to illustrate planning-related changes in Milwaukee County. Your final product will be an infographic that includes a map (displaying all or part of the city) and other simple text or charts to convey a clear message. Hint: focus on communicating a single main message (or maybe two) with your infographic. Examples of map-based infographics can be found at the following websites:

http://www.montgomeryplanning.org/transportation/bikeways/documents/COMMENTMAPINFOGFX12.2.pdf
http://www.webdesignerdepot.com/2009/10/30-superb-examples-of-infographic-maps/
http://visual.ly/tornado-tracks
http://visual.ly/american-migration
http://visual.ly/what-geographic-information-systems

In order to create some consistency between student projects, you will have the following requirements:

- Use QGIS (to gain experience with open-source GIS software)
- Use these types of data: total population, median income, or both
- Display data at the census tract level
- Illustrate and describe changes between the 2005-2009 ACS reporting period (using 5-year ACS estimates) and the 2013-2017 ACS reporting period

- Make your infographic readable when printed on 11" x 17" paper (turn in your final infographic as an 11" x 17" PDF file).

This assignment is due in one week. It will give you practice developing a map-based document to communicate information clearly in a short timeframe. This is a common challenge for a real-world job. As you work on the assignment, track the total number of hours you spend on thinking/preparation and producing your infographic. The number of hours should be reported as a note in the D2L dropbox or by e-mailing the instructor. Note that this should be a rough estimate of time, and it will not factor into your grade. In other words, you are graded on the quality of your work, not the time you report. The main purpose of this is to help you understand how long it takes to think, collect data, conduct analyses, and produce an attractive document. As a professional, you will develop your own budgets with labor-hours and review budgets from other people with labor-hours, so this is an important but often overlooked skill in school. It will also help you think about budgeting hours as you develop the scope of work for your group project.

Assignment #2: Geocode Raw Data and Create a Policy-Relevant Map (Team & Individual Assignment; Distribute 2/6/19; Due 2/20/19) (15%)

This two-week assignment requires you to geocode raw data and create a map that is useful for establishing policies. You will be given a raw database from a local organization. During the first week, you should work with classmates to geocode the home locations of all survey respondents. During the second week, each individual student should use the final GIS layer of home locations and full response information to create a map that could help inform planning efforts for the organization. You should create the following products:

- Week 1: A GIS point layer of home locations and full response information. (Whole class only needs to submit one final set of files. 15% of assignment grade.)
- Week 1: A brief description of the geocoding process (one-half to one page, single spaced). (Whole class only needs to submit one description; all will get the same grade. 15% of assignment grade.)
- Week 2: A map that could help inform planning efforts for the organization. (Each student creates a separate map. 50% of assignment grade.)
- Week 2: A brief description of how the map could be useful for informing planning efforts for the organization (one-half to one page, single spaced). (Each student provides a separate description. 20% of assignment grade.)

The first week of the assignment will give you practice working with classmates on a technical problem, and the second week will give you practice using raw data to create a policy-relevant map. As you work on the assignment, track the total number of hours you spend each week. The number of hours should be reported as a note in the D2L dropbox or by e-mailing the instructor. Note that this should be a rough estimate of time, and it will not factor into your grade.

Assignment #3: Client Project Vision and Scope of Work (Work in groups of 3 to 4 students; Client Pitch Presentations 2/13/19; Student Products Due to Share with Clients 3/6/19) (10%)

Overall, the group project will involve coordinating with a client organization in the Milwaukee region to understand a specific problem and determine how to use GIS to address the problem. Each group will then collect and analyze GIS data and ultimately deliver a final product to the client organization.

During this first part of the group project (Assignment 3), your team will develop a vision and scope of work that will guide your data collection, analysis, and presentation efforts in the following weeks. To do this, you should meet with your client, research the client organization and how it identifies and addresses problems, and prepare a document to provide guidance for conducting the project. The first

part of this document will be a vision that describes the desired outcome of the project. The second part of this document will be a scope of work that describes specific project tasks (e.g., collect data, conduct analysis, deliver the final presentation and products to the client), timing of these tasks, and personnel conducting these tasks, including an estimated number of hours per team member per task.

Each team should submit their Vision and Scope of Work document to the instructor on the course D2L. They should also send this document to their client for review. Ask the client to provide feedback on this document sometime within one week. Make adjustments to the document based on client feedback (these revisions are not graded but will help improve your final products in Assignment 4).

At the end of this assignment, each individual team member will assess other student contributions to his or her group by awarding up to 100 points to each other team member. This team member assessment will be factored into each individual's grade for the assignment. Ratings must be submitted confidentially by each group member and will not be shared by the course instructor. See Appendix for more detail.

Assignment #4: Client Project Presentation and Products (Work in groups of 3 to 4 students; Start Assignment 3/13/19; Presentations to Clients 5/1/19; Final Products Due 5/8/19) (50%)

Overall, the group project will involve coordinating with a client organization in the Milwaukee region to understand a specific problem and determine how to use GIS to address the problem. Each group will then collect and analyze GIS data and ultimately deliver a final product to the client organization.

During the second part of the group project (Assignment 4), you will execute the tasks that you described in your Scope of Work. This process will include gathering GIS and supporting data, conducting analysis, revising your analysis approach (since you are likely to run into challenges during the process), generating results, and summarizing the most important and relevant findings for your client. Make phased implementation recommendations that the client can use (i.e., What should they do first? What needs more time for resources or support to develop?). It will be important to make consistent progress on the project over the six-week period before you present your analysis and results to your client. Therefore, you will meet with your team and report progress and problems to the instructor on a weekly basis. Give an update to show where your project is with respect to your original timeline. The process of discussing challenges and figuring out creative ways to address them is a core aspect of the course.

An important part of the assignment will be to deliver a 20-minute presentation of your analysis and results to the client (with additional time for questions). This presentation will be done in the second-to-last week of the course. During the previous week, you will give a practice presentation to the course instructors and classmates. You should revise your presentation based on feedback that you receive. The PowerPoint presentation should be graphically-oriented (the slides should include many pictures and maps and relatively little text). During the final week of the course, you should revise your PowerPoint presentation and other products based on feedback from your client. Presentation content should include:

- Vision statement (Strategic Plan elements)
- Brief overview of project scope/timeline
- Data collection
- Data analysis
- Challenges
- Findings
- Products
- Recommendations for the future (that the client can use)

Your final products will be the revised PowerPoint presentation accompanied by supporting documentation describing your data and analysis methods. This supporting documentation should include a written report, maps, GIS data files, and potentially well-defined spreadsheets. The final presentation and other projects must be understandable to and useful for the client. You should submit your final products to the instructor on the course D2L and e-mail your final products to your client.

The presentation that you deliver in class will be worth 50% of your Assignment #4 grade, and the revised presentation file and supporting documentation will be worth 50% of your Assignment #4 grade.

At the end of this assignment, each individual team member will assess other student contributions to his or her group by awarding up to 100 points to each other team member. This team member assessment will be factored into each individual's grade for the assignment. Ratings must be submitted confidentially by each group member and will not be shared by the course instructor. See Appendix for more detail.

Original Work and Plagiarism

All work in this course should be your own, though you will draw upon other references. In written work, cite your sources for quotes, facts, and opinions, both in the body of your work (at the end of the specific sentence where the information is cited) and in the bibliography. Do not copy word for word unless you place the words in quotation marks.

Students are expected to follow the Guide for Students at http://uwm.edu/deanofstudents/conduct/conduct_procedures/academic-misconduct/.

According to this source, "Plagiarism includes: 1) Directly quoting the words of others without using quotation marks or indented format to identify them; or, 2) Using sources of information (published or unpublished) without identifying them; or, 3) Paraphrasing materials or ideas of others without identifying the sources."
–University of Wisconsin-Milwaukee Graduate School, "Academic Misconduct," Website, Available online: http://uwm.edu/deanofstudents/conduct/conduct_procedures/academic-misconduct/, August 2018.

Any plagiarism will be dealt with as a serious ethical breach. If you have questions about whether you are crossing an ethical line, ASK me.

Other Course Policies & Campus Resources

This course adheres to campus policies regarding students with disabilities, religious observances, active military service, incompletes, discriminatory conduct, academic misconduct, complaints about the course, grade appeals, and firearms. For details about these policies, see https://uwm.edu/secu/syllabus-links/; click on "syllabus links."

If you are very sick, please let me know prior to class and stay home. If necessary, homework and communication can be done electronically.

Mental Health America Resource Locator
http://www.mentalhealthamerica.net/finding-help

Suicide Prevention Hotlines 24/7
National Suicide Prevention Lifeline | 1-800-273-8255
National Crisis TEXT line | Text HELLO to 271-271
Please visit https://uwm.edu/mentalhealth/ for more information.

Grading

Grades will be given on an A to F scale based on the following components of the class:

- Overall class attendance and participation (10%)
- Assignment 1 (15%)
- Assignment 2 (15%)
- Assignment 3 (10%)
- Assignment 4 (50%)

Assignments are due prior to class (by 1:30 pm) on the dates listed above. Each calendar day late will result in loss of one grade (i.e., an "A" assignment will be given a "B"). An assignment received at 1:31 p.m. on the due date is considered one day late.

The grading scale will be based on points earned out of 100 possible points.

Number grades correspond with the following letter grades:

98 and above = A+
93 to 97.9 = A
91 to 92.9 = A-
88 to 90.9 = B+
83 to 87.9 = B
81 to 82.9 = B-
78 to 80.9 = C+
73 to 77.9 = C
(and so on)

Grading is based on a combination of factors that contribute to professional-quality work. These include completeness of presentations and documents, logic, clarity, and creativity. Each of these factors is explained in the table on the following page. Assignments that are judged to be professional quality will receive an "A". Assignments with some deficiencies in the four factors described in the table will receive lower grades. The instructor will provide written feedback (and additional oral feedback, as requested) so that students can understand aspects of their work that may need improvement. While the table on the following page provides some guidance, it falls well short of experiencing the process of completing assignments, receiving feedback, and taking this feedback into account on your next assignment.

Grading is based on the quality of work produced. It is not based on student background, prior education, or natural talent.

Main Factors Considered when Grading Assignments

Factor	Definition	Low Quality	Medium Quality	High Quality
Completeness	The degree to which all aspects of the assignment are addressed in documents or presentations. In general, more thorough discussions are better, but this must be balanced with length limits.	Parts of questions are not answered or sections of a policy analysis are not included.	All parts of questions are answered and all sections of a policy analysis are included, but some responses or discussions may not cover the issue in depth.	All parts of questions are answered and sections of a policy analysis are included, and all responses and discussions are thorough.
Logic	The degree to which an argument written in text, presented on a map, or described in an oral presentation makes sense. Good arguments are supported by well-researched examples, high-quality studies, and/or well-analyzed data.	Many arguments do not make sense or are not supported by examples, studies, and/or empirical data.	Some arguments do not make sense or have weak support from examples, studies, and/or empirical data.	All arguments make sense and are supported by examples, studies, and/or empirical data.
Clarity	The degree to which an assignment is written and organized well. For maps, this includes attractiveness of the layout and ease of understanding what you are trying to show. For presentations, this includes the and the organization of the presentation.	The writing is wordy, uses poor sentence structure, grammar, punctuation, etc. The writing is inconsistent and poorly organized, making it very difficult to understand the issue, analysis, or conclusions.	The writing is understandable, but it suffers from some wordiness, errors, and poor proofreading. The writing has several inconsistencies or poorly organized sentences or paragraphs.	The writing is in a professional tone that is concise and has no grammatical errors. It communicates a clear sense of the issue, analysis, & recommendations; paragraphs and sentences are organized logically.
Creativity	The degree to which an assignment or presentation considers a wide range of relevant analysis approaches and relevant possible solutions, including some that may not be readily apparent to a client. This also includes recognizing limitations of your approach.	Analysis approaches and possible solutions are obvious or limited in number, other potential approaches and solutions were not considered, and limitations were not discussed.	Several analysis approaches and possible solutions were considered, potentially including some that were not readily apparent to a client. A few limitations were discussed.	A wide range of relevant analysis approaches and relevant possible solutions were considered, including some that were not readily apparent to a client. Most limitations were discussed.

Class Topics and Reading List

Part 1: Institutional Context & Project Management

Class 1: Course Preview & Institutional Context for GIS (1/23/19) [Distribute Assignment #1]
Course background & syllabus
Institutionalization of GIS: Obstacles & maxims for success
Previous student project examples
Infographics & communicating geographic information

1.1. Esnard, A. "Institutional and Organizational Barriers to Effective Use of GIS by Community-Based Organizations," *URISA Journal*, Volume 19, Number 2, 2007.

Class 2: Strategic Planning for GIS (1/30/19) [Assignment #1 Due] [Distribute Assignment #2]
Institutionalization of GIS: GIS strategic plans
Student sharing & critiques of infographics

2.1. Huxhold, W.E. and A.G. Levinsohn. Chapter 3, "Strategic Planning for GIS," *Managing GIS Projects*, Oxford University Press, 1995. (Read pp. 52-74)

2.2. City of Alexandria, VA. *Geographic Information Systems (GIS) Five-Year Strategic Plan: FY2013-FY2017*, Available online, https://www.alexandriava.gov/uploadedFiles/gis/info/GIS%20Strategic%20Plan%20Approved%20Final.pdf, 2012.

2.3. Wisconsin Land Information Association (WLIA). *Wisconsin Location Matters: A Statewide Geographic Information Strategy*, Available online, http://www.sco.wisc.edu/images/stories/download/WI_GIS_StrategicPlan_Jan_05_2007.pdf, 2007. (Optional)

Class 3: Introduction to Project Management (2/6/19)
Teamwork
Communication
Managing conflict

3.1. Whetten, D. and C. Cameron. "Conducting Meetings," *Developing Management Skills*, Second Edition, Harper Collins Publishers, 1991. (Read pp. 454-476)

3.2. Huxhold, W.E. and A.G. Levinsohn. Chapter 6, "Implementation Management," *Managing GIS Projects*, Oxford University Press, 1995. (Read pp. 196-199)

Class 4: Client Presentations of Potential Projects (2/13/19) [Distribute Voting Exercise; Due on Mon.]
Client Presentations (5 to 10 minutes, plus 5 minutes for questions)
Client Project Voting Exercise (Project Vision)

4.1. Huxhold, W.E. and A.G. Levinsohn. Chapter 4, "Implementation Planning," *Managing GIS Projects*, Oxford University Press, 1995. (Read pp. 87-119)

Part 2: Project Planning

Class 5: Vision and Scope of Work (2/20/19) [Assignment #2 Due] [Distribute Assignment #3]
Vision and Scope of Work
Budgeting
Timelines
Example proposals/contracts
Form Project Teams

5.1. Huxhold, W.E. and A.G. Levinsohn. Chapter 7, "Managing the System," *Managing GIS Projects*, Oxford University Press, 1995. (Read pp. 216-227)

5.2. Donahue, R., J. Parilla, and B. McDearman. *Rethinking Cluster Initiatives*, Brookings Metropolitan Policy Program, https://www.brookings.edu/research/rethinking-cluster-initiatives/, 2018.

5.3. McDearman, B. *Rethinking Cluster Initiatives: Case Study, Milwaukee Water Technology*, Brookings Metropolitan Policy Program, https://www.brookings.edu/research/rethinking-cluster-initiatives/, 2018.

Class 6: Organizational Needs Analysis (2/27/19)
Needs Analysis
Staff and Training Needs

6.1. Huxhold, W.E. and A.G. Levinsohn. Chapter 6, "Implementation Management," *Managing GIS Projects*, Oxford University Press, 1995. (Read pp. 164-188)

POSSIBLE GUEST SPEAKER

Class 7: Presentation of Work Plans (3/6/19) [Assignment #3 Due]
Team presentations of work plans
Discussion

Part 3: Project Implementation

Class 8: Work on Project (3/13/19) [Distribute Assignment #4]
Meet with team
Report progress and problems in class
Possible visit from Sam White to discuss business clusters

SPRING BREAK! (3/21/18)

Class 9: Work on Project (3/27/19)
Meet with team
Report progress and problems in class

Class 10: Work on Project (4/3/19)
Meet with team
Report progress and problems in class

Class 11: Work on Project (4/10/19)
Meet with team
Report progress and problems in class

Class 12: Work on Project (4/17/19)
Meet with team
Report progress and problems in class

Class 13: Practice Project Presentation (4/24/19)
Timed presentations with question & answer period
Meet with team

Class 14: Presentation of Project to the Clients (5/1/19)

Class 15: Final Class (5/8/19) [Assignment #4 Due]

Appendix. Team Member Grading and Evaluation

Group Work Grades

To incentivize individual contributions to group work during Assignments 3 and 4, student group members will be asked to provide confidential evaluations of their teammates' efforts at the end of the source. Grade adjustments will be made, as necessary, to individual students' grades for each case. The student evaluation will involve each team member assigning a set of ten 1 (lowest) to 10 (highest) scores representing the contribution of all other team members to the group assignment. A total of 100 points are possible, and each team member can give 100 points to all other team members. We will use the form on the following page. You are expected to take team member scores seriously and provide a few sentences to justify your reasoning. The instructor reserves the right to NOT make an adjustment to a team member score if sufficient justification is not provided. The instructor also reserves the right to increase a team member's score if other team member explanations of her or his contribution show particularly outstanding contributions to the group (e.g., "I wish that I could have given Team Member X a score of 11 for many of these criteria!"). Any adjustments to a single individual's score is <u>independent</u> of other team member scores.

Individual student grades will be adjusted in the following way:

- Average score of 95-100 from teammates: Student receives the overall team score
- Average score of 90-94.9 from teammates: Student receives the overall team score minus 1
- Average score of 85-89.9 from teammates: Student receives the overall team score minus 2
- Average score of 80-84.9 from teammates: Student receives the overall team score minus 3
- Average score of 75-79.9 from teammates: Student receives the overall team score minus 4
- Average score of 70-74.9 from teammates: Student receives the overall team score minus 5
- Average score of 65-69.9 from teammates: Student receives the overall team score minus 6
- Average score of 60-64.9 from teammates: Student receives the overall team score minus 7
- Average score of 55-59.9 from teammates: Student receives the overall team score minus 8
- Average score of 50-54.9 from teammates: Student receives the overall team score minus 9
- (and so on)

Team Member Evaluation Form (may be administered as an online survey)

Group member being evaluated:

Your name:

Please enter a score of 1 to 10 for each of the 10 items. Then please add some narrative regarding your evaluation at the bottom of the form.

Use the following scale for all items:

1 = poor; 10 = sufficient (if a particular criteria is not applicable, please enter a score of 10)

The Group Member…	**Score (1-10)**
1. Contributed to a fair share of the workload.	
2. Met the deadlines set forth by the team.	
3. Participated in and contributed effectively to discussions.	
4. Helped keep discussions organized and the team focused on completing tasks.	
5. Resolved any conflicts in a professional manner.	
6. Showed respect toward others and helped maintain a positive climate.	
7. Listened to others and did not dominate or withdraw from discussions.	
8. Contributed to the development of the team project initially and as it progressed.	
9. Contributed towards the submission of the final team deliverables.	
10. I would like to work with this person again given an opportunity to do so.	
Total Points	

Comments (at least two to three sentences to justify the scores given above):

Past Student Products

This course was started by Professor Bill Huxhold more than 20 years ago. Below is a summary of past accomplishments of student projects in the course.

After completing their Fall 2004 project, entitled, “Creating Developable, Contiguous Parcels”, students Ahmed Abubaker, Sutapa Chatterjee, Marc Gelenian, and Diana Hu found themselves winning one award after another in local, state, and international competitions in geographic information systems projects: In February, 2005, the project won Best Student Award in the Map Gallery Competition at the annual conference of the Wisconsin Land Information Association (WLIA) in Green Bay. (Prize: a blue ribbon). Then, in May, 2005, the project won First Place in the Student GIS Project Competition awarded by the UWM GIS Council. (Prize: $300.) Finally, in July, 2005, they scored a Third Place in an international student competition, Best Practices in Science Modeling Challenge, sponsored by the Environmental Systems Research Institute (ESRI). This competition attracted entries from universities all over the world and independent judges from the academic community reviewed them based on innovation, usability, and functionality. (Prize: $500).

In the Fall 1993 course, the students received a "Best View" award at the 1993 International ESRI User Conference in Palm Springs, California, for the project, "Marketing Milwaukee's Northwest Industrial Corridor".

In the Fall 1995 course, the students also entered their work in a national GIS competition at the Annual Conference of the Urban and Regional Information Systems Association (URISA '95) in Salt Lake City and won an award for "Best Map" in the conference Project Showcase for the project, "GIS Role in the Neighborhood Strategic Planning Process".

In the Fall 1996 course, the students were published in GIS: Our Common Language, ESRI Map Book - Volume Twelve (Environmental Systems Research Institute, Inc., Redlands, CA, 1997, p. 106) for the project, "GIS Assists Neighborhood Strategic Planning in Milwaukee".

2018 projects:

- “People's Bike Map of Milwaukee’s South Side for The Sixteenth Street Community Health Centers Neighborhood Building Initiative” (Client: Kevin Engstrom & Kelly Moore Brands, Sixteenth Street Community Health Centers; Student Team: Eric Burant, Trevor Iglinski, and Muriel Marseille)
- “Safe Routes from Schools to Parks: South Side Milwaukee Pilot Study” (Client: James Hannig & Marissa Meyer, City of Milwaukee Department of Public Works; Student Team: Andrew Saleh, Emmanuel Okoro, and Robert Vander Heiden)

2017 projects:

- “UWM Infrastructure Mapping Pilot Project” (Client: Donna Genzmer, UWM Cartography & GIS Center; Student Team: Mahshid Jalalianhosseini, Bahram Khazaei, Suzanne Liebergen, and Dustin Nelson)
- “Lincoln Street School Walking School Bus Routes” (Client: Kevin Engstrom, Sixteenth Street Community Health Centers; Student Team: Farah Al-Mahameed, Mark Beadle, Charlie Griffith, and Lawrence Hoffman)

2016 projects:

- “Clarke Square Housing Project: Statistical and Spatial Analysis of Exterior Housing Survey Data” (Client: Lee Valentyn, Clarke Square Neighborhood Initiative (CSNI); Student Team: Michael Callovi, Marissa Meyer, Maggie Thelen)
- “Digitizing the RiverWalk” (Client: City of Milwaukee Department of Public Works; Student Team: Ashley Hoerz, Jesus Ochoa, Mary Wagner, and Dongni Zhang)

Other past projects include:

- “Impact of Green Infrastructure on Property Values in the Lincoln Creek Area” measured what, if any, changes in property value occurred as a result of the concrete removal in Lincoln Creek.
- “Milwaukee Economic Gateway (MEGA)” centralized economic data available on the existing website of the UWM Center for Economic Development to include information that will facilitate development in the community.
- “Wisconsin Off-Leash Opportunity Finder (WOOF)” identified several potential locations for an off-leash dog park that serves Milwaukee County residents who cannot easily access the current dog parks. ROMP will be able to approach the County park system to propose creating new dog parks based on data used to conduct a site suitability analysis.
- “Biking on Milwaukee’s West Side” conducted a historical analysis of bicycle shops near Washington Park for Milwaukee Bicycle Works to determine whether or not there has been a change in both access to and use of bicycles in the area surrounding Washington Park.
- “Land Worth Protecting: Identifying Potential Land Conservation Easements in Northeastern Walworth County” created a database of the assets within natural areas in Walworth County and location of parcels of land that could be attained by the Kettle Moraine Land Trust using a suitability analysis.
- “Advancing Conservation in Northwest Walworth County” developed the capability for the Kettle Moraine Land Trust to identify parcels of land that are valued by the residents of northwestern Walworth County for possible recreational sites.
- "Homelessness Prevention" was developed for an area in Milwaukee about to experience gentrification.
- "Housing Survey and Analysis" was conducted for Milwaukee’s Metcalfe Park Residents Association.
- "Breast Cancer Awareness" was conducted for the City of Milwaukee Health Department.
- "An Evaluation of the African-American Immersion Program" was conducted for two Milwaukee central city schools.
- "An Analysis of the Impact on Property Values Surrounding Proposed Light Rail System Stops" in
- Milwaukee.
- "Commuter Information System" was created for the City of Milwaukee employees.
- "Milwaukee's CDBG Target Area: An Analysis of Housing Indicators" was conducted for the City of Milwaukee Block Grant Administration.
- “Milwaukee Community Development Block Grant Assessment” evaluated the effect of public and private investment on neighborhood housing quality in Milwaukee.
- “City of Cudahy Geographical Information Needs Analysis”
- “A Geographical Information System Needs Assessment for the City of Oak Creek, Wisconsin”
- “Using GIS in Park Planning for the Town of Cedarburg”
- “Development of a GIS for the Mid-Town Neighborhood Association”
- “Village of Elm Grove GIS Needs Analysis”
- “City of Greenfield GIS Needs Analysis”
- “The Lindsay Heights Internet GIS Model”

- "Federal Rental Assistance in the City of Milwaukee"
- "GIS Implementation for the Community Partners Program" enhanced the collection, analysis, and distribution techniques of data collected by the Community Partners organization.
- "City of South Milwaukee GIS Needs Analysis"
- "The Wehr Nature Center GIS"
- "Statistical Profiles of Milwaukee Aldermanic Districts" created a web site displaying statistical data about crime in Milwaukee Aldermanic Districts.
- "GIS Database and Preliminary Analysis for Green Infrastructure Planning: Fond du Lac and North Neighborhood" identified underutilized properties in a Milwaukee neighborhood for potential locations of parks and other green space.
- "GIS Database Development for Milwaukee's Urban Ecology Center" created a basemap and databases of scientific data for Milwaukee's Riverside Park for land stewardship planning, research, and educational opportunities.
- "Safe Routes to School Bicycle Crash Mapping and Routing" conducted bicycle routing analysis in a neighborhood school attendance area to identify street segments having the safest record of crashes, traffic volume, speed limit, crime incidents, etc. to encourage students to exercise by riding their bicycles to school.
- "Groundwork Milwaukee's Potential Greenspace Opportunities for Neighborhoods" identified all underutilized parcels in Milwaukee that are not within ¼ mile of an existing park and "bundling" those that are adjacent for the purpose of suggesting locations for new green space in Milwaukee.
- "Creating Developable Contiguous Parcels for the City of Milwaukee" identified all underutilized land parcels in the city that can be used by the City's Department of City Development to bundle together so that it can better market them for economic development purposes.
- "Milwaukee River Revitalization: A Geospatial Perspective to Environmental Protection and Public Access Improvement" developed a viewshed analysis along the Milwaukee River to protect views of the river from encroaching development and also identify locations for public access.
- "Lead poisoning on Milwaukee's South Side: A Geographic Strategy for Maximizing Referrals in the 16th Street Community Health Center's Lead Outreach Program" developed walking routes for door-to-door canvassing by identifying hot spot neighborhoods/census tracts and individual properties that meet criteria for high potential for lead poisoning.
- "Johnsons Park Health Alliance Community Food Assessment" developed an understanding of neighborhood access to and geographic distribution of food resources with the intention of continuing efforts in the enhancement of the community's health.
- "GIS for the Southeast Wisconsin Invasives Cooperative" enhanced access to high quality geographic information about invasive species in SE Wisconsin by connecting a patchwork of disparate data sources. This allows the native environment to regain its foothold and future generations the opportunity to enjoy the natural landscape of Wisconsin.
- "Milwaukee Inner City Analysis" generated awareness of the plight of Milwaukee's inner city through the creation of comprehensive socio-economic, demographic and housing trend analyses and visual aids, with the intent to secure political interest and funding support.
- "Neighborhood Indicators for the Zilber Initiative" developed indicators of quality of life in two Milwaukee neighborhoods: Lindsay Heights and Clarke Square, for the Zilber Initiative to help in identifying long term investment and improvements needed in those areas.
- "Riverworks Neighborhood Indicators" developed neighborhood indicators for the Riverworks neighborhood in Milwaukee to help make workforce, economic and real estate development, and planning and revitalization decisions more beneficial for neighborhood residents.

- “Milwaukee Shines – The Solar Initiative” identified buildings in Milwaukee that have rooftops with the greatest potential for successful installation of a solar energy system based upon having an adequate solar time window, rooftop suitability, and responsible property owners.
- “Quantifying the Cost of Home Foreclosures to the City of Milwaukee” investigated spatial patterns of home foreclosures and their fiscal impacts such as decreased property tax revenue and increased police and fire services.
- “Using GIS to Rate Milwaukee’s Neighborhood Quality” developed the Neighborhood Quality Index that can be used by the City for capital improvement and service planning and by its citizens for researching and understanding trends in their neighborhoods.
- “City of Milwaukee Alleys Project” developed a methodology to improve the management of the City of Milwaukee alley data by geocoding all of the alley centerlines in the city.
- “Interpreting the Effects of Community Block Watches on Crime in Milwaukee” analyzed the effects of block watches on crime in Milwaukee for the Milwaukee Homicide Review Commission.
- “Mapping and Analyzing the Relationship between Sexual Assault, Residential Mobility, and Neighborhood Deprivation in Milwaukee” analyzed neighborhood conditions leading towards sexual assault for the Medical College of Wisconsin.
- “Restoring Washington Park” assisted the Urban Ecology Center in developing a plan to restore this urban park to its original natural state over the next 100 years.
- “Milwaukee Historical Streams” allowed the Milwaukee Metropolitan Sewerage District to determine whether historical water features are related to basement backups during flood events within the Lincoln Creek Subwatershed.
- “Downtown Milwaukee: reanimate” found solutions to eliminating the isolation that often exists between downtown businesses and individuals.