

CEE 467 A, Joint with CEWA 567 A, CEWA 567 B
Geospatial Data Analysis
Course type: Face-to-Face
Taught by: Eric Gagliano
Instructor Evaluated: Eric Gagliano-Predoc Inst

Evaluation Delivery: Online
Evaluation Form: A
Responses: 16/28 (57% high)

Overall Summative Rating represents the combined responses of students to the four global summative items and is presented to provide an overall index of the class's quality:

Combined Median	Adjusted Combined Median
4.7	4.9
(0=lowest; 5=highest)	

Challenge and Engagement Index (CEI) combines student responses to several *IASystem* items relating to how academically challenging students found the course to be and how engaged they were:

CEI: 5.3
(1=lowest; 7=highest)

SUMMATIVE ITEMS

	N	Excellent (5)	Very Good (4)	Good (3)	Fair (2)	Poor (1)	Very Poor (0)	Median	Adjusted Median
The course as a whole was:	16	56%	31%	12%				4.6	4.8
The course content was:	16	56%	31%	12%				4.6	4.7
The instructor's contribution to the course was:	16	88%	12%					4.9	5.1
The instructor's effectiveness in teaching the subject matter was:	16	62%	31%	6%				4.7	4.9

STUDENT ENGAGEMENT

	N	Much Higher (7)	(6)	(5)	Average (4)	(3)	(2)	Much Lower (1)	Median
Relative to other college courses you have taken:									
Do you expect your grade in this course to be:	16		6%	25%	62%	6%			4.2
The intellectual challenge presented was:	16	19%	44%	25%	12%				5.8
The amount of effort you put into this course was:	16	25%	31%	31%	12%				5.7
The amount of effort to succeed in this course was:	16	25%	31%	44%					5.7
Your involvement in course (doing assignments, attending classes, etc.) was:	16	25%	25%	19%	25%	6%			5.5

On average, how many hours per week have you spent on this course, including attending classes, doing readings, reviewing notes, writing papers and any other course related work?

Class median: 11.2 Hours per credit: 2.2 (N=16)

Under 2	2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-17	18-19	20-21	22 or more
			6%	12%	38%	12%	19%				12%

From the total average hours above, how many do you consider were valuable in advancing your education?

Class median: 9.5 Hours per credit: 1.9 (N=16)

Under 2	2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-17	18-19	20-21	22 or more
		12%	19%	19%	31%	6%	6%		6%		

What grade do you expect in this course?

Class median: 3.7 (N=15)

A (3.9-4.0)	A- (3.5-3.8)	B+ (3.2-3.4)	B (2.9-3.1)	B- (2.5-2.8)	C+ (2.2-2.4)	C (1.9-2.1)	C- (1.5-1.8)	D+ (1.2-1.4)	D (0.9-1.1)	D- (0.7-0.8)	F (0.0)	Pass	Credit	No Credit
27%	60%	13%												

In regard to your academic program, is this course best described as:

(N=15)

In your major	A core/distribution requirement	An elective	In your minor	A program requirement	Other
33%	7%	40%	7%	7%	7%

STANDARD FORMATIVE ITEMS

	N	Excellent (5)	Very Good (4)	Good (3)	Fair (2)	Poor (1)	Very Poor (0)	Median	Relative Rank
Course organization was:	16	62%	31%		6%			4.7	11
Clarity of instructor's voice was:	16	81%	19%					4.9	14
Explanations by instructor were:	16	75%	25%					4.8	5
Instructor's ability to present alternative explanations when needed was:	16	81%	12%	6%				4.9	4
Instructor's use of examples and illustrations was:	16	69%	31%					4.8	15
Quality of questions or problems raised by the instructor was:	16	69%	25%	6%				4.8	13
Student confidence in instructor's knowledge was:	16	75%	25%					4.8	17
Instructor's enthusiasm was:	16	94%	6%					5.0	10
Encouragement given students to express themselves was:	16	94%		6%				5.0	8
Answers to student questions were:	16	81%	19%					4.9	6
Availability of extra help when needed was:	16	94%	6%					5.0	2
Use of class time was:	16	69%	6%	25%				4.8	9
Instructor's interest in whether students learned was:	16	88%	12%					4.9	7
Amount you learned in the course was:	16	81%	19%					4.9	1
Relevance and usefulness of course content were:	16	81%	12%	6%				4.9	3
Evaluative and grading techniques (tests, papers, projects, etc.) were:	16	69%	25%	6%				4.8	12
Reasonableness of assigned work was:	16	50%	19%	19%	12%			4.5	18
Clarity of student responsibilities and requirements was:	16	69%	31%					4.8	16

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STANDARD OPEN-ENDED QUESTIONS

Was this class intellectually stimulating? Did it stretch your thinking? Why or why not?

1. GIS is outside the scope of my field, and this class marks my first exposure to GIS. Instructors provide ample self-learning tools, which are sufficient for familiarizing myself with GIS. Additional readings are adequate for students to engage in self-study and understand lessons beyond the class content.
2. Yes, the problem/topics varied very much.
3. Yes, I learned a lot of geospatial mapping applications that were new to me. I can see how these could apply to the research I am currently thinking. Good exposure to new datasets and methods.
4. Totally
5. Yes. This class really bring my coding skill to next level. We have a project that we need to define the topic, find data, and try to get result we want. This is a really goo chance for us to check what we get out from the class and make us independently thinking.
6. Yes I discover a lot of interesting context for geospatial analysis
7. Very much so! I came into this class very new to Python so it was a challenge. I see the knowledge gained in this class as essential to succeeding in my career and current job so the challenge was worth it. I took longer on assignments because of my inexperience with Python, but the fast pace and length of assignments also contributed to the difficulty of the class.
8. Yes. The tools were explained well, with I believe the proper background to increase comprehension but not dive too far into theory. Overall it was a great class!
9. Yeah I learned an insane amount in this class. The learning curve was really steep but I think I have a much better understanding now of some tools that will be very useful to my future research.
10. The labs and work lead by Eric were really helpful to learn. Definitely a useful course, especially as a graduate student/researcher.
11. Yes I really enjoyed the material taught everything was very useful
12. Yes. I really enjoyed getting to learn commands, interface options, programs, etc. We also got to practice how to approach problems and plan ways to solve research questions. Practicing ways to approach different problems and having multiple ways to solve a problem was really interesting to me. I also really enjoyed getting to work on a data driven project that we chose. It was nice to take things we learned in class and start applying them to relevant research areas. It feels like we are able to take away skills and a readable git repo that we can use going forward. I am really happy I took this class.

What aspects of this class contributed most to your learning?

1. Assignments are challenging and require a significant amount of independent study. Instructors provide ample support and are easily accessible, making communication straightforward. I am truly thankful for their dedication, devoting time and effort to ensure students' learning.
2. probably the lab sessions on Friday afternoon.
3. Class was very collaborative, it was nice getting to know people in the class and then asking them for help. Instructor also had a good pace for lectures, and spoke clearly. Very welcoming class environment which was very appreciated! Also building in structure for thinking about the final project early on was helpful to keep myself accountable for working on it throughout the quarter (instead of just the final week).
4. lab/homework assignments. Overall, really liked the setup, with tons of resources online and lots of flexibility to explore. I'll definitely keep coming back to these resources
5. All. The Friday lab is great.
6. The lab exercises,
7. Although some of the assignments were long, I liked how we used the same dataset(s) for several consecutive assignments. That helped with understanding how the same data could be manipulated for various analysis purposes. Eric and Quinn also made themselves very available to answer questions (either on Slack or in person), which makes all the difference. On the first day I remember Eric encouraging us to ask questions AND encouraging more experienced students to help out less experienced students , which is so important and speaks to the inclusive environment he wanted to cultivate. That paired with his compassionate nature made for an incredibly inviting, fun, and gratifying learning experience.
8. Assignments and code examples helped to contribute to my learning. Also collaborative coding with classmates.
9. The labs, for sure. The demos and readings I could take or leave, but the labs were very challenging and well organized to facilitate a lot of learning. Also the professor and TA were both very helpful and always available to answer questions.
10. Parts of the labs were really helpful and being able to use the demos was. I enjoyed working on the project and applying what i was learning to my own data. Eric was an effective and passionate teacher!
11. The problem sets were the most useful part of class

12. I think the structured class/lab time was really helpful. I liked that it was required and we got to collaborate with our classmates and have access to our instructors during a set period every week. It made the class format a lot more manageable. I am also very happy about the time we got to spend working on projects (most of the work occurred over two weeks, which wasn't a lot of time to make progress), but I feel like the connections and foundations for future work was set up well.

What aspects of this class detracted from your learning?

1. Amount of assignment
2. The lectures, where the contents were introduced could have been a bit more structured.
3. Labs were very long (although I know there were efforts to shorten them). Sometimes the pace of class was too slow.
4. office hours and class times were at pretty inconvenient times -- lots of department lectures and socials at 3-4pm, and I'd have to be pretty desperate to stick around after 4:30pm Friday to attend office hour. And a lot (not all) of class time felt inefficient. I can work through jupyter notebooks on my own time. Working through demo/basics on our own with class time focused on structured group work on applied problems might work better. I like how you did the last lab -- some instruction walking through the notebook, and then periodically break out into groups for short tasks.
5. Bugs while coding. Sometimes have unfamiliar error messages. Coding is hard. Maybe need slower pace.
6. Some issues with computer with git hub
7. I wish I had more time to digest the material! The quarter system is fast-paced and having a full time job limited the amount of time I could dedicate to this. There were also a couple of assignments that were so long I couldn't remember where I was or why I was doing certain tasks. Along with that, the explanations written in the assignments were good, but some sections didn't seem particularly relevant to me, or I failed to understand how they contributed to the overall assignment.
8. I think mostly related to the timing of labs and assignment due dates. By the 4th or 5th week students weren't all working on the same lab at the same time, making it more difficult to collaborate on code within the labs.
9. The sheer amount of work in this class is crazy. Just the quantity of time that was spent completing assignments each week I think could have been better applied to deeply understanding a smaller amount of content. Would have also liked a little more time to work on the project.
10. I think have two 50 minute lectures was hard. I would rather have one two hour or 1.5 hour lecture. Because it just felt too short to really get in the zone with it and I spent more time traveling to class than I did in class. I also think that the homework assignments were a little too long. I think if they were shorter then I would've spent more time trying to understand my code than just trying to finish them. I can't imagine taking this class if I had another challenging course at the same time.
11. A couple of the labs were very long that I rushed through to try and complete them. May have been more beneficial to have less problems where the students can really learn from and additional problems as extra credit or done in lecture
12. The main thing that detracted from my learning was time. I felt like I had access to all of the necessary resources and help to approach any problem I wanted to in the class or for my research project, but didn't really have the time to utilize these resources as much as I could have... unless we are going to change UW to a semester system though I don't know if I have any solutions. A couple of the longer labs were really difficult to manage with other classes and research. I am not sure the best way to deal with this given it is a 5 credit course, but it was a bit overwhelming to figure out when to do everything in the week with daily life + classes + research. I do think the class was worth it, so I guess that is a good place to be.

What suggestions do you have for improving the class?

1. Instructors should provide handouts, such as PowerPoint slides, summarizing what students are expected to learn in each class.
2. some of the homework felt repetitive. The homework in general was pretty much. The difficulty was good, but sometimes it felt a bit much.
3. Shorten the labs. I was curious about geospatial statistics which I feel like wasn't covered as deeply as visualization-- would be interesting to incorporate that more strongly.
5. No.
6. -
7. A few suggestions! - For the first assignment, I think doing a half git/half Python assignment would have been more informative and saved time. We only needed to know a little bit of git functionality anyway. - Getting exposed to other datasets would be great (I liked the social component that the census data brought in!) - Encourage more critical thinking with the assignments - asking bigger questions like "why is this analysis important for the world?"
8. - If you can, avoid Friday afternoon labs. - Make the due date for the past week's labs before this week's lab time. - I think that if a better collaborative lab worktime was setup the assignment lengths would be ok, but since there was less collaboration on the later labs, they took relatively more time to complete per their length, taking away from project work time. - Maybe one of the last labs could be switched out with a lightning present a python package assignment? that might not be a good idea though...
9. One suggestion would be to reduce the number of platforms that were used for facilitating this class. Having a course website, a canvas page, a slack channel, google docs, git hub, etc was just a lot to manage and could be challenging to navigate at times. The next would just be to reduce the workload a bit, especially towards the end of class so we can make more progress on our projects. I totally understand that this course is a big commitment, and like I said I did learn a ton in this class, but I think the time pressure for submitting so much work limited my ability to learn at times.
10. I think this class would do well as a two or three part series instead of a one quarter 5 credit class. If you split the material over two 3 credit classes I think people could learn a lot more and maybe spend a little more time with their projects too.
11. The above comment. But I enjoyed the class a lot overall instructor was very helpful, clear, and reasonable

12. I think trying to distribute the work load from class a little more evenly throughout the quarter. Week 5 was super heavy and difficult to work around. Or at least making that time commitment apparent over the first two weeks of the quarter, so we can plan research around it. I also thought that the time estimates on the websites and stated by instructors throughout of the quarter was on the very minimal side of things. I am new to coding, so I know things take longer for me. But the first week for example we were told that there would be ~45 min to an hour of prep work and downloading. It probably took me about 3 hours to get everything put together for that. I am not upset with the time it took, but either stating more accurate time estimations and/or not including time estimates may be helpful. I wish I would have had some of the background work and/or downloads done before the quarter started. There was an announcement sent out in late winter break, but I just didn't catch it. So if possible figuring out how to send that a little earlier might be nice. Overall though, the class was really good, and some of the issues with time and length of time are likely unavoidable... the class was 5 credits in a quarter system, so a lot of tasks presented to us were reasonable and helpful in our learning.

IASystem Course Summary Reports summarize student ratings of a particular course or combination of courses. They provide a rich perspective on student views by reporting responses in three ways: as frequency distributions, average ratings, and either comparative or adjusted ratings. Remember in interpreting results that it is important to keep in mind the number of students who evaluated the course relative to the total course enrollment as shown on the upper right-hand corner of the report.

Frequency distributions. The percentage of students who selected each response choice is displayed for each item. Percentages are based on the number of students who answered the respective item rather than the number of students who evaluated the course because individual item response is optional.

Median ratings. IASystem reports average ratings in the form of item medians. Although means are a more familiar type of average than medians, they are less accurate in summarizing student ratings. This is because ratings distributions tend to be strongly skewed. That is, most of the ratings are at the high end of the scale and trail off to the low end.

The median indicates the point on the rating scale at which half of the students selected higher ratings, and half selected lower. Medians are computed to one decimal place by interpolation.¹ In general, higher medians reflect more favorable ratings. To interpret median ratings, compare the value of each median to the respective response scale: *Very Poor, Poor, Fair, Good, Very Good, Excellent (0-5); Never/None/Much Lower, About Half/Average, Always/Great/Much Higher (1-7); Slight, Moderate, Considerable, Extensive (1-4)*.

Comparative ratings. IASystem provides a normative comparison for each item by reporting the decile rank of the item median. Decile ranks compare the median rating of a particular item to ratings of the same item over the previous two academic years in all classes at the institution and within the college, school, or division. Decile ranks are shown only for items with sufficient normative data.

Decile ranks range from 0 (lowest) to 9 (highest). For all items, higher medians yield higher decile ranks. The 0 decile rank indicates an item median in the lowest 10% of all scores. A decile rank of 1 indicates a median above the bottom 10% and below the top 80%. A decile rank of 9 indicates a median in the top 10% of all scores. Because average ratings tend to be high, a rating of "good" or "average" may have a low decile rank.

Adjusted ratings. Research has shown that student ratings may be somewhat influenced by factors such as class size, expected grade, and reason for enrollment. To correct for this, IASystem reports **adjusted medians** for summative items (items #1-4 and their combined global rating) based on regression analyses of ratings over the previous two academic years in all classes at the respective institution. If large classes at the institution tend to be rated lower than small classes, for example, the adjusted medians for large classes will be slightly higher than their unadjusted medians.

When adjusted ratings are displayed for summative items, **relative rank** is displayed for the more specific (formative) items. Rankings serve as a guide in directing instructional improvement efforts. The top ranked items (1, 2, 3, etc.) represent areas that are going well from a student perspective; whereas the bottom ranked items (18, 17, 16, etc.) represent areas in which the instructor may want to make changes. Relative ranks are computed by first standardizing each item (subtracting the overall institutional average from the item rating for the particular course, then dividing by the standard deviation of the ratings across all courses) and then ranking those standardized scores.

Challenge and Engagement Index (CEI). Several IASystem items ask students how academically challenging they found the course to be. IASystem calculates the average of these items and reports them as a single index. *The Challenge and Engagement Index (CEI)* correlates only modestly with the global rating (median of items 1-4).

Optional Items. Student responses to instructor-supplied items are summarized at the end of the evaluation report. Median responses should be interpreted in light of the specific item text and response scale used (response values 1-6 on paper evaluation forms).

¹ For the specific method, see, for example, Guilford, J.P. (1965). *Fundamental statistics in psychology and education*. New York: McGraw-Hill Book Company, pp. 49-53.