

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: 18/22 (82% very 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
4.8	4.6
(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: 5.9
(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:	18	67%	22%	11%				4.8	4.4
The course content was:	18	72%	11%	11%	6%			4.8	4.5
The instructor's contribution to the course was:	18	89%	11%					4.9	4.7
The instructor's effectiveness in teaching the subject matter was:	18	72%	11%	11%		6%		4.8	4.5

STUDENT ENGAGEMENT

Relative to other college courses you have taken:	N	Much Higher (7)	(6)	(5)	Average (4)	(3)	(2)	Much Lower (1)	Median
Do you expect your grade in this course to be:	18	22%	33%	22%	17%	6%			5.7
The intellectual challenge presented was:	18	39%	39%	6%	17%				6.2
The amount of effort you put into this course was:	18	44%	33%	17%	6%				6.3
The amount of effort to succeed in this course was:	18	28%	50%	11%	11%				6.1
Your involvement in course (doing assignments, attending classes, etc.) was:	18	39%	50%	6%	6%				6.3

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: 15.5 Hours per credit: 3.1 (N=18)

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%	11%	22%		11%	22%	6%	6%	17%

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

Class median: 10.8 Hours per credit: 2.2 (N=18)

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%	11%	17%	6%	17%	6%	11%	11%	11%	6%	

What grade do you expect in this course?

Class median: 3.7 (N=18)

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
22%	72%	6%												

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

(N=18)

In your major	A core/distribution requirement	An elective	In your minor	A program requirement	Other
17%	6%	50%			28%

STANDARD FORMATIVE ITEMS

	N	Excellent (5)	Very Good (4)	Good (3)	Fair (2)	Poor (1)	Very Poor (0)	Median	Relative Rank
Course organization was:	18	67%	28%	6%				4.8	6
Clarity of instructor's voice was:	18	94%	6%					5.0	3
Explanations by instructor were:	18	83%	6%	11%				4.9	1
Instructor's ability to present alternative explanations when needed was:	18	67%	17%	11%	6%			4.8	13
Instructor's use of examples and illustrations was:	18	67%	22%	11%				4.8	15
Quality of questions or problems raised by the instructor was:	18	78%	11%	6%	6%			4.9	5
Student confidence in instructor's knowledge was:	18	78%	17%	6%				4.9	16
Instructor's enthusiasm was:	18	94%	6%					5.0	9
Encouragement given students to express themselves was:	18	100%						5.0	2
Answers to student questions were:	18	78%	22%					4.9	10
Availability of extra help when needed was:	18	83%	17%					4.9	4
Use of class time was:	18	50%	28%	17%		6%		4.5	18
Instructor's interest in whether students learned was:	18	83%	11%	6%				4.9	11
Amount you learned in the course was:	18	67%	22%	6%		6%		4.8	8
Relevance and usefulness of course content were:	18	67%	22%	11%				4.8	14
Evaluative and grading techniques (tests, papers, projects, etc.) were:	18	67%	17%	17%				4.8	12
Reasonableness of assigned work was:	18	61%	11%	17%	6%	6%		4.7	17
Clarity of student responsibilities and requirements was:	18	78%	6%	11%	6%			4.9	7

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STANDARD OPEN-ENDED QUESTIONS

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

1. Absolutely, I think the course content is incredibly strong. It's presented in a manner that provides a whole lot of broad information about a whole lot of topics, with some deeper dives into more foundational facets, and provides a ton of materials for students to dive deeper into each topic if they wish.
2. It provides example to handle different geospatial data in python. I can conduct a independent project with the skill I learned.
3. Yes. It was intellectually stimulating. This is because the course involved very comprehensive Python coding.
4. Very relevant. Loved it. Eric is an amazing instructor!! One of the best I've had really. He really knows his stuff and cares a lot about the students. Quinn was also super helpful and supportive.
5. This class was intellectually stimulating. This class greatly stretched my understanding of the capabilities of python as a GIS tool.
6. I thought it was a great survey of current geospatial data analysis
7. Yes. I think I learned a lot in this class
8. Yes Eric was great at getting us excited to do the work in terms of topics and technical concepts and really learn.
10. It was a challenging class, in a good way. Problem sets were well thought out and variety of exercises was great.
11. The class was good coding practice but most of the geospatial analysis concepts did not stick with me once the labs were finished.

What aspects of this class contributed most to your learning?

1. I think the class demonstrations / discussions on Mondays. This is new this year and was a great addition as opposed to just running through notebooks, really hit home the concepts presented
2. The demo.
3. Using Python to perform geospatial data analysis. For example, I have used Sentinel-2 dataset to perform vegetation density analysis for the 2025 Los Angeles wildfire event.
4. All the geospatial concepts. Working with xarrays. DEMS, the indicies.
5. Eric did an excellent job teaching this class. The zoom recordings of every lecture were an excellent resource. The teaching materials were exceptionally well organized and presented. The online workbook was excellent. All of the assignments were excellent. Eric provided solutions to the assignments after they were completed, and the solutions were also an excellent resource
6. Eric was passionate and showed the interesting things that are within the realm of GDA
7. I learned form the lab. I don't think the class lectures helped that much because having our screens in front of us was really distracting
8. Eric is really good at making everything super interesting and was always able to help
9. The theoretical explanation of various concepts like PCA, and spatial auto correlation was really helpful. Additionally the explanation of how to create python package was also really helpful.
10. Hands on examples
11. Using github and enforcing good coding practice was helpful.

What aspects of this class detracted from your learning?

1. I think the lab some of the times allowed for others to do work unrelated to the class and such
2. Those loooooooooooooong assignments.
3. I think each of the lab takes more than 10 hours to complete. As I am taking two more classes in this quarter, it is sometimes impossible to allocate the required amount of time to complete the lab assignments each week. Appreciate if you could further shorten the lab assignments to a maximum time of 5 hours per week. This is so that the assignment could be allocated at least 1 hour per day to be done before the dateline. Thank you.
4. It was just a lot of work...hehe
5. No aspects of this class detracted from my learning
6. Not sure, definitely a lot of work
7. What I already mentioned
8. Could've told us to use ChatGPT less during office hours regarding project issues and some labs
10. Honestly, the lab time, while appreciated in some ways as hands on time for labs and a head start for the next week, were just long on some days.
11. Some of the labs focused too much on plot/graph detail rather than actually comprehending the geospatial analysis itself.

What suggestions do you have for improving the class?

1. I have two main suggestions (that are pretty small). 1. keep the class demonstrations and discussions on Monday and make them even more conceptual. I think that having minimal code (code only for showing examples of concepts) was super beneficial to learning the concepts. 2. make the lab sessions more interactive. I believe a lot of people, especially those with less coding experience, would greatly benefit if the instructor walked through the lab with the entire class (as in solving the questions with the students in an interactive manner without giving them the answers). The TA can be off to the side answering questions for those going at their own pace. I understand it's a lot to ask for an instructor to walk through an assignment for 3 hours, so this does not have to be for the entire duration.
2. The assignments are taken way too much time each week, and especially distracted for the last few week when I need to spend more time on the final project.
3. As mentioned above, appreciate if you could shorten the lab assignments to a maximum time of 5 hours per week. This is so that the assignment could be allocated at least 1 hour per day to be done before the dateline.
4. Would be great to have more time to understand how APIs work
5. The only thing I can think of is more discussion and examples of multiprocessing methods for computationally intensive projects
6. I don't know it was a lot of work but really pleasant
7. Introduce the lab before we start getting lectured kn the subject matter so we can see how it applies
8. See upper
9. Most probably we could add a bit more of analysis part involving learning something like PCA etc that are used in geospatial data analysis.
10. Shorter lab sections. 3 hrs on fridays is entirely too long. I think hands on examples were great, but sometimes just watching instructors run jupyter notebooks felt a little tedious during lecture.
11. Some lecture notes/slides presented in class instead of just walking through notebooks.

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.