

BIOL 180 AR  
Introductory Biology  
Course type: Face-to-Face

Evaluation Delivery: Online  
Evaluation Form: H  
Responses: 15/23 (65% high)

Taught by: John Parks, Lea Savolainen, Matt George  
Instructor Evaluated: Matt George-TA

**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
4.5	4.5
(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:

<b>CEI: 5.1</b>
(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 lab section as a whole was:	15	40%	33%	20%	7%			4.2	4.2
The content of the lab section was:	15	40%	27%	27%	7%			4.1	4.1
The lab instructor's contribution to the course was:	15	60%	20%	20%				4.7	4.7
The lab instructor's effectiveness in teaching the subject matter was:	15	60%	27%	13%				4.7	4.7

### 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:	15	7%	20%	40%	20%	7%	7%		4.9
The intellectual challenge presented was:	15	27%	27%	13%	27%	7%			5.6
The amount of effort you put into this course was:	15	27%	40%	13%	20%				5.9
The amount of effort to succeed in this course was:	15	33%	20%	27%	20%				5.7
Your involvement in course (doing assignments, attending classes, etc.) was:	15	27%	33%	20%	20%				5.8

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: 12.0 (N=15)**

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
	20%		7%	7%	13%	13%	20%	20%			

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

**Class median: 10.0 (N=15)**

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
13%	7%	7%	7%	7%	40%	13%		7%			

What grade do you expect in this course?

**Class median: 3.3 (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
	33%	40%	7%		20%									

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
67%	13%			7%	13%

STANDARD FORMATIVE ITEMS

	N	Excellent (5)	Very Good (4)	Good (3)	Fair (2)	Poor (1)	Very Poor (0)	Median	Relative Rank
Explanations by the lab instructor were:	15	47%	27%	27%				4.4	11
Lab instructor's preparedness for lab sessions was:	14	50%	50%					4.5	17
Quality of questions or problems raised by the lab instructor was:	15	47%	47%	7%				4.4	9
Lab instructor's enthusiasm was:	15	53%	27%	20%				4.6	14
Student confidence in lab instructor's knowledge was:	15	60%	40%					4.7	10
Lab instructor's ability to solve unexpected problems was:	15	60%	33%	7%				4.7	5
Answers to student questions were:	15	47%	47%	7%				4.4	12
Interest level of lab sessions was:	15	47%	33%	13%		7%		4.4	4
Communication and enforcement of safety procedures were:	15	53%	40%	7%				4.6	13
Lab instructor's ability to deal with student difficulties was:	15	53%	33%	13%				4.6	8
Availability of extra help when needed was:	15	67%	20%	13%				4.8	3
Use of lab section time was:	15	40%	20%	33%	7%			4.0	18
Lab instructor's interest in whether students learned was:	15	47%	47%		7%			4.4	15
Amount you learned in the lab sections was:	15	40%	33%	20%			7%	4.2	16
Relevance and usefulness of lab section content were:	15	53%	20%	20%			7%	4.6	7
Coordination between lectures and lab activities was:	15	60%	20%	13%			7%	4.7	2
Reasonableness of assigned work for lab section was:	15	67%	33%					4.8	1
Clarity of student responsibilities and requirements was:	15	53%	47%					4.6	6

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## STANDARD OPEN-ENDED QUESTIONS

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

1. In labs, I specifically liked doing hands on labs and working on phylogenetic trees. These topics were fun and challenging to partake in, and I grew to like them more and more over the course of the quarter.
2. Yes this class was somewhat stimulating, the labs did not help though. Some of the lectures did though, it was very engaging in some aspects.
3. Times where my thinking was stretched include reflecting on comments or anecdotes from real world applications suggested by Matt as well as how to present new information to the rest of the class in a concise and clear manner.
4. Yes, I found it intellectually stimulating.
5. Yes. Learning how to think like a scientist was very hard.
6. Yes, because everything in biology requires critical thinking and try to acknowledge new theories with experiments
7. The class was intellectually stimulating so far as it made students think deeper about the topics presented in order to analyze causes of trends illustrated. Was the class intellectually stimulating in that it made me want to look beyond the material, no.
8. Yes. I appreciate that the lab took what we are learning in class and applies it to real concepts, forcing me to have a better understanding of course material.
9. Yes, I really enjoyed labs. I felt that all of the labs were right on with what we were learning in bio and it helped reiterate topics that without lab I may have been confused about.
10. It was intellectually stimulating, as needing to apply understanding of statistical tests and other material and present them from a study based perspective helped me to better learn how to work with and apply the tools such as T-tests that we were introduced to in the course.
11. Yes, it was definitely stimulating! Looking at the way biologists work and their criteria for organizing things definitely changed the way I thought about scientific discovery in general.
12. Labs were intellectually stimulating. Often didn't stretch my thinking further than what we did in lecture, often felt like labs weren't as important in aiding my understanding.

### What aspects of this class contributed most to your learning?

1. The labs by themselves were very helpful in my learning because I appreciate hands on work/material in class. I learn much better with these types of activities rather than in lectures.
2. The lectures, everything else was pretty worthless, including the readings.
3. Anecdotes delivered by Matt (I also appreciated his calm demeanor and understated expertise when answering questions. Cool guy.) Presentation skills (with a group) in addition to practice thinking like a biologist Learning how to navigate Excel Hands-on learning opportunities (especially Antibiotic Resistance Lab and Lab 8-9)
4. I feel the lab section and TA office hours with Matt George contributed most to my learning.
6. Practice in critical thinking.
7. The laboratory sections were of particularly good use to me - the topics covered in lecture were emphasized and made the material clear.
9. I really just liked the chill and open environment. I also liked how we switched around groups and presented in class. I thought it was a nice just how Matt helped and that help was always there if need be.
10. Presentations and use of excel in a realistic scientific fashion helped me to learn how I might be able apply what we learned in class to a real life scenario or situation.
11. Daily reading quizzes, in lab application. Having Matt explain the concepts at the beginning of lab and getting student responses was super helpful! He has a really good way of explaining things in their simplest term and cutting out complications that I often added to ideas. Very helpful.
12. Lab material in lab notebook.

### What aspects of this class detracted from your learning?

1. I don't think that we needed two weeks of labs where we just did presentations, because I learned much more during real experiments.
2. The polling questions and sometimes class go so boring and straightforward it didn't even seem worth to pay attention.
3. Sleep deprivation: My study patterns this quarter amounted to high productivity late at night, making an 8:30am lab start one for tired eyes.
4. I feel the structure of the tests and expectations to word precisely instead of convey your knowledge detracted from my learning.
6. None

7. The amount of time and resources to prepare and present findings was low in some lab sessions - not enough information was provided to feel confident in what each group was doing.
8. Doing statistical tests almost every week became repetitive and uninteresting.
9. Sometimes certain people in the lab groups made it difficult which is why we were assigned random groupings more so that we could work with new people. However everything I disliked did not have to do with Matt.
10. Excel not always working like it should, but you can't control that.
11. It was so early in the morning and I think it made people less energized :( Not a lot of student contribution! Also the manual didn't give the best definitions of things/didn't match the textbook (ex: hypothesis vs prediction)
12. Group presentations, people often didn't pay attention to others presentations. Hard to work with group members, especially when turning in only one assignment for the whole group.

#### **What suggestions do you have for improving the class?**

1. Perhaps with less presentations and more data collecting labs, we could learn more during lab sessions.
2. This class needs to be more engaging and that people need to learn to actually teach what is on the test. The test was 50% harder than the course material taught as in lecture they would give us softball questions.
3. Overall, the format is well thought out.
4. I think Matt did an excellent job with lab section and he was very helpful in his office hours!
6. None
7. N/A
8. I would love to not have to do statistical testing every week! Also I would appreciate the ability to either pick your lab partners or rotate maybe biweekly to get the opportunity to work with different people.
9. I wish that next time you could have been there the whole quarter but of course things do come up. I did however really enjoy our substitute teachers, I felt they were also very prepared and enthusiastic.
10. None
12. Have each person turn in assignments. This would help show and reflect on individual understanding of coursework, and allow for fairness of points given.

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.<sup>1</sup> 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).

<sup>1</sup> 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.