

# Supplemental Material

*CBE—Life Sciences Education*

Hawkins *et al.*

CoC program announcement—PowerPoint slide shown in lecture

# Bio101 Co-curricular Module 1 starts FRIDAY!

We will meet at 3pm  
in Thomas 323

If you

- are a non-major
- would like more support in Bio101 (e.g. time management, study and test-taking skills) we welcome you!

Questions?  
email Dr. Favero  
[cfavero@ursinus.edu](mailto:cfavero@ursinus.edu)



Dr. Favero  
Biology and Neuroscience  
Co-curricular faculty leader



Madeline Wert  
Class of 2020  
Co-curricular peer leader



Yoonjung Kim  
Class of 2018  
Co-curricular peer leader



### **Co-curricular Weekly Schedule of Topics**

Week 1	Introductions, Pre-Assessment, Time Management Skills, and Available Resources (Supplemental Instruction, Office Hours)
Week 2	Creating an Exam 1 Study Plan, Test Taking Strategies, and Active Learning Strategies (brain dump, flashcards)
Week 3	Post-Exam Reflection and get a jump on Unit 2! (notetaking, concept mapping)
Week 4	Post-Exam Biopsy and Office Hours revisited
Week 5	Active Learning Strategies (Teach and Question Sessions, Minute Sketches and Folded Lists)
Week 6	Writing in the Sciences (lab paper)
Week 7	MidTerm Reflection, Assess and Adjust
Week 8	Student Panel (getting involved at Ursinus College and in the Biology Department--cool things students have done such as study abroad, TA, research, biggest academic challenges and strategies), and Post-Assessment

## Co-curricular Peer Leader Online Application

**Name**

**Class Year (as of Fall 2018)**

Sophomore

Junior

Senior

**Ursinus email address**

**Phone Number (where I can reach you live)**

**Please list your final grade in Bio101 (include plus or minus if applicable)**

**Please list your final grade in Bio102 (include plus or minus if applicable)**

**What is your cumulative GPA?**

**Please list all your majors (it's okay if it's one!)**

**Please list any minors (it's okay if it's none!)**

**Please list all the commitments you will have during Fall 2018 (e.g. job, student organizations/clubs, sports, etc.) and the approximate amount of time per week that you will spend on each.**

**Please list any experience you have as either an RA, TA, SI leader, or peer mentor. It's okay if you have none.**

**Please list the courses you will be taking in Fall 2018 with credits.**

**Please describe one challenge you've experienced while at Ursinus (e.g. academic, social, health-related, etc.) that you handled proudly. How did you resolve or overcome that difficulty?**

**Please describe one challenge you've experienced while at Ursinus (e.g. academic, social, health-related, etc.) that you failed to handle proudly. What did you learn from it?**

**What resource/strategy do you utilize now that you wish you had known about (or taken advantage of) your first year? Briefly describe.**

**Why are you interested in serving as a co-curricular peer leader?**

**What characteristics and/or skills do you have that will make you a good peer leader?**

**Please provide the names of TWO Ursinus College SCIENCE faculty members who can serve as references for you. No letter is required, I will contact them for a verbal recommendation.**

**Is there any additional information you believe is important for me to consider, please use this space to let me know.**

Subject: deadline tomorrow! Biology/BCMB/Neuroscience job opportunity

To: All Biology majors, Biochemistry and Molecular Biology (BCMB) majors, Neuroscience majors

- Are you interested in helping students navigate academics?
- Do you enjoy working with students?
- Are you a Biology, BCMB, or Neuroscience major that will have junior standing or above by Fall 2017?
- Do you have a 2.75 GPA or above?
- Would you like to earn some extra cash? (the salary is \$8/hour for 6 hours/week)

If you answered YES! to all of the questions above, I encourage you to apply to be a co-curricular peer leader.

### **What is the co-curricular program?**

A program is intended to enhance the success of first year students that are low-income and/or typically underrepresented in the sciences. Students in the co-curricular program will be enrolled in Bio101; many of them will be SIE (Supporting Inclusive Excellence) scholarship recipients and/or attend Crigler this summer.

Co-curricular students meet once a week for about 90 minutes and discuss how to attain skills needed to be successful in STEM courses. These skills include critical reading, note taking, studying, time management, and scientific writing. During weekly meetings, students will have the opportunity to discuss their current concerns in their STEM classes and get help addressing them. Students will also be formed into study groups and encouraged to meet about 4 hours per week outside of class working on course materials and studying.

### **What are the responsibilities of co-curricular program peer leaders?**

- Attend and assist during the co-curricular program each week during the Fall semester (1:30-4:20pm on Fridays, this time is non-negotiable)
- Hold drop-in hours 1-2 evenings per week (2.5 hours/week on evenings of your choice)
- Meet with Dr. Favero for 30 minutes each week (time can be negotiated upon hire)
- Share your wisdom with co-curricular students about how to best succeed in the sciences at Ursinus
- Help first year students develop and enhance skills to enable their success in the sciences at Ursinus by identifying effective study and time management strategies and campus resources
- Help first year students gain a better understanding of what the science departments/programs at Ursinus have to offer, academically and socially
- Follow up with co-curricular students about their experiences using academic resources (e.g., on campus, identified during co-curricular weekly meetings and/or drop-in hours)

**Ready to apply?** Click here (please use Google chrome as your browser, the application does not display properly in Firefox) <http://goo.gl/forms/zvEcCHguDF>

**Applications due Friday, April 22 by 12 noon**

**Questions? Reply to this email**

**Co-curricular Fall 2017 Pre-Assessment** (please write your name on the back)

1. Have you ever participated in a study group? (circle one)      Yes                      No
2. How effective was your study group in helping you achieve better understanding or higher grades?  
   Very effective                      Somewhat effective                      Not effective at all
3. Before 101, had you ever read a scientific primary literature article? (circle one)      Yes                      No
4. How confident are you about your ability to understand scientific primary literature? (circle one)  
   Very confident                      Somewhat confident                      Not confident at all
5. How confident are you about your ability to explain a scientific primary literature article to family and friends? (circle one)  
   Very confident                      Somewhat confident                      Not confident at all
6. Approximately how many days in advance of a science test do you start studying? \_\_\_\_\_
7. What methods do you currently use to manage your time?
  
8. Since you've been at Ursinus, what methods have you been using to study and understand Bio101 course material?
  
9. Do you typically meet with your instructor outside of class time to aid in your understanding? (circle one)      Yes                      No
10. How soon after each Bio101 class do you review the notes you take in class? (circle one)  
   Within 24 hours after class                      More than 24 hours later but less than 48 hours after class  
   More than 48 hours after class                      I haven't looked at the notes I take in Bio101 yet  
   I don't take notes in Bio101
- When you take notes in Bio101, do you  
Write down everything the professor writes on the board?                      Yes                      No  
Write down questions asked in class?                      Yes                      No  
Write down answers the professor gives to questions asked in class?                      Yes                      No  
Write topic headings?                      Yes                      No  
Write down things the professor is saying that aren't written on the board?                      Yes                      No  
Do something else not listed above?                      Yes                      No  
   If yes, please explain.
11. Since you've been at Ursinus, how have you prepared for Bio101 class meetings?
  
12. How long does it take you to complete the study guide for Bio101 each day?



**From:** Favero, Carlita

**To:** All students that participated in CoC

**Subject:** LAST CALL! Bio101 Co-Curricular Post-Assessment

Hello all! As promised, here is [the link](#) for the co-curricular post-assessment. **Note, your link is unique, so please do not share it. In order to receive extra credit for Bio101, you must attend 8 weeks of the co-curricular program and complete the post-assessment survey.** Even if you do not need extra credit in Bio101 or if you did not attend the full co-curricular program, I would appreciate it if you would fill out the post-assessment. Please let me know if you have any questions, comments, or concerns.

Sincerely,

Dr. Favero (Co-curricular Faculty Leader), Yoonjung Kim '19 (Co-curricular Peer Leader), and Maddy Wert '21 (Co-curricular Peer Leader)

## CoC Post-Assessment

Questions were not numbered on student surveys. Numbers are included here for clarity.

Dear Student, Thank you for completing this survey! It will help us to improve the co-curricular program for your benefit and the benefit of future students. Your responses are completely anonymous. This survey does not record any information concerning the respondents.

1. Which of the following academic strategies did you use in Bio101? (select all that apply)
  - Co-curricular program
  - Supplemental instruction (SI)
  - Tutoring
  - Office hours
  - Study group
  - Other (please write in the text box below)
  - I did not use academic strategies—**If students select this choice, it skips to #6.**
2. Which of the following academic strategies were most beneficial for you? (select all that apply)
  - Co-curricular program
  - Supplemental instruction (SI)
  - Tutoring
  - Office hours
  - Study group
  - Other (please write in the text box below)
3. How often did you use each of these academic strategies? (given option of once a week, twice a week, more than twice a week, only during exam weeks, not applicable)  
  
Co-curricular program  
Supplemental instruction (SI)  
Tutoring  
Office hours  
Study group  
Other (from text box above)
4. Where did you learn about these academic strategies? Please discuss each strategy individually in the text box below.
5. Why were these academic strategies beneficial for you? Please discuss each strategy individually in the text box below.
6. Since the beginning of the semester, my ability to comprehend scientific primary literature has improved (select one):
  - Extremely
  - Moderately
  - Slightly
  - Not at all

7. Approximately how many days in advance of a Bio101 exam did you start studying? Please enter a number of days in the text box below.
8. Since you've been at Ursinus, what time management strategies do you use? (e.g. writing due dates in a planner, figuring out when you have time to study each week, time mapping) Please explain your time management strategies in the text box below. If you did not use time management strategies, please write "none" in the box. **If students select none, it skips to #11.**
9. Where did you learn about these time management strategies? If you gave more than one time management strategy above, please discuss each strategy individually.
10. How often did you attend co-curricular?
- 1-2 times
  - 3-4 times
  - 5-6 times
  - 7-8 times
11. After the 8 week co-curricular program is over, which strategies will you continue to use to study and understand Bio101 course material? Please select all that apply.
- Active learning strategies (please explain which you used in the text box given)
  - Reflective writing
  - Plan of study
  - Other (please explain in the text box given)
12. How soon after each Bio101 class did you review the notes you took in class? (select one)
- Within 24 hours after class
  - More than 24 hours later, but less than 48 hours after class
  - More than 48 hours after class, but less than a week before the exam
  - I didn't review my Bio101 class notes unless it was an exam week
  - I didn't take notes in Bio101 class
13. Please explain reasons why you did not attend the co-curricular program on any given week. If this question does not apply to you, please write "N/A" in the box.
14. What was beneficial to you about the co-curricular program? If the program was not beneficial to you, please write "Nothing" in the box given.
15. What specific suggestions of improvement do you have for the co-curricular program? If you have no suggestions, please write "None" in the box given.
16. Is there anything else you would like us to know?

Thank you for completing this survey!

If you would like Dr. Favero to submit your name for extra credit in Bio101, please click [this link](#).

Clicking on this link does not associate your name with the responses you gave in the survey.

## Exam BIOPsy

In order for you to understand the reason behind missed questions on the exam, you will conduct an “exam biopsy”. For each question that you answered incorrectly, honestly ask yourself: Why did I miss this particular question? Did I miss it because:

- [a] **I did not study** this material.
- [b] I studied this material, **but not with the care and thoroughness** necessary to answer the question.
- [c] I tried to study this material carefully, but **I never truly understood it**.
- [d] I thought I studied this material carefully and understood it, but **I did not understand what the question was asking**.
- [e] I was ready, and I should have been able to answer it, but somehow **I mis-read the question**.
- [f] I was ready, and I knew the correct answer, but for some reason, **I selected the wrong answer or I changed my answer to the wrong one**. If you select this choice, include details about the reason for choosing the wrong answer.
- [g] **Some other reason**--include details about the reason you chose the wrong answer.

To help you figure out which choice to select, look at the correct answer given for each question you answered incorrectly on the exam. Then, go back to your class notes and study guide and find the relevant material for the question. Finally, using a different colored ink than is currently on the exam, put the appropriate letter (and details about reason where applicable) from the choices above next to each question that you answered incorrectly on the exam.

Calculate the following:

- \_\_\_\_\_ % of “a”s (number of missed questions with “a” next to them/total number of missed questions \* 100)
- \_\_\_\_\_ % of “b”s
- \_\_\_\_\_ % of “c”s
- \_\_\_\_\_ % of “d”s
- \_\_\_\_\_ % of “e”s
- \_\_\_\_\_ % of “f”s
- \_\_\_\_\_ % of “g”s

What’s the pattern of your errors?

What is the percent of questions you missed on the exam? \_\_\_\_\_ %

Calculate the percent you lost due to the following:

- \_\_\_\_\_ % trouble applying definitions/ remembering what terms mean (number of missed questions for which this applies/total number of missed questions \*100)
- \_\_\_\_\_ % lack of understanding about concepts
- \_\_\_\_\_ % not knowing how concepts relate to each other
- \_\_\_\_\_ % not knowing information from texts
- \_\_\_\_\_ % not knowing information from class
- \_\_\_\_\_ % careless mistakes
- \_\_\_\_\_ % other, please specify:

Knowing where you struggled most, what practical steps will you take for the next exam? Be honest with yourself; you can't improve if you are unwilling to admit what went wrong. Use the space below to write down at least 3 practical steps you can take as you prepare the next exam.

Once you finish this analysis, attach it to your exam. Do not hesitate to discuss your findings with us and/or your professor during office hours. Don't be discouraged. Doing this exercise is a first step in the right direction: you have identified what you think went wrong and made a plan to correct it so that you can forge ahead.

# Plan of Study: Exam 1

This template, designed by one of the CoC peer leaders, was given to students the week before Exams 1 and 2. For the first exam we explained that the template directed what students should study each day the week prior to the exam and emphasized that the day before the exam should not be used to learn new material. Students were given time in CoC to determine what learning strategies they would use to review the material and when they would review.

Fri 9/7	Sat 9/8	Sun 9/9	Mon 9/10	Tues 9/11	Wed 9/12	Thurs 9/13
<b>Master Friday study guide/class notes within 24 hours</b>			Master Monday study guide/class notes		Master Wednesday study guide/class notes	Review all material again (do NOT try to learn new material the day before the exam)
<b>Prepare study materials (flashcards, concept maps, minute sketches, etc.)</b>	½ study guide for Monday	½ study guide for Monday	½ study guide for Wednesday	½ study guide for Wednesday		
	<u>Review:</u> Days 1-2 of Unit	<u>Review:</u> Days 3-4 of Unit	<u>Review:</u> Day 5 of Unit	<u>Review:</u> Day 6 of Unit	<u>Review:</u> Day 7 of Unit	