

Biocore 383: Cellular Biology

University of Wisconsin-Madison

Course Information

Spring 2023

Overview of the Biology Core Curriculum

The Biology Core Curriculum (Biocore) is a four-semester honors sequence that provides a solid foundation for any biologically oriented field of study. Biocore faculty come from all across campus and are eager to work with you! They are scientists and instructors with diverse expertise—from human genetics to plant pathology, from ecological restoration and evolutionary biology to cellular, developmental and neurological biology. The courses offer an *integrated, research-focused* approach to biology with rich opportunities to practice *scientific communication, problem solving, critical thinking* and *group learning*.

Biocore consists of seven Honors courses (4 lectures, 3 labs) taken over four semesters:

Lecture courses (3 credits)	Lab courses (2 credits)
Biocore 381: Evolution, Ecology and Genetics	Biocore 382: Evolution, Ecology & Genetics Lab
Biocore 383: Cellular Biology	Biocore 384: Cellular Biology Lab
Biocore 485: Principles of Physiology	Biocore 486: Principles of Physiology Lab
Biocore 587: Biological Interactions	

The lecture courses must be taken in sequence since they integrate and build on one another. There is more flexibility to take lab courses out of sequence, however we recommend taking either 382 or 384 prior to taking Biocore 486. For students who choose to study abroad or take a break in the middle of Biocore, it is possible to return to complete the program prior to graduation.

Fulfilling Major Requirements

Biocore is not a major but it fulfills many of the requirements for most biological science majors including Biology, Biochemistry, Zoology and Genetics. Biocore courses fulfill introductory biology requirements, upper level genetics (Genetics 466 equiv), and physiology for some majors (Phys 335 equiv). In addition, students earn Comm-B credit and can fulfill intermediate/advanced laboratory requirement by taking Biocore 486 lab.

Recognition for taking Biocore

All Biocore courses are recognized on your transcript with an ‘H’ designation.

You will be eligible to earn a certificate in the Biology Core Curriculum that will be printed on your transcript as “*Certificate in Biology Core Curriculum Honors*”. To earn this recognition, you must

- Complete all four Biocore lecture courses (Biocore 381, 383, 485, 587) and TWO of three Biocore lab courses (Biocore 382, 384, 486)
- Earn a ‘B’ grade or better in all Biocore courses
- Complete your degree with a cumulative GPA of 3.3 or higher

We realize the hard work and dedication you commit to complete four semesters of challenging Biocore courses. Regardless of whether your goals include earning the official certificate or not, we look forward to working with you ~ and celebrating with a *cupcake* at Biocore graduation!



Honors Learning Outcomes

By the end of your Biocore Honors experience, you will

Be able to

- Reach for and achieve high standards in the quality of your learning
- Actively engage in and practice group learning, collaboration and team work
- Demonstrate a learning mindset and intellectual curiosity for biology that transcends grades
- Demonstrate sophistication in your ability to reason scientifically and integrate your understanding of biology- from molecules to ecosystems and different life forms
- Demonstrate the process of science including development of novel scientific questions, formulate hypotheses, carry out experiments, and make logical conclusions based on evidence
- Demonstrate advanced scientific communication skills, oral and written, and the ability to translate their understanding to the broader community
- Articulate the value of your *Biocore Honors experience*

Gain

- Advanced level biology content knowledge, critical thinking, scientific reasoning, and process of science skills
- A supportive community of academically engaged peers
- A dedicated group of Biocore instructors who will support you in your learning and professional development
- A portfolio of materials demonstrating your research, communication and collaboration skills
- Certificate of *Biology Core Curriculum Honors*

Approved by Biocore Exec Committee 2/9/17

Biocore 383: Cellular Biology

Welcome to Cellular Biology, the second course in the four-semester Biology Core Curriculum. Prerequisites are Evolution, Ecology, and Genetics (Biocore 381) and Organic Chemistry (Chemistry 343). Calculus (Math 221) is no longer required, but it is strongly preferred. (Students with questions concerning prerequisites should check with the Biocore Associate Director, Janet Batzli, 363 Noland Hall).

Course Description

Biocore 383 deals with various aspects of life at the cellular and molecular levels. As is evident from the lecture schedule on pp. 12-13, we will be concerned with several major themes. In Unit 1, Dr. Jeff Hardin will provide an *introduction to cells and cell membranes* and will then discuss *macromolecules* and the *flow of energy in cells*, considering how cells obtain, store, and use energy. In Unit 2, Dr. Shelby O'Connor will take up the *flow of information* in prokaryotes and eukaryotes, including the storage, transmission, and expression of genetic information. The course then concludes with Unit 3 by Dr. Erik Dent on *signal transduction*, focusing especially on the importance of receptor-ligand interactions, cell signaling, cell motility, the regulation of the cell cycle, and cancer. Drs. Hardin, O'Connor and Dent are happy to meet with you to discuss questions you have with course material and will be more available prior to exam weeks.

Course Designations, Instructional Mode, and Attributes

Biocore 383 is a 3-credit Honors, face-to-face, intermediate-level lecture course that includes three 50-minute in-class lectures per week led by Drs. Jeff Hardin, Shelby O'Connor, and Erik Dent, and one 50-minute discussion section led by your graduate TA and supported by your undergraduate TA as listed below in the table. Discussion sections enroll 14-16 students and are a significant component of the course that are separate from lecture, yet guided by the learning objectives introduced in lecture. During discussion sections, you will work together with guidance from a TA to clarify and extend concepts introduced in lecture through activities and problems. You will also have time to ask and discuss questions about lecture concepts, problem sets, exams, and written assignments.

You should plan to spend a minimum of 6 hours outside of regular class hours each week to complete lecture readings and video/podcasts, work on problem sets, and prepare for in class activities and exams. The breath for this course is "Biological Science" and counts toward the Natural Science requirement. The L&S credit counts as Liberal Arts and Science credit in L&S. Biocore courses are honors courses and no additional work is required for honors credit because each course is appropriately rigorous already.

Learning Outcomes for Biocore 383

- *Integrate concepts from Biocore 381 (previous Biocore course in ecology, genetics, and evolution) with what we know, how we know, and what we don't know in cell biology at the intermediate level*
- *Apply scientific concepts, reasoning, and quantitative and qualitative approaches to solve problems in cell biology, cell signaling, and molecular genetics at the intermediate level*
- *Use scientific terms to accurately describe the concepts of cell biology, biochemistry, cell signaling, and molecular genetics*
- *Build logical arguments to explain how cellular systems and processes function*
- *Analyze cell biology problems that require synthesizing knowledge about cellular structure, function, and genetics*
- *Diagram and explain the complex interplay of how cellular function is regulated through biochemical and genetic processes*
- *Make predictions about cell biology and molecular genetics data based on evidence and quantitative reasoning.*

Biocore 383 Scheduling and Enrollment

Biocore will meet in Room 168 Noland Hall at 8:50 AM MWF. In addition, each of you will attend a 50-minute discussion section on Thursdays. Two evening exams are scheduled in person, as indicated in the schedule. Please try to avoid conflicts with these evenings. The third exam will be given on Wednesday May 10th at 5:05pm during final exam week. If you have any questions regarding enrollment or changing discussion sections, contact Carol Borcharding (carol.borcharding@wisc.edu). If you have questions regarding grade records or scheduling a conflict exam, please contact Diana Tapia Ramon (dtapia2@wisc.edu).

Discussion sections will meet in Room 342 Noland Hall. The following lists the discussion sections, the TA, and the undergrad TA (uTA). In addition to the discussion section, please expect to see the TAs and uTAs floating between breakout groups during class. These individuals are there to help you achieve your learning goals in this course.

Section	Time	TA	uTA
301	8:50	Amanda Polanski	Gabrielle Drucker
302	9:55	Amanda Polanski	Gabrielle Drucker
303	11:00	Mollie Comella	Olivia Valentine
304	12:05	Mollie Comella	Olivia Valentine
305	1:20	Abigail Meder	Walter Camp
306	2:25	Abigail Meder	Walter Camp

COVID-19 and other illness policy

There are no requirements to wear a mask in the classroom, but you are more than welcome to wear one. No one should be criticized for wearing a mask or choosing not to wear one. If you are made to feel uncomfortable, please reach out to one of the instructors or TAs.

Please do not come to lecture or discussion if you are sick with symptoms, particularly those consistent with COVID-19. We will record lectures, but they will only be made available to students who cannot come to class because of illness. We have also incorporated flexibility in our grading scheme to allow for the potential that students will need to be absent for illness. These are outlined below. If you have an extended illness requiring additional accommodations, please reach out to your TA, Diana, and/or Dr. O'Connor so we can identify the best path forward to get you access to class materials.

Canvas – Online Course Management System

We will use Canvas to deliver our course materials over the internet. Canvas is a course management system that provides access only to students enrolled in a course and thus enables us to provide course materials in a secure environment. You will be able to use our Canvas site to download copies of course materials. You can log-on at the following web address <http://canvas.wisc.edu>.

Online Materials available through Canvas include:

1. Course information and syllabus
2. Lecture notes and/or slides
3. Online lectures or podcasts to watch prior to class, if necessary
4. Problem sets are available in Word or PDF
5. Biocore textbook (see below)

Required Biocore 383 Materials:

1. TEXTBOOK: Hardin, J. & Lodolce, J., *Becker's World of the Cell*, 10e, (2021)

We will use the 10th edition text, but some of the images in the lecture slides may have come from the 9th edition text. Many figures are similar between the two editions. Biocore 383 participates in the UW-Madison Engage eText Program. Your eText is available from the Engage tool in your Canvas course page. To access your eText and learn more about Engage, follow these steps:

1. In the menu at the left of the screen, click on “Unizin Engage” to open the Engage reading platform.
2. In the top right corner of Engage, click on your initials/photo.
3. Click on the Help link.
4. Click on “Students” to access quick overviews of how to navigate the platform and all the general studying/learning features – reading, note-taking, highlighting, questioning, printing, bookmarking, searching, and collaborating.

Please familiarize yourself with the Engage platform before the first day of class. A short demo of Engage can be found [here](#). Additional resources can be found on the [Engage](#) site. You will be able to print up to 50 pages at a time, for free (not including the cost of printing), via the Engage tool. If you wish to *opt-out* of using the Engage eText, please contact me as soon as possible at sfeinberg@wisc.edu before doing so. Opting out of using Engage has some considerations. Engage works best when viewed online in Firefox or Chrome.

If you wish to request an accessible version of the eText, please contact the McBurney Disability Resource Center as soon as possible. More information is available [here](#).

A personal note from Dr. Hardin: *Becker's World of the Cell* was originally written by its founding author, Dr. Wayne Becker (professor emeritus, UW-Madison Botany department), specifically for teaching in this course. The 10th edition continues this tradition, and you will find that many aspects of the lecture content will dovetail well with your text. We hope it helps you! I also hope that you'll help me. First, we count on you to find mistakes in the text! If you find one, please let me know, as it helps all of us and the *Becker's World of the Cell* author team. Second, in addition to factual issues or typographical errors, I'll be looking to you for suggestions for how to make the book better. I hope you'll take this opportunity to put all of the community-based learning that you've come to expect in Biocore to good use in 383, as we learn together.

2. STUDENT RESPONSE SYSTEM

We will use the iClicker Cloud system that integrates with the iClicker Student Mobile App or Web App. You will need to purchase an iClicker Student App subscription. The subscription is \$15.99 for 6 months, which should cover your costs for the semester.

To get started you must register online using this link <https://join.iclicker.com/MYES> and create an iClicker student account (use your Wisc. email to register). Upon creating an iClicker student account, you will have a two-week free trial period. Before the free trial ends, you need to purchase an iClicker student app subscription. Here are [instructions](#) on how to purchase a subscription (Diana recommends purchasing the subscription using the mobile app). Now you're ready to download the [iClicker Student Mobile App](#). The app can be downloaded to your iOS or Android mobile device through the App Store or Play Store, respectively. Sign in using your iClicker

Student username/password that you created, and you should see that the Biocore course is synced with your account. If you have any concerns about purchasing the iClicker subscription or if you have difficulties obtaining a device to use for this purpose, please speak to Diana dtapia2@wisc.edu.

Biocore 383 Unit Readings, Videos, and Handouts

For each of the units in this course, the lecturer has prepared material available for download via CANVAS (<http://canvas.wisc.edu>). As in 381, you will be expected to download the handouts for each lecture. You are welcome to print them. The material for each unit will indicate appropriate reading assignments in the eText. **You are expected to do the assigned reading *before* coming to lecture; not doing so will make it more difficult to follow the lecture presentations.** The readings are designed to reinforce lecture material. You will **not** be responsible for material not covered in lecture unless **explicitly** stated.

Biocore 383 Exams and Assignments

Your grade in this course will be determined by your performance in several categories. The maximum possible points will be 481, as outlined below:

1. **Exams:** Three exams (2 x 100 + 1 x 120 = 320 points). Each exam will deal primarily with the subject matter of the specified lectures but is likely also to include questions that presume information and understanding from the preceding units. The first two exams will be at night, while the third exam is during the final exam period.
2. **Problem sets:** The best 10 out of 11 problem sets (10 x 10 points = 100 points). There will be a problem set almost every week (see schedule). Only 10 points of the problem set will be graded. *The problem set must be turned in at the back of 168 Noland Hall by 8:50am on Fridays.* We expect assignments will be turned in on time. In the occasional event that you are sick, please do not come to class just to turn in your assignment. In that case, please email your TA, let them know you are sick, *and email your assignment to your TA by 8:50am* on Friday. We will NOT accept assignments from sick individuals that are emailed after 8:50am on Friday.
3. **Discussion activities:** 26 points during 14 discussion sections. Each week, there will be an in-class activity in discussion. We expect everyone will participate. They will be graded on participation. The nature of the activity will differ from week to week. It will be designed to build on material that was learned in lecture over the past week. You will receive 2 points for participation in the discussion in class activity. There are 14 discussion periods. You will be allowed to drop one discussion activity during the semester. That means you can earn a total of 26 points for discussion in class activity. In addition, your attendance in discussion section is mandatory, unless you are sick. Your participation in discussion will be taken into consideration during assignment of final grades.
4. **Participation by poll or breakout group in lecture:** 35 points earned during 40 lecture periods. In-class lecture activities by iClicker questions or in small groups will help you learn the course material and give you practice in developing the “higher level thinking” skills needed to truly understand modern biology. These activities will reflect materials highlighted in lecture and allow you to test your understanding by using the iClicker System, followed by class discussion. These activities are designed to aid your learning in a ‘low stress’ setting. To account for illness and other circumstances during the semester, we will allow you to drop five points for a total of 35 points out of 40 for active participation in lecture. In particular, we want to make sure that symptomatic students do not come to class, which is why we have this flexibility to participation points.

Exam	Points	Date	Time	Emphasis of Exam
Exam 1	100	Feb 28	7:30 PM	Unit 1 (lectures 1-14)
Exam 2	100	Apr 11	7:30 PM	Unit 2 (lectures 15-28)
Exam 3	120	May 10	5:05 PM	Unit 3 (lectures 29-41) and comprehensive

Biocore 383 Exam Policies

All students are expected to take the regular exams as scheduled. Students with academic conflicts for a particular evening exam or McBurney accommodations may communicate with Diana Tapia Ramon, Biocore's High Impact Practice Facilitator, for an early make-up exam to be given earlier on the same day as the evening exam. Permission to take an early make-up exam must be obtained in advance. No other exam arrangements are possible, except in case of personal hardship and then only by prior arrangement with Dr. O'Connor. Exams given after the regularly scheduled exam may be only at the discretion of the lecturer. No make-up exams will be given for exam 3 because that exam is scheduled during final exam week.

For the first exam, please talk to Diana as soon as possible. We would like to know by February 6th if you have a conflict, *but the deadline for the first exam is February 15th*. We need enough time to get the conflict exams scheduled. We will announce similar deadlines for exams 2 and 3 later in the semester.

Policy for Submitting Regrade Requests

You will be able to submit regrade requests. Please give your regrade requests in-person to Diana at her office (361 Noland Hall). You will have 1 week from the time the exam key is posted on Canvas to submit these requests. You will need to include answers to the 2 questions below. Unit instructors (not Diana or TAs) will review regrade requests and will decide if extra points are warranted. When exams are submitted for individual question regrade, unit instructors reserve the right to review the entire exam for regarding. Exam regrade requests should include the following information:

1. State which question(s) are you requesting be reviewed for a regrade.
2. Explain how your answer compares to the answer key and why your answer should earn additional credit.

Biocore 383 Grades

In Biocore, students do not compete with one another for grades, because neither the individual exams nor the overall grade distribution is "curved." The grade ranges are set in advance and we guarantee that you will not receive a lower letter grade than that specified below. ABs and BCs are determined at the discretion of the teaching staff at the end of the semester. No one would be more delighted than the instructional staff should it prove "necessary" (=possible) to give everyone A's, *provided* everyone earns an A! The only "competition" is therefore with our standards of expectation:

<u>Letter Grade</u>	<u>Total Points</u>
A	432.9-481 (90-100%)
B	384.8-432.8 (80-89%)
C	336.7-384.7 (70-79%)
D	288.6-336.6 (60-69%)
F	< 288.5 (< 60%)

Biocore 383 Course Policies

We will continue the practice from last semester of emailing you announcements with the goal of sending

them to you on Wednesday. We will also post key announcements on the Canvas site (<http://canvas.wisc.edu>). It is your responsibility to pay attention to these announcements since most of them will not be repeated in class. Please be on time for class. We also recommend removing distractions during class. Phone and app notifications are both distracting and disruptive. You will get more out of the lecture period if you can focus during the lecture period.

We expect you to hand in assignments on time and appear for the regularly scheduled exams unless you have made specific alternative arrangements in advance. You will find us very willing to make whatever provisions we can to assist you in coping with illness, death in the family, observance of religious holidays or other extenuating circumstances, but you must let us know as soon as you are aware of the problem.

Student Board of Directors (BOD)

We are soliciting student representatives who would like to represent both Biocore 383 and Biocore 384 in the weekly staff meeting which occurs after lecture on Wednesdays. These students will serve as representatives to let the faculty know of issues and concerns of all students in Biocore 383 and 384. The representatives are expected to write a short statement summarizing the meeting. This summary will be included in the weekly announcement by the TAs to all the Biocore 383 students. This is a good opportunity to contribute to course improvement and student advocacy. In addition, as a BOD member, you can get to know the course faculty instructors better. If you are interested in being a student representative, please contact Dr. Janet Batzli or your TA.

Biocore 383 Peer Mentored Study Groups

As we did in Biocore 381, we will offer peer mentored study opportunities for Biocore 383 students. Although we have evidence that consistent participation in a peer mentored study group improves overall performance, this activity is VOLUNTARY and will NOT be graded in any way. In this program, second year Biocore students or alums of the program (juniors & seniors) facilitate study sessions for groups of 5-10 Biocore 383 students. Peer mentors (PM) facilitate weekly study sessions related to the material you will be covering in Biocore 383. It is important that you understand that PM are NOT expected to 'teach,' lecture, or have the correct answers to the questions you have. They are NOT TAs or instructors. They are peer learning guides to help you think about how to approach problems, improve study skills, navigate through material, and broaden your network. We hope that you become more confident in your learning and understanding of cell biology while establishing a relationship with the larger Biocore learning community. Janet Batzli serves as the program advisor. To sign up, look for details coming soon in your course email.

Dr. Janet Batzli coordinates the program together with experienced Biocore alums and Peer Mentor Leaders Ellen Abad Santos, Sarah Fahlberg, and Keeley Kuru who are the undergraduate program assistants this academic year. Look for details about this exciting program coming soon in your weekly email announcements and sign up! If you have any questions, please contact Janet Batzli (jcbatzli@wisc.edu).

Special Needs and Religious Holidays

Please let Diana Tapia Ramon (dtapia2@wisc.edu) know by *February 6th* if you have any special needs that we should accommodate, scheduled absences, a potential exam conflict, or a religious holiday that conflicts with a course activity.

Creating a Diverse and Inclusive Community and Classroom

Diversity is a source of strength, creativity, and innovation for UW-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals. The University of Wisconsin-Madison fulfills its public mission by creating a welcoming and inclusive community for people from every background – people who as students, faculty, and staff serve Wisconsin and the world. <https://diversity.wisc.edu/>

In Biocore, we strive for the utmost equity for all students, TAs, and faculty/ staff. We are a community of students and instructors committed to and in full support of students who identify as Black, Brown, Indigenous, students of color, students with disabilities; students with racial, ethnic, gender, LGBTQ+ diverse identities. Your perspective, your learning, your interests, and your contributions matter within our engaged learning community. Our community and our science depend on engaging and embracing different perspectives and this starts with each of us understanding and recognizing our own biases. It takes a great deal of awareness and self-work to recognize bias and our own lack of awareness/ ignorance on specific topics. As a program, we all need to work on this recognition and how to hold each other accountable. Accountability in this context is a willingness to accept responsibility for ourselves, our intentions, words, and actions—when it comes to mitigating discrimination, microaggressions, and bias in all of its forms.

If you experience or notice discriminatory behavior or language: We, as Biocore program faculty and staff, encourage you to speak up in the moment if it is safe to do so and to let us, Biocore faculty and staff, know. We promise to hold ourselves accountable in the event of any such offenses. If the incident reoccurs despite intervention or you continue to experience bias, do not hesitate to bring this to your instructor's attention and/or report the case through UW Madison's [Bias Incident Reporting system](#)

Accountability: What to do when you do or say something that offended: Apologize, say 'I'm sorry' and take ownership when you have offended someone, even if it was unintentional. Saying nothing to remedy the situation perpetuates inequality. Taking responsibility for your words, actions, and behaviors is how you can be accountable to our community and our inclusive classroom goal. It takes everyone to create an accountable, supportive, and productive learning environment. Biocore thrives when all individuals feel supported, especially those who are historically underrepresented at the university. As a learning community, we hope to support all students and staff to the fullest extent. This relies on instilling a trustful, accepting, and accountable environment for all.

[See strategies and suggestions for navigating difficulties in the classroom](#) (adapted from "Promoting Inclusive Classroom Dynamics in Higher Education" by Kathryn C. Oleson).

Students' Questions and Feedback

The staff of this course, lecturers and TAs alike, welcome your questions, suggestions, and comments. We want to get to know you, and we appreciate your feedback. Our email addresses are listed on page 14. Dr. Janet Batzli serves as Biocore's Director and would be happy to talk with you about any aspect of the program.

Getting to Know You: Our Open-Door Policy

In this course, you will find the staff to be genuinely interested in interacting with students. Toward this end, you are invited to call upon any of us, lecturers and TAs alike, with questions, suggestions, or constructive criticism. Contact by telephone or e-mail is especially convenient. If you want to come in person, it is important to make an appointment in advance, or to stop by during the office hours posted for each instructor. Do not make the mistake of assuming that professors are "too busy to see students." In this course, at least, we find that to be one of the most rewarding times spent with students. Try it—you might like it!

BIOCORE 383: CELL BIOLOGY
Spring 2023 Lecture Schedule

	<u>Lecture or Disc No.</u>	<u>Date</u>	<u>Lecturer</u>	<u>Topic</u>	<u>Problem set due?</u>
Unit 1: Cell structure, Bioenergetics, and the Flow of Energy	1	1/25	Hardin	Introduction: The Cellular Revolution	
	D1	1/26			
	2	1/27	Hardin	Imaging and Analyzing Cells (podcast)	
	3	1/30	Hardin	Studying cells/Cellular Chemistry	
	4	2/1	Hardin	Macromolecules	
	D2	2/2			
	5	2/3	Hardin	Bioenergetics	PS1 due
	6	2/6	Hardin	Enzyme catalysis	
	7	2/8	Hardin	Enzymes (cont.); Membranes	
	D3	2/9			
	8	2/10	Hardin	Membranes (cont.); Transport	PS2 due
	9	2/13	Hardin	Global energy currency: ATP	
	10	2/15	Hardin	Glycolysis & anaerobic respiration	
	D4	2/16			
	11	2/17	Hardin	Aerobic respiration & the citric acid cycle	PS3 due
	12	2/20	Hardin	Citric acid cycle (cont); electron transport	
	13	2/22	Hardin	Oxidative phosphorylation	
	D5	2/23			
	14	2/24	Hardin	Photosynthesis: chloroplasts	PS4 due
	Exam 1			Unit 1 exam Feb 28 from 7:30pm to 9:30pm; Review session time TBD	
Unit 2: Molecular genetics and the flow of information	15	2/27	O'Connor	DNA - structure	
	16	3/1	O'Connor	DNA: Chromatin and Replication	
	D6	3/2			
	17	3/3	O'Connor	DNA: Replication and Telomeres	
	18	3/6	O'Connor	Transcription (<u>watch videocast before class/ICA day!</u>)	
	19	3/8	O'Connor	RNA Processing (ICA day!)	
	D7	3/9			
	20	3/10	O'Connor	Mutation, DNA repair, recombination and transposons	PS5 due
	Spring break!	3/11 to 3/19			
	21	3/20	O'Connor	Revisit Transcription and RNA processing	
	22	3/22	O'Connor	Translation	

	D8	3/23			
	23	3/24	O'Connor	Genomics & Deep Sequencing	PS6 due
	24	3/27	O'Connor	Genomics & Deep Sequencing/Molecular tools for cell biologists	
	25	3/29	O'Connor	Molecular tools for cell biologists	
	D9	3/30			
	26	3/31	O'Connor	Prokaryotic Gene Regulation (<u>watch videocast before class/ICA day!</u>)	PS7 due
	27	4/3	O'Connor	Eukaryotic Gene Regulation (<u>watch videocast before class/ICA day!</u>)	
	28	4/5	O'Connor	Fragile X case study	
	D10	4/6			
	Exam 2			Unit 2 exam April 11 from 7:30pm to 9:30pm, Review session time TBD	
Unit 3: Cell signaling, movement, and the flow of intracellular messengers	29	4/7	Dent	Introduction to Cell Signaling and Cancer	PS8 due
	30	4/10	Dent	Nuclear and Protein Trafficking	
	31	4/12	Dent	Vesicular Trafficking	
	D11	4/13			
	32	4/14	Dent	G-protein Signaling and Second Messengers	PS9 due
	33	4/17	Dent	Calcium and Hormonal Signals	
	34	4/19	Dent	Growth Factors, RPTKs and Steroid Signaling	
	D12	4/20			
	35	4/21	Dent	The Cytoskeleton	PS10 due
	36	4/24	Dent	Motors and Muscles I	
	37	4/26	Dent	Motors and Muscles II	
	D13	4/27			
	38	4/28	Dent	Cell Adhesion and Movement	PS11 due
	39	5/1	Dent	Cell Division	
	40	5/3	Dent	Cell Cycle and Apoptosis	
	D14	5/4			
	41	5/5	Dent	The Cell Biology of Cancer (last day of classes)	PS bonus
	Final Exam			Final exam on May 10 from 5:05pm to 7:05pm, room TBD; Review session time TBD	

BIOCORE 383 STAFF DIRECTORY
Spring 2023

<u>Category</u>	<u>Person</u>	<u>Role</u>	<u>Email</u>
383 Course Lecturers	Shelby O'Connor	383 Course chair, Unit 2 instructor, and Biocore Faculty Director	sfeinberg@wisc.edu
	Erik Dent	Unit 3 instructor	ewdent@wisc.edu
	Jeff Hardin	Unit 1 instructor	jdhardin@wisc.edu
384 Laboratory staff	Janet Batzli	384 Co-Course chair, Associate Director Biocore	jcbatzli@wisc.edu
	Anna Kowalkowski	384 Co-Course chair	akowalkowski@wisc.edu
	Seth McGee	384 Lab manager and knower-of-all-things	seth.mcgee@wisc.edu
383 Teaching assistants	Mollie Comella		mcomella@wisc.edu
	Amanda Polanski		apolanski@wisc.edu
	Abigail Meder		awmeder@wisc.edu
383 undergrad TAs	Walter Camp		wcamp2@wisc.edu
	Olivia Valentine		ovalentine@wisc.edu
	Gabrielle Drucker		gdrucker@wisc.edu
Biocore Administration	Shelby O'Connor	Faculty Director	sfeinberg@wisc.edu
	Janet Batzli	Associate Director	jcbatzli@wisc.edu
	Carol Borcharding	Program Manager	carol.borcharding@wisc.edu
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BIOCORE STATEMENT OF ACADEMIC INTEGRITY

What is academic integrity and why are we promoting it? Academic integrity means being honest about your intellectual work which is fundamental to the pursuit of knowledge. We ask you to sign this honor code as a pact between you and the Biocore Program faculty/staff to abide by the academic rules of conduct laid out by the University. Without these rules of conduct our institution would be severely limited in its capacity to function as a community of higher learning. We encourage you to visit the following web sites and get familiar with the University policy concerning Student Conduct and Disciplinary Rules (<https://conduct.students.wisc.edu/academic-integrity/>). As a student of the University of Wisconsin it is your responsibility to become familiar with, understand, and abide by the general Statement of Principles and Disciplinary Guidelines outlined by the Dean of Students and the UW Board of Regents. These guidelines protect both you and the university if an infraction has occurred. Ignorance of these regulations is not a defense in cases of infringement. So.. Just DON'T Do It!

Definition of Academic Dishonesty. from UW Academic code 14.03.

<https://conduct.students.wisc.edu/academic-integrity/>

"Academic misconduct is an act in which a student:

1. Seeks to claim credit for the work or efforts of another without authorization or citation;
2. Uses unauthorized materials or fabricated data in any academic exercise;
3. Forges or falsifies academic documents or records;
4. Intentionally impedes or damages the academic work of others;
5. Engages in conduct aimed at making false representation of a student's academic performance;
6. Assists other students in any of these acts

“Examples of academic misconduct include, but are not limited to: cheating on an examination; collaborating with others in work to be presented, contrary to the stated rules of the course; submitting a paper or assignment as one's own work when a part or all of the paper or assignment is the work of another; submitting a paper or assignment that contains ideas or research of others without appropriately identifying the sources of those ideas; stealing examinations or course materials; submitting, if contrary to the rules of a course, work previously presented in another course; tampering with the laboratory experiment or computer program of another student; knowingly and intentionally assisting another student in any of the above, including assistance in an arrangement whereby any work, classroom performance, examination or other activity is submitted or performed by a person other than the student under whose name the work is submitted or performed”

Consequences for Academic Dishonesty

To determine whether academic dishonesty has occurred, the instructor and Biocore administrators will meet with the student. In Biocore, students who commit acts of academic misconduct will write letter describing what they did and, if appropriate, apologize to individuals who were involved in the incident. In alignment with the penalties listed in the University's UWS14, Student Academic Disciplinary Procedures we recognize three levels of consequences (1) An oral reprimand; and (depending on the severity of the case) written reprimand presented only to the student; or an appropriate assignment to be evaluated by the instructor or Biocore administrative staff, (2) a lower or failing grade on the assignment, exam, or course; removal of the student from the course or program; and a written reprimand included in the student's university disciplinary file, (3) recommendation for disciplinary probation for up to 2 years, suspension, or expulsion from the University. See misconduct process chart (<https://conduct.students.wisc.edu/documents/academic-misconduct-flow-chart/>)

Biocore Honor Code

You will be asked to sign a statement upon entering the Biocore program during the first week of class in Biocore 381. In order to participate in the Biocore Program you must agree to the following principles:

1. I will report laboratory data honestly and accurately. Under no circumstances will I fabricate data or change data to fit what I think it should be.
 2. All work that I submit under my name to a peer for peer review or to an instructor for final grading will be my own. I will not copy or paraphrase from another student presently or previously enrolled in this course. For projects where collaboration is explicitly permitted, I will list the names of students with whom I worked.
 3. I will not allow another student to copy or "borrow" my laboratory reports or other assignments.
 4. I will not forge or falsify academic documents including graded assignments and examinations
 5. I will not copy from fellow students nor share contents or answers associated with current semester exam or quizzes.
 6. I will strive to make Biocore a community that is based on honesty and integrity.
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UW Student Rights and Responsibilities

Every member of the University of Wisconsin-Madison community has the right to expect to conduct his or her academic and social life in an environment free from threats, danger, or harassment. Students also have the responsibility to conduct themselves in a manner compatible with membership in the university and local communities. UWS Chapters 17 and 18 of the Wisconsin Administrative Code lists the university policies students are expected to uphold and describes the procedures used when students are accused of misconduct. Chapter 17 also lists the possible responses the university may apply when a student is found to violate policy. The process used to determine any violations and disciplinary actions is an important part of UWS 17. For the complete text of UWS Chapter 17, see <https://students.wisc.edu/student-conduct/nonacademic-misconduct/>, or contact the on-call dean in the Dean of Students Office, 608-263-5700, Room 70 Bascom Hall.

No student may be denied admission to, participation in or the benefits of, or discriminated against in any service, program, course, or facility of the [UW] system or its institutions or centers because of the student's race, color, creed, religion, sex, national origin, disability, ancestry, age, sexual orientation, pregnancy, marital status or parental status.

Accommodations for Students With Disabilities

The University of Wisconsin-Madison supports the right of all enrolled students to a full and equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State Statute (36.12), and UW-Madison policy (Faculty Document 1071) require that students with disabilities be reasonably accommodated in instruction and campus life. Reasonable accommodations for students with disabilities is a shared faculty and student responsibility. Students are expected to inform faculty [Dr. Shelby O'Connor] of their need for instructional accommodations by the end of the third week of the semester, or as soon as possible after a disability has been incurred or recognized. Faculty [Dr. Shelby O'Connor] will work either directly with the student [you] or in coordination with the McBurney Center to identify and provide reasonable instructional accommodations. Disability information, including instructional accommodations as part of a student's educational record, is confidential and protected under FERPA."

<http://mcburney.wisc.edu/facstaffother/faculty/syllabus.php>