

Biocore 381: Evolution, Ecology, and Genetics

Course Information

Fall 2016

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: Organismal Biology	Biocore 486: Organismal Biology 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 transcript stamp "*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. We look forward to recognizing your work with this transcript stamp AND a *cupcake* at Biocore graduation!

Welcome to Biocore!



Biocore 381: Evolution, Ecology, and Genetics

This course introduces basic principles of ecology taught by Dr. Evelyn Howell (*course leader/chair); transmission genetics, basic models for inheritance, cell division, an introduction to population genetics taught by Dr. Amy Moser; evidence and mechanisms for evolution taught by Dr. Irwin Goldman; and a short section on classification and diversity of life led by Dr. Howell. Given many opportunities to participate, communicate and actively engage with the materials, you will learn to reason scientifically and solve problems in ecology, genetics and evolution. You will practice writing and communication (381 fulfills the Comm-B requirement), and work regularly in class in small groups of 3-4 students to apply concepts and work through problems with the guidance of instructors.

Learning Goals

By the end of Biocore 381, you should be able to:

1. Understand what we know, how we know, and what we don't know in ecology, transmission genetics and evolution at the intermediate level
2. Apply scientific theory, concepts, reasoning, and quantitative and qualitative approaches to understand and solve problems
3. Use terminology accurately and effectively within appropriate conventions of the discipline
4. Find, evaluate and relate scientific information found in primary scientific literature
5. Build a logical argument based on evidence and scientific reasoning
6. Analyze a problem using a systems approach, recognizing levels of biological scale and organization
7. Work as a member of a productive, collaborative group

Assignments

We have built a number of different types of assignments into *Biocore 381*. All of them are designed to help you achieve the course learning goals; each has a different purpose.

Exams: There are three exams, the purpose of which is for you and the staff to assess what you are learning. The questions (“Biocore Questions”) are short answer format (single or multi-part questions) and often require you to use data and/or a scenario to explain an outcome, make a prediction, develop an hypothesis, or design an experiment. Most often, you are asked to articulate the assumptions you make and the reasoning behind your answers. The first two exams are scheduled for 2 hours in the evening to give you ample opportunity to write. The third is during the final exam period. Each exam will emphasize material from the sets of lectures listed on page 5; however, given the integrative nature of the course, material from earlier parts may be included as part of an integrative question.

Quizzes: Most weeks we will ask you to take a short online quiz at the beginning of your discussion section, covering the recent lecture material. We will use the quiz results to help guide the day’s activities. You can use the quizzes as an incentive to not fall too far behind in learning the concepts we are presenting.

Problem Sets: The nine problem sets contain previews of the kinds of information and skills you will need to acquire to meet the course learning goals. They help you assess how well you really understand the material that we are discussing in lecture in time to ask questions if something is not clear. This is an individual assignment, meaning that you need to answer in your own words and demonstrate that you understand your answer.

In Class Activities: We often include a series of activities during the lecture periods to help you work with the ideas we have just presented, or we have asked you to look at (posted videos or readings) ahead of time. Once again, these are a way for you to assess your understanding, and also a means by which we can identify misunderstandings, or concepts that need more explanation.

Paper: Our paper assignment is designed to give you an opportunity to explore a course-related topic in more depth, to explore primary research articles, and to practice translating technical information to an informed lay audience. Together with the Library Workshop (See pg 4), this assignment helps to fulfill your Comm-B requirement. You will be able to choose a topic that involves ecology, transmission genetics, or both.

Field Activity: One of the best ways to engage in learning ecology is to experience a conservation or research project in the field. In Biocore 381, you are asked to engage in a hands-on activity and then reflect on your experiences in a brief (1-2 page) report. There will be several opportunities to join projects sponsored by Biocore including seed collecting at the Goose Pond Sanctuary in Arlington, WI and work at the Biocore Prairie. The UW Arboretum and the Lakeshore Nature Preserve will also sponsor projects; most of these are on the weekends. These opportunities will be available in September or October, so be sure to plan accordingly. If you would like to do an activity but it is not on the list, please ask your Biocore 381 instructor if it would count for credit (it must take you into the field for at least 2 hours and be related to concepts covered in 381). GET INVOLVED and HAVE FUN!!

Please look for opportunities in the Biocore 381 weekly email and sign up at <http://tinyurl.com/fieldactivities>.

Scheduling and Enrollment

Biocore 381 meets at 8:50 MWF in Room 168 Noland. Associated 50 min. discussion sections are listed below. It is very important that you attend the section for which you are registered. Part of your grade will be based on your participation and assignments in discussion section.

Section	Time	Place	TA
301	8:50 R	379 Noland	Alix Jacobson
302	9:55 R	379 Noland	Alix Jacobson
304	11:00 R	379 Noland	Winslow Hansen
305	12:05 R	379 Noland	Winslow Hansen
307	1:20 R	379 Noland	Hannah Meddaugh
308	2:25 R	379 Noland	Winslow Hansen

Learn@UW – On-line Course Management System

We will be using Learn@UW (D2L) to deliver our course materials over the internet. Learn@UW 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 Learn@UW site to download copies of course materials. You can log-on at the following web address <http://learnuw.wisc.edu>.

Texts and Other Materials for the Lecture Course

Evolution, Ecology & Genetics (Biocore 381). This text has been produced especially for Biocore 381 and includes selected portions from *Ecology*, 7th edition by Molles (McGraw Hill, 2016), *Biology*, 4th edition by Brooker et. al (McGraw Hill, 2017). *Genetics Analysis & Principles*, 5th edition by Brooker (McGraw Hill, 2015). This textbook is available only at the UW Bookstore.

Online Materials available through Learn@UW

1. Course Information and Syllabus
2. Lecture notes or slides
3. Textbook indexes
4. Genetics problems from *Genetics Analysis & Principles*, 5e
5. Online-lectures
6. Problem sets and model answers
7. In-class group worksheets
8. Biocore Writing Manual*

*required for lab courses but we will refer to it in Biocore 381 as it is associated with the writing and Comm-B emphasis in the course. The manual is also available for purchase at StudentPrint, located at Suite 3301, 333 East Campus Mall.

Libraries & Communication Skills

The combination of Biocore 381/382 fulfills the University's Communication B (Comm-B) requirement, which means you will have a number of writing assignments in both courses. Comm-B requires that you attend a University Library workshop to learn how to make the most of our fabulous UW Libraries. The workshops build on the skills taught in Communication A courses and cover advanced search techniques to make the finding of references fast and efficient.

Please sign up for 1 (one) Library workshop specifically designed for Biocore students and hosted at Steenbock Library on Sept 21, 22, or 23. Sign up sheets are on the Biocore bulletin board (down the hall from the lab, 341 Noland) during the first week of classes.

Watch these 2 videos before attending Library Workshops

Primary Research Articles:

1. <https://www.youtube.com/watch?v=ACn6siCoXuE&list=UUa0rkcytxtJkJjPMzZsrKA>
2. <https://www.library.wisc.edu/help/research-tips-tricks/intro-to-libraries/>

Before the Workshop watch (all < 2 minutes):

- Searching the Library Catalog
- Requesting a Library Item
- Locating Article Databases
- Searching Within Databases

- **Biocore 381 Assignments, Exams, and Grades**

Course Component	Date	Time	Emphasis	Points	%
Mid-term Exam I	Monday Oct. 10	7:15-9:15 pm	Sept. 7 – Oct. 7	90	55
Mid-term Exam II	Wednesday Nov. 9	7:15-9:15 pm	Oct. 10 – Nov. 7 and comprehensive	120	
Final Exam	Tuesday, Dec. 20	7:45-9:45 am	Nov. 9 – Dec. 14 and comprehensive	140	
Problem Sets	Sept 16, Sept 23, Sept. 30, Oct 21, Oct. 28, Nov. 4, Nov. 18, Dec. 2, Dec. 9	Due before Lecture starts		80*	13
Quizzes	Online most weeks			30	5
Ecology / Genetics Papers	Dec. 1	Due before Disc starts		100	17
Library Workshop	Sept. 21, 22, or 23	Varies, sign up		10	
In-class Activities (ICAs)	Weekly	In lecture, varies	10 pts. / lecture unit (Ecology, Genetics, Evolution/Diversity)	30	10
Field Activity	Nov. 21	Due before Lecture starts		10	
Participation				25	
Total				635	

*There are nine problem sets worth 10 points each. At the end of the semester, we will drop the lowest score

%	Letter Grade
90	A
80	B
70	C
60	D

You are not in competition with anyone for a grade since neither the course as a whole nor the individual exams are curved. Intermediate grades (AB and BC) will be used at the end of the semester at the discretion of the teaching staff for scores on the borderlines. No one would be more delighted than the staff of this course if everyone earned an A!

Tips for doing well in Biocore 381

- ✓ **Take Notes and Ask Questions During Class.** Lecture materials (i.e. lecture notes or Powerpoint slides) will be available on Learn@UW. Each instructor will announce what type of materials will be available and when they will be posted (usually at least 24h before each lecture period). No matter what type of materials are available, make it a habit to take notes! It has been shown that taking notes is a very effective learning strategy, especially when you use the following steps as you write:

1. Summarize (Do not take verbatim notes of everything the instructor says.)
2. Contextualize, and
3. Organize

This process is important for memory and to question what you know and what you don't know. Whether you chose to take notes electronically or long hand (old fashion pen and paper has been found to be more effective... [see research article – “The Pen is Mightier than the Keyboard”](#)) – Make it a practice to take notes!

Asking questions is also a key part of learning. It helps you to frame your understanding, and uncover and discuss inconsistencies. Questions also help your instructors know what is or isn't clear about the concepts they are presenting. We want to help you learn!

Learning how to take good notes and ask questions is a skill. Start practicing now!

- ✓ **Time management** Time is a resource that few of us manage well naturally. Learning how to estimate how long it will take to accomplish a task assumes that you know the magnitude of the task. In learning something new, you actually do not know the magnitude of the task until you get started, and therefore the best practices for time management are:
 - Look way ahead (in the syllabus), break down tasks to small chunks, make 'to do' lists, organize and prioritize your 'to do' list tasks using a daily/ monthly planner, and do a little bit of work everyday.
 - Identify and do a 'recharge activity' that relieves pressure and refocuses. Even a short 'recharge activity' (30 min) can release tension and help you refocus energy so you can be productive.
 - Attending a peer mentored study group on a weekly basis will keep you on task and caught up.
- ✓ **Study Differently.** Biocore focuses on problem solving, making predictions, and explaining ideas based on evidence and logical assumptions. These types of thinking skills require different types of study skills than you may be used to (e.g. flash cards or memorization activities). In order to prepare, you need to study differently.
 - **Participate in a peer mentored study group** to keep you up-to-date with studying and help hone your study skills given guidance from peer mentors who have taken the course and done well. Group study is an excellent way to learn, support, and challenge yourself and each other. Be aware that group study can also give you a false sense of security that you know material, when it is really your group that knows. Make sure to always do the problem sets and other assignments on your own.
 - **Use the Learning Goals** as your guide for reading and for studying. The instructors use the learning goals to create the assessments, the readings and the classroom activities. Use the learning goals to make your own problem sets and questions; generate diagrams and concept maps; create tables and charts to organize notes and summarize topics.

- **Do Problem Sets Individually.** Problem sets are lower stakes opportunities to apply concepts and practice the kinds of reasoning and problem-solving skills you will need for the exams. In fact, many problem set questions come from old exams. Although you may discuss topics covered in problem sets with your peer mentored study groups, you should not do problem sets during PM study group time. Rather, go away from your group and answer the questions individually. Doing problem sets individually will help you avoid a false sense of security thinking you know the material when you may not; and will help you identify knowledge gaps, questions you have, and areas for improvement before the higher stakes exams.
 - **Invest in In-class Activities (ICAs)**- short activities and worksheets done individually or in groups during lecture. You will be assigned to a 4-person learning team, made up of students who share the same lecture discussion section. During ICA days, please sit with your team and pick up your team folder containing information you will need. We will ask your team to work together on the activity for 5-20 min after which time we will have a group discussion. Each of the 3 course units will have 10 points for ICAs (not all are graded). ICAs give you practice in applying concepts with the benefit of guidance & immediate feedback from instructors. Research on learning indicates that students who actively engage in learning during class improve their overall achievement. See evidence here: <http://www.pnas.org/content/111/23/8319.full.pdf> (“Large-Scale Comparison of Science Teaching Methods Sends Clear Message”)

Your participation in ICAs is important to you and your team member’s learning therefore, **please notify Professor Howell** before class via email, if you are ill, or if you will be absent for some other valid reason. **Note:** Be sure to **sign** your name to the master worksheet, but **do not sign** the names of your team members. **Doing so is considered a form of academic misconduct.**
 - **Do (and redo) the Practice Problems (especially the genetics problems posted on Learn@UW) and Answer the Study Questions.** Do not make the mistake of simply looking at an answer sheet and thinking you understand how the solution was derived.
 - **Watch On-line Lectures** before (and after) lecture. These are short animated and narrated slide sets delivered via Learn@UW course page. You should view and take notes(!) on these before the lecture indicated in the syllabus in order to be prepared for the ICA on those days.
- ✓ **Be Responsible - Don’t Cheat.** In this high stress world, where time and quality of work sometimes seem at odds, there are many temptations to take short cuts. Unfortunately, short cuts and cheating undermine the very reason you are here – to learn concepts and develop skills. Learning is challenging (especially in an honors course). Learning takes time and often requires bouts of hard work and sometimes ‘failure’ before achieving success. If you find yourself running out of time, contact your instructors and let them know what’s happening and discuss consequences of late work (usually 1 grade/day). We will handle illness and personal emergencies by allowing you to drop your lowest problem set score. In addition, if you choose to work together with other students (collaborate) on problem sets, you must list the names of your collaborators on your assignment. Each student must write her/his **own answers**, in his/her **own words**, after working with the group. Assignments containing identical answers **will be investigated** as plagiarism with potential consequences outlined on the Biocore statement of academic integrity. Don’t let these times of challenge lead you to cheat or in any way compromise the Biocore Honor Code (last page of this handout).

Course Administration

Dr. Howell serves as the chair of Biocore 381. Grading questions can be taken up with Dr. Howell (eahowell@wisc.edu). Carol Borcharding (carol.borcharding@wisc.edu) is the Program Manager and is

the first person to contact for questions regarding course enrollment, section changes, signing up for early make-up exams (allowed only for valid reasons), and any special needs. Carol Borcharding is in the Biocore main office, 345 Noland Hall.

To minimize the amount of class time taken up with administrative details, all announcements and information of general interest will be sent to you on Wednesday afternoon by email. It will be your responsibility to read this email routinely, since most announcements posted there will *not* be reiterated in class.

Biocore Peer Mentoring Program

This year we will be offering a Peer Mentoring program in Biocore 381. In this program, second year Biocore students or alums of the program (juniors & seniors) will be leading study sessions for groups of 5-6 Biocore 381 students. Checkout this video to learn more about Peer Mentoring in Biocore <http://www.youtube.com/watch?v=Z9vTwijMvNA>. If you decide to participate (participation is VOLUNTARY), we ask that you commit to come to at least the first 5 weeks of the semester. After that, you may switch groups or stop attending if you do not find it helpful. Guidelines for participation and sign up sheets will be available during the second week of classes.

Peer mentors facilitate weekly study sessions (1-2h) to study material related to the material you will be covering in Biocore 381. As a participant in these groups, it is important to note that peer mentors will NOT be expected to have the answers, rather they will serve as peer learning guides. The peer mentors will help you think about how to approach problems, develop study skills, and navigate through the material most effectively. As a result, we not only hope that you become more confident in your learning and understanding of the material, but that you establish a relationship with the larger Biocore learning community.

Dr. Janet Batzli coordinates the program together with Biocore Alumni Allison Hare (ajhare@wisc.edu), Conor Hillert (hillert@wisc.edu), Meghna Kurup (mkurup@wisc.edu), and Jake Nelson (jpnelson5@wisc.edu), who will be the undergraduate program assistants this fall. If you have any questions please contact program assistants or Janet Batzli (jcbatzli@wisc.edu). Look for details about this exciting program coming soon in your weekly email announcements and get involved!

Creating an Inclusive Classroom

In Biocore, we strive for the utmost equity for all students, TAs, and faculty/ staff, regardless of race, ethnicity, gender, sexual orientation, (dis)ability, socioeconomic status, country of origin, or religious affiliation. 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. Most of us stumble at times, so we all need to practice.

If you experience or notice bias

Share when you first experience or notice bias. If you are further offended and 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](#)

If you mistakenly say or do something you wish you hadn't—apologize, say 'I'm sorry' and take ownership when you have offended someone, even if it was unintentional.

Discrimination and bias are not OK. Saying nothing perpetuates inequality. Speaking up reminds us of our inclusive classroom goal. It takes everyone to create a safe, supportive and productive learning environment. If even one of us feels stifled or unaccepted, we all lose out.

Special Needs and Religious Holidays

Please let Carol Borcharding (carol.borcharding@wisc.edu) know by September 12 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.

Student Job Listings & Finding Research Lab Opportunities

We try to provide a liaison service between students looking for lab or field jobs and jobs looking for students. Look for postings that appear regularly in our weekly announcements. Also see the "Finding Faculty with Whom to Work" section listed under the Links button on the Biocore web site <http://biocore.wisc.edu> (this will be updated soon so keep checking). The following website site is a great guide finding undergraduate research experience in biology labs on campus: <http://biology.wisc.edu>. In addition, there is a list of biology jobs available to undergraduates in Steenbock Memorial Library (across from the circulation desk) and electronically on the UW-Madison Student Job Center's web site under UW (SC) Science <http://jobcenter.wisc.edu>. Other research opportunities are listed on the Provost's web site <http://www.provost.wisc.edu/undergradresearch/>.

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 phone numbers and addresses are on listed on page 13. Dr. Jeff Hardin is the Faculty Director and Dr. Janet Batzli serves as the Associate Director of Biocore. They would be happy to talk with you about any aspect of the program.

Preventing and Reporting Illness

All university departments are being asked to monitor and keep track of student illness in accordance with the UW-Madison Influenza Response Plan. If you need to miss class due to illness please contact your TA and for Biocore 381 Dr. Evelyn Howell (eahowell@wisc.edu, especially if your absence is for more than one week. Under extenuating circumstances, we will work with you to complete course work within a reasonable time.

Other Helpful Information:

1. **Bias Incident Reporting system** Report an incident if you experience or witness bias, prejudice, or discrimination in class or out; in any setting on the UW Madison campus
<https://www.students.wisc.edu/doso/reporting-and-response-to-incidents-of-biashate/>
2. **Sexual Assault, Dating Violence, Domestic Violence, and Stalking - Options for Victims of Sexual Assault, Dating Violence, Domestic Violence, and Stalking (May 2014)**
<http://www.uhs.wisc.edu/assault/documents/evocabrochure.pdf>
<https://www.youtube.com/watch?v=pz2qR8gw25I>

Biocore 381: Evolution, Ecology & Genetics
Schedule for Fall 2016

Week	Date	Lecturer	Title
1	Sept. 7	Howell	The Big Picture: Evolution, Ecology, and Genetics
	Sept. 9	Howell	Introduction to Ecology; Adaptation of Organisms to the Physical Environment

2	Sept. 12	Howell	Adaptation of Organisms to the Physical Environment; Ponds and Prairies *online-lecture 1
	Sept. 14	Howell	Adaptations of Organisms to Biota: Populations: Size, Pattern, Demography
	Sept. 16	Howell	Population Dynamics: Growth Models*online-lecture 2
Assignments due:		1. Online-lecture #1 before class on Sept. 12 2. Read about Natural Systems of Wisconsin <u>before</u> class Sept 12 3. Problem Set 1 Due Friday, September 16, <u>before</u> lecture 4. Online-lecture #2 before class on Sept. 16	

3	Sept. 19	Howell	Populations and Conservation – Rare Species, Exotic Species, Metapopulations. Managing Populations
	Sept. 21	Howell	Adaptations of Organisms to Biota; Communities: Organization and Diversity. Competition
	Sept. 23	Howell	Communities: Predator-Prey Interactions. Mutualisms
Assignments due:		1. Attend Library Workshop 2. Problem Set 2 Due Friday, September 23, <u>before</u> lecture	

4	Sept. 26	Howell	Disturbance, Succession, "Stability"
	Sept. 28	Howell	Community Conservation: Restoration and Landscape Ecology
	Sept. 30	Howell	Ecosystems: Food Webs and Energy Flow
Assignments due:		1. Problem Set 3 due Friday, September 30 <u>before</u> lecture.	

5	Oct. 3	Howell	Ecosystems: Nutrient Cycles*online-lecture 3
	Oct. 5	Howell	Ecosystems: Nutrient Cycles
	Oct. 7	Howell	Global Ecology
Assignments due:		1. Online-lecture #3 before class on Oct. 3	

Exam Review: Sunday, October 9 – 4:30 – 5:30 pm Exam I: Monday, October 10 – 7:15 – 9:15 pm			
6	Oct. 10	Moser	Genetics Overview
	Oct. 12	Moser	Mendel's Principles
	Oct. 14	Moser	Probability
Assignments due:			

Week	Date	Lecturer	Title
7	Oct. 17	Moser	Mitosis / Meiosis
	Oct. 19	Moser	Chromosomal Basis of Inheritance
	Oct. 21	Moser	Penetrance, Expressivity, Pleiotropy, multi-alleles
Assignments due:		1. Problem Set 4 due Friday, Oct. 21 <u>before</u> lecture	

8	Oct. 24	Moser	Epistasis
	Oct. 26	Moser	Linkage
	Oct. 28	Moser	Pedigree Analysis
Assignments due:		1. Problem Set 5 due Friday, October 28 <u>before</u> lecture 2. Paper assignment introduced (Due Dec. 1)	

9	Oct. 31	Moser	Chromosomal Aberrations / Mutations
	Nov. 2	Moser	Chromosomal Aberrations / Mutations
	Nov. 4	Moser	Polygenic Inheritance / Human genome project (QTL / GWAS)
Assignments due:		1. Problem Set 6 due Friday, November 4 <u>before</u> lecture	

<i>Exam Review: To Be Announced</i>			
Exam II: Wednesday, November 9 -- 7:15-9:15 pm			
10	Nov. 7	Moser	Polygenic Inheritance (QTL / GWAS)
	Nov. 9	Goldman	Charles Darwin, Man of Curiosity
	Nov. 11	Goldman	Charles Darwin, Reluctant Prophet
Assignments due:		1.	

11	Nov. 14	Goldman	Forces of Evolution: Mutation, Gene Flow, Selection, and Drift in Populations
	Nov. 16	Goldman	Absence of the Forces and the Hardy-Weinberg Equilibrium
	Nov. 18	Goldman	Selection and its impact on Allele Frequency in Populations
Assignments due:		1. Problem Set 7 due Friday, November 18 <u>before</u> lecture	

12	Nov. 21	Goldman	Species Concepts and Speciation
	Nov. 23	Goldman	Molecular Evolution and Tree Thinking
<i>Thanksgiving Recess, Nov. 24 – 27</i>			
Assignments due:		1. Field Activity write up, due Nov. 21 <u>before</u> lecture	

Lecture	Date	Lecturer	Title
13	Nov. 28	Howell	Diversity Overview: History of Life on Earth
	Nov. 30	Howell	Diversity Overview: Modern Prokaryotes and Eukaryotes: Introduction to Major Clades
	Dec. 2	Howell	Bacteria, Archaea, and Protists
Assignments due:		1. Ecology/ Genetics Paper due Thurs. Dec. 1 before Disc. 2. Problem Set 8 due Friday, Dec. 2 <u>before</u> lecture	

14	Dec. 5	Howell	Plants
	Dec. 7	Howell	Fungi
	Dec. 9	Howell	Animals 1
Assignments due:		1. Problem Set 9 due Friday, Dec. 9 <u>before</u> lecture	

15	Dec. 12	Howell	Animals 2
	Dec. 14	Howell	Animals 3

Exam Review to be announced

Final Exam Tuesday, December 20 – 7:45 - 9:45 AM

Biocore 381 Staff Directory Fall 2016

Lecturing Staff

Evelyn Howell, Chair	eahowell@wisc.edu	25E Ag Hall	263-6964
Irwin Goldman	ilgoldma@wisc.edu	337 Moore Ag Hall	262-1624
Amy Moser	armoser@wisc.edu	6107 WIMR	265-6520

Laboratory Staff

Janet Batzli, Chair	jcbatzli@wisc.edu	363 Noland Hall	263-1594
Seth McGee	samcgee@wisc.edu	361 Noland Hall	262-6189

Collaborating Librarian

Barbara Sisolak	bsisolak@library.wisc.edu	119 Steenbock Library	263-2385
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Lecture TAs

Winslow Hansen	whansen3@wisc.edu	431 Birge Hall	
Alix Jacobson	ajjacobson@wisc.edu	524 Noland Hall	262-7431
Hannah Meddaugh	hmeddaugh@wisc.edu	524 Noland Hall	262-7431

Biocore Administration

Jeff Hardin, Faculty Director	jddhardin@wisc.edu	327 Zoo Research	262-9634
Janet Batzli, Assoc. Director	jcbatzli@wisc.edu	363 Noland Hall	263-1594
Carol Borcharding, Program Manager	carol.borcharding@wisc.edu	345 Noland Hall	265-2870

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 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://www.students.wisc.edu/doso/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://docs.legis.wisconsin.gov/code/admin_code/uws/14/03

"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://www.students.wisc.edu/doso/misconductflowchart/>)

BIOCORE HONOR CODE

You will be asked to sign a statement upon entering the Biocore program during the first week of class in Biocore 301. 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.