## FIYS106 MEDICAL MYSTERIES: Neuroscience in Chicago

## Fall Semester 2005-2006

Shubhik K. DebBurman

#### **BASIC INFORMATION**

**Class Hours:** 

Lecture: 8:00 am - 8:50 am M & W Johnson 272

Laboratory: 12:30 pm- 2:20 pm T Johnson 215 or Library 205

**Instructor Office Hours:** 

9 am-11 am MWF Johnson 201

Dropping in: If I am in the office and free of other duties, I'll be happy to meet with you. If I am busy in office or in lab, respect my non-availability and schedule an appointment. *Phone:* 735-6040 (office), 615-2647 (home); avoid calling after 9 pm unless its an emergency. *email:* debburman@lfc.edu. Email is better than phone.

**Peer Instruction** (see vellow handout on Out-Of-Classroom Support for more details on peer instruction)

Peer Teachers: Snezhana Belukov'07 (beluks@lfc.edu)

Peer Writing Consultant: Katrina Brandis'06 (brandka@lfc.edu) &

Katie Hampton'06 (hamptkj@lfc.edu)

Peer Mentors: BIO346 Molecular Neuroscience Students

Library Research Guide: <a href="http://www.lib.lfc.edu/resource/bio.html">http://www.lib.lfc.edu/resource/bio.html</a>

### **COURSE GOALS**

- 1. To learn beginning neuroscience material from lectures, introductory texts, and basic brain anatomy.
- 2. To appreciate that research is integral to solving medical mysteries and to understand the research process.
- 3. To recognize and understand ethical dilemmas in biomedical research.
- 4. To improve your skills in written and oral communication and use it to educate peers.
- 5. To learn to collaborate with peers and develop skills in collective responsibility.

## **DESCRIPTION**

Welcome to Medical Mysteries! This first year studies (FIYS) course is designed to excite beginning students about how the study of the human brain ("neuroscience") connects with biomedical issues in human society. Neuroscience is one of the best funded, actively growing areas of medical research. Uncovering how our brains work is one of the final frontiers for scientific exploration. Unfortunately, neurological diseases are fast becoming the major 21<sup>st</sup> century health concern of the United States. As you mentioned to me in phone conversations this summer, you likely chose this course because you are interested about how your brain helps you think, feel emotions, hear, see, smell, taste, move, talk, read, write, eat, sleep, dream, learn and form memories. Many of you have serious interest in the biomedical/health professions, natural sciences, or psychology; several simply have a strong natural curiosity for the biology of the mind and were drawn to the topic.

Through summer readings, you have already become acquainted with two tragic incurable illnesses by reading <u>Deadly Feasts</u> (prion diseases) and <u>Piecing Alzheimer's Together</u>. You will further explore Alzheimer's by meeting with scientists and medical experts during your Chicago Experience on August 21, by reading Sue Miller's <u>Story of My Father</u>, and by watching Oscar-winning movie *Iris*. Through lecture and classroom discussions, you will not only explore the basic biology of the human nervous system, but also investigate how its dysfunction causes devastating, mysterious medical illnesses. By watching several highly acclaimed documentaries and cinema, you will discover the complex symptoms and biology of Williams Syndrome, Autism, Usher's syndrome, and Schizophrenia. Leading neuroscience researchers from the Chicago area universities will present seminars on the cutting edge of discovery through special visits to LFC. I am confident you will realize that despite astonishing advances, major mysteries remain to be solved. You will debate ethical dilemmas that face society as scientists race towards solving these mysteries and experiment with potential new treatments. You will also dissect real human brains to make connections between its complex structures and human behavior. Lastly, you will collaborate with peer mentors from BIO346 Molecular Neuroscience (the advanced neurobiology course

that I also teach) to organize a campus-wide "brain awareness" week, as part of demonstrating your learning and connecting it to society's concerns.

#### **READINGS**

Introduction to Brain & Behavior, by Bryan Kolb and Ian Wishaw. Deadly Feasts, by Richard Rhodes
Story of My Father, by Sue Miller

#### **EXPECTATIONS**

## **Academic Honesty:**

I have zero tolerance for abuses. Please consult your student handbook regarding academic honesty and the honor system by which you should conduct yourself.

**URL:** http://www.lakeforest.edu/academics/writing/plag.asp

#### Attendance:

**Philosophy:** I will work hard to present to you with relevant information in neurobiology in a lucid and interesting manner. In return, I expect that you will regularly attend my lectures and actively participate in the classroom, lab, and assignments. I will assume that you have read your assignments prior to class so that you can best engage in an informed classroom discussion and gain maximum benefit from my lectures. If you skip class, you will miss out both on valuable new information and possibly an interactive dialog. As a first year student, missing classes is a not a habit you want to cultivate in college. For every class or lab that you miss without a valid (and verifiable) excuse, you will lose 5 points towards your overall grade.

**Punctuality:** My pet peeve is when students arrive late to class. Apart from being disruptive to my teaching efforts, it is also disrespectful of the class.

Absences: Unexcused absences from quizzes, exams, and labs will result in an appropriate loss in points. Health-related absences must be confirmed by student health services. Absences due to religious observations must also be made far in advance. Family or other personal emergencies will require confirmation by the Dean of Student Affair's office. I will make every effort to reschedule a missed quiz or a deadline, as a result of such excused absences.

*Unexcused Late Assignments*: I strongly discourage assignments being handed in late without a valid excuse. AVOID THIS INDULGENCE. Each late day is a 25% deduction in points. No assignment will be accepted three days after it is due.

## Lastly, But Not In The Least:

I am a professor in the LFC Biology Department. I teach several science courses in cell & molecular biology, neurobiology, and human diseases. I conduct biomedical research to understand how neurological diseases, like Parkinson's disease and Huntington disease, occur. Several talented and motivated LFC students (many planning to attend graduate school or medical school) work in my lab and conduct individualized research projects and senior theses. As a teacher, I find few things more satisfying than working with academically motivated, hardworking collaborative students like you. I enjoy giving you diverse opportunities for personal and professional growth and I work closely with you to help you achieve academic success. I am always experimenting with new ways of teaching science to beginning and advanced undergraduates. I expect you will push me hard to do my best job! If you encounter problems understanding the material, please do not hesitate to talk with me. My job here is to help you learn. Your feedback and participation in class is very important. Remember also that I am here to learn from you. I have often found my students to be my most important teachers. I hope this course will be a rewarding experience for all.

## **GRADING**

A. Your Skills at Learning Beginning Neuroscience Material	300	
1. Deadly Feasts Discussion	25	already done!
2. Integrating Alzheimer's: Summer Reading & The Chicago Experience	25	already done!
3. Quizzes: 50 points each (best of five)	250	
Quiz I: Chapter 1-2		
Quiz II: Chapter 3-4		
Quiz III: Chapter 5-6		
Quiz IV: Chapter 7-9 Quiz V: Chapter 10-12		
Final Quiz: Chapter 13-15		
Final Quiz. Chapter 13-13		
B. Your Skills at Connecting Your Brain Structure To Function	125	
1. Functional Anatomy in the Lab	75	
2. Brain Anatomy 101 (for Brain Awareness Week)	50	
C. Your Skills at Engaging & Educating Peers	275	
1. Medical Ethics Project (Learning To Evaluate Scientific Practices)	75	
2. Brain Awareness Project (Learning To Teach Neuroscience To the Public)	200	
D. Your Skills at Communicating By Writing	200	
Response Papers (Best 4 of 5): 50 points each		
1. On Deadly Feasts		
2. On Story of My Father and Iris		
3. On the PBS <i>The Secret Life of the Brain</i> Video Series		
4. On the BBC The Mind Traveler: Oliver Saks Video Series		
5. On A Beautiful Mind		
E. Four Simple Ways to Earn the Last 100 points	100	
1. Demonstrate Resource Use, Creativity, Collaboration	50	
2. Attend at least two public seminars in Neuroscience & Write Summaries	20	
3. Attend Body Works Exhibition & Write Reflection	20	
4. Course Reflection & Survey	10	
TOTAL	1000	

## **Attendance & Grade:**

For every class or lab that you miss without a valid (and verifiable) excuse, you will lose 5 points from this total of 1000.

## **SCALE**

A 900 and above B 800-899 C 700-799 D 600-699 F <600

I rarely curve. If I do, you will only benefit and your grade will not be lower than the scale above. If you are on the borderline between two grades, I may reward improved performances over the semester and may look favorably on your overall use of resources, collaborative ness, and positive intellectual attitude during the semester (see Green Handout).

## **ASSIGNMENTS IN DETAIL**

## A. Your Skills at Learning Beginning Neuroscience Material 250 points

## 1. Deadly Feasts; Summer Reading#1, 25 points

This summer you should have read this fascinating very-easy-to-read gripping account of one of the most enigmatic medical illnesses known, written by the Pulitzer Prize winning author, Richard Rhodes. As you read this book, you should have filled out in reasonable detail the <u>Deadly Feasts Book Discussion Sheet</u>. To be fully prepared for the Deadly Feasts Book Discussion, answer all questions in the sheet. Make a photocopy of this completed discussion sheet and bring both copies to your <u>First Day of Class</u> (Sunday, August 21). Bring the photocopy on the day of class discussion, take down additional notes, and hand in photocopy to me. You are expected to actively participate in class to receive full credit.

## 2. Integrating Alzheimer's: Summer Reading #2 & Chicago Experience, 25 points

This summer you should have also read *Piecing Alzheimer's Together*, by Peter St. George-Hyslop, one of the world's leading Alzheimer's scientists. Only answer Questions 1,2 & 3 for the <u>First Day of Class</u> meeting (Sunday, August 24) and hand in your answers to me. On Tuesday (August 23), the entire freshman class will visit a Chicago institution relevant to their FIYS course. As a student in FIYS106 Medical Mysteries, you will accompany me to downtown Chicago's Northwestern University Medical School. There, we will visit with world-renowned scientists and doctors engaged in cutting-edge scientific research on Alzheimer's Disease and talk with these scientists about the importance of biomedical research in medicine and to society. After this experience, complete Question 4 and submit to me at the next class meeting (August 29).

# **3. Quizzes**, 250 points 50 points each, Best 5 of 6

The Five quizzes (during lecture time; see <u>Schedule</u>) and the Final quiz (during final exam time) will be based on classroom discussions (supported by chapters assigned from your textbook). Quizzes will be mostly objective questions. I will give the first 25 minutes of class-time for each quiz. For each chapter, I will provide a list of concepts that will form the basis of quiz questions. You are allowed to drop one quiz score, since I will use only the best 5 scores towards your course grade. Final Quiz is mandatory.

## B. Your Skills at Connecting Your Brain Structure To Function 125 points

Most students have to wait till medical or graduate school before they can handle human brains. You get to study them first-hand your first semester in college! The brain is simply one of the most fascinating organs of your body. You will get to handle, dissect and learn the basic anatomy of human brains in this class and compare it to sheep and calf brains. After exposing to various aspects of brain function in class, I expect you to learn anatomy by correlating it with brain function. You will be given six weeks (weeks 5-11) to gain this familiarity. During this time, we will spend one hour of Tuesday lab time to focus on certain aspects of brain structure and function.

### 1. Brain Anatomy 101, 50 points

On Week 12, your group will present a hands-on demonstration and exhibit on brain neuroanatomy for the campus public during the brain awareness week on the same topic as your brain awareness week project.

## 2. Functional Neuroanatomy, 75 points

**On Week 13**, you will take an anatomy exam during lab time. Your peer teacher will be happy to conduct a mock anatomy exam on week 11 to help you become used to the exam format.

Form four groups of 3 members each. This group should study anatomy together and conduct the two projects in the next session.

Anatomy is best learned as a group and by repeated exposure to the brains. You should plan on returning to lab during non-lab times to practice your anatomy between weeks 5-12.

## C. Your Skills at Engaging & Educating Peers 300 points

The same neuroanatomy study group should conduct both the following projects. <u>Do not form new groups</u>. Everyone must participate equally within a group.

## 1. Medical Ethics Project (Learning To Evaluate Scientific Practices), 75 points

Two of the above four groups join forces to carry out each ethics project. Each combined group picks two topics.

Neuroscientists are constantly faced with their own ethical dilemmas. Part of being a good scientist is being aware of such issues and knowing how to work with them. You will work with your assigned BIO346 peer mentor to pick an ethical case study from the list below. Your peer mentor will advice this group to prepare a one-hour class presentation during assigned lab hours that discusses the many issues that underlie your assigned case, the choices a scientist faces, and steps to overcome the ethical dilemma. Part of the group's presentation will also be to research real ethical problems that have been highlighted in science journals and the popular media in the last five years that resemble the problem you are discussing. The entire FIYS class should be involved in a broader discussion of the same problem during or after the group's presentation. The peer mentor should not play an active role during the presentation. Instead, he/she should mentor behind the scenes and prepare you for discussion.

### **Ethics Topics:**

## **Ethics Dates**

Promotional Pressures
To be a Consultant ... or Not
A Political Power Keg
Concerning Confidentiality
Sound Practices
Cotter's Quandary
A Subject for Discussion

Week 5 (FIYS106 Lab Time) BIO346 Student will peer lead Week 6 (FIYS106 Lab Time) BIO346 Student will peer lead

### Consult handout on Ethics Case Studies.

I will reserve 15 points for your group to provide me a written summary of your discussion and providing me all consulted materials. Your peer mentors will provide me summaries of your method of preparation and collaboration.

## 2. Brain Awareness Project (Learning To Teach Neuroscience To the Public), 225 points Week of November 7-11, 2005

This is a highly creative and collaborative project designed to provide you with an exciting opportunity to educate the LFC community about a neuroscience topic and to work closely with FIYS peers and senior peers. You will work with your assigned BIO346 peer mentor to pick one topic from among the following four areas of complex brain functions: **Learning & Memory, Emotions, Cognition**, and **Language**. Your peer mentor will help you to design, research and conduct a Brain Awareness Campaign educating the community on the biology underlying this topic on our campus on the week of November 10 (2003). The BIO346 Peer mentor's goal is to motivate, organize, educate, counsel, help plan, and serve as both role model and academic and campus resource. The actual format of how your group decides to conduct outreach is completely open-ended. I encourage you to be highly creative and have a really enjoyable time with this project. Make it personal to you—invest in it. Remember, *I love being surprised*!

## The bottom line for the group's outreach plan:

- -educate the non-scientist about the topic in an interesting and effective way
- -reach a significant proportion of the campus community (middle campus, peak time)
- -combine visual with oral and written forms of communication with some hands-on exercise
- -include a physical display of some kind that can later be showcased in Johnson Science Building
- -reflect the liberal arts (try and combine science with fine arts, theater, humanities, or social sciences)
- -use multiple resources (books, internet, research) and must connect with brain anatomy

## Must address:

Why is this an important human behavior to study? What is the basic way our brain performs this activity? What are the current medical mysteries for this brain activity?

I will reserve 20 points for practicing your presentation as a group in front of your peer teachers a week before the final presentation and for revising the presentation based on feedback. Your peer mentors will provide me summaries of your method of preparation and collaboration.

## D. Your Skills at Communicating By Writing 200 points

All FIYS courses at LFC are writing-intensive.

Response Papers (Best 4 of 5): 50 points each

1. Deadly Feasts, by Richard Rhodes. Textbooks are not the only sources of scientific "facts", "theories", and "hypotheses", Science is conveyed via many other formats: popular magazines, essays, nonfiction books, biographies and autobiographies. In fact, the undeniable excitement underlying scientific discoveries is seldom appreciated in textbooks. Moreover, most textbooks present science as hard facts, which science rarely is. By reading hopefully engage you in discovering the true essence of great scientists: their exciting lives, remarkable discoveries, and brilliant minds. This book is an account of one of most extraordinary controversial scientific adventures in medical science, a mystery that is yet not completely solved, already it has garnered two Nobel Prizes! Your first response paper explores your ability to critique. Write a 1000-word reflection providing a joint assessment of this book for its student readers. Pretend you are a book critic and provide a positive/negative recommendation to read this book justify your recommendation. I will provide some good examples of book /movie reviews, so you can become familiar with content and style. I encourage you to support your opinions in this review using based on the class deadly feasts discussion. *Note:* Do not read published reviews of this book already available in print or the web. Plagiarism will not be tolerated and I have copies of just about all published reviews. The best-written review from this class will be submitted to Stentor, your college newspaper.

You are required to get your draft read by Katie Hampton'06 or Katrina Brandis'06 at the Writing Center a week before it is due. I will reserve 10 points for this consultation. Make appointments ahead of time to see her.

### 2. On Story of My Father and Iris

Sue Miller, one of America's best-selling contemporary novelists, has once again won critical acclaim for her writing: this time, for publishing her latest book which memoirs her role as caregiver to her father's Alzheimer's condition. This vivid portrayal is sure to move you and make you think of neurological conditions with new insight, adding to your Chicago experience at Northwestern Memorial Hospital and the impact of your summer readings. You will also see the Oscar-winning movie, *Iris*, during lab on September 9. This movie is about Iris Murdoch, one of 20<sup>th</sup> century's great British novelists, who also died of Alzheimer's. Your second response paper tests your ability to improve on your first assignment: do more of the same, but do it better. Write a 1000-word reflection providing a joint assessment of this book and the movie for its student readers. Pretend you are a book and movie critic and provide a positive/negative recommendation to read this book and see this movie and justify your recommendation. I will provide some good examples of book /movie reviews, so you can become familiar with content and style. I encourage you to support your opinions in this review using: your summer readings, Chicago trip, and your own personal experiences with neurologies like Alzheimer's, if any. *Note:* Do not read published reviews of this book already available in print or the web. Plagiarism will not be tolerated and I have copies of just about all published reviews

The best-written review from this class will be submitted to EUKARYON for publication consideration, the undergraduate journal of life science scholarship at Lake Forest College.

You are required to get your draft read by Katie Hampton'06 or Katrina Brandis'06 at the Writing Center a week before it is due. I will reserve 10 points for this consultation. Make appointments ahead of time to see her.

### 3. On PBS The Secret Life of the Brain Video Series

The mystery begins in the womb four weeks after gestation. 500,000 brain cells are forming very minute. Eventually, there will be billions of cells and trillions of links, with every cell finding its place and every link carefully organized. How does this happen? Renowned filmmaker David Grubin draws on neuroscience's leading researchers and latest discoveries for answers. This series explores the startling new map of the brain that has merged from the past decade of neuroscience and shares a revelatory view of this complicated organ. You will not only learn startling new truths about the brain, but also voyage inside it.

Video 1: **The Baby's Brain**: Wider Than the Sky Video 2: **The Child's Brain**: Syllable from Sound

Video 3: **The Teenage Brain**: A World of Their Own

Video 4: **The Adult Brain**: To Think By Feeling

Video 5: **The Aging Brain**: Though Many Lives

Your second response paper explores your ability to narrate. Imagine you are a neuron. Pick the part of the brain where you most like to reside! Tell the story of your life (from your birth as neuron till your death) as part of a human being who lives a long productive life but dies from a neurological disease that affects the

part where you live and function. Use insights from the 5-video series on brain development and function during the different stages of a human's lifetime, and from classroom discussions. This creative writing adventure should be in first person and should explain biology in a lay simple style.

The best-written review from this class will be submitted to EUKARYON for publication consideration, the undergraduate journal of life science scholarship at Lake Forest College.

You are required to get your draft read by Katie Hampton'06 or Katrina Brandis'06 at the Writing Center a week before it is due. I will reserve 10 points for this consultation. Make appointments ahead of time to see her.

## 4. On the BBC The *Mind Traveler: Oliver Saks* Video Series **Details of Response Paper TBA later.**

5. On A Beautiful Mind

**Details of Response Paper TBA later.** 

## E. Four Simple Ways to Earn the Last 100 points: GO FOR IT!

#### 1. Demonstrate Resource Use, Collaboration, & Intellectual Enthusiasm, 50 points

How you learn is just as important as what you learn. If you demonstrate positive learning habits, good collaborative ability, and use the placed resources well, I will be happy to award you up to 30 points. Consult Green Handout on how to maximize your efforts.

## 2. Attend One of Two Medical Colloquia Talks, 20 points

I believe that it is important to expose undergraduates to the dedicated scientists who are working at the forefront of research. This semester I will invite several well-known medical experts and researchers to visit Lake Forest College and educate us about their efforts to solve diverse medical mysteries. If you attend any two of these talks fully and submit a one-page summary the next day by 4 pm, you will receive 10 points per talk.

## Fall 2005 Medical Colloquium Talks include:

A. 4:00 pm, October 26, Ethan Graf, Washington University, on Synapse Formation

B. November 7-11 week, date/time TBA, Brain Awareness Week Keynote Speaker

C. 8 am, Dec 1, Daniel Peterson, Rosalind Franklin University, On Neural Stem Cells

D. 4 pm, Dec 1, Nancy Muma, Loyola Stritch School of Medicine, On Alzheimer's Disease

And Guess what, if you attend more than two such advertised talks and submit summaries, each additional talk is bonus of 5 points that will simply be added to your overall course score and grade. Great way to make up for a low score in a quiz or paper! Always make sure your peer teacher notes your presence, when you attend a talk, so that you receive credit.

## 3. Attend Body Works Exhibition & Write Reflection, 20 points

On Tuesday, August 30, we will attend the Body Works exhibit at the Museum of Science and Industry in Hyde Park, Chicago. A one-page summary of this visit is due by September 2, 8 am, in my office. In this summary, pick one aspect of the exhibit that most caught your attention and connected to theme of the course and elaborate on this connection.

## 4. Complete FIYS106 Course Survey, 10 points

I never teach the same course twice the same way. I constantly strive to improve my teaching, refining things that work and changing or removing things that are not effective. You are the best source of advice I use for such revisions. I expect and respect careful, thoughtful feedback from motivated, hardworking students like you. So, I have designed a course survey and a course reflection statement that I will ask you to complete on the last day of class. By this date, you will have all your assignments graded and returned, so you can confidently and accurately self-evaluate your learning and accomplishments.

## YELLOW HANDOUT

## FIYS106: OUT-OF-CLASSROOM RESOURCES

#### **Peer Teachers**

Snezhana Belukov'07 (For Lecture, Lab, Projects) email: beluks@lfc.edu phone: 312-479-7167

Snezhana Belukov'07 is your official peer teacher and is expected to participate in all aspects of this course. She is a biology major and pre-med student. She will attend all lectures and labs. She will hold weekly tutorials in the evenings that I encourage you to attend so that you can review your lecture and classroom discussions and be best prepared for your quizzes. She will also oversee all projects.

## Peer Writing Consultant (Writing Center):

Katrina Brandis'06 <u>email: brandka@lfc.edu</u> <u>phone:</u>
Katie Hampton'06 <u>email: hamptkj@lfc.edu</u> <u>phone:</u>

Katrina Brandis'06 and Katie Hampton'06 are writing consultants at the LFC Writing Center. Both are senior biology majors, have very good understanding of my expectations, and are conducting senior theses in the Biology department this year. Her writing talents and ability to critique peer work is outstanding. For each response paper, you are expected to show your draft to Katrina or Katie a week before the paper is due and revise it to accommodate her criticisms before you hand in your final draft for grading.

#### **BIO346 Peer Mentors**

Kristen Endraske'06 Evelyn Kiernan'06 Crystal Lester'06 Caitlin Paluska'07 Jenny Riddle'07 Tulaza Vaidya'07 Michael White'07 Michael Wollar'06 Michael Zorniak'07

This class will divide into four groups of 3-4 members each for the two collaborative projects: on Medical Ethics and Brain Awareness Week. To each of these groups, two of the above three BIO346 students will be placed as senior peer mentor. They are responsible for successful implementation of your projects and to aid your scientific understanding of the neuroscience subject matter. You are expected to involve them in all aspects of your group projects. In addition to helping you, they will engage in similar ethics and outreach projects in BIO346, the advanced neurobiology course. In fact, their outreach project for BIO346 is closely linked to your project (their research will simply be more in-depth).

## Reference Librarian

Nancy Bohm, reference librarian in Donnelley library, is specialized in sciences. She has been invaluable to my students in other courses. I encourage you to seek her advice on your search for relevant books, papers, web sources for your projects.

Email: bohm@lfc.edu Phone: 847-735-5057

## Library Research Guide: http://library.lakeforest.edu/resource/biology/biofy106.html

This is handy course guide will help you find resources via the library and the internet for your research projects in this course. I expect you to make an appointment with Nancy to learn how to use the library and the course web page. You must have seen her by September 2 (2005). If you meet her individually, I will reward you 5 points bonus towards your course grade. If you meet her in a group of 3 or more, I will reward you 10 points bonus.

## **GREEN HANDOUT**

FIYS106: Tips on Resource Use, Collaboration, & Intellectual Enthusiasm

## You have used resources effectively if you

Did not miss appointments with me and did not wait till the last minute to work on assignments
Consulted regularly with peer teachers when you needed advice or help and attended peer teacher sessions
Incorporated Writing Consultant's feedback on Response papers
Took mock practical exam in preparing for anatomy exam
Practiced your talks in front of peer teachers/peer mentors

## You have collaborated well if you

Contributed equally to developing each group project and participated equally in presenting each talk. Involved BIO346 peer mentor and accorded respect to senior peer.

Provided support for your group members if they needed it.

Did not complain about each other and tried to solve conflicts by talking to each other.

Maintained healthy collegiality and supported other groups by enthusiastic participation in their efforts

## You have demonstrated positive intellectual attitude if you

Were attentive and participated actively in class and lab and pushed me to be even more effective Were prepared ahead in readings and were not absent or late for class, labs, or meetings Demonstrated curiosity and creativity in your assignments Showed personal initiative and leadership (plenty of scope to do so in this class)