








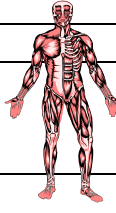







Advanced Human Physiology (Biol 4600)
Schedule of Classes, Spring 2017

<u>WEEK</u>	<u>DAY</u>	<u>SUBJECT</u>	<u>READING IN BOOKLET</u>	<u>CORRESPONDING READING IN TEXT</u>
1	Mon, Jan 9	Brief Introduction and Interactions Between the Cells and the Extracellular Environment, Part #1	3-13	130-142
	Tues, Jan 10	Interactions Between Cells and the Extracellular Environment, Part #1	3-13	130-142
	Wed, Jan 11	Interactions Between Cells and the Extracellular Environment, Part #2	14-23	142-149
	Fri, Jan 13	Interactions Between Cells and the Extracellular Environment, Part #3 Optional Review Session at 4:30 pm in VSB 130	24-29 -----	149-161 -----
	Tues-Thur	Lab #1: Video (no lab points, but questions in upcoming lab quiz and final exam)	2	-----
2	Mon, Jan 16	HOLIDAY 	-----	-----
	Tues, Jan 17	The Nervous System, Part #1	30-38	162-171
	Wed, Jan 18	The Nervous System, Part #2	39-57	172-184
	Fri, Jan 20	The Nervous System, Part #2 Optional Review Session at 4:30 pm in VSB 130	39-57 -----	172-184 -----
	Tues-Thur	Lab #2: WBC Differential Counts and Leukemia (10 points possible)	3-15	-----
3	Mon, Jan 23	The Nervous System, Part #3	58-76	185-205
	Tues, Jan 24	The Nervous System, Part #3	58-76	185-205
	Wed, Jan 25	The Central Nervous System, Part #1	77-93	206-225
	Fri, Jan 27	The Central Nervous System, Part #1 Optional Review Session at 4:30 pm in VSB 130	77-93 -----	206-225 -----
	Tues-Thur	Lab #3: Osmosis and Diffusion (10 points possible)	16-21	-----
4	Mon, Jan 30	EXAM #1 (Last Day to Drop Without Notation on Transcript)	-----	-----
	Tues, Jan 31	The Central Nervous System, Part #2	94-106	225-242
	Wed, Feb 1	The Central Nervous System, Part #2	94-106	225-242
	Fri, Feb 3	The Autonomic Nervous System Optional Review Session at 4:30 pm in VSB 130	107-117 -----	243-265 -----
	Tues-Thur	Lab #4: Reflex Functions (10 points possible)	22-32	-----
5	Mon, Feb 6	The Autonomic Nervous System	107-117	243-265

	Tues, Feb 7	Endocrine Glands, Part #1	118-141	316-341
	Wed, Feb 8	Endocrine Glands, Part #1	118-141	316-341
	Fri, Feb 10	Endocrine Glands, Part #2 Optional Review Session at 4:30 pm in VSB 130	142-151 -----	341-358 -----
	Tues-Thur	Lab #5: Evaluation of Sensory Structures (10 points possible)	33-49	-----
6	Mon, Feb 13	Muscle, Part #1	152-167	359-377
	Tues, Feb 14	Muscle, Part #1	152-167	359-377
	Wed, Feb 15	Muscle, Part #2	168-183	377-403
	Fri, Feb 17	Muscle, Part #2 Optional Review Session at 4:30 pm in VSB 130	168-183 -----	377-403 -----
	Tues-Thur	LAB QUIZ # 1 and Video (5 points possible for attendance)	-----	-----
7	Mon, Feb 20	HOLIDAY*	-----	-----
	Tues, Feb 21	EXAM #2 (*Attend lectures and office hours as if it were Monday!)	-----	-----
	Wed, Feb 22	Blood	184-200	404-414
	Fri, Feb 24	Blood Optional Review Session at 4:30 pm in VSB 130	184-200 -----	404-414 -----
	Tues-Thur	No labs this week!	-----	-----
8	Mon, Feb 27	Coagulation	201-215	414-418
	Tues, Feb 28	Heart	216-235	418-431
	Wed, Mar 1	Heart	216-235	418-431
	Fri, Mar 3	Blood Vessels, Atherosclerosis, Cardiac Arrhythmias, and Lymphatic System Optional Review Session at 4:30 PM in VSB 130	236-251 -----	431-449 -----
	Tues-Thur	Lab #6: Muscles (10 points possible)	50-57	-----
9	Mon, Mar 6	SPRING BREAK	-----	-----
	Tues, Mar 7	SPRING BREAK	-----	-----
	Wed, Mar 8	SPRING BREAK	-----	-----
	Fri, Mar 10	SPRING BREAK	-----	-----
	Mon-Fri	SPRING BREAK (No labs)		-----
10	Mon, Mar 13	Blood Vessels, Atherosclerosis, Cardiac Arrhythmias, and Lymphatic System	236-251	431-449
	Tues, Mar 14	Cardiac Output, Blood Flow, and Blood Pressure, Part #1	254-270	450-468
	Wed, Mar 15	Cardiac Output, Blood Flow, and Blood Pressure, Part #1	254-270	450-468
	Fri, Mar 17	Cardiac Output, Blood Flow, and		

		Blood Pressure, Part #2 Optional Review Session at 4:30 PM in VSB 130	271-293 -----	468-492 -----
	Tues-Thur	Lab #7: Dissection of Sheep's Brains and Examination of Previously Exposed Human Brains (10 points possible)	58-72	-----
11	Mon, Mar 20	EXAM # 3	-----	-----
	Tues, Mar 21	Cardiac Output, Blood Flow, and Blood Pressure, Part #2	271-293	468-492
	Wed, Mar 22	The Immune System, Part #1	294-317	493-514
	Thur, Mar 23	Last day to drop with a "W" on transcript	-----	-----
	Fri, Mar 24	The Immune System, Part #1 Optional Review Session at 4:30 pm in VSB 130	294-317 -----	493-514 -----
	Tues-Thur	Lab #8: Blood Pressure, Heart Rate, Electrocardiography, and Heart Sounds (10 points possible)	73-91	-----
12	Mon, Mar 27	The Immune System, Part #2	318-334	514-531
	Tues, Mar 28	The Immune System, Part #2	318-334	514-531
	Wed, Mar 29	Respiratory Physiology, Part #1	335-352	532-546
	Fri, Mar 31	Respiratory Physiology, Part #1 Optional Review Session at 4:30 pm in VSB 130	335-352 -----	532-547 -----
	Tues-Thur	Lab #9: Blood Coagulation Testing (10 points possible)	92-102	-----
13	Mon, Apr 3	Respiratory Physiology, Part #2	353-361	547-559
	Tues, Apr 4	Respiratory Physiology, Part #3	362-375	559-580
	Wed, Apr 5	Respiratory Physiology, Part #3	362-375	559-598
	Fri, Apr 7	Physiology of the Kidneys, Part #1 Optional Review Session at 4:30 pm in VSB 130	376-392 -----	581-598 -----
	Tues-Thur	LAB QUIZ #2 and Video (5 points possible for attendance)	-----	-----
14	Mon, Apr 10	EXAM #4	-----	-----
	Tues, Apr 11	Physiology of the Kidneys, Part #1	376-392	581-598
	Wed, Apr 12	Physiology of the Kidneys, Part #2	393-405	598-618
	Fri, Apr 14	Physiology of the Kidneys, Part #2 Optional Review Session at 4:30 PM in VSB 130	393-405 -----	598-618 -----
	Tues-Thur	Lab #10: Glucose Tolerance Test, Urinalysis, and Kidney Dissection (10 points possible)	103-116	-----
	15	Mon, Apr 17	Physiology of the Kidneys, Part #2	393-405
	Tues, Apr 18	The Digestive System, Part #1	406-427	619-636

	Wed, Apr 19	The Digestive System, Part #1	406-427	619-636
	Fri, Apr 21	The Digestive System, Part #2 Optional Review Session at 4:30 pm in VSB 130	428-447 -----	636-660 -----
	Tues-Thur	Lab #11: Semen Analysis and Examination of Testes (and evaluations of TAs and UAs) (10 points possible). Confirm your points earned to-date in lab with your TA during this lab! (The TA will make a note that this meeting occurred so there are NO disagreements later about your lab points!)	117-140	-----
16	Mon, Apr 24	The Digestive System, Part #2	428-447	636-660
	Tues, Apr 25	Reproduction, Part #1: General Information	448-464	702-712
	Wed, Apr 26	To be announced	-----	-----
	Fri, Apr 28	To be announced Optional Review Session at 4:30 pm in VSB 130	----- -----	----- -----
	Tues-Thur	Lab #12: Video and Discussion on Natural Childbirth (5 points possible for attendance)	141-142	-----
17	Wed, May 3	Comprehensive Final Exam 3:30-5:20 PM	-----	-----



Advanced Human Physiology (Biol 4600)
(5 credits)
Spring 2017

A. Instructor: Dr. Andy Anderson (Please call me Andy!)
Address: Biology Department
VSB 231
Utah State University
Logan, UT 84322-5305
Phone: 797-1913 (If I'm not in, leave a message on my voice mail.)
E-mail: andy.anderson@usu.edu

B. Teaching Assistants (TAs) and Undergraduate Aides (UAs):

1. There are TAs and several volunteer Undergraduate Aides assigned to this course. Their names and office hours will be provided during the first days of class.
2. Historically, students who utilize the TA and UAs faithfully earn higher grades!

C. Meeting Times:

1. **Lecture** (index # 10483) – This class meets on Mondays, Tuesdays, Wednesdays, and Fridays for 50 minutes of lecture from 3:30-4:20 PM in VSB 130. There is an optional review session every Friday at 4:30 PM in VSB 130.
2. **Laboratory** – There are three current laboratory offerings which meet in **VSB 219**. Students are **required** to sign up for one laboratory section per week. Please go to the laboratory you regularly attend! **Don't move around because the TAs need to keep track of your points earned in lab!**

Index #	Section	Day	Time
10484	501	Tuesday	11:00 am - 12:50 pm
10485	502	Tuesday	1:00 pm - 2:50 pm
12673	503	Thursday	1:30 pm – 3:20 pm

D. Required Materials for Biol 4600:

1. Stuart Ira Fox's book "*Human Physiology*", 14th edition. This text is available at the USU Bookstore.
 - a. This text has a nice glossary at the back of the book on pages G1-G19.
 - b. If you are interested in using the "Connect" features (which are optional for this class), the Connect URL for our text is
<http://connect.mheducation.com/class/a-anderson-smartstart-course 1>
2. Course booklets (3 volumes) which contains all needed lecture notes, supplemental articles, and laboratories. These booklets are available at the USU Bookstore.
3. ¾ length lab coat (these are for sale at the USU Bookstore).

E. Optional Materials for Biol 4600:

1. It is recommended (but not required) that students have one other physiology text available for study. An extra text will often serve to clarify points which are confusing, or reinforce those which are considered important.
2. I used to suggest that students purchase a medical dictionary, but now most students can just look words up on their smart phone.

F. Course Booklets:

1. For each lecture in this course the student is provided with an outline of the subjects to be discussed that day. These outlines are designed to guide your participation during the lectures and also to guide you in your reading of the textbook. These outlines typically have articles attached on which you will be tested. All of these outlines and articles have been collected into course booklets for your use.
2. If there is information in your textbook that is not mentioned in class, or not mentioned in the course booklets, it will not be on the exam.
 - a. You are encouraged to read supplemental information in your text, but you will only be tested on what is cited in the course booklet or in our class discussions.
 - b. Note that the booklets often requires you to read articles in the text [i.e.: *Read the "Clinical Application on page 54]* for use on your tests!

G. Lecture Recordings and Images

1. The audio recording of the lectures and review sessions, and the images used, will be available on the Internet shortly after the lectures and reviews are over. You can access them by going to the CANVAS site for this course.
2. Hopefully, the lectures and images from spring 2016 will be there as well. Note that this semester we skip over the initial chapters (most students have learned this beginning information in other classes) and start with Chapter 6: Interactions Between Cells and the External Environment”.

H. Examinations, Quizzes, and Lab Points for Biol 4600

1. There will be four one-hour exams of 100 points each and a two-hour comprehensive final exam (over everything except articles used in earlier exams) worth 200 points. The lecture notes, **class discussions**, handouts, laboratories, and occasional articles distributed in class will be used to formulate exam questions.
2. **There will be two lab quizzes (50 points each) presented in the laboratory that will be prepared and administered by the TAs.**
3. Students will have the score on their lowest hourly exam dropped. Their grade will be calculated using the remaining three hourly exams, the lab quizzes, the lab points (for pre-lab quizzes and attendance), and the final. (If you miss a lecture exam, that is the one which will be dropped).
4. Those students who (“heaven forbid!”) score less than 70% on the first two exams **should seriously seek intensive tutoring or drop the class.**
5. As indicated on the course schedule, there are points that are earned for every laboratory this semester (total of 115 possible). These will be recorded by your lab TA.

- a. Students have the ability to earn 5 points for a pre-lab quiz at the start of each of the 10 **active** labs and an additional 5 points for attendance.
 - 1) For those **passive** labs when you only watch a video (following the lab quizzes) or when you listen to my wife, there is no pre-lab quiz and you will only earn the 5 points for attendance.
 - b. The pre-lab quiz will be 5 questions over the lab that is to be done that day and it will start at 3 minutes after the scheduled lab starting time! It will only last for about 5 minutes.
 - c. This pre-lab quiz accomplishes two things: it insures you are to your lab on time and it makes the TAs and UAs happy because you have looked over the lab before arriving and ready to answer the pre-lab questions.
 - 1) If a student arrives in the lab too late to take the pre-lab quiz, they will NOT be allowed to take the pre-lab quiz. Remember one of the purposes for this pre-lab quiz is to have student arrive on-time!
 - d. **Each TA** in each of the respective labs will create 5 straightforward questions for the students to answer, print up this pre-lab quiz before lab, score it, and keep a record of points earned (5 points per pre-lab quiz) to be turned into to me at the end of the semester.
 - 1) The scored pre-lab quizzes can be returned to the students at the next lab.
 - e. **Each UA** will take attendance (worth 5 points) at some point in the lab (usually after one hour) and give that list to the **TA** for recording.
 - f. So, the **TA** will be keeping a permanent record of the points earned from the pre-lab quiz and from attendance (with the help of the UA).
6. The letter grade is based on the percentage of total points earned on their three highest hourly exams (100 points each), the two lab quizzes (50 points each), the final (200 points), and points earned in the laboratory for pre-lab quizzes and attendance (115 points). **THERE IN NO EXTRA CREDIT OR SPECIAL PROJECTS TO IMPROVE YOUR GRADE.** The breakdown is as follows:

Actual Points Earned	Percentage of Total Points Earned	Grade
661-715	93-100	A
640-660	90-92	A-
611-639	86-89	B+
590-610	83-85	B
568-589	80-82	B-
540-567	76-79	C+
518-539	73-75	C
497-517	70-72	C-
468-496	66-69	D+
425-467	60-65	D
424 or less	59 or less	F

6. Up through the last office hour you are invited to see me or the TAs to view the exam keys and debate your scores. **After the last office hour I will only discuss the final exam with you, not your scores on earlier tests or quizzes.**
7. You **MUST** confirm your points earned in lab with your TA as indicated on the schedule two weeks before the end of classes.

I. Course Goals:

The main goal of this course is to give students a **detailed** understanding and working knowledge of the functioning of their own bodies. Numerous medical examples will be provided to illustrate the importance of the systems presented. The *Clinical Applications* and other medical citations from the text will be specifically reviewed at the regular Friday review sessions.

It is expected that upon successful completion of this course students will be able to effectively apply the knowledge gained in more advanced courses, in their careers, and in their daily lives.

J. Student's Responsibilities:

The student is expected to attend all lectures and laboratories, take supplemental notes, read the assigned readings, refer to suggested references as needed and achieve a cumulative score of greater than 75% on the exams. To prepare for the exams students should study about 2 hours per day outside of class (make charts or lists, write practice questions, analyze articles, etc.)

In the event there is some difficulty, it is the **student's responsibility** to contact the instructor, UAs, or TA for advice or assistance. Free tutoring is available with the TA and UAs.

K. Instructor's Responsibilities:

The instructor is expected to attend all lectures, read the assigned reading, present supplemental articles, and prepare examinations which are fair and representative of the material covered. The instructor will also be available at posted office hours to answer **specific** student questions and provide needed assistance.

L. Teaching Assistants and Undergraduate Aides' Responsibilities:

There are several TAs and several UAs assigned to this course each semester. The TAs and UAs will come to the lectures as needed so that they will be qualified tutors for each of your exams. Some of the UAs will attend the review sessions each week where the *Clinical Applications* and other medical examples from the text will be reviewed and students are quizzed by the UAs with questions the UAs have prepared. The TAs and UAs will assist the instructor in writing the lecture exams. The TAs will correct and score the exams promptly after they are taken by the students. The TAs and UAs will have published office hours to provide help to interested students. **(If the TAs or UAs fail to show up at his/her office hour, please let me know!).**

The TAs and UAs are also expected to attend their individual laboratories, prepare pre-lab quizzes, take attendance, have all the necessary materials available, and be

knowledgeable about the scheduled lab exercises. The TAs and UAs will write and administer two lab quizzes. After correcting these quizzes they will turn them in to Andy for grade recording and posting.

M. Library References:

1. A copy of the course textbook, "*Human Physiology, 14th edition*" is on reserve at the Media Collections Department in the Library.
2. Check the subject index in the Library to find additional useful books on physiology and anatomy.

N. Below you will find a University statement on Academic Honesty.

1. **DO NOT REMOVE ANY EXAMINATION MATERIALS FROM THE CLASSROOM OR LABORATORY ON EXAM DAYS!**
2. **DO NOT COPY OR REMOVE ANY EXAMINATION MATERIAL FROM THE TEACHING ASSISTANTS' OFFICES!**
3. If you fail to follow these rules, I will make every effort to subject the offender to the disciplinary procedures designated by the University.

Honor Pledge

Students will be held accountable to the Honor Pledge which they have agreed to: "I pledge, on my honor, to conduct myself with the foremost level of academic integrity."

Academic Dishonesty

The Instructor of this course will take appropriate actions in response to Academic Dishonesty, as defined the University's Student Code:

Acts of academic dishonesty include but are not limited to:

1. Cheating: (1) using or attempting to use or providing others with any unauthorized assistance in taking quizzes, tests, examinations, or in any other academic exercise or activity, including working in a group when the instructor has designated that the quiz, test, examination, or any other academic exercise or activity be done "individually"; (2) depending on the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments; (3) substituting for another student, or permitting another student to substitute for oneself, in taking an examination or preparing academic work; (4) acquiring tests or other academic material belonging to a faculty member, staff member, or another student without express permission; (5) continuing to write after time has been called on a quiz, test, examination, or any other academic exercise or activity; (6) submitting substantially the same work for credit in more than one class, except with prior approval of the instructor; or (7) engaging in any form of research fraud.
2. Falsification: altering or fabricating any information or citation in an academic exercise or activity.
3. Plagiarism: representing, by paraphrase or direct quotation, the published or unpublished work of another person as one's own in any academic exercise or activity without full and clear acknowledgment. It also includes using materials prepared by another person or by an agency engaged in the sale of term papers or other academic materials.

Full text of the Student Code available at available at available at
<http://www.usu.edu/studentservices/pdf/StudentCode.pdf>:

O. Students with Disabilities

Students with physical, sensory, emotional or medical impairments may be eligible for reasonable accommodations in accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973. All accommodations are coordinated through the Disability Resource Center (DRC) in Room 101 of the University Inn, 797-2444, 797-0740 TTY, or toll free at 1-800-259-2966. Please contact the DRC as early in the semester as possible. Alternate format materials (Braille, large print or digital) are available with advance notice.

P. Unacceptable Classroom Behavior

Since a significant goal of this class is to prepare each of you for your upcoming exams, then behavior that disrupts the classroom environment will be discouraged.

1. Once class has started, **cell phones should be silenced** and no ring tones or conversations are permitted.
2. Once class has started, **talking and whispering among students is strongly discouraged**. If you need to talk, please leave the class and conduct your conversation outside. If students persist in talking among themselves during class, they will be asked to leave the room so other students can benefit from the limited amount of class time available.
3. Use of laptop computers in class is acceptable, provided it is utilized for notes or materials used in this class. **It is not acceptable to use your computer in class for recreational purposes or for doing work for a different class**. When you come to this class it is expected that you will focus your attention on this class and not engage in computer activities that detract from the classroom experience or that will distract your classmates. If the problem persists, you will be requested to cease your computer activities.

Q. University policy on withdrawals and incomplete grades.

1. I direct your attention to the current USU policy on incompletes and withdrawing from courses in the on-line Catalog, under Registration.
 - a. You will note that “incomplete grades” are only given for conditions beyond the students’ control and not due to poor performance. A student who receives an incomplete must retain all the scores they earned up to the date of the incomplete and later will **ONLY** be allowed to finish the remaining quizzes or exams.

S. Notice on lab fees (\$60)

1. As part of your registration for this class you were required to pay a “lab fee” of \$60. This fee is used by me to buy lab supplies and obtain specimens. All of your lab fees are used to enhance your learning opportunities in this course and to help your TA, UAs, and your instructor, to hopefully make it easier for you to succeed in this challenging subject.

T. Laboratory Safety (New Rules!)

1. The entire university has adopted a NEW safety protocol for all student laboratories. The **minimum** required protection to enter a laboratory is:
 - a. Fully closed shoes
 - d. $\frac{3}{4}$ length laboratory coat that is fastened shut (These are for sale at the USU bookstore and you will need to purchase one if you have not already done so).
2. If you do not have this minimum required protection, you will NOT be allowed to enter (no exceptions for ANY time you enter the lab!).
 - a. I realize that for some labs you merely have a quiz or watch a video. However, the University policy is for entering a lab, regardless if the lab is active or not because of the hazardous chemicals in the lab!
3. **When working with chemicals, animal products, urine, or with blood, you must also wear the nitrile gloves provided and the safety goggles provided.**
 - a. if you want to purchase your own safety goggles, that is up to you.
4. Additional protective gear, such as face shields or face masks, may be provided depending upon the lab activity. I do not anticipate that at this time.
5. If you desire, you can store the lab coat, pants, skirt, or full-closed shoes in the lockers in the hallway outside of the laboratory. You can secure it with you own lock. However, please remove this lock, and clean out the locker, at the end of the semester!

General Information for Interested Students Biol 4600

Some students may be interested in taking further courses with me. This sheet will provide that information.

A. Courses Taught by D. Andy Anderson

1. Summer Semester 2017
 - a. Human Anatomy (Biol 2320) 4 credits
2. Fall Semester 2017
 - a. Elementary Microbiology (Biol 2060) 4 credits
 - b. Human Dissection (Biol 4000) 1 credit
3. Spring Semester 2018
 - a. Human Anatomy (Biol 2320) 4 credits
 - b. Bioethics (Biol 3100) 3 credits
 - c. Advanced Human Physiology (Biol 4600) 5 credits
4. Others
 - a. Independent Study (Biol 3760) 1-2 credits – available every semester
 - 1) Students earn credit by writing a term-paper (or more than one) on a mutually agreed topic
 - b. Teaching Internship (Biol 4710) 1 credit – available every semester
 - 1) This credit is available to students who wish to volunteer as an undergraduate aide in a class they have previously excelled in. (Grade of “B” or better)

- c. I oversee a Medical College Admissions Test (MCAT) review course (Biol 1030, ST: MCAT, one credit, pass/fail). This is offered in the spring and is taught by two Undergraduate Teaching Fellows.
- d. I oversee a Dental Admissions Test (DAT) review course (Biol 1040, ST: DAT, one credit, pass/fail). This is offered in spring and is taught by two Undergraduate Teaching Fellows.

B. Other Courses of Interest

- 1. Emergency Medical Technician (EMT)
 - a. Contact Bridgerland Applied Technology College (435-753-6780)
 - 1) These classes have limited enrollment.
- 2. Biology Prehealth Programs Orientation (Biol 1750), 1 credit, fall semester. This course is designed to allow students to meet and listen to a wide variety of health professionals so they can perhaps choose a career for their own future.

**Student Performance
On Exams and Quizzes in Biol 4600
During the Last Six Years**

Average Quiz Scores (50 pts)

Average Exam Scores (100 pts)

Year	Semester	#1	#2		#1	#2	#3	#4	Final
2016	Spring	38.0	43.2		76.1	76.1	72.1	74.9	72.5
2015	Spring	42.7	44.9		78.7	73.9	76.0	75.0	78.7
2014	Spring	41.4	43.7		78.4	77.5	74.1	75.5	72.4
2013	Spring	40.4	43.4		75.4	79.1	76.1	75.2	75.4
2012	Spring	45.3	40.7		75.8	79.0	81.8	69.3	74.5
2011	Spring	43.7	36.8		83.6	84.4	82.2	73.6	79.4
Average		41.9	42.1		78.0	78.3	77.1	73.9	75.5

Student Final Grades in Previous Six Years Of Biol 4600

Semester	Year	Position	Points	Grade
Spring	2016	High	681*	A
Spring	2016	Low	407.5	F
Spring	2016	Average	577	B-
Spring	2015	High	704*	A
Spring	2015	Low	444	D
Spring	2015	Average	560.5	C+
Spring	2014	High	582	A
Spring	2014	Low	268	F
Spring	2014	Average	475.7	C+
Spring	2013	High	566.5	A
Spring	2013	Low	311	F
Spring	2013	Average	478.1	B-
Spring	2012	High	578	A
Spring	2012	Low	242.5	F
Spring	2012	Average	476.4	C+
Spring	2011	High	559	A
Spring	2011	Low	409	D+
Spring	2011	Average	495.5	B

* Starting in 2015 students could now earn 115 points for pre-lab quizzes and attendance in the labs.