Course Description

Bi 455 is a systemic study, description, and identification of histological structures. The course includes two 2-hour lecture periods and two 3-hour laboratory periods. Also offered for graduate-level credit as Bi 555 and may be taken only once for credit. Expected preparation: two years of biology. 6 credit hours

Schedule Types: Lecture, Laboratory, Partially Online

Instructor

Dr. Radhika Reddy

Contact Information

Office: SRTC 330
reddy@pdx.edu
Office Hours: T/R 1:15-2:15pm

TA Contact and Office hours:

Catherine Dayger (WF Section)
cdayger@pdx.edu
SRTC B2-28B
F 11:00am-12:00pm

Christina Yildirimer (TR Section)
christin@pdx.edu
SRTC 346
R 4:00-5:00pm

Required items


Exams & Quizzes: 10 Scantron forms (Form SC982-E 100 item full page form) #2 pencil, & photo ID
Laboratory Manual: A set of colored pencils for drawing. We provide the histology lab manual pages.

Course Web Page

The PSU online resource “D2L” will be used for posting course materials and grades. Log in at https://d2l.pdx.edu with your PSU username and password. Material will be posted by 9am on the morning of class.

Objectives & Skills Development

- Develop a foundation of the fundamental concepts of the microscopic anatomy of the human body
- Develop an understanding how organ integrity and function are maintained by the organization of cells and tissues
- Promote critical thinking of the clinical consequences of cellular disorders and tissue demonstrate an understanding of the microscopic organization and relationships of cells tissues and organs of the human body;
- Identify cells and tissues and describe their functions
- Develop problem solving skills to evaluate both normal and pathologic structure and function of cells and tissues that comprise the organs of the human body; and related diseases, intracellular pathogens, cancer and diabetes
Lecture Exams

There will be three in class exams (50 points) and a final exam (100 points). Multiple choice, 2 points per question.

Do not take this course if you cannot attend all 4 exams. See schedule below for exam dates. Lowest exam score and quiz score will be dropped. As such, **No makeup exams or quizzes will be given for any reason whatsoever. Do not skip exams or lectures as you will not be given any leeway if unforeseen circumstances force you to miss another.**

Lecture Quizzes

Quizzes will be given at the start of the first weekly meeting class and will cover the previous week’s material. 10 multiple choice questions, 1 point each.

Laboratory Practical Exams & Quizzes

- Station-based laboratory practical exams and quizzes will be administered on a weekly basis.
  - Quiz format: 10 stations, 1 minute per station and 1 question per station
  - Exam format: 25 stations, 2 minutes per station, and 2 questions per station
- Practicals will emphasize slides, but may also include diagrams and worded questions.
- Incorrectly spelled words on quizzes and exams will cost 1/2 point, up to 10% of the total score
- It is your responsibility to ensure that the scopes are not bumped during the practicals. If you have any doubt, confirm the scope set up with the TA during the exam.

Deliberative Democracy Literature Assignments

You will be assigned 6 sets of articles to be posted on D2L. Readings are based on the Deliberative Democracy Pedagogy model ([https://www.kettering.org/content/deliberative-pedagogy-education-matters](https://www.kettering.org/content/deliberative-pedagogy-education-matters)), and will examine the science relevant to social policy issues. The exercise itself will involve reading literature published from primary scientific experimentation as well as popular media articles on the same topic which establish the social relevancy of this science. Assignments for each article set:

1. **Quizzes**: Each set of articles will have an associated 20 point online quiz designed to test your comprehension of these readings. Quizzes are due at the start of class on the day the articles will be discussed. Late submissions are accepted for up to one week after the due date with a 10 point penalty. There are **no dropped scores in this category**, meaning all 6 online quizzes must be completed by dates indicated on the course schedule. Submission via quizzes tool under “Activities” tab in D2L.
2. **Worksheets**: Each class period dedicated to these readings will involve discussion of these articles and completion of an in class worksheet (20 points). 1 worksheet will be submitted per group. The lowest worksheet score is dropped. In cases of non-attendance, the worksheet may be completed by the individual and submitted up to 1 week late with a 10 point penalty applied.
3. **Essays**: After each discussion, a 250 word essay (10 points) reflecting on what you have learned from the assignment will be due before the start of class one week after the date of discussion. The essay must be submitted through the online quiz tool under the “activities” tab in D2L. The essay may be completed up to 1 week late with a 5 point penalty applied. Lowest essay score is dropped.
Attendance policy

- Quizzes and Exams in both lecture and lab cannot, under any circumstances, be made up in either case of late arrival or absence. Late arrivals will not be given additional time. The lowest score in each of the following categories will be dropped: Lecture Quiz, Lecture Exam, Lab Quiz, DD Worksheet, DD Essay.
- Use your dropped score wisely, as you have only one per category and cannot anticipate accidents or illnesses.
- Laboratory Exams, Final Exam, And DD Quizzes are required, and no dropped scores can be used in these grading categories.
- Laboratory practical exams and quizzes may be taken with another section subject to approval of both TAs. This must be arranged by Tuesday at noon of the week of the practical.
- Lab manual entries will not be accepted for days associated with unexcused absences. Excused absences must be arranged in advance via e-mail with the course TAs.

Do not take this course if you cannot commit to regular attendance.

Laboratory Manual

Your completed laboratory manual, with all required drawings will be turned in at each midterm. Each week's manual is worth 20 points, with 4 entries for each half term. 5 additional points are awarded per half term based on lab etiquette at the discretion of the course TAs.

Note: Either drawings or labelled screen grabs are acceptable as lab manual entries.

Laboratory Policies

1. Laboratory attendance is mandatory.
2. You may not attend a lab other than the one for which you are registered without prior consent from your TA and the TA for the lab you wish to attend.
3. Some of your time during the term will be devoted to maintaining your microscope and slide box; please ensure slides are not lost and that microscopes and slides are properly stored before leaving.
4. Please read the lab assignments before coming to class.
5. Please try to spend the full 2 hours & 50 minutes in your lab each assigned day.
6. No food or drink allowed in the lab.
7. If you need additional accommodations for the laboratory portion of the course, you must review all necessary paperwork from the PSU Disability Resource Center with your lab instructor within one week of your first day of lab for arrangements to be made. Please be aware that not all accommodations can be made at all lab times.
8. You may earn 5 extra credit points for good lab etiquette each half term. This includes proper care and storage of assigned microscope and slides.
**Grading**

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Points each</th>
<th>Points total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture Quizzes*</td>
<td>6</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>Lecture Exams*</td>
<td>3</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>Lecture Final Exam</td>
<td>1</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Deliberative Democracy Online Quizzes</td>
<td>6</td>
<td>20</td>
<td>120</td>
</tr>
<tr>
<td>Deliberative Democracy Worksheets*</td>
<td>6</td>
<td>20</td>
<td>100</td>
</tr>
<tr>
<td>Deliberative Democracy Reflection Essays*</td>
<td>6</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>Lab Quizzes*</td>
<td>7</td>
<td>20</td>
<td>60</td>
</tr>
<tr>
<td>Lab Exam</td>
<td>2</td>
<td>100</td>
<td>200</td>
</tr>
<tr>
<td>Lab Manual</td>
<td>2</td>
<td>85</td>
<td>170</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td></td>
<td>950</td>
</tr>
</tbody>
</table>

90-100% = A, 88-89.99% = B+, 80-87.99% = B, 78-79.99% = C+, 70-77.99% = C, 68-69.99% = D+, 60-67.99% = D, 0-59.99% = F. Grades will be rounded to 2 significant digits.

*Lowest score will be dropped.

Final exam is compulsory, and cannot be considered a dropped score. There will be no exceptions or bumping up of grades for being “close”. There will be no curve, however there may be opportunities for extra credit.

**Disability**

If you have a disability and are in need of academic accommodation: first register with the Disability Resource Center (503) 725-4150, [http://www.drc.pdx.edu](http://www.drc.pdx.edu), then notify Dr. Reddy to make appropriate arrangements.

To ensure all students with disabilities receive the accommodations they are entitled to, Dr. Reddy needs advance notice that you plan on using them. To guarantee accommodation, please confirm that Dr. Reddy has received your accommodation letter from the DRC, and notify her at least a week before the exam date with specific testing arrangements.

Note: Students with testing accommodations may take exams at the PSU Testing Center. These exams **must** be taken the same day as class exams.

**Making your testing center appointments:** To ensure optimal appointment times, please schedule exams with the testing center and e-mail your appointment times for all 4 exams to Dr. Reddy by **5pm on Monday of week 2.**

**Academic courtesy**

1. Students are expected to arrive for class **on time** so that lectures start and end according to schedule.
2. Respect the rights of fellow students during the class period.
3. Please avoid talking or other distracting behavior, and turn phones off.
4. Everyone is expected to help maintain the appearance of the classroom. After class, all trash should be removed and discarded appropriately.
**Academic Honesty**

Cheating or plagiarism of any kind will not be tolerated. See the PSU “Code of Student Conduct and Responsibility” for more information: [http://www.pdx.edu/dos/codeofconduct](http://www.pdx.edu/dos/codeofconduct). If cheating is observed, the grade for the assignment will be a “0”, and cannot be dropped as a lowest score. The student will be reported to University officials as described in the Code (577-031-0142: Procedures for Complaints of Academic Dishonesty).

**Lab Schedule**

<table>
<thead>
<tr>
<th>Week</th>
<th>Tue/Wed</th>
<th>Thu/Fri</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Mar 29-Apr 1</td>
<td>Histological technique &amp; The Cytoplasm</td>
<td>The Nucleus, Classifying Tissue</td>
</tr>
<tr>
<td>2 April 5-8</td>
<td><strong>Quiz 1 (Technique, The Cell, Classifying Tissue)</strong> Epithelial Tissue</td>
<td>Connective Tissue, Cartilage &amp; Bone</td>
</tr>
<tr>
<td>3 April 12-15</td>
<td><strong>Quiz 2 (Epithelial, Connective, Cartilage, Bone)</strong> Adipose, Blood</td>
<td>Muscle, Nerve tissue</td>
</tr>
<tr>
<td>4 April 19-22</td>
<td><strong>Quiz 3 (Adipose, Blood, Muscle, Nerve)</strong> Cardiovascular</td>
<td>Review (Mock Practical)</td>
</tr>
<tr>
<td>5 April 26-29</td>
<td><strong>Lab Exam 1</strong>&lt;br&gt;Week 1-4 Lab Manual Due: turn in at start of Midterm</td>
<td>Lymphatic, Integument</td>
</tr>
<tr>
<td>6 May 3-6</td>
<td>Digestive</td>
<td>Quiz 4 (Lymphatic, Integument, Digestive) Respiratory system</td>
</tr>
<tr>
<td>7 May 10-13</td>
<td>Urinary</td>
<td>Quiz 5 (Respiratory, Urinary) Endocrine</td>
</tr>
<tr>
<td>8 May 17-20</td>
<td>Male Reproductive</td>
<td>Quiz 6 (Endocrine, Male Reproductive) Female Reproductive</td>
</tr>
<tr>
<td>9 May 24-27</td>
<td>Eye, Ear</td>
<td>Quiz 7 (Female Reproductive, Eye, Ear) Review (Mock Practical)</td>
</tr>
<tr>
<td>10 May 31-June 2</td>
<td>Optional Open Lab</td>
<td><strong>Lab Exam 2</strong>&lt;br&gt;Week 5-9 Lab Manual Due, turn in at start of final</td>
</tr>
<tr>
<td>Week</td>
<td>Dates</td>
<td>Scheduled Topics</td>
</tr>
<tr>
<td>------</td>
<td>----------</td>
<td>------------------</td>
</tr>
</tbody>
</table>
| 1    | Mar 28/30| **Lecture:** Introduction, Cells, The Nucleus  
**Text:** Chapter 1-3 |
| 2    | Apr 4/6  | Quiz #1  
**Lecture:** Epithelial, Connective, Adipose, Cartilage  
**Text:** Chapter 4-7  
Note: April 12th is the last day to withdraw without “W” on transcript.  
**Article** Monday, Article Set 1 Online Quiz and in class discussion worksheet due Cancer |
| 3    | Apr 11/13| Quiz #2  
**Lecture:** Bone, Nervous, Muscle  
**Text:** Chapter 8-10  
**Article** Monday, Article Set 2 Online Quiz and in class discussion worksheet due Henrietta Lacks/Hela Cells |
| 4    | Apr 18/20| EXAM 1 Chapter 1-10 Monday April 18th (there is no class following the exam)  
**Lecture:** Circulatory, Blood, Hemopoiesis  
**Text:** Chapter 11-13 |
| 5    | Apr 25/27| Quiz #3  
**Lecture:** Lymphatic, Digestive  
**Text:** Chapters 14-16  
**Article** Monday, Article Set 3 Online Quiz and in class discussion worksheet due Gut Microbiomes/Diabetes/Gastric Bypass |
| 6    | May 2/4  | Quiz #4  
**Lecture:** Respiratory, Skin  
**Text:** Chapters 17-18  
**Article** Monday, Article Set 4 Online Quiz and in class discussion worksheet due Smoking |
| 7    | May 9/11 | EXAM 2 Chapters 11-18 Monday May 9th (there is no class following the exam)  
**Lecture:** Urinary  
**Text:** Chapter 19 |
| 8    | May 16/18| Quiz #5  
**Lecture:** Endocrine, Male & Female Reproductive  
**Text:** Chapters 20-22  
**Article** Monday, Article Set 5 Online Quiz and in class discussion worksheet due Alcoholism, Addiction Science |
| 9    | May 23/25| Quiz #6  
**Lecture:** Eye, Ear  
**Text:** Chapter 23  
**Article** Monday, Article Set 6 Online Quiz and in class discussion worksheet due Intersex Fish/environmental estrogens |
| 10   | May 30/Jun 1| Monday May 30th: Memorial Day holiday, no class  
EXAM 3 Chapters 20-25 Wednesday June 1st (exam will be reviewed immediately following exam) |
| 11   | Jun 8    | Final Exam (Comprehensive) No labs or office hours this week  
Weds June 8th 12:30-2:20pm |