

Course Information Packet

Biology 358 — Neuroanatomy

A "Flipped" Course Taught by a
Modified Problem-Based Learning (PBL) Format
Winter Term 2017 — 2018 Academic Year
Lecture: Hanson Hall of Science, Room 304

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Required Material: Tallitsch, RB (2017) *Neuroanatomy Lecture Notes*. (8'th ed.)
Rock Island: Augustana Press.

Strongly suggested: Martini, F.H., Tallitsch, R.B. & Nath, J. (2018) *Human Anatomy*
(9'th ed.) San Francisco: Benjamin Cummings

Our Joint Commitments:

By deciding to take this class you are making an overt decision—namely that you will attend this class *each and every day it is scheduled, and that you will do your best to succeed in this class.*

By deciding to teach this class, I too am making an overt decision—namely that *I will offer class sessions that are worth attending, and that I will do my best to help you succeed.* If I am not keeping this commitment let me know, just as I will let you know that you are not keeping your commitment, if that is the case.

1. Course Objectives:

- The course objectives that would be characterized as essential are as follows: By the end of this course you should have
 - gained factual knowledge, including new neuroanatomical terminology and knowledge;
 - learned how to *apply* course material to improve your thought process, problem-solving skills, and decision-making processes;
 - developed a 3-dimensional understanding of neuroanatomical relationships for all structures discussed within each region of the nervous system.
- The course objectives of this course that would be characterized as important are as follows: By the end of this course you should have
 - developed specific skills, competencies and points of view needed by neuroanatomists;
 - acquired skills in working with others as a member of a team;
 - learned how to find and use resources by answering questions or solving problems.
- Other course objectives that will help you in numerous situations, be it in college or beyond, are as follows:

- Increased your written communication skills.
- Increased your self-assessment skills.
- Increased your ability to assess the work of others.
- Increased your test-taking abilities.
- Accomplished the individual goals listed at the beginning of each lecture section, as listed in your lecture outline.

- Finally, I hope that throughout the term you will have fun and enjoy the course.

2. What you can expect of *me* this term: I am a firm believer that a college education is a two-way street. As a professor, I hope you learn things from me. However, I also hope that I will learn things from you. In addition, I don't think it is appropriate to list what I expect of you without telling you what you can (and should) expect of me. So, during this term you can expect that I will:

- I was told the following by a very good friend who was an excellent teacher: “Students won't give a damn about what you know until they know you give a damn.” You *can and should expect me to give a damn*—about you as a person and as a student.
- Do my best to make this term fun!
- Keep the class interesting, organized, and functioning in an open environment of mutual respect.
- Believe, foster and convey the attitude that everyone enrolled in this class has the ability to succeed if they try.
- Care about your progress in this class.
- Do my best to write examinations that aren't tricky, but are fair and test *what you know* rather than what you don't. *However*, if I do not achieve this goal, I will do my best to be a good listener as you discuss with me why you interpreted any and all questions in a particular way. I will also do my best to rectify the problem as much as possible.
- Return all graded tests and quizzes to you by the next class period.
- Understand that my class is not the only class you are taking this term, and that you have an academic and personal life outside of my classroom.
- Be fair and treat all students with respect.
- Set a standard of high expectations and then help you live up to them.
- Point out patterns and relationships between concepts covered in this class, as well as link ideas and facts to previous knowledge.

3. Neuroanatomy will be taught this year as a “blended” course. Because neuroanatomy is such a “content rich” course I have always been concerned about having to spend so much time in class passing information from me to the students and not having enough time (in class) to make sure that you, the student, really *understand* the information you need to know. So... Neuroanatomy will be taught in a manner unlike anything you have had in the Biology Department thus far.

Note that all of the videos for this class are copyrighted and that no part or parts of these videos may be copied or utilized in any instance outside of this class without the expressed written permission of Dr. Robert B. Tallitsch.

In this class you will

- **Download the latest version of QuickTime Player**
 - If you are a Macintosh user
 - Go to <http://www.apple.com/quicktime/download/>
 - Follow the instructions to download the version of QuickTime Player that matches your system software
 - If you are a Windows user
 - Go to <http://quicktime-download.info/>
 - Follow the instructions to download the version of QuickTime Player that matches your system software
 - **Access the lectures on line.**
 - Go to www.augustana.edu/users/bitallitsch
 - Click on “Neuroanatomy” and then click on the “Video Download Page” link
 - Click on the appropriate video title and download the QuickTime video
 - You will listen to the video lecture anytime you want, anywhere you want, as long as you do so before class starts
 - **You will come to class prepared to**
 - Ask any questions you might have concerning the lecture material
 - Verbally answer questions and participate in classroom “think sessions” that will help you *understand* the material covered in the QuickTime video lectures
 - **What will we do in class?**
 - I will ask if there are any questions concerning the lecture video you listened to on your computer
 - I will ask questions that will force you to *use the information covered in the video to solve complex problems*
4. **Quizzes:** You will have a quiz *approximately* once a week. The first quiz is a terminology quiz (worth 20 points), while all other quizzes will be worth 10 points. You will be able to drop the lowest quiz. The material covered on the quizzes will involve *anything* covered in class since the last exam.
5. **Unit Exams:** Exams will include a variety of questions, ranging from true-false, multiple choice, multiple choice, essay and picture identification utilizing copies of the unmarked serial sections included in your lecture note outline. Two unit exams will be given, with each being worth 100 points. Both exams will be counted in your total point score. (Help sessions are scheduled the evening before the exam. All help sessions are scheduled for **Hanson Hall of Sciences, room 304**, and will begin at 7 p.m. and will continue until all questions are answered.)
- Do not ask for a change in date or time of exam because for any reason other than something that is health-related; having two exams on the same day — regardless of how difficult the second exam is — is not a justified reason for a change in examination date or time.*
6. **Red Pen Rule:** On think-problems on the first two exams I employ what is termed the “red pen rule.” If a student is stuck and has no idea where to start on the think problem (which involve higher-order thinking skills according to Bloom) he/she may come up to the front, explain their confusion, and I will then give them a hint (using a red pen) and mark off the appropriate number of points in the margin. I do this because I think it is better to lose ½ or so points as compared to 10 or more simply because the student doesn’t know where to start on a complex problem.

7. **Final Exam:** A *two-part comprehensive final exam* will be given for this class. The final exam will be worth 300 points. This final exam will be broken into two halves, each worth 150 points:
- One part will be given during finals week. It will be administered during the regularly scheduled time slot scheduled for Tuesday-Thursday classes that meet at 12:30:
 - That will be given on Tuesday, 13 February, 12:00 – 2:00 p.m. in the regularly scheduled lecture room.
 - That part of the exam will involve **only** brain cross sections (HSC-1 and HBS-1 to HBS-20).
 - These pictures will not have numbers on them, nor will they be identified on the exam as to what level of the cord/brain where they were photographed.
 - *There will not be a review session for this portion of the final exam.*
 - The other part of the final exam will be administered *during week 10 of the term*.
 - The class will be divided (by a random-number generating program) into four groups. ¼ of you will take the exam from 7-9 pm of Monday of week 10 in Room 109, another ¼ from 7-9 pm on Tuesday of week 10, another ¼ and the Wednesday of week 10 in Room 109, and the remaining ¼ from 7-9 pm on Thursday of week 10 in Room 109. You will be notified as to which group you are in on the first day of class.
 - *This part of your final exam will be an oral exam.*
 - *At least ½ of the oral exam will come from questions that will be distributed approximately week 8 of the term. Duplicate (replacement) copies of these questions will not be distributed to anyone in the class.*
 - *No more than the remaining ½ of the exam will involve one or two clinical problems that you won't have seen before. The class, as a whole, will be expected to think through and talk through the diagnosis of this/these clinical problem(s).*
 - Details as to how the oral portion of the final exam will be administered will be discussed on during class on Thursday of week 9.
 - *There will not be a review session for this portion of the final exam.*
 - *If, you have a conflict and need to reschedule your oral final you will need to (a) contact me, (b) find someone to switch sessions with you, and (c) notify me of who agreed to switch with you. This must be completed no later than 5 pm on Friday of week 9.*
8. **Practice Midterm Exams:** You may access copies of practice exams for the first and second midterm exams and print them out for your review from my web page. The address for the web page is as follows:
- <http://www.augustana.edu/users/bitallitsch>
9. **Online study aids:** Below are some web sites that might be beneficial for studying. As of this 15 October, 2015 ng all links are active and live; however, if you find one that no longer works please let me know.
- Quizzes: <http://library.med.utah.edu/kw/animations/hyperbrain/pathways/>
 Anatomy: <http://www.med.harvard.edu/AANLIB/home.html>
<http://nba.uth.tmc.edu/neuroscience/toc.htm>
http://www.neuroanatomy.ca/quizzes/weekly_quiz_index.html?id=1
<http://www.columbia.edu/itc/hs/medical/neuroanatomy/neuroanat/>
<http://www.lab.anhb.uwa.edu.au/anhb-2217/NSPict/default.htm>
<http://ghiasi.org/2009/05/10-great-sites-for-reviewing-brain-anatomy/>
10. **PBL Assignments:** Throughout this term you will be given several PBL assignments. On the first day of class we will discuss the PBL process, and what will be expected of you as an individual and as a team member for each portion of these assignments.

11. **Grades:** Grades will be determined on a straight percentage scale. Because you will have an undetermined number of unannounced quizzes throughout the term I cannot give you a definitive number of total possible points for the term. I do give (+) and (-) grades at the end of the term, but those percentages are not set at the beginning of the term. They are determined at the end of the term as final grades are assigned.

A =	100 – 90%
B =	89 – 80%
C =	79 – 70%
D =	69 – 60%
F =	below 60%

You are responsible for keeping track of your point total throughout the term. Please do not come in and ask “Can I find out what my grade is thus far in the term?” as you already know your grade if you have picked up and kept all copies of your exams and kept all of the electronic copies of your PBLs; simply add up the points and divide by the total possible and the percentage is your grade at that point.

12. **Cheating and Plagiarism Policy:** First and foremost, cheating in a class or on a class assignment is the highest form of academic betrayal of social norms, expectations, and performance-based assessment. As a faculty member I cannot think of a higher form of disrespect for your fellow students, the faculty member teaching the course, and any future clients or patients that you may encounter in your vocation than to cheat in the courses that are supposed to prepare you for succeeding in a major course of study and, hopefully, your chosen vocation. That said, any individual suspected of, or caught cheating on an examination or quiz, or plagiarizing on a paper receive a “0” grade for that examination or paper and I will recommend that the Honor Council award “F” grade overall for the course. *(Please note: Having a PBL assignment turned in with your name on it for which you did little or no work will be, in this class, considered cheating and will cause you to receive a “O” grade for that paper and a recommendation to be awarded a “F” grade overall for the course.)* Either way, a drop slip will not be signed for the course. In addition, the Dean of Students Office and the Office of Academic Affairs will be notified, in writing, of the name of the student and the circumstances of the cheating incident.

13. **Class Attendance and Decorum:**

- a. **Class Attendance:** Excessive absences will be taken into account in determining a student’s final grade.
- b. **Late arrivals:** I understand that there will be times when you just can’t get to class on time. That’s normal, and no big deal, as long as it doesn’t become a habit. If and when you do arrive late, please enter the classroom via the back door, located on the 4th floor immediately above the lecture room.
- c. **Class Decorum:**
 - i. Eating and drinking in class is allowed, provided you do not disturb your neighbors. Please be careful of spills etc., and please remove all trash, cups and wrappers from the classroom.
 - ii. OK — so I’m old fashioned — I admit it. Because of this, old habits die hard. I was taught that gentlemen do not wear hats indoors—so hats are not allowed in lecture or laboratory under any circumstances. Because men can’t wear hats I have been told that women cannot

either, so hats are not allowed in class *unless you have a medical or religious reason for wearing headwear*. If that is the case please see me.

iii. Please do not put your feet on the back of the chair in front of you.

iii. Because of the location of my office I am amazed as I observe the continuous stream of students that leave room 102 during lecture to go to the bathroom, get a drink of water, or to socialize with their friends. I apologize if this seems harsh but, unless you have a medical reason for using the bathroom during class (please let me know if this is the case and I will make the necessary accommodations) or encounter an extreme circumstance, if you get up to leave the room before class is over take everything with you because you won't be coming back. You are in college now — go to the bathroom — get that drink of water *before class starts*. To leave in the middle of class is impolite and, as stated above, (except for the circumstances noted) if you get up to leave the room before class is over take everything with you because you won't be coming back.

d. Cell Phones: Neither the ringing nor the answering of cell phones during class will be tolerated—so turn it off!

14. Required learning style assessment: Periodically students have come to me with questions on how they should study for one of the various courses I teach. During these discussions, it has come to my attention that many individuals (both students and faculty alike) are unaware of their learning style(s) and effective studying strategies that would work with their individual learning style(s). Therefore, everyone is required (15 points awarded only upon successful completion and posting of results) to access the VARK web site and take the VARK learning style assessment.

VARK is a short, simple inventory that has been well received by students and faculty alike because its dimensions are intuitively understood and its applications are practical. Its use has helped both students and faculty alike. It has helped students earn more effectively, and it has helped faculty to become more sensitive to the diversity of teaching strategies necessary to reach all students.

VARK is an acronym made from the initial letters of four sensory modal preferences (Visual, Aural, Read/write and Kinesthetic). Modal preferences are used by people when they are taking in or giving out information. For example some people prefer to “read about it,” others to talk or draw. Some have no strong preferences for any one mode. Although we have known for centuries about the different modes, this inventory, initially developed in 1987 by Neil Fleming at Lincoln University, New Zealand, was the first to systematically present a series of questions with help-sheets for students, teachers, employees, and others to use in their own way. It also sought to be advisory rather than diagnostic and predictive.

To take the VARK on-line with automatic scoring, go to:

<http://vark-learn.com/the-vark-questionnaire/>

This site also contains the list of study suggestions based on learning preferences.

In order to obtain your 15 points for taking the VARK test you are to take a screen shot of the results of your VARK test and e-mail the information to me *before Monday of the second week of class*. (Please make sure that the subject line in the e-mail contains the following: Neuroanatomy_VARK_score.) *This is a required assignment, and these 15 points count in your overall course total.*

15. **Using the “Reviewer Tool” on MS Word:** If you do not know how to use Track Changes, or view the bubble comments/changes in a MS Word document please go to ITS (or see me) and get the necessary instructions.

Tentative Lecture and Examination Schedule

Date	Lecture Topic and Video Lecture Downloads
14 November	Course Information Packet discussed; Introduction to Problem-Based Learning; PBL #1, part 1 distributed; Introduction to the gross anatomy of the brain. <i>Download: Introduction to Brain Gross Anatomy (approx. 24 minutes)</i>
16 November	Terminology quiz (20 points); Introduction to the gross anatomy of the brain; Anatomy of the spinal cord; Brachial & Lumbosacral plexus; Long ascending tracts of the spinal cord <i>Download: Spinal Cord Anatomy (approx. 12 minutes)</i> <i>Long Ascending Sensory Tracts: General Stuff (approx. 15 minutes)</i> <i>Dorsal Columns (approx. 13 minutes)</i>
21 November	Quiz #2; Part 1 of PBL #1 due today; Anatomy of the spinal cord; Brachial plexus & Lumbosacral plexus; Long ascending tracts of the spinal cord <i>Download: Spinothalamic Tracts (approx. 10 minutes)</i> <i>Spinocerebellar Tracts (approx. 12 minutes)</i>
23 November	<i>No class – Thanksgiving break!</i>
28 November	Part 2 of PBL #1 distributed today Long ascending tracts of the spinal cord; Long descending tracts of the spinal cord <i>Download: Introduction to the Descending Motor Tracts (approx. 8 minutes)</i> <i>Corticobulbar and Lateral Corticospinal Tracts (approx. 10 minutes)</i> <i>Anterior Corticospinal Tracts (approx. 4 minutes)</i>
30 November	Quiz #3; Long descending tracts of the spinal cord; Autonomic Nervous System <i>Download: Extrapyramidal motor tracts (approx. 21 minutes)</i> <i>Neurology of UMN and LMN Lesions (approx. 8 minutes)</i> <i>Autonomic Nervous System (approx. 7 minutes)</i>
5 December	Part 2 of PBL #1 due today Autonomic Nervous System; Medulla <i>Download: Autonomic Nervous System (approx. 7 minutes)</i> <i>Medulla (approx. 28 minutes)</i>
7 December	Quiz #4 Medulla <i>Download: Medulla (approx. 28 minutes)</i>
12 December	Lecture Exam #1

- 14 December PBL #1 due by 5 p.m. Friday; Pons; Mesencephalon
Distribution of questions for the oral portion of the final exam
Download: Pons (approx. 17 minutes)
Mesencephalon (approx. 35 minutes)
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- 9 January Part 1 of PBL #2 distributed; Mesencephalon; Cerebellum
Download: Cerebellum (approx. 35 minutes)
- 11 January Quiz #5; Diencephalon
Download: Diencephalon (approx. 36 minutes)
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- 16 January Part 1 of PBL #2 electronically no later than 6 pm on Wednesday, 22 January;
Diencephalon
Download: Basal Ganglia (approx. 32 minutes)
- 18 January Quiz #6; Basal Ganglia
Download: Basal Ganglia (approx. 32 minutes)
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- 23 January Basal Ganglia; Visual System
Download: Visual System (approx. 21 minutes)
- 25 January Lecture Exam # 2; Pick up Part 2 of PBL #2 today after exam.**
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- 30 January Visual System, Auditory system, Vestibular System
Download: Auditory Pathway (approx. 22 minutes)
Vestibular Pathway (approx. 15 minutes)
- 1 February Quiz #7; Cerebrum.
Download: Cerebrum (approx. 8 minutes)
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- 6 February PBL #2 by 5 pm on the Thursday of finals week; Course evaluations;
Course wrap-up
- 8 February *No class today. This is “comp time” because you are spending 2 hours in the evening this week with the first ½ of your final exam*
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