

# Functional Human Neuroanatomy

## Course Handbook for GMS6705

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**COURSE NUMBER** GMS6705

**CREDIT HOURS** 4 credit hours

### **COURSE DESCRIPTION**

This semester online course is organized into thirteen modules, each of which covers a key human neuroanatomical system. The primary focus of this course is mastery of human neuroanatomy and understanding how the various structures in the brain are connected to form functional neural systems. Beginning with Module 3 and moving forward you will work through a new Focus Case Study that will be associated with each module. Each Focus Case Study describes a patient exhibiting symptoms characteristic of disruption of the neural system being studied that week. Over the course of the week, you will “solve” the multi-assignment case study using the information presented in the module and in previous modules. These case studies have been designed to help you master the neuroanatomy and functions of the primary neural system under study. At the end of this course you will not only have a working knowledge of human neuroanatomy, but you will also be able to use this knowledge to explain how disruption of brain structure leads to changes in human behavior and cognition.

## **COURSE GOALS / LEARNING OUTCOMES**

Functional Human Neuroanatomy is a complex but rewarding field of study. The driving force behind studies of the human brain continues to be our desire to explain normal human behavior and cognition and the changes in behavior and cognition that often result from injury and disease. In this course we will cover the anatomy and functions of key neural systems including motor and somatosensory systems, the cranial nerves, the visual system, the auditory and vestibular systems, the basal ganglia and cerebellum, the hypothalamus, the limbic system, and higher cortical systems.

At the end of this course, you will not only have a working knowledge of human neuroanatomy, but you will also be able to use this knowledge to explain how disruption of brain structure leads to changes in human behavior and cognition.

## **COURSE FORMAT**

### **Course Modules**

This course is divided into 13 Modules. Most Modules will be completed in one week – longer modules are covered in two weeks. Each Module covers a specific neural system and is broken down into 3-7 Units that contain the core material. You will complete the 13 Modules sequentially, and each Module will be considered complete when you have submitted the Case Study assignments and have completed the Module tests for that module.

### **Focus Case Studies**

In addition to the units that contain the core material, each Module contains a Focus Case Study that you will “solve” over the course of the week using the information presented in the Module under study and in the previous Modules. Each Case Study contains 2-4 assignments that you will be required to complete sequentially and submit to gain access to the Module tests that accompany each Module.

### **Units**

Each Module is broken down into 3-7 Units that have been designed to improve your ability to access and understand the material presented on the neural system covered in each module. Each Unit contains a reading assignment, a video lecture(s) in VoiceThread format, and a self-check quiz that will allow you to determine how well you have understood the material presented in the unit. Each VoiceThread lecture is ~15 min in duration and can easily be viewed slide-by-slide allowing you to view the lectures on your schedule.



### **Weighting of Quizzes and Assignments**

The self-check quizzes will constitute 15% of your final grade and the module tests will constitute 50% of your final grade. The remaining 35% of the final grade will be derived from the Case Study assignments you complete for each module. The content and quality of the Case Study assignments will be evaluated by both instructors.

Unit Self-check quizzes	15% Grade
Module tests	50% Grade
Case Study Assignments	35% Grade

### **TARGET AUDIENCE**

This semester course has been specifically designed for students enrolled in the UF Biomedical Neuroscience Certificate Program. This course is designed to provide a working understanding of Functional Human Neuroanatomy. Graduate students attending UF in programs outside of the IDP Neuroscience Program and interested postgraduate and advanced undergraduate students are encouraged to inquire about registration.

### **PREREQUISITES**

While not required, students enrolled in this course should have a basic understanding of cell biology and preferably have taken introductory courses to Neuroscience that covered basic human neuroanatomy. Advanced undergraduate students may inquire about registration.

### **COURSE DIRECTORS AND INSTRUCTORS**

Sue Semple-Rowland, PhD.  
Professor of Neuroscience  
Director of the Online Biomedical  
Neuroscience Certificate Program

Ron Mandel, Ph.D.  
Professor of Neuroscience  
Assistant Director of the Online Biomedical  
Neuroscience Certificate Program

Email – see directions below

### **GENERAL COURSE SCHEDULE**

This is a semester course that is offered during the fall and spring semesters each year. One course module will be completed each week. In addition to reading assignments, quizzes and module tests, students will complete one Focus Case Study each week.



## LEARNING RESOURCES

- **The following two textbooks are REQUIRED for this course:**
  - Neuroanatomy through Clinical Cases, 2<sup>nd</sup> Edition. Author: Hal Blumenfeld. Sinauer Associates, Inc. 2010. ISBN 978-0-87893-058-6
  - Sylvius 4 Online: An interactive atlas and visual glossary of human neuroanatomy. Authors: S. Mark Williams and Leonard E. White. Sinauer Associates, Inc. ISBN 978-0-87893-969-5
  - We will also be providing you with specific relevant Chapters from Medical Neuroscience Authors: Stephen E. Nadeau, Tanya S. Ferguson, Edward Valentstein, Charles J. Vierk, Jeffrey C. Petruska, Wolfgang J. Streit and Louis A. Ritz, Saunders 2004, ISBN 0-7216-0249-5 (out of print) as supplementary reading.

**NOTE:** We suggest using the eBook version of the Neuroanatomy through Clinical Cases. Both of these textbooks can be purchased through the following website:  
<https://global.oup.com/ushe/product/neuroanatomy-through-clinical-cases-9780878936137?cc=us&lang=en&q=sinauer>

Purchase of the printed version of Neuroanatomy through Clinical Cases includes a 2-year subscription to the interactive online eBook.

- All VoiceThread lectures are accessed directly through the Canvas course website. VoiceThread is an asynchronous interaction platform that **allows you to post questions about the material directly within the lectures** using the text, audio, or video + audio commenting feature of VoiceThread. VoiceThread is easy to use and you will become familiar with it as you work through the Start Module of the course.
- Each unit contains a self-check online quiz that is designed to reinforce the materials covered in each unit. These quizzes contain questions that will serve as examples of those comprising the module tests.
- Discussion boards for each Module are available for posting questions about the course materials covered in that Module.
- Online or face-to-face meetings with instructors are available upon request.

## SELF-CHECK QUIZZES, MODULE TESTS, FOCUS CASE STUDIES, AND GRADING

For each of the 13 modules, students will complete 3-7 self-check unit quizzes and three module tests (identification, fact, short essay formats). For modules 3-13 students will also complete a multi-part case study. Most Modules are covered in one week. All self-check quizzes



for the modules covered in one week are due on the Friday of that week at 11:59 pm. The Module tests are due on the following Sunday at 11:59 pm. The case studies, which are also due Sunday at 11:59 pm, must be completed before you will be able to take the Module tests.

## **SELF-CHECK QUIZZES**

Each unit is accompanied by a self-check quiz that is designed to allow you to determine how well you know the material in that unit. These quizzes will be taken under the same conditions as the identification and module tests – that is, they will be taken using LockDown Browser. These quizzes will be timed, and once a question is answered and submitted, you will not be able to return to that question. You must answer each question to view the next question. You will be given 1 min to answer each question on average.

**You will see your quiz score and be able to identify the questions you got wrong ONE TIME immediately after you submit your quiz.** In some cases, incorrect answers will be accompanied by an explanation text that will either contain the correct answer for that question or clues about what the correct answer is. If you believe that one of your questions has been graded incorrectly, please send an email to us containing the Mod and Unit numbers and the question you are asking about. We will address your question and a change to your score if warranted.

In order to receive credit for the self-check quizzes, you must complete them before 11:59 pm on Friday. You will not be able to take them after the deadline passes. The reasons for completing these quizzes by this deadline are:

1. You will not be able to access the quizzes after 11:59 on Friday if you fail to submit the quiz by the deadline. You will receive zero points for quizzes not completed by the deadline.
2. Completing the quizzes by 11:59 on Friday will enable you to determine what materials you don't understand and will give you an opportunity to obtain help with this material on Saturday before taking the Module tests on Sunday. **The instructors will have limited availability for answering questions on Sunday.**

## **MODULE TESTS**

The module tests will be given in three, separately timed sections. The first section will consist of neuroanatomical identification questions. The second section will consist of T/F, multiple choice, matching, fill-in-the-blank, and multiple answer questions. The third section will consist of short answer/essay questions. All sections will be timed and taken using LockDown Browser.

In the first section, the questions will be randomized and will be presented one-at-a-time. Once a question is answered and submitted, you will not be able to return to that question. You must answer each question to view the next question. You will be given 30 sec to answer each question on average.



In the second section, the questions will be randomized and will be presented one-at-a-time. Once a question is answered and submitted, you will not be able to return to that question. You must answer each question to view the next question. You will be given 1 min to answer each question on average.

In the third section, the questions will be presented one at a time but all questions will be available to you during the exam period and you can return to any of them. You will be given 1 min / point on average. Most of the essay questions are worth 4 points.

**We highly recommend that you take the online tests during UF Help Desk hours whenever possible so that you can obtain assistance if needed. **Importantly**,** the time limit for completing the exam starts when you start the exam. *For example, if you begin a 40 min exam 20 minutes before it is due, you will be given only 20 min to complete the exam because it automatically submits your exam when it is due.*

### **FOCUS CASE STUDIES**

Case study assignments accompany modules 3-13. They consist of 2-4 assignments, each of which must be completed and submitted before the next assignment is the study is available to you. You must complete and submit the case study assignments for each module before you will be allowed to take the module tests.

#### ***Assignments, quizzes and tests will not be accepted late.***

As a rule, unless you have a medical excuse or a confirmed family emergency with appropriate documentation, late assignments, quizzes, and tests will not be accepted. We recognize that personal circumstances arise that may interfere with your ability to meet a deadline. If this occurs, please let us know as soon as you know. We will not be receptive to retrospective requests for deadline extensions. Your emails will be responded to within 24 business hours (typically sooner).

If you encounter computer technical difficulties, be sure to include a UF helpdesk ticket number in your request for a deadline extension if you plan to request one. The extension request **MUST** be submitted within 24 hours of the technical difficulty.



## Grading scale

A letter grade will be given at the end of the course that will reflect the weighted percentages of the points you have earned.

**If the class average reaches 85% or above, the following scale for letter grades will apply:**

93-100% = A

90-92% = A-

87-89% = B+

83-86% = B

80-82% = B-

77-79% = C+

73-76% = C

70-72% = C-

67-69% = D+

63-66% = D

<63% = E

**If the class average is < 85% everyone's score will be scaled to a class average of 85% and then the above scale will be applied.**

## GRADING POLICY

There is a lot of material covered in this course. Thus, it is **VERY IMPORTANT** that you set aside sufficient time each week to complete the required work. Students will be expected to complete all requirements for one module each week. There will be no deadline extensions for completion of a module unless granted by the course directors prior to the scheduled completion date. Failure to submit a module assignment, self-check quiz, or module test by the course deadlines will be recorded as a zero.

## REQUIRED TECHNOLOGY

- Laptop or desktop computer equipped with microphone and video camera. A microphone and video camera will be used for video conferencing with instructors if you choose to do this.
  - There is a Canvas app that can be used to access the course using your portable devices. The app is not as good as laptop or desktop computers.
  - There are VoiceThread apps that are available for iOS and Android devices that can be used to view and post comments on VTs. While these portable devices are excellent for watching lectures and asking questions, we strongly recommend that you use laptop or desktop computers when working on this course.



- **Installation of LockDown Browser** – installation instructions and a practice quiz are under Task 3 of Unit 2 in the Start Module.
- High speed, broad band internet connection such as DSL or cable. **When using LockDown Browser your computer should be directly connected to the internet rather than accessing using WiFi.** A broadband Internet connection is strongly recommended. Slower connections should still be able to access e-Learning, but will take longer to load and are not recommended for taking quizzes and tests.
  - SPECIAL NOTE: Some users with satellite Internet service may find their online courses do not load quickly or consistently due to satellite network design issues.
- It is highly recommended that you work with Canvas and VT using either the **Firefox or Chrome Browsers.**
- For specific questions about browser compatibilities and general questions about e-learning at UF please go to <https://wiki.helpdesk.ufl.edu/FAQs/E-Learning>.

## **COURSE CONDUCT** *(What is expected of you)*

In all course related activities, students are expected to respect one another and use proper language. Students need to be aware that online learning can present significant challenges, particularly to individuals who are not 'self-starters' or those who do not possess good time management skills.

The online classroom is available to you 24 hours a day. Unlike traditional instructional settings in which each student gets the same class, the online setting means that every student gets a different class, the class of his or her choosing. In theory, this type of instruction should be more adaptable to a variety of learning styles. The reality is, however, that some students seem unwilling (we believe all are able) to create their own virtual classroom. This results in procrastination and low quality performance. Recognizing that everyone learns differently, it is impractical to prescribe a 'best way' to approach this course.

You are expected to adhere to the class calendar. If you have a calendar app that you prefer to use, it is recommended that you put the due dates in your app as reminders. The assignments, quizzes and tests associated with the Modules are due on the days and times stipulated on the syllabus and in the Modules section accessed through the Modules menu button in the left-hand menu.



## ACADEMIC HONESTY

As a result of completing the registration form at the University of Florida, every student has signed the following statement: "I understand that the University of Florida expects its students to be honest in all their academic work. I agree to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University."

We fully support the intent of the above statement and will not tolerate academic dishonesty. All students enrolled in GMS 6705 are expected to follow the University of Florida Honor Code (excerpt above). The full text can be found at: <http://regulations.ufl.edu/chapter4/4041-2008.pdf>

Student guidelines for ethical behavior can be found at:  
<http://www.registrar.ufl.edu/catalog/policies/students.html>.

Please also review the use of copyrighted materials, which can be found on the Health Science Center Library's web page:  
<http://www.library.health.ufl.edu/services/copyright.htm>

## WHEN DO I CONTACT THE UF HELPDESK?

In the event that you have **technical difficulties with E-learning**, please contact the UF helpdesk at [learning-support@ufl.edu](mailto:learning-support@ufl.edu), or (352) 392-4357 - select option 2. If your technical difficulties will cause you to miss a due date, you **MUST** report the problem to E-learning. Include the ticket number that you are given in an e-mail to the instructor to explain the late assignment/quiz/test.

Types of questions that should be directed to the Help Desk:

1. I can't log into E-learning
2. I have clicked on the "submit" button for my quiz and nothing is happening
3. I can't upload an assignment (be sure that you have reviewed the tutorial on how to do this BEFORE you contact the Help Desk)
4. E-learning has given me an error message and I can't submit my assignment.

**NOTE:** Late work that involves technical difficulties with E-learning **MUST** be accompanied by a ticket number from the Help Desk.

**ALSO** - Be sure to be familiar with the hours of operation for the UF help desk. There hours are posted at <http://helpdesk.ufl.edu/about/business-hours/>



## **WHEN DO I POST QUESTIONS TO THE COURSE QUESTIONS DISCUSSION BOARD?**

Questions that deal with the course itself should be submitted to the Course Questions board. Posted questions should NOT be about grades or a private matter. Do not post personal grade questions on the Course Questions discussion board.

Before posting a question, check those already posted to be sure that you are not duplicating a question. These should be things that other students in the class might have trouble with. For example:

1. I am unable to post comments to VoiceThread.
2. One of the quiz questions did not display properly.

Posting on the Course questions board is the fastest way to get an answer to your question. Be sure to give it a meaningful heading!

Questions of a private nature should be e-mailed to the course instructor (see below on how to e-mail within E-learning).

In all cases, please allow 24 hours for a response. Every effort will be made to answer questions posted over the weekend with 24 hours. If not addressed, they will be addressed on the following Monday.

## **WHEN DO I EMAIL MY INSTRUCTOR?**

**Questions about the course should be e-mailed to the instructor through the e-mail tool in E-learning (Canvas).**

Examples of e-mail questions for the instructor to get clear, concise responses:

1. I think there is an error in my grade for the assignment in module 3 (be sure to explain exactly why you think there is an error and provide documentation)
2. I am behind in the course and I would like to know how I may catch up (in such a case, your instructor may ask you to set up a Skype meeting or a time to call on the telephone)

If you have questions about the course itself, please reread the syllabus before asking a question. If the answer is not in the syllabus, check the Course Questions discussion board (this discussion board can be located by clicking on the discussions menu tab on the left of the course home page). If the answer to your question is not there, please post the question on the Course Questions discussion board.

DO NOT e-mail the instructor with general course questions. If your question is of a personal nature, e-mail your instructor from within e-learning system using the instructions below. Late work that involves technical difficulties with E-learning MUST be accompanied by a ticket number from the Help Desk.



## HOW TO EMAIL YOUR INSTRUCTOR

To send an e-mail from the course:

1. Click on the mail icon that is located the left side of your screen.
2. Click the "Compose Message" button.
3. "To: window" will display.
4. Locate your instructor's name.
5. Always include a description in your subject line in the best case this will include the course number, GMS 6705, the module in question (1-13), the unit in question (1-7), and the item such as self check #1. While this subject line may seem overly complicated it will allow the instructor to easily collate and search for specific questions throughout the course.
6. Type your message and add any necessary attachments. Be sure that your subject line adheres to the format indicated above.
7. Click "send."

## STUDENT SUPPORT SERVICES

For any technical issues you encounter with your course please contact the UF computing Help Desk at 352-392-4357. For Help Desk hours visit: <http://helpdesk.ufl.edu/> .

For a list of additional student support services links and information please visit:

<http://www.distance.ufl.edu/student-services>

Special Accommodations - Students requesting disability-related academic accommodations must first register with the Disability Resource Center (<http://www.dso.ufl.edu/drc/>). This should be done as early in the semester as possible. The Disability Resource Center will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation. The Disability Resource Center is located in 001 Building 0020 (Reid Hall). Their phone number is 352-392-8565.

