**BIOL 432-001/691-003: Clinical Applications in Human Physiology**

**Monday/Wednesday: 2:30-4:20pm**

**Horizon Hall 1007**

**INSTRUCTORS:**

Dr. Brenda Tondi [btondi@gmu.edu](mailto:btondi@gmu.edu)

Office: 1213 Exploratory Hall

Office hours: Monday 1:30-2:15 pm Thursday 1:30-3:00 pm

- and by appointment (virtual or in-person)

Dr. Alexandra Masterson [amaster2@gmu.edu](mailto:amaster2@gmu.edu)

Office: 1207 Exploratory Hall 703-993-4211

Office hours: By appointment (virtual or in-person)

Dr. Denise Hunnell [dhunnell@gmu.edu](mailto:dhunnell@gmu.edu)

1102 Exploratory Hall

Office hours: Monday 4:30-5:30pm; and virtual by appointment

**CORRESPONDENCE:**

When communicating with your instructor via email, only use your GMU email and please include the following in your email: full name and specific course number.

**MASON Alert System**: This system serves to provide students with emergency information of various kinds. You may sign up for these alerts at <https://alert.gmu.edu>

**UNIVERSITY RESOURCES:**

Mason values diversity and seeks to create and sustain inclusive learning environments where all are welcomed, valued, and supported.

A list and description of a variety of [**Student Support Services**](https://stearnscenter.gmu.edu/knowledge-center/knowing-mason-students/student-support-resources-on-campus/) is available.

**Note: Information in this syllabus is subject to change according to the needs of the class and at the discretion of the instructors.**

**COURSE MATERIALS**

Anatomy & Physiology reference is recommended for organ system review.

Lecture PowerPoints and Handouts – available on Blackboard

Web-based Resources including, but not limited to: American Family Physician

U.S. Preventive Task Force Guidelines

New England Journal of Medicine

**EVALUATIONS**

3 Exams @ 175 points each 525 points

3 Case Studies (in-class group activity) @10 points each 30 points

Pathology Presentation 50 points

Attendance/Participation 25 points

**TOTAL = 630 points**

Graduate student (enrolled in BIOL 691) evaluations will include an additional assignment:

Case Study Presentation (25 points) **TOTAL= 655 points**

**GRADING SCALE: Final grades will be based on the following:**

A 90 – 100% D 60 – 69%

B 80 – 89% F < 60%

C 70 – 79%

**ATTENDANCE/PARTICIPATION**

This is an enrichment-based course which requires regular attendance and class participation. Attendance points are assigned as follows:

90-100% attendance 25 points 70-79% attendance 10 points

80-89% attendance 20 points < 69% attendance 0 points

*All absences will be considered equally regardless of the reason for absence.*

*Class participation will be based on in-class topic and case study discussions.*

**EXAMS**

Exams may include multiple choice, matching, fill in the blank, essay, problem-solving questions, and case study evaluation. There will be no bonus points on your exams.

Exam questions are divided into 3 sections and have a point basis as follows:

Physiological concepts 50 points

Clinical assessment 75 points

Pharmacology 50 points

TOTAL. 175 points

Exams will be taken online **in the classroom on a laptop computer** utilizing the **Respondus Lock-Down Browser**. The browser can be downloaded from Blackboard. Go to the Courses tab to find the link under Respondus (Students) section or click [this link](https://download.respondus.com/lockdown/download.php?ID=133435885). You must use a laptop or iPad (no phones or other tablets) for exams when using Respondus.

This will also download **Respondus Monitor**. This is a tool that takes a scan of your testing environment and records you (video and audio) as you take your exam or quiz.

If the exam is required to be taken in an un-proctored environment, both the Lock-Down Browser and the Respondus Monitor will be used. **Therefore, you must have a computer with a functioning web camera and microphone.** These are non- negotiable.

*Watch this*[*short video*](https://web.respondus.com/lockdownbrowser-student-video/)*to get a basic understanding of LockDown Browser and the webcam feature. A Quick Start Guide for Students is also available.*

***Make-up exams?*** If you must miss an exam, you should contact your instructor immediately. Failure to contact the instructor within 24 hours of the exam will result in a zero for the exam, unless the student can document extenuating circumstances. If a student has a valid and **DOCUMENTED** absence from an exam, a make-up exam will be provided. For documentation of medical absences from an exam, a health care provider must provide a signed note that includes the following:

1. Name and contact information for the health care provider

2. Date student was seen by the health care provider

3. **Dates for which the student is excused**

*The dates for which you are excused must include the date the exam was given in order or qualify as a valid excuse.*

No details of the student’s medical condition are required. It is the student’s responsibility to make sure all of the above information is included in the documentation. Documentation that fails to provide ALL information outlined above will be considered inadequate to justify a make-up exam and the student will receive a zero for the exam.

The make-up exam will be taken at a prearranged time/date at the College of Science Testing Center. You are only given the opportunity to take **ONE** make-up exam during the semester.

If you are a member of a university-sponsored group (i.e. athletic team, debate team, musical, dance or drama group, etc.), it is important that your coach/director be aware of your academic responsibilities in this course. Please discuss the course policies with your coach/director.

**ODS (Office of Disability Services) ACCOMMODATIONS*:***

All accommodations must be verified by proper and current documentation by ODS.

It is required that you meet with your instructor to discuss your accommodations at the beginning of the semester to insure proper coordination with ODS, you and your instructor. Accommodations will not be provided retroactive of the date provided on the ODS documentation, and no variations in accommodations will be accepted without additional documentation from ODS.

**PATHOLOGY PRESENTATION (both undergraduate and graduate students)**

Student will be provided with an assigned pathology module. At the end of the semester, an oral presentation to the class and instructor team, and written presentation of the module will be submitted.

Presentation should be approximately 15-20 minutes in duration and will include the following for assigned pathology:

Normal physiology - physiological concepts related to normal organ function

Disruption of normal physiology - description of disease; clinical signs and symptoms; assessments and testing required to make diagnosis

Therapy - pharmacological and non-pharmacological interventions, including mechanisms of action

**CASE STUDY PRESENTATIONS (graduate students only)**

Case study presentation will utilize a SOAP Note Format.

Subjective – patient symptoms

Objective – patient signs; measurable parameters

Assessment – diagnosis with justification

Plan – clinical interventions with justification

Presentation will be evaluated based on the following grading criteria:

Subjective – 5 points

Objection – 5 points

Assessment – 20 points

Plan – 20 points

Case study will be orally presented to the class and instructor team, but points will be assigned based on written submission. Student case study presentation will be assigned at least two weeks prior to the presentation date.

**TOPIC AND EXAM SCHEDULE**

The proposed schedule for the order of topics is provided. Changes may be made to this schedule at the discretion of the instructors. The general format for the course will be as follows for each topic selected:

Physiology review relevant to selected pathology

Selected pathology discussion

Selected pharmacological interventions

Case study presentation by instructors and students

**PUBLISHING/REDISTRIBUTION OF COURSE MATERIALS:**

Some lecture slides, notes, or exercises used in this course may be the property of a textbook publisher or other third parties. All other course material, including but not limited to slides developed by the instructor(s), the syllabus, assignments, course notes, course recordings (whether audio or video) and examinations or quizzes are the property of the University or of the individual instructor who developed them. Students are free to use this material for study and learning, and for discussion with others. Republishing or redistributing this material, including uploading it to web sites or linking to it through services like YouTube, violates the rights of the copyright holder and is prohibited. There are civil and criminal penalties for copyright violation. **Publishing or redistributing this material in a way that might give others an unfair advantage in this or future courses may subject you to penalties for academic misconduct.**

**HONOR CODE:**  
The Honor Code is an integral part of university life and will be vigorously adhered to in this course.  On the application for admission, students sign a statement agreeing to conform to and uphold the Honor Code. Students are responsible, therefore, for understanding the code’s provisions.  If you do not recall the provisions of this Code, see the excerpts below and/or review them in the GMU University Catalog – Student Rights and Responsibilities/Honor System and Code. If you ever have questions about what is and is not appropriate, be sure to ask for clarification.

**Honor Code:** To promote a stronger sense of mutual responsibility, respect, trust, and fairness among all members of the George Mason University community and with the desire for greater academic and personal achievement, we, the student members of the university community, have set forth this honor code: ***Student members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work.***

**Student Responsibilities:** *Students should request an explanation of any aspect of the professor’s policies regarding the Honor Code that they do not fully understand. They also have an obligation not only to follow the code themselves, but also to encourage respect among their fellow students for the provisions of the code. This includes an obligation to report violations by other*

**Guidelines for Online or In-person Evaluations**

- Coats/jackets/outerwear/backpacks/all extraneous items are to be placed away from the testing area.

- Electronics, including cell phones, watches, cameras, and ear buds, are NOT allowed or are to be available to the student during evaluations. If any electronic devices are observed during the evaluation, it will be considered an automatic honor code violation.

- Students may only write on approved materials. For example, table or chair surfaces, body parts, clothing and accessories are NOT approved materials. No writing materials are to be available during online evaluations. If any unapproved writing materials are observed during the evaluation, it will be considered an automatic honor code violation.

- If a student is expecting a possible emergency notification via cell phone, the student must notify the instructor prior to the evaluation.

- Students may not wear a cap or hat with a forward oriented brim during evaluations. Hoodies cannot be worn hanging over the face.

- No beverages and/or food items are allowed during evaluations. If there is a medical need, please discuss with the instructor prior to the exam.

- Wrongful submission of evaluation responses is not acceptable.

- If you leave the evaluation before the end of the allotted time for the evaluation, your evaluation will be terminated prior to exiting the room, and your score will reflect what has been completed at that time.

If you ever have questions about what is and is not appropriate, be sure to ask for clarification.

***Failure to adhere to verbal and written instructions regarding evaluation protocol will be considered an Honor Code violation and may result in a grade of F for the course.***

If an Honor Code violation referral is made to the Office of Academic Integrity, all communication regarding the matter will be between the Office of Academic Integrity, not the referring party, and the student. The instructor will rely on this communication and will not directly discuss the alleged violation with the student.

**Clinical Applications in Human Physiology Schedule– Fall 2023**

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| **WEEK**  **Dates** | **TOPICS** |
| **1**  Aug. 21, 23 | **Course Overview**  **Cardiovascular System**  Blood Pressure Regulation Review  Hypertension |
| **2**  Aug. 28, 30 | **Immune System**  Immunity Review  Vaccination Overview; Pertussis and COVID vaccines; Autoimmunity; Allergic reactions; Hyperinflammatory syndrome/Cytokine storm |
| **3**  Sept. 4  Sept. 6 | **No Class**  **Muscular System**  Skeletal Muscle Review  Myasthenia gravis; Bodybuilding |
| **4**  **Sept. 11**  **Sept. 13** | **Case Study Assignment #1**  **EXAM #1 (Cardiovascular, Immune and Muscular Systems)** |
| **5**  Sept. 18, 20 | **Nervous System**  Neurotransmission Review  Addiction; Depression |
| **6**  Sept. 25, 27 | **Nervous System** continued |
| **7**  Oct. 2, 4 | **Digestive System**  Stomach and Small Intestine Review  Ulcers; GERD; Lactose Intolerance; Celiac Disease |
| **8**  Oct. 9  Oct. 10  **Oct. 11** | **No Class; Monday classes meet Tuesday**  **Digestive System** continued  **Case Study Assignment #2** |
| **9**  **Oct. 16**  Oct. 18 | **EXAM #2 (Nervous and Digestive Systems)**  **Endocrine System**  Regulation and Effects of Insulin and Thyroid Hormones Review  Diabetes Mellitus; Graves and Hashimoto’s Diseases |
| **10**  Oct. 23, 25 | **Endocrine System** continued |
| **11**  Oct. 30,  Nov. 1 | **Reproductive System**  Menstrual Cycle; Prostate and Erection Reviews  Amenorrhea Evaluation  Oral Contraceptives  Erectile Dysfunction; Benign Prostatic Hyperplasia (BPH) |
| **12**  Nov. 6  **Nov. 8** | **Reproductive System** continued  **Case Study Assignment #3** |
| **13**  Nov. 13  **Nov. 15** | Physiological Changes with Age Review  Beers List – Guidelines for Prescribing Medication to Geriatric Patients  **EXAM #3 (Endocrine and Reproductive Systems)** |
| **14**  **Nov. 20**  Nov. 22 | **Student Presentations**  **No Class** |
| **15**  **Nov. 27, 29** | **Student Presentations** |

***Last day to drop (full refund): 9/5***

***Drop deadline (50% refund): 9/12***

***Unrestricted WD (no refund): 9/13-9/26***

***Selective WD (no refund): 9/27-10/23***