# BIOH481 Syllabus Spring 2016

Teaching Human Anatomy and Physiology for Health Professions II

**Course Information:**

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**** Pre-requisite: Grade of B- or higher in BIOH370, consent of instructor**

**Course Structure**

- Lecture, discussion and preparation of laboratory materials for BIOH 370.
- Weekly mandatory meetings to discussing teaching strategies effective for undergraduate BIOH370 cadaver labs
- Supervised teaching of laboratory activities in one BIOH370 laboratory per week
- Supervised teaching during weekly open labs for BIOH370 students

**Required materials:**

Principles of Anatomy and Physiology 14th edition by Gerard J. Tortora, Bryan H. Derrickson - John Wiley & Sons (2014) – ISBN 978- 1-118-34500-9 plus the Wiley Plus online package (available at the University of Montana Bookstore).

Atlas of Anatomy by Anne M. Gilroy, Brian R. MacPherson, Lawrence M. Ross - Thieme (2008) –ISBN-978-1-60404-062-1 or the 2nd edition of the Gilroy atlas or the electronic edition (available from www.thieme.com)

**Course Objectives:**

Upon successful completion of this two-course sequence, you will have mastered the conceptual and practical information regarding the anatomy and physiology of the human organism by assisting in teaching the human anatomy and physiology labs (BIOH370). More specifically, upon the successful completion of this course you should be able to:

1) Demonstrate understanding of chemical and biological principles and knowledge that serve as the foundation for understanding human anatomy and physiology.
2) Understand and analyze cellular processes governing development, growth and normal function of the human body.
3) Understand the processes involved with maintaining homeostasis and anticipate what may occur when homeostatic balance mechanisms are lost.
4) Demonstrate practical knowledge of human gross and microscopic anatomy using human cadavers and prepared histological slides.
5) Identify structures in the body and analyze their relationship with other structures.
6) Describe development, regeneration and normal function of body systems
7) Understand the cellular and physiological mechanisms that drive tissue formation and function.
8) Employ the scientific process for understanding principles of anatomy and physiology.

9) Analyze A&P observations and data and determine the potential physiological consequences.
10) Become familiar with current teaching practices and ways to address the various learning styles of students in the human anatomy and physiology laboratory.

**Topics covered (Learning Goals):**

During this two-semester course, students enrolled in BIOH481 will gain mastery of human anatomy and physiology as it pertains to health professionals attributed to the increase in preparation of course materials and conveying this information to students enrolled in BIOH370.

The two-semester sequence is divided as follows:

| BIOH 480 | BIOH 481 |
|---|---|
| Body Plan & Organization<br>Homeostasis<br>Chemistry & Cell Biology Review<br>Histology<br>Integumentary System<br>Skeletal System & Articulations<br>Muscular System<br>Nervous System<br>Special Senses | Endocrine system<br>Cardiovascular System<br>Lymphatic System and Immunity<br>Respiratory System<br>Digestive System<br>Metabolism<br>Urinary System<br>Fluid/Electrolytes and Acid/Base Balance<br>Reproductive System |

** BIOH481 students must attend the mandatory laboratory meeting that will occur one week prior to the scheduled BIOH370 laboratory dates below.**

*Topic order may change

**MINIMUM requirements for BIOH481 Undergraduate Teaching Assistants**

1. Present the content from prepared rotation lesson plans during the mandatory Friday 12pm-1pm meeting to fellow UGTAs and Instructors.
2. Prepare and present a minimum of 2 lesson plans and corresponding 'summary/cheat sheets' for two separate rotations. One lesson plan will be on a cadaver/specimen rotation and the other will be on a histology/models rotation. Signups will occur at the beginning of the semester and are due by 11:59pm on the Wednesday prior to the upcoming Friday 12pm-1pm meeting.
3. Assist in teaching one lab per week. Missing a lab without notifying Dr. Minns and your lab instructor will result in the automatic drop of one letter grade. Missing more than one lab without notifying Dr. Minns and your lab instructor will result in course failure.
4. Assist during one open lab period per week.
5. Attend the TA check-off meeting on Mondays 12pm-1pm. Be fully prepared for scheduled BIOH370 laboratories by being familiar with cadaver prosections, histology slides, laboratory equipment operation, and laboratory teaching rotations.
6. Assist in preparing and grading the laboratory quizzes and practical examinations.

7. Demonstrate professionalism in your behavior. UGTAs must consistently exhibit an understanding of the confidentiality of conversations regarding student performance and student grades.
8. Demonstrate a high degree of initiative and independence.
9. Participate in one open lab per week during regular lab weeks, and one open lab during 'special open lab times prior to lab practical exams.
10. Include Dr. Minns in all email correspondence between yourself and students (you may use cc or bcc); if you do not know how to respond to student inquiries, please email Dr. Minns for advice.

**PROFESSIONAL RESPONSIBILITIES**

1. Above all, be professional and ethical in all your dealings with colleagues and the students.
    - At **NO** time are you to discuss the grades or performance of a student enrolled in BIOH370/370 with anyone other than the laboratory instructor, any UGTA teaching within the same laboratory section, or Dr. Minns.
    - Minimize the amount of body contact/touching between you and the students while instructing or supervising open laboratories.
    - Arrive at the laboratory (HS101) five or ten minutes early (unless you are constrained by you academic or work schedule).
        - Immediately address the needs of the laboratory instructor. For example what needs to be done so the quiz or practical examination can begin on time.
        - Proctor the quiz or practical examination. Proctoring requires vigilance and observation of student's activities and needs during examinations.
    - Put other personal or academic issues aside when it is time for you to interact with the students.
    - Do not bring food or drinks into the laboratory.
2. Be prepared
    - Review all information for the assigned lab.
    - Be prepared to discuss the upcoming laboratory learning objectives during the Friday, noon meeting.
    - Determine what specific objectives your laboratory instructor would like you to address
        - Design your teaching preparation and instruction around these objectives.
    - Prepare one question for your peers from the lab learning objectives and answer one question from your peers each week on Moodle by Monday, noon of each week.
    - Review any tutorials provided for the assigned lab.
    - Review all information linked to the TA Moodle site.
    - If you are unable to attend a lab meeting, contact the laboratory instructor at least one day prior to the scheduled lab to determine your teaching objective(s).
    - Be attentive as the laboratory instructor is providing answers to quiz questions so you can correctly grade the quizzes.
3. Assist with the supervision of at **least one open lab per week, and one 'extra' open lab during the pre-practical open lab week.** If your schedule prohibits you from meeting this obligation during the week, please correspond with Dr. Minns so that alternative arrangements can be made.

- If your academic or work schedule precludes you from assisting with scheduled open laboratories, it is expected that you will arrange another time that does coincide with your schedule (which may include weekends).
  A minimum of **two** UGTAs must be in attendance for any of these additional open laboratories (no matter the day or the time).

  Any of these additional open lab sessions must be scheduled at least five days in advance so the day(s) and time(s) can be placed on the Moodle page.

4. Be a good team member.
   - If another UGTA requests help in reviewing a concept, do so without criticism.
   - If another UGTA becomes ill or has some other scheduled conflict, be willing to "cover" their teaching responsibility.
     If such an event does occur, **IT IS THE RESPONSIBILITY OF THE UGTA, NOT** the laboratory instructor or Dr. Minns, to facilitate this "switch".

   - If you check out the key to HS 101, leave contact information for others who may want to gain access to the room. Return the key within three days of the date you have checked it out. **UNDER NO CIRCUMSTANCES** should this key ever be in the hands of someone other than a BIOH 370 UGTA, a BIOH370 laboratory instructor, an official course tutor, or Dr. Minns. The key should **ALWAYS** be returned to the drawer by Monday morning.
   - Participate **EQUALLY** in the lab or prep room cleaning responsibilities assigned to your dissection team.

5. Be willing to admit when you do not know and answer, or have provided incorrect information.
6. Clean up after yourself and your dissection team.

**Evaluation Methods**

1. Students will be evaluated each week on their ability to effectively teach their assigned lesson plan to their peers, laboratory instructors and Dr. Minns. Students will not be allowed to teach the material in the BIOH370 laboratory rotation until they exhibit mastery of the rotation material. The following factors will be considered during the rotation presentation evaluation (worth 40% of the total grade):
   - Effective use of proper anatomical, physiological and medical terminology.
   - The rotation presentation must be accurate and completely follow the established lesson plan.
   - The student must effectively engage peers and instructors in their teaching.
   - The student must effective address peer and instructor questions to show mastery of the material.
   - The student must be able to complete the rotation information within the allotted time period.
2. Students will be evaluated by Laboratory Instructors as they teach the actual rotation in BIOH370 laboratories. The following factors will be evaluated by laboratory instructors (worth 20% of total grade):
   - Effective use of proper anatomical, physiological and medical terminology.
   - The rotation presentation must be accurate and completely follow the established lesson plan.
   - The student must effectively engage peers and instructors in their teaching.

- The student must effective address peer and instructor questions to show mastery of the material.
- The student must be able to complete the rotation information within the allotted time period.
- If the student does not know the answer to a question posed by a BIOH370 student, they are expected to find the appropriate answer by consulting with course materials and laboratory instructors/Dr. Minns.

3. Students are required to be present and actively engage students during open labs (worth 20% of total grade)
4. Monitor and respond to lab quiz questions on the Moodle page (worth 20% of total grade).

5. Students will automatically fail the class if they:

    - Discusses student performance or grades of a student enrolled in BIOH370 with anyone other the laboratory instructor, other UGTAs teaching within the same laboratory section, an official course tutor, or, Dr. Minns
    - Provides access to the UGTA Moodle site to anyone who is not a laboratory instructor, tutor, or a fellow UGTA

6. A deduction of one letter grade will automatically occur as a result of:
    - One unexcused absence from a scheduled lab class.
    - Failure to submit your assigned lesson plan on time.
    - More than ONE unexcused absence from lab meeting.
    - More than ONE incident in which you have not taken the initiative to contact the laboratory instructor at least one day prior to a scheduled lab to determine your teaching responsibilities.
    - More than ONE week during which you did not provide Dr. Minns two quiz or practical examination questions related to your teaching objectives PRIOR to the scheduled lab via email.
    - Not supervising at least four hours of open lab per month.
7. Any other adjustments to your final grade will be based on the following abilities:

| SKILL | CHARACTERISTICS |
|---|---|
| 1. Commitment to learning | Demonstrates a positive attitude (motivation) toward learning: identifies and locates appropriate resources; identifies need for further information; prioritizes information needs; welcomes and/or seeks new learning opportunities. |
| 2. Interpersonal skills | Maintain a professional demeanor in all interactions; is non-judgmental about students' lifestyles; communicates with others in a respectful manner; assumes responsibility for own actions; respects cultural and personal differences of others; demonstrates acceptance of limited knowledge and experience; motivates others to achieve; approaches others in a professional manner to discuss differences in opinion. |
| 3. Communication skills | Uses correct grammar, accurate spelling and expression; writes legibly; listens actively; communicates with others in a confident manner; recognizes impact of non-verbal communication and modifies accordingly, maintains open and constructive communication. |
| 4. Effective use of time and resources | Focuses on tasks at hand; recognizes own resource limitations; uses existing resources effectively; uses unscheduled time efficiently; completes assignments in a timely fashion; sets up own schedule; coordinates schedule with others; demonstrates flexibility; plans ahead; sets priorities and recognizes when needed; performs multiple tasks simultaneously. |

| | |
|---|---|
| 5. Use of constructive feedback | Demonstrates active listening skills; actively seeks feedback and help; demonstrates a positive attitude toward feedback; critiques own performance; maintain two-way information; assesses own performance accurately; develops plan of action in response to feedback; reconciles differences with sensitivity. |
| 6. Problem solving | Recognizes problems; states problems clearly; describes known solutions to problem; analyzes and subdivides large questions into components; accepts that there may be more than one answer to a problem. |
| 7. Professionalism | Abides by U of M Student Conduct Code; projects professional image; demonstrates accountability for personal and professional decisions; maintains confidentiality in all interactions. |
| 8. Responsibility | Demonstrates dependability; demonstrates punctuality; follows through on commitments; accepts responsibility for action and outcomes; p[provides safe environment for students; recognizes own limits; offers and accepts help; completes projects without prompting. |
| 9. Critical thinking | Raises relevant questions; considers all available information; articulates and formulates new ides; seeks alternative ideas; exhibits openness to contradictory ideas. |
| 10. Stress management | Maintains professional demeanor in all situations; accepts constructive feedback; recognizes own stressors or problems; maintains balance between professional and personal life; demonstrates effective affective responses in all situations. |

The information in the above table will be considered if you should ask me to write a letter of recommendation for you.

**BIOH370 SYLLABUS:**

UGTAs should also regularly consult the BIOH370 Spring 2016 course syllabus (available on the Moodle page).

## SPRING 2016 ROTATION SIGNUP SHEET/SCHEDULE:

| | | Lab Meeting Presentation Date | Please sign up for TWO lesson plans (one highlighted and one models/histology) UGTA |
|---|---|---|---|
| **Lab 1: Endocrine System** | | | |
| Rotation 1: | Cadaver/Torso Model Endocrine organs | 22-Jan | |
| Rotation 2: | Histology 1 | 22-Jan | |
| Rotation 3: | Histology 2 | 22-Jan | |
| **Lab 2: Blood** | | | |
| Rotation 1: | Blood Typing exercises | 29-Jan | |
| Rotation 2: | Homeostatic imbalances of blood | 29-Jan | |
| Rotation 3: | Histology and Differential blood count | 29-Jan | |
| **Lab 3: Heart Anatomy** | | | |
| Rotation 1: | Cadaver heart | 5-Feb | |
| Rotation 2: | Pig heart dissection | 5-Feb | |
| Rotation 3: | Heart models | 5-Feb | |
| **Lab 4: Heart Physiology** | | | |
| Rotation 1: | Ascultation station, BP and pulse points | 12-Feb | |
| Rotation 2: | Cardiac Cycle explanation | 12-Feb | |
| Rootation 3: | Powerlab ECG/ECG | 12-Feb | |
| **Lab 5: Blood vessels of Head, Neck and UE** | | | |
| Rotation 1: | Male Cadaver | 19-Feb | |
| Rotation 2: | Female Cadaver | 19-Feb | |
| Rotation 3: | Models/Circle of Willis | 19-Feb | |
| **Lab 6: Blood vessels of the thorax/abdomen, and lower extremity** | | | |
| Rotation1: | male cadaver | 26-Feb | |
| Rotation 2: | female cadaver | 26-Feb | |
| Rotation 3: | Models | 26-Feb | |
| * Lab practical 3/8-3/10 | | | |
| **Lab 7:Lymphatics and immune system** | | | |
| Rotation 1: | Lymphatics model and cadavers | 11-Mar | |
| Rotation 2: | Histology (lymph node) | 11-Mar | |
| Rotation 3: | Histology (spleen and thymus) | 11-Mar | |
| **Lab 8: Anatomy of the respiratory system** | | | |
| Rotation 1: | male and female cadavers | 18-Mar | |
| Rotation 2: | histology | 18-Mar | |
| Rotation 3: | models | 18-Mar | |
| **Lab 9: Physiology of the respiratory system** | | | |
| Rotation 1: | Spriometry Exercise (ask Minns for the info | 25-Mar | |
| | Respiratory Interactive Case Study Review | 25-Mar | |
| Spring Break 4/4-4/8 No labs! | | | |
| **Lab 10: Digestive System** | | | |
| Rotation 1: | Cadavers: digestive organs/function | 1-Apr | |
| Rotation 2: | Alimentary Canal Histology and Models | 1-Apr | |
| Rotation 3: | Accessory Organs Histology and Models | 1-Apr | |
| **Lab 11: Urinary System** | | | |
| Rotation 1: | Kidney Models and cadavers | 15-Apr | |
| Rotation 2: | histology | 15-Apr | |
| Rotation 3: | urinalysis | 15-Apr | |
| **Lab 12: Reproductive System** | | | |
| Rotation 1: | Cadavers | 22-Apr | |
| Rotation 2: | Models | 22-Apr | |
| Rotation 3: | Histology | 22-Apr | |
| Lab Practical 5/3-5/5 | | | |