A. Academic Division: Health Sciences

B. Discipline: Science

C. Course Number and Title: BIOL2752 Human Anatomy & Physiology II

D. Course Coordinator: Jeff Taylor
   Assistant Dean: Melinda Roepke, MSN, RN

Instructor Information:
- Name: Click here to enter text.
- Office Location: Click here to enter text.
- Office Hours: Click here to enter text.
- Phone Number: Click here to enter text.
- E-Mail Address: Click here to enter text.

E. Credit Hours: 4
   Lecture: 3 hours
   Laboratory: 3 hours

F. Prerequisites: BIOL2751 with minimum C minus (C-) grade

G. Syllabus Effective Date: Fall, 2017

H. Textbook(s) Title:
   
   The Anatomy Coloring Book
   - Author: Kapit and Elson
   - Copyright Year: 2002
   - Edition:
   - ISBN #: 0805350861

I. Workbook(s) and/or Lab Manual:

   Pocket Anatomy & Physiology (Optional)
   - Author: Jones
   - Copyright Year: 2009
   - Edition:
   - ISBN #: 080-3618-247

   Visual Anatomy & Physiology
   - Authors: Martini and Ober
   - Copyright Year: 2011
   - Edition:
   - ISBN #: 978-0321-5601-55
J. Course Description: This course is a continuation of BIOL2751. It includes the study of structure and function of blood and the cardiovascular, lymphatic/immunity, digestive, respiratory, urinary, and reproductive systems. Laboratory exercises are designed to supplement lecture topics and include microscopy, the study of models, cat and specimen dissection, cadaver study, and physiological experiments. (OTM approved course in Natural Sciences TMNS)

K. College-Wide Learning Outcomes

<table>
<thead>
<tr>
<th>College-Wide Learning Outcomes</th>
<th>Assessments - - How it is met &amp; When it is met</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication – Written</td>
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<tr>
<td>Communication – Speech</td>
<td></td>
</tr>
<tr>
<td>Intercultural Knowledge and Competence</td>
<td></td>
</tr>
<tr>
<td>Critical Thinking</td>
<td>Given a homeostatic imbalance, predict the physiological responses (all body systems throughout the semester).</td>
</tr>
<tr>
<td>Information Literacy</td>
<td>Accessing course quizzes, tutorials, audio presentations and grades in Blackboard and faculty websites (throughout the semester).</td>
</tr>
<tr>
<td>Quantitative Literacy</td>
<td>Determination of cardiac output, mean arterial pressure, capillary hydrostatic and osmotic pressures, respiratory volumes and effective filtration pressure (completion of the cardiovascular, respiratory and urinary systems).</td>
</tr>
</tbody>
</table>

L. Course Outcomes and Assessment Methods:

Upon successful completion of this course, the student shall:

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Assessments – How it is met &amp; When it is met</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Identify the major microscopic components of blood, describe their functional roles in the cardiovascular system, and explain the principles governing transfusions and blood typing.</td>
<td>Exams, quizzes, practical lab tests throughout the semester</td>
</tr>
<tr>
<td>2. Identify and describe the major microscopic and macroscopic anatomical components of the cardiovascular system and explain their functional roles in transport and hemodynamics.</td>
<td>Exams, quizzes, practical lab tests throughout the semester</td>
</tr>
<tr>
<td>3. Identify and describe the major circuits of lymphatic drainage, the role of the lymphatic system in fluid dynamics and immunity.</td>
<td>Exams, quizzes, practical lab tests throughout the semester</td>
</tr>
<tr>
<td>4. Identify and describe the major microscopic and macroscopic anatomical components of the digestive system and explain their functional roles in nutrition, digestion, absorption, metabolism and elimination.</td>
<td>Exams, quizzes, practical lab tests throughout the semester</td>
</tr>
<tr>
<td>5. Identify and describe the major microscopic and macroscopic anatomical components of the respiratory system and explain their functional roles in external and internal respiratory processes.</td>
<td>Exams, quizzes, practical lab tests throughout the semester</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Assessments – How it is met &amp; When it is met</td>
</tr>
<tr>
<td>----------</td>
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</tr>
<tr>
<td>6. Identify and describe the major microscopic and macroscopic anatomical components of the urinary system and explain their functional roles in body fluid homeostasis.</td>
<td>Exams, quizzes, practical lab tests throughout the semester</td>
</tr>
<tr>
<td>7. Identify and describe the physiology of the basic homeostasis mechanisms that control fluid, electrolyte, and acid-base balance.</td>
<td>Exams, quizzes, practical lab tests throughout the semester</td>
</tr>
<tr>
<td>8. Identify and describe the major microscopic and macroscopic anatomical components of the reproductive system and explain their functional roles in reproduction and inheritance.</td>
<td>Exams, quizzes, practical lab tests throughout the semester</td>
</tr>
</tbody>
</table>

M. Topical Timeline (Subject to Change):

Lecture

1. The Blood
   a. Introduction and purposes
   b. Components of the blood
   c. Blood clotting
   d. Blood groups and transfusions
2. Cardiovascular System
   a. Introduction and overall design
   b. Heart
   c. Vascular System
   d. Cardiovascular Patterns in Health and Disease
3. Lymphatic System and Immunity
   a. Introduction and purpose
   b. Lymph organs
   c. Lymph vessels
   d. Immune function
4. The Digestive System
   a. General characteristics
   b. Regulation of the G.I. system
   c. The mouth, salivary glands, pharynx and esophagus
   d. The stomach
   e. The pancreas
   f. The liver
   g. The small intestine
   h. The large intestine
   i. Metabolism
5. The Respiratory System
   a. Organs of the respiratory system
   b. External and internal respiration
   c. Mechanism and control of breathing
   d. Respiratory volumes, movements and tests
   e. Transport of respiratory gases
6. The Urinary System
   a. Introduction
   b. The kidney
   c. Urine formation and the nephron unit
   d. Water, electrolyte, and acid-base balance
   e. Some clinical considerations
   f. Excretion of urine
7. The Reproductive System
   a. Organs of the reproductive system
   b. Gametogenesis in the reproductive system
   c. Effect of hormones involved in human reproduction
   d. Pregnancy, Parturition and lactation
   e. Disorders of the reproductive system

Lab Exercises

1. Blood cell types
2. Blood typing
3. Heart anatomy (human)
4. Heart anatomy (Beef and Sheep)
5. Heart Physiology and ECG
6. Human Veins
7. Human arteries below diaphragm
8. Human arteries above diaphragm
9. Digestive Anatomy of the Human
10. Digestive Anatomy of the Cat
11. Physiology of Intestinal motility
12. Digestive physiology and enzyme actions
13. Respiratory anatomy
14. Respiratory volume
15. Respiratory movements and physiology
16. Microscopic anatomy of the kidney
17. Pig kidney
18. Urinalysis and physiology of urine flow
19. Male and female reproductive anatomy (gross and micro structure)
20. Pregnant pig uterus, embryology
21. Cross-sectional anatomy (models and CT Scans)

N. Course Assignments:

1. Assignments as dictated by instructor
2. Lecture exams
3. Laboratory practical exams
4. Completion of pre-laboratory worksheets

O. Recommended Grading Scale:

<table>
<thead>
<tr>
<th>NUMERIC</th>
<th>GRADE</th>
<th>POINTS</th>
<th>DEFINITION</th>
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<tbody>
<tr>
<td>93–100</td>
<td>A</td>
<td>4.00</td>
<td>Superior</td>
</tr>
<tr>
<td>90–92</td>
<td>A-</td>
<td>3.67</td>
<td>Superior</td>
</tr>
<tr>
<td>87–89</td>
<td>B+</td>
<td>3.33</td>
<td>Above Average</td>
</tr>
<tr>
<td>83–86</td>
<td>B</td>
<td>3.00</td>
<td>Above Average</td>
</tr>
<tr>
<td>80–82</td>
<td>B-</td>
<td>2.67</td>
<td>Above Average</td>
</tr>
<tr>
<td>77–79</td>
<td>C+</td>
<td>2.33</td>
<td>Average</td>
</tr>
<tr>
<td>73–76</td>
<td>C</td>
<td>2.00</td>
<td>Average</td>
</tr>
<tr>
<td>70–72</td>
<td>C-</td>
<td>1.67</td>
<td>Below Average</td>
</tr>
<tr>
<td>67–69</td>
<td>D+</td>
<td>1.33</td>
<td>Below Average</td>
</tr>
<tr>
<td>63–66</td>
<td>D</td>
<td>1.00</td>
<td>Below Average</td>
</tr>
<tr>
<td>60–62</td>
<td>D-</td>
<td>0.67</td>
<td>Poor</td>
</tr>
<tr>
<td>00-59</td>
<td>F</td>
<td>0.00</td>
<td>Failure</td>
</tr>
</tbody>
</table>
P. Grading and Testing Guidelines:

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Q. Examination Policy:

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R. Class Attendance and Homework Make-Up Policy:

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S. Classroom Expectations:

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T. College Procedures/Policies:

Attendance Requirements: All students are required to attend all scheduled classes and examinations. Each faculty member has the right to establish regulations regarding attendance that he/she considers necessary for successful study.

Students who do not attend classes may be administratively withdrawn from those classes. However, failure to attend classes does not constitute withdrawal, and students are expected to process a formal withdrawal through the Student Records Office in Kee Hall.

Student engagement requirements:
Student engagement is based on the “active pursuit” of learning which can be measured by class attendance, class participation (in class or online), taking required quizzes/examinations, and submission of work assignments or papers. Student engagement consists of a student attending at least 60% of the class sessions (there should be attendance throughout the term) and/or completing 75% of the assignments listed on the syllabus at the midpoint in the term. Exceptions can be made when there is on-going communication between the student and faculty member. The communication must be documented and the faculty member and student must be in agreement regarding the exception. Students not meeting the expectation will be administratively withdrawn from class. If a student believes he/she was administratively withdrawn in error, he/she may file an appeal. Being administratively withdrawn may have program and financial aid implications.

Academic Misconduct is any activity that tends to compromise the academic integrity of the college, or subvert the educational process. Examples of academic misconduct include, but are not limited to:

1. Violation of course or program rules as contained in the course syllabus or other information provided to the student; violation of program requirements as established by departments and made available to students.

2. Plagiarism including, but not limited to, submitting, without appropriate acknowledgment, any written, visual or oral material that has been copied in whole or in part from the work of others (whether such source is published or not) even if the material is completely paraphrased in one’s own words. This includes another individual’s academic composition, compilation, or other product, or a commercially prepared paper. Plagiarism also includes submitting work in which portions were substantially produced by someone acting as a tutor or editor.

Such practices constitute plagiarism regardless of motive. Those who deny deceitful intent, claim not to have known that the act constituted plagiarism, or maintain that what they did was inadvertent are nevertheless subject to penalties when plagiarism has been confirmed.
3. **Cheating** and dishonest practices in connection with examinations, papers and projects, including but not limited to using unauthorized notes, study aids or information on an examination; obtaining help from another student during an examination; taking an exam or doing work for another student; providing one’s own work for another student to copy and submit as his/her own; or allowing another student to do one’s work and then submitting the work as one’s own. Also included would be altering a graded work after it has been returned, then submitting the work for re-grading; or submitting identical or similar papers for credit in more than one course without prior permission from the course instructors.

4. **Fabrication** including but not limited to falsifying or inventing any information, data or citation; presenting data that were not gathered in accordance with defined appropriate guidelines, and failing to include an accurate account of the method by which data were collected.

5. **Obtaining an Unfair Advantage** including, but not limited to stealing, reproducing, circulating, or otherwise gaining access to examination materials prior to the time authorized by the instructor; unauthorized collaborating on an academic assignment; taking, hiding or altering resource material; or undertaking any activity with the purpose of creating or obtaining an unfair advantage over another student’s academic work.

6. **Aiding and Abetting Academic Dishonesty** including, but not limited to providing material, information or other assistance to another person with the knowledge that such aid could be used in any of the violations stated above, or providing false information in connection with any inquiry regarding academic integrity.

7. **Alteration of Grades or Marks** including but not limited to, action by the student in an effort to change the earned credit or grade.

In addition, cases of academic dishonesty may involve photocopied materials. Materials used may fall under the Copyright Act. Violations of said Act may subject the user and/or the College to sanctions.

**Statement on Disabilities:** Any student who requires reasonable accommodations related to a disability should inform the course instructor and the Coordinator of Specialized Services (Room 138 in Kee Hall; phone 419-755-4727).

Students who encounter difficulty in any of their courses are encouraged to visit the Tutoring Resource Center (Room 119 in Fallerius Technical Education Center) for tutoring assistance, and the Student Success Center (Room 136 in Kee Hall) for academic assistance, advising services, referrals for personal counseling and Learning Disability (LD) Testing.

**Statement on Withdrawals:** As a student, you are expected to attend class. If you are unable or choose not to attend class, or if for whatever reason you are unable to keep up with the requirements of a course, you need to officially drop the class at the Student Records Office. Refund dates and withdrawal dates will vary slightly from term to term. Contact the Student Records Office for applicable dates. Additionally these dates are posted on the academic calendar available on the college’s website, [www.ncstatecollege.edu](http://www.ncstatecollege.edu), under the Academics heading on the home page and are available at the Student Records Office in Kee Hall. Students should go to the Student Records Office (Room 142 in Kee Hall) to process their withdrawal from any class.

If you choose to walk away from your class without officially withdrawing from it, the faculty member teaching the class must grade your classroom performance on the material available to him or her. This normally results in an “F” grade. An “F” grade can lower your grade point average considerably depending on the total credits accumulated.