Honolulu Community College
General Education – DIVERSIFICATION DESIGNATION
Certification and Recertification
Application Form
Spring 2012

APPLICANT: G. Witteman

E-MAIL: witteman@hawaii.edu

COURSE ALPHA and NUMBER: ZOOL 142, PHYT.142

COURSE TITLE: Human Anatomy and Physiology II

ESTIMATED NUMBER OF SECTIONS:
Fall: 1
Spring: 1

APPLICATION IS FOR:
☐ New Course ☐ Modified Course ☒ Existing Course ☐ Re-designation
☐ Certification ☐ Re-Certification. Date of last certification:

DIVERSIFICATION AREA DESIGNATION SOUGHT:
☐ DA (Arts) ☐ DP (Physical Sciences)
☒ DB (Biological Sciences) ☐ DS (Social Sciences)
☐ DH (Humanities) ☐ DY (Laboratory)
☐ DL (Literature and Language)

What percentage of the CONTENT of this course focuses on this diversification area? 100

What percentage of CLASS MEETINGS focuses on this diversification area? 100
1. **Hallmarks and SLOs.** Please explain how course-specific SLOs align with the diversification area’s hallmarks.

The alignment of Anatomy and Physiology II (A&PII) course student learning outcomes and student competencies with diversification hallmarks (DB1-3) is shown here. Each course competency, objective or intended learning outcome in the list below fulfills one or more of the following diversification hallmarks:

**DB.1** uses the terminology of the biological sciences. Objective/competency/outcome a through y (all)

**DB.2** involves knowledge and theories relating to processes in the biological sciences;

Objective/competency/outcome: a through y (all). Explanation as required by diversification committee:
Anatomy is the study of structure and physiology the study of function of the vertebrate (human) body in this course series. As this is a fundamental biology course that teaches the structure and function of humans at the organization level of cells, tissues, organs, and organ systems, and explores the inter-relationships and functions of each, it should be clear from the specific student learning objectives below “a-z” that each is either a fundamental exploration of a biological structure or process or demonstrates the FACT that the natural science of biology ONLY progresses as a discipline through the application of the SCIENTIFIC METHOD. There are no knowledge or theories presented in any of the medical Anatomy and Physiology courses (Phyl/Zool 141, 141L, 142, 142L) that come from a source other than the biological sciences at a molecular through whole-organism level of organization and study.

**DB.3** demonstrates inquiry that is guided by observation/experiment and reasoning/mathematics.

Objective/competency/outcome b, f, h, j, l, m, o, p, r, s, u, w, x, y

Anatomy and Physiology II specific course objectives, competencies, and student learning outcomes (See “ZOOL142 system course outline” and syllabus attached) Upon completion of this course, the student will be able to:

a. Identify by name, the required anatomical structures of the body and the various systems studied in this semester

b. Discuss the negative and positive feedback process involved in regulating these body systems

c. Relate chemical and biological knowledge to the function of the human body and other living organisms.

d. Explain the gross, tissue, and cellular physiology of the body systems

e. Identify components of the nervous system.

f. Describe the functions of the nervous system

g. Recognize general and special sensory structures

h. Characterize the Autonomic Nervous System

i. Identify the major endocrine glands and their respective hormones

j. Associate hypo or hyper-secretion of hormones to disease states

k. Identify components of the cardiovascular system

l. Explain the development, growth, regulation, and functions of cardiovascular elements

m. Distinguish and explain components and processes of the immune system

n. Identify the major respiratory structures

o. Describe the function and regulation of the respiratory system

p. Characterize the physical and chemical operations of respiration

q. Identify the components of the digestive system and accessory structures

r. Explain the process of digestion, absorption, and distribution of nutrients

s. Explain the basic inter-conversion of nutrients and their role in basic metabolism

t. Identify components of the urinary system

u. Describe the process of filtration, secretion and absorption as seen in the kidney and nephron

v. Describe the organization of the male and female reproductive systems
2. **Assessment strategies.** Explain assessment strategies you have used (or plan to use) to measure the degree to which students exit the course with the course-specific SLOs. If there are multiple sections of the course taught by different instructors, please discuss how assessment is (or will be) carried out across instructors.

Lecture exams, active participation in class discussions, lecture/lab quizzes and take-home activities are used to assess the degree to which students and the class (as a whole) is able to meet course competencies. This course uses a knowledge survey of general biological principles and course specific topics at the beginning of the semester, and then repeats groups of these questions in lecture exams after presentation of the topics in class. Specific course competencies and learning outcomes are measured and compared with previous semesters, and between current semester sections, to verify consistency in intended student outcomes. Sections and topics have been identified and additional effort and learning opportunities presented for those with consistently low performance.

Topics, coverage, and emphasis within A&P II is defined externally by the NCLEX (nursing licensure tests) and by the common course outline used by multiple U.H. campuses (See "Zool142 system course outline" and HonCC syllabus attached). These define appropriate number weights and methods of student grading and assessment that are used at HonCC. New and adjunct faculty are given lecture materials and guidance from the permanent A&P instructor who insures consistency between sections and semesters.

3. **Assessment of assessment.** How have you used (or plan to use) the assessment findings to modify or improve this course? If there are multiple sections of the course taught by different instructors, please discuss how review of assessment results is (or will be) carried out across instructors.

As an instructor of A&P I and II courses for over 14 years (at three universities), I have conducted multiple “assessment – change – improvement” cycles. I presented the efforts from this course design and modification effort at a WASC-senior accreditation conference (2003) to unanimously positive feedback, and was the first anatomy professor at the University of Guam to have 100% of my anatomy students pass the NCLEX board licensure exam on their first attempt. My teaching methods and the course materials should be considered “mature” (in need of little continued modification).

I maintain and update lecture and instructor materials to include medical advances or changes in the industry, and assist new instructors with delivery and methods of improving student outcomes while maintaining necessarily (externally determined) high standards. (G. Witteman)
DIVERSIFICATION BOARD DECISION:

☑ Approved
Re-Certification Due: Spring 2018

☐ Not approved
If not approved, reasons for disapproval:

Diversification Board Chair Signature: Jennifer Yenga-King
Date: 2/8/13
ZOLOGY 142/142L, PHYSIOLOGY 142/142L:  
HUMAN ANATOMY AND PHYSIOLOGY II

<table>
<thead>
<tr>
<th>Instructors: Dr. G. Witteman</th>
<th>Office: 5-101B Phone: 847-9847</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Times: M,W: 1130-1250 (lecture) Th: 1000-1250 (lab)</td>
<td>web: links to material through U.H. laulima</td>
</tr>
<tr>
<td>Classroom: 5-105</td>
<td>E-mail: <a href="mailto:witteman@hawaii.edu">witteman@hawaii.edu</a></td>
</tr>
<tr>
<td>Student study sessions/tutoring: Bld.5-105, M – Th/Friday by aptmnt.</td>
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</table>

COURSE DESCRIPTION: This is the second semester of an introductory Anatomy and Physiology for biology and health science majors. This course is a requirement for the Physical Therapy Assistant and Nursing degree programs at UH Manoa and Kapiolani. The three principle topics and concepts of physiology covered in the course are: Integration and Control, Regulation and Maintenance, and Reproduction & Development. The anatomical systems covered in this course are: Anatmec Nervous, Endocrine, Circulatory, Lymphatic, Respiratory, Urinary, Digestive and Reproductive. This course consists of complimentary lecture and laboratory sections designed to be taken concurrently at HCC. Because of this, taking lecture or laboratory classes separately is strongly discouraged.

Zoology/Physiology 142 lecture course fulfills the University of Hawaii Community Colleges' Natural Science requirement for the A.A. and A.S. degrees and the University of Hawai‘i at Manoa, General Education Requirements for Diversification, Natural Sciences, Biological Sciences (142; DB; 3 credits). The laboratory portion of this course sequence (142L) fulfills laboratory diversification requirements (DY; 1 credit).

Required Text & Materials:
Human Anatomy and Physiology, Elaine N. Marieb & Katja Hoehn
2-gig or larger USB flashdrive, internet access

Additional Learning Resources:
In addition to the text and your lecture notes, I will make a variety of supplemental materials available through the course website and on the classroom's workstations. This will include practice quizzes, lecture outlines, concept and keyword lists, images of specimens and lecture summaries. You will also be able to check your exam, quiz and overall grades for the course through the website.

Methods of Evaluation:
As the course material is the same in lecture and lab, you will receive the same letter grade for both. The Lecture is weighted as ¾ of the overall grade (75%) and the lab counts for ¼ (25%) of your grade. Your final grade will be based on the total number of points that you receive out of a possible 400 points. If your are only taking the lecture or lab portions of the class you will be graded accordingly (As students attempting to take only one of the courses have had poor outcomes, it is strongly recommended to take both lecture and lab concurrently at HCC).

For the lecture’s 300 course points there will be 3 lecture exams worth 75 points (225 points total) and 5 lecture quizzes or assignments worth 15 points (75 points total). For the 100 points possible in lab, there will be three lab practical examinations worth 25 points each (75 points total) and 5 lab quizzes or exercises worth 5 points each (25 points total).

Full-credit makeup exams will only be given for documented illness or accident (i.e.: you must have a doctor's excuse or a copy of an official document such as a police report). If you miss an examination for any other reason you must complete the makeup exam within a week and you will only be able to earn a maximum of 70% of the points. Makeup quizzes for unexcused absences will only be worth 10 points maximum (50%). If you score less than a passing grade or are absent for any quiz, exam, or exercise YOU MUST COMPLETE A MAKEUP QUIZ OR ASSIGNMENT WITH A PASSING GRADE TO RECEIVE A FINAL GRADE FOR THE COURSE. There is no extra credit of any kind.

WITHDRAWAL ("W" grade): If you decide to withdraw from the course, the paperwork must be completed by the
LAST DAY FOR ALL WITHDRAWALS, which can be found on the calendar in the schedule of courses. I will sign withdrawals only in cases of extreme or unusual circumstances. Grade-related excuses are unacceptable. If you simply disappear without withdrawing, you will receive an F for the course. Withdrawals after the designated time will be allowed by the college only in cases of extreme circumstances. Examples are a certified medical reason or a death in the immediate family. INCOMPLETE ("I" grade): A "Request for Incomplete" form must be presented prior to the last day of instruction. An "I" grade will only be given to students who are achieving passing grades and who are very close to completing the course. In addition, a student must have a very good reason for not being able to complete the work or test on time. Good reasons are the same as those cited in the withdrawal policy above.

Points needed for letter grades:
360-400 = A = 90-100%  320-359 = B = 80-89%  280-319 = C = 70-79%  240-279 = D = 60-69%  0-239 = F = <60%

Zoology 142/142L Schedule of Lectures, Exams & Readings
Spring 2012, (Tentative schedule, subject to change)

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Date</th>
<th>Lecture Topics</th>
<th>Reading</th>
<th>Lab</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Aug. 20</td>
<td>Jan - 9</td>
<td>Overview, Orientation &amp; Review</td>
<td>(zoo 141)</td>
<td>Necropsy</td>
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<td>Endocrine &amp; ans</td>
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<td>2</td>
<td>Aug. 27</td>
<td>Jan 16*</td>
<td>The Autonomic Nervous System and Visceral Reflexes</td>
<td>Ch. 14</td>
<td>Endocrine sim &amp; Instrumentation</td>
</tr>
<tr>
<td>3</td>
<td>Sep. 3*</td>
<td>Jan 23</td>
<td>The Endocrine System (Quiz)</td>
<td>Ch. 16</td>
<td>Blood Typing</td>
</tr>
<tr>
<td>4</td>
<td>Sep. 10</td>
<td>Jan 30</td>
<td>The Circulatory System: Blood</td>
<td>Ch. 17</td>
<td>Heart</td>
</tr>
<tr>
<td>5</td>
<td>Sep. 17</td>
<td>Feb 6</td>
<td>The Circulatory System: The Heart (Exam-1)</td>
<td>Ch. 18</td>
<td>ECG</td>
</tr>
<tr>
<td>6</td>
<td>Sep. 24</td>
<td>Feb 13</td>
<td>The Circulatory System: Blood Vessels and Circulation</td>
<td>Ch. 19</td>
<td>Lab Practical 1</td>
</tr>
<tr>
<td>7</td>
<td>Oct. 1</td>
<td>Feb 20*</td>
<td>The Lymphatic and Immune Systems</td>
<td>Ch. 20</td>
<td>Diseases</td>
</tr>
<tr>
<td>8</td>
<td>Oct. 8</td>
<td>Feb 27</td>
<td>The Respiratory System</td>
<td>Ch. 21</td>
<td>Spirimitty</td>
</tr>
<tr>
<td>9</td>
<td>Oct. 15</td>
<td>Mar 5</td>
<td>The Urinary System</td>
<td>Ch. 22, 25</td>
<td>Urinalisis</td>
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<tr>
<td>10</td>
<td>Oct. 22</td>
<td>Mar 12</td>
<td>The Urinary System + fluid Balance (Exam-2)</td>
<td>Ch. 25, 26</td>
<td>Cat Dissection</td>
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<tr>
<td>11</td>
<td>Oct. 29</td>
<td>Mar 19</td>
<td>System Integration – putting it all together</td>
<td>Ch. 26</td>
<td>Lab Practical 2</td>
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<tr>
<td>12</td>
<td>Nov. 5</td>
<td>Apr 2</td>
<td>The Digestive System (Quiz)</td>
<td>Ch. 23</td>
<td>Digestive</td>
</tr>
<tr>
<td>13</td>
<td>Nov. 12*</td>
<td>Apr 9</td>
<td>Nutrition and Metabolism</td>
<td>Ch. 24</td>
<td>Metabolism</td>
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<tr>
<td>14</td>
<td>Nov 19</td>
<td>Apr 16</td>
<td>The Male Reproductive System</td>
<td>Ch. 27</td>
<td>Models</td>
</tr>
<tr>
<td>15</td>
<td>Nov. 26</td>
<td>Apr 23</td>
<td>The Female Reproductive System (Quiz)</td>
<td>Ch. 27, 28</td>
<td>Embryology</td>
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<tr>
<td>16</td>
<td>Dec. 3</td>
<td>Apr 30</td>
<td>Human Development &amp; Heredity (Exam-3 is in finals week)</td>
<td>Ch. 28, 29</td>
<td>Lab Practical 3**</td>
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</tbody>
</table>
LECTURE/LAB SCHEDULE NOTES:
Readings for the week are to be completed BEFORE CLASS.
* Monday Holidays (no class).

Lecture Course Competencies and Student Learning Outcomes
Upon successful completion of ZOOL 142, the student should be able to:

a. Identify by name, the required anatomical structures of the body and the various systems studied in this semester
b. Discuss the negative and positive feedback process involved in regulating these body systems
c. Relate chemical and biological knowledge to the function of the human body and other living organisms.
d. Explain the gross, tissue, and cellular physiology of the body systems
e. Identify components of the nervous system.
f. Describe the functions of the nervous system
g. Recognize general and special sensory structures
h. Characterize the Autonomic Nervous System
i. Identify the major endocrine glands and their respective hormones
j. Associate hypo or hyper-secretion of hormones to disease states
k. Identify components of the cardiovascular system
l. Explain the development, growth, regulation, and functions of cardiovascular elements
m. Distinguish and explain components and processes of the immune system
n. Identify the major respiratory structures
o. Describe the function and regulation of the respiratory system
p. Characterize the physical and chemical operations of respiration
q. Identify the components of the digestive system and accessory structures
r. Explain the process of digestion, absorption, and distribution of nutrients
s. Explain the basic inter-conversion of nutrients and their role in basic metabolism
t. Identify components of the urinary system
u. Describe the process of filtration, secretion and absorption as seen in the kidney and nephron
v. Describe the organization of the male and female reproductive systems
w. Discuss the development and regulation of reproductive function
x. Calculate and interconvert values for measurements, concentrations, and rates as appropriate
y. Analyze and Interpret graphic materials

Laboratory Course Competencies and Student Learning Outcomes
Upon successful completion of ZOOL 142L, the student should be able to:
1. Use the scientific method to design and conduct a clinical research study.
2. Describe the anatomy of the endocrine, cardiovascular, respiratory, urinary, digestive and reproductive systems from prepared slides, models, and real and virtual animal dissections.
3. Use basic laboratory and medical equipment to evaluate functions (physiology) of the above body systems.
4. Use critical thinking to analyze and interpret clinical data.
5. Prepare a written summary of all lab activities that reflects use of the scientific method