ASU ARIZONA STATE UNIVERSITY

# GENERAL STUDIES COURSE PROPOSAL COVER FORM
**(ONE COURSE PER FORM)**

| | |
|---|---|
| 1.) DATE: **3/12/14** | 2.) COMMUNITY COLLEGE: **Yavapai College** |

3.) COURSE PROPOSED: Prefix: **BIO** Number: **160** Title: **INTRO TO ANATOMY & PHYSIOLOGY** Credits: **4**

CROSS LISTED WITH: Prefix: Number: ; Prefix: Number: ; Prefix: Number: ;

Prefix: Number: ; Prefix: Number: ; Prefix: Number:

4.) COMMUNITY COLLEGE INITIATOR: **ASU TRANSFER SYSTEMS DEVELOPMENT** PHONE: **4807272424** FAX:

ELIGIBILITY: Courses must have a current Course Equivalency Guide (CEG) evaluation. Courses evaluated as NT (non-transferable are not eligible for the General Studies Program.

MANDATORY REVIEW:

☐ The above specified course is undergoing Mandatory Review for the following Core or Awareness Area (only one area is permitted; if a course meets more than one Core or Awareness Area, please submit a separate Mandatory Review Cover Form for each Area).

POLICY: The General Studies Council (GSC-T) Policies and Procedures requires the review of previously approved community college courses every five years, to verify that they continue to meet the requirements of Core or Awareness Areas already assigned to these courses. This review is also necessary as the General Studies program evolves.

AREA(S) PROPOSED COURSE WILL SERVE: A course may be proposed for more than one core or awareness area. Although a course may satisfy a core area requirement and an awareness area requirement concurrently, a course may not be used to satisfy requirements in two core or awareness areas simultaneously, even if approved for those areas. With departmental consent, an approved General Studies course may be counted toward both the General Studies requirements and the major program of study.

5.) PLEASE SELECT EITHER A CORE AREA OR AN AWARENESS AREA:

Core Areas: **Natural Sciences (SG)** Awareness Areas: **Select awareness area...**

6.) **On a separate sheet, please provide a description of how the course meets the specific criteria in the area for which the course is being proposed.**

7.) DOCUMENTATION REQUIRED

☒ Course Description
☒ Course Syllabus
☒ Criteria Checklist for the area
☒ Table of Contents from the textbook required and/or list or required readings/books
☒ Description of how course meets criteria as stated in item 6.

8.) THIS COURSE CURRENTLY TRANSFERS TO ASU AS:

☒ DEC**BIO**prefix
☐ Elective

Current General Studies designation(s): **NONE**

Effective date: **2014 Fall** Course Equivalency Guide

Is this a multi-section course? ☐ yes ☐ no

Is it governed by a common syllabus? ☐ yes ☐ no

Chair/Director: Chair/Director Signature:

AGSC Action: Date action taken: ☐ Approved ☐ Disapproved

Effective Date:

**Arizona State University Criteria Checklist for**

# NATURAL SCIENCES [SQ/SG]

## Rationale and Objectives

In a relatively short time in the history of civilized societies, humankind moved from what was essentially an agrarian population into an industrial age, which in recent years has been profoundly shaped by such scientific and technological advances as genetic engineering, the computer, and space exploration. Our history of irrepressible ingenuity makes a compelling case for a future that will be even more profoundly influenced by science and technology. It is imperative that we react expeditiously and effectively to the problems and the promise that these advances create. We must ensure that technological change is directed to the benefit of society and that it will promote human dignity and values. Success in achieving this goal will depend upon the insight and knowledge of political and public opinion leaders, and the scientific enlightenment of educated citizens. To a significant degree, the ability of these individuals to understand the nature of the issues and the alternative courses of action will be determined by the quality of science presented at the nation's institutions of higher learning.

The recommendation of at least one laboratory course that includes a substantial introduction to the fundamental behavior of matter and energy in physical or biological systems derives from a number of considerations. First, all physical and biological phenomena have at their roots the fundamental principles governing the behavior of matter and energy. These principles have been shown over a period of time to be a value in reliably predicting and rationalizing a broad range of phenomena. Unless the lines to these roots are established, our understanding of the broader range of the sciences, and other fields upon which these sciences impinge, will be impaired. Second, because these fundamental principles have been experimentally established beyond reasonable doubt, the essentials of the scientific method can be clearly and coherently revealed by their study. Third, the study of the behavior of matter and energy illustrates the usefulness of mathematics in precisely describing and rationalizing certain physical phenomena, and the expressiveness of mathematical equation.

10/1989
REV: 1/1991, 3/1991, 1/2000, 10/2008

**Proposer: Please complete the following sections and attach appropriate documentation.**

# ASU--[SQ] CRITERIA

## I. - FOR ALL *QUANTITATIVE* [SQ] NATURAL SCIENCES CORE AREA COURSES, THE FOLLOWING ARE CRITICAL CRITERIA AND MUST BE MET:

| YES | NO | | Identify Documentation Submitted |
|---|---|---|---|
| ☐ | ☐ | **A.** Course emphasizes the mastery of basic scientific principles and concepts. | |
| ☐ | ☐ | **B.** Addresses knowledge of scientific method. | |
| ☐ | ☐ | **C.** Includes coverage of the methods of scientific inquiry that characterize the particular discipline. | |
| ☐ | ☐ | **D.** Addresses potential for uncertainty in scientific inquiry. | |
| ☐ | ☐ | **E.** Illustrates the usefulness of mathematics in scientific description and reasoning. | |
| ☐ | ☐ | **F.** Includes **weekly** laboratory and/or field sessions that provide hands-on exposure to scientific phenomena and methodology in the discipline, and enhance the learning of course material. | |
| ☐ | ☐ | **G.** Students submit written reports of laboratory experiments for constructive evaluation by the instructor. | |
| ☐ | ☐ | **H.** Course is general or introductory in nature, ordinarily at lower-division level; not a course with great depth or specificity. | |

## II. - AT LEAST ONE OF THE FOLLOWING ADDITIONAL CRITERIA MUST BE MET WITHIN THE CONTEXT OF THE COURSE:

| | | | |
|---|---|---|---|
| ☐ | ☐ | **A.** Stresses understanding of the nature of basic scientific issues. | |
| ☐ | ☐ | **B.** Develops appreciation of the scope and reality of limitations in scientific capabilities. | |
| ☐ | ☐ | **C.** Discusses costs (time, human, financial) and risks of scientific inquiry. | |

NOTE: CRITERIA FOR [SG] COURSES BEGIN ON PAGE 4.

| III. - [SQ] COURSES MUST ALSO MEET THESE ADDITIONAL CRITERIA: | | | |
|---|---|---|---|
| **YES** | **NO** | | **Identify Documentation Submitted** |
| ☐ | ☐ | **A.** Provides a substantial, quantitative introduction to fundamental principles governing behavior of matter and energy, in physical or biological systems. | |
| | | **B.** Includes a college-level treatment of some of the following topics **(check all that apply below):** | |
| ☐ | ☐ | **a.** Atomic and molecular structure | |
| ☐ | ☐ | **b.** Electrical processes | |
| ☐ | ☐ | **c.** Chemical processes | |
| ☐ | ☐ | **d.** Elementary thermodynamics | |
| ☐ | ☐ | **e.** Electromagnetics | |
| ☐ | ☐ | **f.** Dynamics and mechanics | |
| **[SQ] REQUIREMENTS CANNOT BE MET BY COURSES:** | | | |
| • **Presenting a qualitative survey of a discipline.** | | | |
| • **Focusing on the impact of science on social, economic, or environmental issues.** | | | |
| • **Focusing on a specific or limiting but in-depth theme suitable for upper-division majors.** | | | |

**Proposer: Please complete the following section and attach appropriate documentation.**

# ASU--[SG] CRITERIA

## I. - FOR ALL *GENERAL* [SG] NATURAL SCIENCES CORE AREA COURSES, THE FOLLOWING ARE CRITICAL CRITERIA AND MUST BE MET:

| YES | NO | | Identify Documentation Submitted |
|---|---|---|---|
| ☒ | ☐ | **1.** Course emphasizes the mastery of basic scientific principles and concepts. | Course syllabus and outline |
| ☒ | ☐ | **2.** Addresses knowledge of scientific method. | Course syllabus and outline |
| ☒ | ☐ | **3.** Includes coverage of the methods of scientific inquiry that characterize the particular discipline. | Course syllabus and outline |
| ☒ | ☐ | **4.** Addresses potential for uncertainty in scientific inquiry. | Course syllabus and outline |
| ☒ | ☐ | **5.** Illustrates the usefulness of mathematics in scientific description and reasoning. | Course syllabus and outline |
| ☒ | ☐ | **6.** Includes **weekly** laboratory and/or field sessions that provide hands-on exposure to scientific phenomena and methodology in the discipline, and enhance the learning of course material. | Course syllabus and outline |
| ☒ | ☐ | **7.** Students submit written reports of laboratory experiments for constructive evaluation by the instructor. | Course syllabus and outline |
| ☒ | ☐ | **8.** Course is general or introductory in nature, ordinarily at lower-division level; not a course with great depth or specificity. | Course syllabus and outline |

## II. - AT LEAST ONE OF THE ADDITIONAL CRITERIA THAT MUST BE MET WITHIN THE CONTEXT OF THE COURSE:

| | | | |
|---|---|---|---|
| ☒ | ☐ | **A.** Stresses understanding of the nature of basic scientific issues. | Course syllabus and outline |
| ☒ | ☐ | **B.** Develops appreciation of the scope and reality of limitations in scientific capabilities. | Course syllabus and outline |
| ☐ | ☒ | **C.** Discusses costs (time, human, financial) and risks of scientific inquiry. | |

| [SG] REQUIREMENTS CANNOT BE MET BY COURSES: | | |
|---|---|---|
| | • Presenting a qualitative survey of a discipline. | |
| | • Focusing on the impact of science on social, economic, or environmental issues. | |
| | • Focusing on a specific or limiting but in-depth theme suitable for upper-division majors. | |

| Course Prefix | Number | Title | Designation |
|---|---|---|---|
| BIO | 160 | INTRO TO ANATOMY & PHYSIOLOGY | 4 |

Explain in detail which student activities correspond to the specific designation criteria. Please use the following organizer to explain how the criteria are being met.

| Criteria (from checksheet) | How course meets spirit (contextualize specific examples in next column) | Please provide detailed evidence of how course meets criteria (i.e., where in syllabus) |
|---|---|---|
| I a-d: Course emphasizes mastery of basic scientific principles, addresses knowledge of scientific method, includes coverage of method of scientific inquiry, addresses potential for uncertainty in scientific inquiry. | This course studies the structure and function of the major systems of the body, structural organization and control mechanisms of the body. | Weeks 1-3 of course syllabus and outline |
| I e-h: Illustrates usefulness of mathematics in scientific description and reasoning. Includes weekly laboratory and/or field sessions; submits written reports of laboratory experiments. Course is intro level. | Course studies scientific method and physiological measurements as well as specific chemist concepts of the body through laboratories and field experiments by recording and evaluating investigative results. | Weeks 1-16 of course syllabus and outline |
| II a and b: Stresses understanding of the nature of basic scientific issues; develops appreciation of the scope and reality of limitations in scientific capabilities. | Identifies the unifying themses of human anatomy and physiology through understanding the skeletal, muscular, nervous and cardiovascular systems of the human body. | Weeks 4-10 of course syllabus and outline |

# Syllabus

## Bio 160 Intro to Anatomy and Physiology – Fall 2011

Instructor: Dr. Steven Waples

Class Days: Tue and Thu; 8:00 – 10:45 am Location: Yavapai College, Building 4

Office Hours: Wed; 10-12 899-6121 Email: swaples@yc.edu

### Course Information

#### Course Description

Structural organization, homeostasis and control mechanisms of the body. Specific chemistry concepts. Structure and function of the major systems of the body.

#### Textbooks

Essentials of Human anatomy and Physiology, 10th Ed. Preferred; Elaine Marieb, 2012, Pearson Education

Essentials of Human Anatomy and Physiology Laboratory Manual, Fourth Ed.; Elaine Marieb; 2009, Pearson Education

#### Course Content

- Scientific method and physiological measurements
- Structural organization of the body
- Homeostasis and homeostatic control mechanisms
- Specific chemistry concepts of the body
- Integumentary system
- Skeletal system and joints
- Muscular system
- Nervous system
- Cardiovascular system
- Lymphatic/ Immune system
- Respiratory system
- Digestive system
- Urinary system
- Reproductive system

## Learning Outcomes

- Use the scientific method to evaluate basic principles of human physiology
- Identify the unifying themes of human anatomy and physiology
- Record and evaluate investigative results
- Describe the structural organization of the body
- Describe homeostasis and homeostatic control mechanisms
- Describe the specific chemistry concepts of the body
- Describe the structure and function of all the major systems of the body as identified in the Course Content section of this syllabus

## Grading Criteria

| | |
|---|---|
| Exams & Quizzes | 70% |
| Lab Notebook | 20% |
| Participation | 10% |
| TOTAL | 100% |

## Grading Scale (percent of highest grade)

90 – 100 = A

80 – 89 = B

70 – 79 = C

60 – 69 = D

0 – 59 = F

## Yavapai College Policy/Instructor Procedures

### Exam/Quiz/Lab Make-up Policy

Students are expected to attend every class. Unless there are extenuating circumstances which must be approved by the instructor (prior to the class), a student who misses an exam, lab, or quiz will not be allowed to make it up and will receive a zero for the grade. Quizzes may or may not be given with or without notice.

### Laboratory Notebooks

A laboratory notebook will need to be kept and turned in when directed by the instructor. To be considered for evaluation, a notebook must have the following:

- A title page indicating your name, course title, and when the class meets
- Your name and date the lab was conducted in class must be written clearly on the first page of each lab

- Be bound or stapled separate from your regular class notes

## Attendance

Students are expected to attend and participate in all class meetings. A student who expects to be absent due to another school-sponsored activity or compelling personal reason must make prior arrangements with the instructor. All course work must be made up as directed by the instructor (no more than 1 week). A student who has more than 3 unexcused absences from the class and who does not adhere to instructor and College attendance requirements MAY be dropped from the course as defined in the Yavapai college General Catalog.

## Cell Phone and Pager Policy

Yavapai College is committed to providing a quality learning environment. All cell phones and pagers must be placed in a non-audible mode while in classrooms, computer labs, the library, the learning center, and testing areas. Cell phones and pagers must be used outside these facilities (including texting). Any student found using a cell phone in any manner during an exam or quiz will receive an automatic zero on that exam or quiz.

## Course Withdrawal

To officially withdraw from a course, the student must complete a Yavapai College Change of Class Enrollment Form and submit it to the Registration Office. Withdrawing from a course after the published deadline for withdrawal requires instructor approval and signature. A withdrawal "W" will no longer be assigned when a student does not complete a class. Instructors will assign only letter grades for students who remain enrolled. If a student does not follow official procedures for withdrawing from a course, failing grades may be posted on the student's permanent record. Important dates to remember:

| | |
|---|---|
| **August 28th, 2011** | **Last day to withdraw with a 50% refund** |
| **October 16th, 2011** | **Last day for student initiated withdrawal** |
| **December 2, 2011** | **Last day for instructor initiated withdrawal** |

## Academic Integrity

Honesty in academic work is a central element of the learning environment. The presentation of another individual's work as one's own or the act of seeking unfair academic advantage through cheating, plagiarism or other dishonest means are violations of the College's "Student Code of Conduct."

Definitions of plagiarism, cheating, and violation of copyright and penalties for violation are available in the Yavapai College General Catalog. If you use dishonest means to complete an assignment or take an exam, you will receive no credit for the assignment or test.

### Student Code of Conduct

Respect for the right of others and for the College and its property are fundamental expectations for every student. The "Student Code of Conduct" outlines behavioral expectations, and explains the process for responding to allegations of student misconduct.

### Disability Resources

Yavapai College is committed to providing educational support services to students with documented disabilities. Accommodations for a student must be arranged by the student through the Disability Resources Coordinator (Prescott Campus: 928-776-2079).

## Student Resources

### Library Services

Library services are available at both the Prescott and Verde Valley Campus libraries. Possession of a College library card entitles students to access materials at both libraries.

### Learning Centers

A Learning Center is available on the Prescott and Verde Valley Campuses. These centers provide a variety of learning support for students including tutoring and a networked general computer lab. For tutoring call 776-2085 in Prescott and 634-6562 in Verde Valley. Online writing tutoring for any academic subject is available at www2.yc.edu/content/learningcenters

# Bio 160 – Introduction to Human Anatomy and Physiology

## Course Outline and Calendar – Fall 2011

| | | |
|---|---|---|
| **Week 1** | Tues 8/22 | Introduction to the Course |
| | | The Human Body – Chapter 1 |
| | Thurs 8/24 | Basic Chemistry – Chapter 2 |
| | | Lab – Exercise 1: the Language of Anatomy |
| Week 2 | Tues 8/29 | Cells and Tissues – Chapter 3 |
| | | Lab – The Microscope |
| | Thurs 8/31 | Skin and Body Membranes – Chapter 4 |
| | | Lab – Exercise 5: Classification of Tissues |
| Week 3 | Tues 9/5 | Review |
| | Thus 9/7 | Exam I (Covers Chapters 1,2,3,4) |
| Week 4 | Tues 9/12 | The Skeletal System – Chapter 5 |
| | | Lab – Exercise 7 |
| | Thurs 9/14 | The Skeletal System cont. |
| | | Lab 8 and Lab 9 |
| Week 5 | Tues 9/19 | The Muscular System – Chapter 6 |
| | | Stretching Lab |
| | Thurs 9/21 | Muscular System cont./Review |
| Week 6 | Tues 9/26 | Exam II ( Chapters 5,6) |
| | Thurs 9/28 | The Nervous System (Nerves) – Chapter 7 |
| Week 7 | Tues 10/5 | The Nervous System (Brain) – Chapter 7 |
| | | Lab – Exercise 14: Gross Anatomy of the Brain |
| | Thurs 10/7 | Special Senses/Endocrine System/Review |
| Week 8 | Tues 10/12 | Exam III (Chapter 7,8,9) |

| | | |
|---|---|---|
| | Thurs 10/14 | Blood – chapter 10 |
| | | Lab – Blood Typing |
| Week 9 | Tues 10/19 | The Cardiovascular System – Chapter 11 |
| | | Lab – Blood Pressure |
| | Thurs 10/21 | The Heart |
| | | Lab – Heart Dissection, Exercise 20, 22 Heart |
| Week 10 | Tues 10/26 | The Respiratory System – Chapter 13 |
| | | Lab – Respirometer Lab |
| | Thurs 10/28 | Review |
| | | Lab – 2nd Respirometer Lab |
| Week 11 | Tues 11/2 | Exam IV (Chapters 10,11,13) |
| | Thurs 11/4 | The Lymphatic System/Immune Defenses – Chapter 12 |
| | | Lab - Microscope |
| Week 12 | Tues 11/9 | The Digestive System – Chapter 14 |
| | | Lab – Salivary Amylase |
| | Thurs 11/11 | The Urinary System – Chapter 15 |
| Week 13 | Tues 11/16 | Review |
| | Thurs 11/18 | Exam V (Chapters 12,14,15) |
| Week 14 | Tues 11/23 | The Reproductive System – Chapter 16 |
| | Thurs 11/25 | THANKSGIVING |
| Week 15 | Tues 11/30 | The Reproductive System cont. |
| | Thurs 12/2 | Review |
| Week 16 | Tues 12/7 | Exam VI (Chapter 16)/Course Review |
| | Thurs 12/9 | FINAL |

Course: Bio 160

Instructor: Dr. Steven Waples

Institution: Yavapai College

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I have been provided a copy of the Syllabus and Calendar for this course in either electronic or paper format. I have read this syllabus and calendar and I have been given an opportunity to ask questions about it.

_____ _____

Student Signature Date

_____

Print Name