

## Administrative Master Syllabus

### Course Information

<b>Course Title</b>	Anatomy & Physiology II
<b>Course Prefix, Num. and Title</b>	BIOL 2402
<b>Division</b>	Life Sciences
<b>Department</b>	Biology
<b>Course Type</b>	Academic WCJC Core Course
<b>Course Catalog Description</b>	Anatomy and Physiology II is the second part of a two-course sequence. It is a study of the structure and function of the human body including the following systems: endocrine, cardiovascular, immune, lymphatic, respiratory, digestive (including nutrition), urinary (including fluid and electrolyte balance), and reproductive (including human development and genetics). Emphasis is on interrelationships among systems and regulation of physiological functions involved in maintaining homeostasis. The lab provides a hands-on learning experience for exploration of human system components and basic physiology. Systems to be studied include endocrine, cardiovascular, immune, lymphatic, respiratory, digestive (including nutrition), urinary (including fluid and electrolyte balance), and reproductive (including human development and genetics).
<b>Pre-Requisites</b>	TSI ELAR (Reading and Writing) requirement met; BIOL 2401 with a grade of "C" or better.
<b>Co-Requisites</b>	Enter Co-Requisites Here.

### Semester Credit Hours

<b>Total Semester Credit Hours (SCH): Lecture Hours:</b>	4:3:2
<b>Lab/Other Hours</b>	
<b>Equated Pay Hours</b>	4.2
<b>Lab/Other Hours Breakdown: Lab Hours</b>	2
<b>Lab/Other Hours Breakdown: Clinical Hours</b>	Enter Clinical Hours Here.
<b>Lab/Other Hours Breakdown: Practicum Hours</b>	Enter Practicum Hours Here.
<b>Other Hours Breakdown</b>	List Total Lab/Other Hours Here.

### Approval Signatures

Title	Signature	Date
<b>Department Head:</b>		
<b>Division Chair:</b>		
<b>VPI:</b>		

## **Additional Course Information**

**Topical Outline:** Each offering of this course must include the following topics (be sure to include information regarding lab, practicum, and clinical or other non-lecture instruction).

### Lecture Outline

- I. Endocrine system
  - A. Glands
  - B. Hormones (classification and function)
- II. Cardiovascular system-heart
  - A. Anatomy
  - B. Electrophysiology
  - C. Cardiac physiology
  - D. Homeostatic imbalances
- III. Cardiovascular system-blood vessels
  - A. Types and function
  - B. Systemic blood pressure (types and regulation of)
  - C. Capillary dynamics
  - D. Pulmonary and systemic circuits
  - E. Homeostatic imbalances
- IV. Cardiovascular system-blood
  - A. General functions
  - B. Formed elements
  - C. Blood plasma
  - D. Blood types
  - E. Hemostasis and fibrinolysis
  - F. Homeostatic imbalances
- V. Lymphatic system
  - A. General functions
  - B. Anatomy and physiology of lymphatic tissues and organs
  - C. Lymphatic circulation
  - D. Homeostatic imbalances
- VI. Immune System
  - A. Innate (surface barriers and internal defenses)
  - B. Specific/adaptive (cell-mediated and humoral immunity)
  - C. Homeostatic imbalances
- VII. Respiratory system
  - A. General functions
  - B. Anatomy and physiology of organs
  - C. Pulmonary ventilation
  - D. Gas transport and exchange
  - E. Control of respiration
  - F. Homeostatic imbalances
- VIII. Digestive system
  - A. General functions
  - B. Anatomy and physiology of organs



- C. Movement through digestive system
- D. Physiology of digestion
- E. Physiology of absorption
- F. Nutrition
- G. Homeostatic imbalances
- IX. Urinary system
  - A. General functions
  - B. Anatomy and physiology of organs
  - C. Regulation of filtration, reabsorption and secretion in kidney
  - D. Characteristics of urine
  - E. Micturition
  - F. Fluid, electrolyte, and acid-base balance
  - G. Homeostatic imbalances
- X. Reproductive system
  - A. Anatomy and physiology of organs
  - B. Hormonal regulation
  - C. Gametogenesis
  - D. Human development
  - E. Homeostatic imbalances

Lab Outline (a department lab schedule detailing lab exercises will be provided to the instructor)

- I. Orientation and safety procedures
- II. Identification of endocrine glands and hormones produced
- III. Identification of structures of the heart and cardiac muscle (includes dissection)
- IV. Identification of steps of the scientific method and practical application
- V. Practical study of cardiovascular physiology (EKG and blood pressure)
- VI. Identification of blood vessels and selected arteries and veins
- VII. Identification of structures of the lymphatic system
- VIII. Identification of different blood cell types
- IX. Identification of structures of the immune system and practical study of blood typing
- X. Identification of structures of the respiratory system
- XI. Practical study of spirometry
- XII. Identification of structures of the digestive system
- XIII. Identification of structures of the urinary system
- XIV. Identification of structures of the reproductive system

## **Course Learning Outcomes:**

**Learning Outcomes – Upon successful completion of this course, students will:**

LECTURE:

1. Use anatomical terminology to identify and describe locations of major organs of each system covered.
2. Explain interrelationships among molecular, cellular, tissue, and organ functions in each system.
3. Describe the interdependency and interactions of the systems.
4. Explain contributions of organs and systems to the maintenance of homeostasis.
5. Identify causes and effects of homeostatic imbalances.
6. Describe modern technology and tools used to study anatomy and physiology.

**LAB:**

1. Apply appropriate safety and ethical standards.
2. Locate and identify anatomical structures.
3. Appropriately utilize laboratory equipment, such as microscopes, dissection tools, general lab ware, physiology data acquisition systems, and virtual simulations.
4. Work collaboratively to perform experiments.
5. Demonstrate the steps involved in the scientific method.
6. Communicate results of scientific investigations, analyze data and formulate conclusions.
7. Use critical thinking and scientific problem-solving skills, including, but not limited to, inferring, integrating, synthesizing, and summarizing, to make decisions, recommendations and predictions.

**Methods of Assessment:**

LECTURE: lecture exam questions and post-test exam questions

LAB: laboratory practicals, group assignments, other graded work (quizzes, assignments, activities, etc.) and post-test exam questions

**Required text(s), optional text(s) and/or materials to be supplied by the student:**

Text: McKinley, O'Loughlin, & Bidle. *Anatomy & Physiology: An Integrative Approach*. McGraw-Hill. Current edition

Workbook: *Study Guide for Understanding Anatomy & Physiology*. F.A. Davis. Current edition

**Suggested Course Maximum:**

36

**List any specific or physical requirements beyond a typical classroom required to teach the course.**

laboratory classrooms with sinks

**Course Requirements/Grading System:** Describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course.

Lecture Average		55%
Exam average (3-4 exams)	30-55%	
Other (homework, quizzes, assignments, etc.)	0-25%	
Lab Average (3 lab practicals-25% each, average of other graded work-25%)		25%
Final Exam (includes at least 50% comprehensive material)		<u>20%</u>
		100%

Grading Scale: A 90-100; B 80-89; C 70-79; D 60-69; F 59 and below



**Curriculum Checklist:**

- Administrative General Education Course** (from ACGM, but not in WCJC Core) – No additional documents needed.
- Administrative WCJC Core Course** – Attach the Core Curriculum Review Forms
  - Critical Thinking
  - Communication
  - Empirical & Quantitative Skills
  - Teamwork
  - Social Responsibility
  - Personal Responsibility
- WECM Course** – If needed, revise the Program SCANS Matrix and Competencies Checklist

## Core Curriculum Review Form

**Foundational Component Area:** Core 030: Life & Physical Science

**Course Prefix & Suffix:** BIOL 2402

**Core Objective:**

**Critical Thinking Skills**—to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information

### Student Learning Outcome Supporting Core Objective:

For each core objective, there must be at least two different methods of assessment.

SLO Status	Student Learning Outcome (SLO)	Learning Activity	Assessment
State Mandated	Work collaboratively to perform experiments.	Lab (students at a lab table work on an assignment, problem, or investigation)	Group lab activity, assignment, lab practical, post-test
Choose a SLO status.	Insert SLO (from Administrative Master Syllabi)	Provide a brief name and description of the sample learning activity.	Provide a brief name and description of the sample quiz, exam, rubric, assignment, etc. for assessing the objective.
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## Core Curriculum Review Form

**Foundational Component Area:** Core 030: Life & Physical Science

**Course Prefix & Suffix:** BIOL 2402

**Core Objective:**

**Communication Skills**—to include effective development, interpretation and expression of ideas through written, oral and visual communication

### Student Learning Outcome Supporting Core Objective:

For each core objective, there must be at least two different methods of assessment.

SLO Status	Student Learning Outcome (SLO)	Learning Activity	Assessment
State Mandated	Work collaboratively to perform experiments.	Lab (students at a lab table work on an assignment, problem, or investigation)	Group lab activity, assignment, lab practical, post-test
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## Core Curriculum Review Form

**Foundational Component Area:** Core 030: Life & Physical Science

**Course Prefix & Suffix:** BIOL 2402

**Core Objective:**

**Empirical and Quantitative Skills**—to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions

### Student Learning Outcome Supporting Core Objective:

For each core objective, there must be at least two different methods of assessment.

SLO Status	Student Learning Outcome (SLO)	Learning Activity	Assessment
State Mandated	Work collaboratively to perform experiments	Lab (students at a lab table work on an assignment, problem, or investigation)	Group lab activity, assignment, lab practical, post-test
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## Core Curriculum Review Form

**Foundational Component Area:** Core 030: Life & Physical Science

**Course Prefix & Suffix:** BIOL 2402

**Core Objective:**

**Teamwork**—to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal

### Student Learning Outcome Supporting Core Objective:

For each core objective, there must be at least two different methods of assessment.

SLO Status	Student Learning Outcome (SLO)	Learning Activity	Assessment
State Mandated	Work collaboratively to perform experiments	Lab (students at a lab table work on an assignment, problem, or investigation)	Group lab activity, assignment, lab practical, post-test
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