Wharton County Junior College

Administrative Master Syllabus

Course Information

Course Title	Human Anatomy and Physiology II
Course Prefix, Num. and Title	BIOL 2402
Division	Life Sciences
Department	Biology
Course Type	Academic WCJC Core Course
Course Catalog Description	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).
Pre-Requisites	TSI reading and writing requirements met; BIOL 2401 with a grade of "C" or better.
Co-Requisites	Enter Co-Requisites Here.

Semester Credit Hours

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

Approval Signatures

Title	Signature	Date
Prepared by:	Wendy Waters — Digitally signed by Wendy Waters DN: cn=Wendy Waters, o=Wharton County Junior College, ou=Department of Biology, email=watersw@wcjc.edu, c=US Date: 2020.02.05 11:25:38 -06'00'	2-5-20
Department Head:	Kim Raun — Digitally signed by Kim Raun DN: cn=Kim Raun, o=BIOL, ou=LPSC, email=kimberlyr@wcjc.edu, c=US Date: 2020.02.05 11:34:30 -06'00'	2-5-20
Division Chair:	Kevin Dees — Digitally signed by Kevin Dees DN: cn=Kevin Dees, o=Life Sciences, ou=Division, email=kevind@wcjc.edu, c=US Date: 2020.02.05 13:47:39 -06'00'	2/5/2020
Dean/VPI:	Leigh Ann collins — Digitally signed by Leigh Ann collins DN: cn=Leigh Ann collins, o=WCJC, ou=VPI, email=lacollins@wcjc.edu, c=US Date: 2020.02.10 10:50:01 -06'00'	2-10-20
Approved by CIR:	Paul J. Quinn — Digitally signed by Paul J. Quinn Date: 2020.02.13 12:20:03 -06'00'	10/24/19

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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, 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
Laboratory Manual: Hebert et al. Laboratory Manual for Human Anatomy & Physiology. Pearson. 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:

Lecture Average		55%
Exam average (3-4 exams)	30-55%	
Other (Homework, quizzes, projects, etc.)	0-25%	
Lab Average (average of 3 lab practicals)		25%
Final Exam (includes at least 50% comprehensive material)		20%
		100%

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

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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

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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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