Northern Marianas College
CURRICULUM ACTION REQUEST

Effective Semester / Session: Fall 2023

Type of Action:

__	New
X	Modification
__	Move to Inactive (Stop Out)
__	Cancellation

Course Alpha and Number: BI 252

Course Title: Human Anatomy and Physiology II

Reason for initiating, revising, or canceling:
Additional compensation of 1 credit is being added to the course guide for the extra time and effort associated with the lab preparation.

Florita C Cabanes (Sep 12, 2023 15:57 GMT+10)
Florita Cabanes — Sep 12, 2023

Proposer — Date

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Velma C. Deleon-Guerrero — Sep 12, 2023

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Academic Council Vice Chair — Date

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Interim Dean of Academic Programs & Services — Date

1.Department

Science, Math, Health, and Athletics

2. Purpose

This course will provide students in nursing and health care programs and all other interested students with knowledge of human anatomy and physiology. Human Anatomy and Physiology II is the second course of a two-course sequence of studies.

3. Description

A. Required/Recommended Textbook(s) and Related Materials

Required:

Rizzo, D. C. (2016). *Fundamentals of Anatomy and Physiology* (4th ed.). Cengage Unlimited: http// www.cengage.com.

Reference book:

VanPutte, C., Regan, J., Russo, A., & Seeley, R. (2017). *Seeley's Anatomy & Physiology* (11th ed.). New York: McGraw-Hill Companies, Inc.

B. Contact Hours

1. **Lecture:** 3 hours per week / 45 per semester
2. **Lab:** 3 hours per week / 45 hours per semester
3. **Other:** None

C. Credits

1. **Number:** 4
2. **Type:** Regular degree credits

D. Catalog Course Description

This is the second part of a two-semester sequence covering human anatomy and physiology at the biochemical, cellular, microscopic, tissue, and organ levels. This course is designed for those entering professional health care fields, although enrollment is open to all students. Laboratory and field trips are required. Prerequisite: BI 251. English Placement Level: EN202. Math Placement Level: MA132. (Offered Fall and Spring)

E. Degree or Certificate Requirements Met by Course
This is a required course for Liberal Arts emphasis in Health and PE; an elective course requirement; and a requirement for the Nursing Degree Program.

F. Course Activities and Design
This course includes lectures, discussions, group work, laboratory activities, homework and web-based assignments, video and PowerPoint presentations, quizzes, tests, field trips, research projects and oral presentations.

4. Course Prerequisite(s); Concurrent Course Enrollment
Prerequisites: BI 251 with a grade of "C" or better for Nursing program and LA with emphasis on Health and PE

Concurrent Course Enrollment: None

Required English/Mathematics Proficiency Level(s):
English Placement Level: EN 202
Mathematics Placement Level: MA 132

5. Estimated Cost of Course; Instructional Resources Needed
Cost to the Student: Tuition for a 4-credit hour course, laboratory fee, textbook and laboratory manual.

Cost to the College: Instructor's salary for 5 credits, encompassing 4 credits plus an additional 1 course credits to accommodate the instruction of a science lab.

Instructional resources needed for this course include replacement of expendable laboratory materials, whiteboard and pen, computer, internet connection, anatomical models, and reference materials.

6. Method of Evaluation
Student grades will be based on assignments, quizzes, tests, projects, presentations, laboratory activities and reports. NMC's grading and attendance policies will be followed.

7. Course Outline

This is a topical outline and does not necessarily indicate the sequence in which the material will be presented.

1.0 The Cardiovascular System
- 1.1 Anatomy and functions of the heart and vessels
- 1.2 Composition and functions of blood
- 1.3 Route of blood and lymph
- 1.4 Hemostasis
- 1.5 Regulation of heartbeat
- 1.6 Components and functions of the lymphatic system

2.0 The Respiratory System
- 2.1 Anatomy and physiology of the respiratory system
- 2.2 Measurement of lung function
- 2.3 Physical principles of gas exchange
- 2.4 Regulation of ventilation

3.0 The Digestive System
- 3.1 Anatomy and physiology of the digestive system
- 3.2 Enzymes of digestion and other chemical substances

4.0 Nutrition, Metabolism, and Temperature Regulation
- 4.1 Nutrition
- 4.2 Metabolism of organic compounds
- 4.3 Metabolic rate
- 4.4 Body temperature and regulation

5.0 The Urinary System
- 5.1 Anatomy and physiology of the urinary system
- 5.2 Regulation of urine concentration and volume
- 5.3 Plasma clearance and tubular maximum

6.0 Water, Electrolyte, and Acid-Base Balance
- 6.1 Fluid balance and homeostasis
- 6.2 Electrolytes
- 6.3 Regulation of acid-base balance

7.0 The Reproductive System
- 7.1 Anatomy and physiology of the male and female reproductive system
- 7.2 Female reproductive and menstrual cycle

8.0 Development, Growth, and Aging
- 8.1 Prenatal development
- 8.2 Parturition
- 8.3 The newborn
- 8.4 First year after birth
- 8.5 Aging and death

8. Instructional Goals

The course will introduce students to:

1.0 The structures and functions of the cardiovascular system, lymphatic system, Respiratory system, digestive system, urinary system, and reproductive system;

2.0 Innate and adaptive immunity;

3.0 Basic nutritional concepts and metabolism;

4.0 Homeostatic role of buffers in the body's acid-base balance;

5.0 Changes in human body that are associated with puberty;

6.0 The female reproductive cycle and menstruation, menopause and aging;

7.0 Embryonic and fetal development, parturition and changes at birth and first year after birth, aging and death; and

8.0 Uses of anatomy and physiology knowledge in real-world situations.

9. Student Learning Outcomes

Upon successful completion of this course, students will be able to:

1.0 Identify the structures of the cardiovascular system, lymphatic system, Respiratory system, digestive system, urinary system, and reproductive system;

2.0 Describe the functions of the cardiovascular system, lymphatic system, Respiratory system, digestive system, urinary system, and reproductive system;

3.0 Explain how certain organ systems work together to maintain homeostasis;

4.0 Describe modern technology and diagnostic tools used to study organs and functions of the body; and

5.0 Apply anatomical and physiological concepts/knowledge to real-world situations.

10. Assessment Measures of Student Learning Outcomes

Assessment of student learning may include, but not limited to the following:

1.0 Assignments

2.0 Quizzes and tests

3.0 Laboratory activities and reports

4.0 Projects and presentations

5.0 Cumulative final exam

Course Guide BI 252 for Fall 2023

Final Audit Report 2023-09-13

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