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Wisconsin Indianhead Technical College

10806198 Human Biology

Course Outcome Summary

Course Information

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|----------------------------|---|
| Description | This is an introductory course that emphasizes the structure of the human body and the functional interrelationships of the body's systems. Consideration is given to the human body and disease, human genetics, human ecology, and the role that humans play in the environment. The course consists of 3 hours of lecture and 2 hours of lab per week. Note: This course does not meet requirements for or substitute for General Anatomy and Physiology or Anatomy & Physiology I and II. |
| Instructional Level | Associate Degree |
| Total Credits | 4.00 |
| Total Hours | 80.00 |

Types of Instruction

| Instruction Type | Credits/Hours |
|---|---------------|
| Classroom Presentation (Lecture/Demonstration/Discussion) | 3/48 |
| On Campus Lab and/or Shop Experience | 1/32 |

Course History

| | |
|---------------------------|--------------------------|
| Revised By | Jennifer Siem (12121082) |
| Last Approval Date | 11/14/2014 |

Course Competencies

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|--|------------------|--------------|-----------------|---------------|---------------|
| 1. Explore the hierarchical organization of life. | | | | | |
| <i>Domain</i> | <i>Cognitive</i> | <i>Level</i> | <i>Applying</i> | <i>Status</i> | <i>Active</i> |

Assessment Strategies

- 1.1. Written Product
- 1.2. Written Objective Test
- 1.3. Lab practical

Criteria

You will know you are successful when:

- 1.1. Pass lab practical according to criteria established by instructor
- 1.2. Written product shows evidence of logical critical thinking
- 1.3. Written product follows prescribed format, meeting criteria for all components
- 1.4. Written product exhibits correct and appropriate grammar, punctuation, spelling, syntax, and word usage
- 1.5. Evidence selecting and using information to investigate a point of view or conclusion
- 1.6. Sees (makes) connections across disciplines, perspectives
- 1.7. Adapts and applies skills, abilities, theories, or methodologies gained in one situation to new situations

Learning Objectives

- 1.a. Describe the characteristics of life.
- 1.b. Recognize levels of biological organization.
- 1.c. Define types of chemical bonds in nature.
- 1.d. Recognize the role of water in biological systems.
- 1.e. Describe the role of major organic molecules in biological systems.

2. Summarize cell structure and function, including organization as different tissues.

Domain Cognitive Level Analyzing Status Active

Assessment Strategies

- 2.1. Written Product
- 2.2. Written Objective Test
- 2.3. Lab practical

Criteria

You will know you are successful when:

- 2.1. Pass lab practical according to criteria established by instructor
- 2.2. Written product shows evidence of logical critical thinking
- 2.3. Written product follows prescribed format, meeting criteria for all components
- 2.4. Written product exhibits correct and appropriate grammar, punctuation, spelling, syntax, and word usage
- 2.5. Evidence selecting and using information to investigate a point of view or conclusion
- 2.6. Sees (makes) connections across disciplines, perspectives
- 2.7. Adapts and applies skills, abilities, theories, or methodologies gained in one situation to new situations

Learning Objectives

- 2.a. Characterize the major structures of the cell.
- 2.b. Describe the function of major structures in the cell.
- 2.c. Outline the process of energy production and use in a cell.
- 2.d. Describe the effects of aging on normal cell processes.
- 2.e. Classify tissues by cell type and function.
- 2.f. Summarize specialization of cells.

3. Examine the structure and functions of the integumentary system.

Domain Cognitive Level Analyzing Status Active

Assessment Strategies

- 3.1. Written Product
- 3.2. Written Objective Test
- 3.3. Lab practical

Criteria

You will know you are successful when:

- 3.1. Lab practical passed according to criteria established by instructor
- 3.2. Written product shows evidence of logical critical thinking
- 3.3. Written product follows prescribed format, meeting criteria for all components
- 3.4. Written product exhibits correct and appropriate grammar, punctuation, spelling, syntax, and word usage
- 3.5. Evidence selecting and using information to investigate a point of view or conclusion
- 3.6. Sees (makes) connections across disciplines, perspectives
- 3.7. Adapts and applies skills, abilities, theories, or methodologies gained in one situation to new situations

Learning Objectives

- 3.a. Identify the structures of the integumentary system.

- 3.b. Describe the functions of the integumentary system.
- 3.c. Define homeostasis.
- 3.d. Outline a mechanism for homeostasis of body temperature.
- 3.e. Describe the role of skin in sensation.

4. Investigate the structures of the cardiovascular system, including function and location.

Domain Cognitive Level Analyzing Status Active

Assessment Strategies

- 4.1. Written Product
- 4.2. Written Objective Test
- 4.3. Lab practical

Criteria

You will know you are successful when:

- 4.1. Lab practical passed according to criteria established by instructor
- 4.2. Written product shows evidence of logical critical thinking
- 4.3. Written product follows prescribed format, meeting criteria for all components
- 4.4. Written product exhibits correct and appropriate grammar, punctuation, spelling, syntax, and word usage
- 4.5. Evidence selecting and using information to investigate a point of view or conclusion
- 4.6. Sees (makes) connections across disciplines, perspectives
- 4.7. Adapts and applies skills, abilities, theories, or methodologies gained in one situation to new situations

Learning Objectives

- 4.a. Distinguish key components of blood.
- 4.b. Explain the role of blood and the cardiovascular system in homeostasis.
- 4.c. Recognize the major blood groups.
- 4.d. Outline the pathway of circulation, including vessels involved.
- 4.e. Describe the structures of the heart, including their function.
- 4.f. Investigate major disorders of the cardiovascular system.

5. Explore the mechanisms for defense of the body.

Domain Cognitive Level Analyzing Status Active

Assessment Strategies

- 5.1. Written Product
- 5.2. Written Objective Test
- 5.3. Lab practical

Criteria

You will know you are successful when:

- 5.1. Lab practical passed according to criteria established by instructor
- 5.2. Written product shows evidence of logical critical thinking
- 5.3. Written product follows prescribed format, meeting criteria for all components
- 5.4. Written product exhibits correct and appropriate grammar, punctuation, spelling, syntax, and word usage
- 5.5. Evidence selecting and using information to investigate a point of view or conclusion
- 5.6. Sees (makes) connections across disciplines, perspectives
- 5.7. Adapts and applies skills, abilities, theories, or methodologies gained in one situation to new situations

Learning Objectives

- 5.a. Summarize the health risks of a pathogen.
- 5.b. Identify major components of the immune system.
- 5.c. Categorize defense mechanisms as specific or nonspecific,
- 5.d. Investigate major disorders of the immune system, including HIV/AIDs.
- 5.e. Describe the function of the components of the immune system.

6. Examine the structures of the digestive system, including function and location.

Domain Cognitive Level Analyzing Status Active

Assessment Strategies

- 6.1. Written Product

- 6.2. Written Objective Test
- 6.3. Lab practical

Criteria

You will know you are successful when:

- 6.1. Lab practical passed according to criteria established by instructor
- 6.2. Written product shows evidence of logical critical thinking
- 6.3. Written product follows prescribed format, meeting criteria for all components
- 6.4. Written product exhibits correct and appropriate grammar, punctuation, spelling, syntax, and word usage
- 6.5. Evidence selecting and using information to investigate a point of view or conclusion
- 6.6. Sees (makes) connections across disciplines, perspectives
- 6.7. Adapts and applies skills, abilities, theories, or methodologies gained in one situation to new situations

Learning Objectives

- 6.a. Describe key components of the digestive system, including function of each component.
- 6.b. Outline the process of digestion,
- 6.c. Summarize nutritional requirements of a balanced diet.
- 6.d. Characterize disorders of the digestive system.

7. Examine the structures of the respiratory system, including function and location.

Domain Cognitive Level Analyzing Status Active

Assessment Strategies

- 7.1. Written Product
- 7.2. Written Objective Test
- 7.3. Lab practical

Criteria

You will know you are successful when:

- 7.1. Lab practical passed according to criteria established by instructor
- 7.2. Written product shows evidence of logical critical thinking
- 7.3. Written product follows prescribed format, meeting criteria for all components
- 7.4. Written product exhibits correct and appropriate grammar, punctuation, spelling, syntax, and word usage
- 7.5. Evidence selecting and using information to investigate a point of view or conclusion
- 7.6. Sees (makes) connections across disciplines, perspectives
- 7.7. Adapts and applies skills, abilities, theories, or methodologies gained in one situation to new situations

Learning Objectives

- 7.a. Examine key components of the respiratory system, including function of each component.
- 7.b. Outline the process of gas exchange.
- 7.c. Characterize disorders of the respiratory system.

8. Examine the structures of the urinary system, including function and location.

Domain Cognitive Level Analyzing Status Active

Assessment Strategies

- 8.1. Written Product
- 8.2. Written Objective Test
- 8.3. Lab practical

Criteria

You will know you are successful when:

- 8.1. Lab practical passed according to criteria established by instructor
- 8.2. Written product shows evidence of logical critical thinking
- 8.3. Written product follows prescribed format, meeting criteria for all components
- 8.4. Written product exhibits correct and appropriate grammar, punctuation, spelling, syntax, and word usage
- 8.5. Evidence selecting and using information to investigate a point of view or conclusion
- 8.6. Sees (makes) connections across disciplines, perspectives
- 8.7. Adapts and applies skills, abilities, theories, or methodologies gained in one situation to new situations

Learning Objectives

- 8.a. Examine key components of urinary system, including function of the components.
- 8.b. Outline the process of urine production.
- 8.c. Explain the role of the kidneys in fluid and electrolyte balance.
- 8.d. Characterize disorders of the urinary system.

9. Examine the structures of the musculoskeletal system, including function and location.

Domain Cognitive Level Analyzing Status Active

Assessment Strategies

- 9.1. Written Product
- 9.2. Written Objective Test
- 9.3. Lab practical

Criteria

You will know you are successful when:

- 9.1. Lab practical passed according to criteria established by instructor
- 9.2. Written product shows evidence of logical critical thinking
- 9.3. Written product follows prescribed format, meeting criteria for all components
- 9.4. Written product exhibits correct and appropriate grammar, punctuation, spelling, syntax, and word usage
- 9.5. Evidence selecting and using information to investigate a point of view or conclusion
- 9.6. Sees (makes) connections across disciplines, perspectives
- 9.7. Adapts and applies skills, abilities, theories, or methodologies gained in one situation to new situations

Learning Objectives

- 9.a. Identify key components of the skeletal system.
- 9.b. Classify types of muscle, bone and joints.
- 9.c. Describe the functions of the musculo-skeletal system.
- 9.d. Outline the process of muscle contraction.
- 9.e. Describe maintenance of the musculo-skeletal system.
- 9.f. Characterize disorders of the musculo-skeletal system.

10. Examine the structures of the nervous system and sense organs, including function and location.

Domain Cognitive Level Analyzing Status Active

Assessment Strategies

- 10.1. Written Product
- 10.2. Written Objective Test
- 10.3. Lab practical

Criteria

You will know you are successful when:

- 10.1. Lab practical passed according to criteria established by instructor
- 10.2. Written product shows evidence of logical critical thinking
- 10.3. Written product follows prescribed format, meeting criteria for all components
- 10.4. Written product exhibits correct and appropriate grammar, punctuation, spelling, syntax, and word usage
- 10.5. Evidence selecting and using information to investigate a point of view or conclusion
- 10.6. Sees (makes) connections across disciplines, perspectives
- 10.7. Adapts and applies skills, abilities, theories, or methodologies gained in one situation to new situations

Learning Objectives

- 10.a. Identify key components of the nervous system.
- 10.b. Describe the process of nerve impulse transmission.
- 10.c. Describe the major functions of the Central Nervous System.
- 10.d. Describe the major functions of the Peripheral Nervous System.
- 10.e. Recognize substances that influence the nervous system.
- 10.f. Characterize disorders of the nervous system.
- 10.g. Characterize the five special senses.

11. Examine the structures of the endocrine system, including function and location.

Domain **Cognitive** **Level** **Analyzing** **Status** **Active**

Assessment Strategies

- 11.1. Written Product
- 11.2. Written Objective Test
- 11.3. Lab practical

Criteria

You will know you are successful when:

- 11.1. Lab practical passed according to criteria established by instructor
- 11.2. Written product shows evidence of logical critical thinking
- 11.3. Written product follows prescribed format, meeting criteria for all components
- 11.4. Written product exhibits correct and appropriate grammar, punctuation, spelling, syntax, and word usage
- 11.5. Evidence selecting and using information to investigate a point of view or conclusion
- 11.6. Sees (makes) connections across disciplines, perspectives
- 11.7. Adapts and applies skills, abilities, theories, or methodologies gained in one situation to new situations

Learning Objectives

- 11.a. Describe key components of the endocrine system, including function of each component.
- 11.b. Define hormone.
- 11.c. Explain the role of the pituitary gland in regulation of the endocrine system.
- 11.d. Characterize disorders of the endocrine system.

12. Examine the structures of the reproductive system, including function and location.

Domain **Cognitive** **Level** **Analyzing** **Status** **Active**

Assessment Strategies

- 12.1. Written Product
- 12.2. Written Objective Test
- 12.3. Lab practical

Criteria

You will know you are successful when:

- 12.1. Lab practical passed according to criteria established by instructor
- 12.2. Written product shows evidence of logical critical thinking
- 12.3. Written product follows prescribed format, meeting criteria for all components
- 12.4. Written product exhibits correct and appropriate grammar, punctuation, spelling, syntax, and word usage
- 12.5. Evidence selecting and using information to investigate a point of view or conclusion
- 12.6. Sees (makes) connections across disciplines, perspectives
- 12.7. Adapts and applies skills, abilities, theories, or methodologies gained in one situation to new situations

Learning Objectives

- 12.a. Examine key components of the reproductive system, including function of the components.
- 12.b. Distinguish the processes of meiosis and mitosis.
- 12.c. Outline the major stages in human development.
- 12.d. Summarize methods of birth control.
- 12.e. Discuss Sexually Transmitted Diseases.

13. Investigate factors related to human genetics and inheritance.

Domain **Cognitive** **Level** **Analyzing** **Status** **Active**

Assessment Strategies

- 13.1. Written Product
- 13.2. Written Objective Test
- 13.3. Lab practical

Criteria

You will know you are successful when:

- 13.1. Lab practical passed according to criteria established by instructor
- 13.2. Written product shows evidence of logical critical thinking

- 13.3. Written product follows prescribed format, meeting criteria for all components
- 13.4. Written product exhibits correct and appropriate grammar, punctuation, spelling, syntax, and word usage
- 13.5. Evidence selecting and using information to investigate a point of view or conclusion
- 13.6. Sees (makes) connections across disciplines, perspectives
- 13.7. Adapts and applies skills, abilities, theories, or methodologies gained in one situation to new situations

Learning Objectives

- 13.a. Review the common terms of genetics.
- 13.b. Predict the patterns of inheritance.
- 13.c. Summarize major genetic disorders.
- 13.d. Describe methods to detect genetic disorders. □
- 13.e. Define evolution.

14. Explore factors related to cancer.

Domain Cognitive Level Applying Status Active

Assessment Strategies

- 14.1. Written Objective Test
- 14.2. Written Product

Criteria

You will know you are successful when:

- 14.1. Written product shows evidence of logical critical thinking
- 14.2. Written product follows prescribed format, meeting criteria for all components
- 14.3. Written product exhibits correct and appropriate grammar, punctuation, spelling, syntax, and word usage
- 14.4. Evidence selecting and using information to investigate a point of view or conclusion
- 14.5. Sees (makes) connections across disciplines, perspectives
- 14.6. Adapts and applies skills, abilities, theories, or methodologies gained in one situation to new situations

Learning Objectives

- 14.a. Define cancer.
- 14.b. List factors that contribute to the development of cancer.
- 14.c. Investigate medical interventions for diagnosis and treatment of cancer.
- 14.d. Report on the most common forms of cancer.

15. Summarize concepts relating global ecology and human actions.

Domain Cognitive Level Analyzing Status Active

Assessment Strategies

- 15.1. Written Objective Test
- 15.2. Written Product

Criteria

You will know you are successful when:

- 15.1. Written product shows evidence of logical critical thinking
- 15.2. Written product follows prescribed format, meeting criteria for all components
- 15.3. Written product exhibits correct and appropriate grammar, punctuation, spelling, syntax, and word usage
- 15.4. Evidence selecting and using information to investigate a point of view or conclusion
- 15.5. Sees (makes) connections across disciplines, perspectives
- 15.6. Adapts and applies skills, abilities, theories, or methodologies gained in one situation to new situations

Learning Objectives

- 15.a. Outline levels of organization within an ecosystem.
- 15.b. Characterize aspects of human population growth.
- 15.c. Outline the pathways of resources in an ecosystem.
- 15.d. Characterize the negative impacts of human activities on the environment.
- 15.e. Explore sustainable options.