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| **PROFESSOR:** | **PHONE NUMBER:** |
| **OFFICE LOCATION:** | **E-MAIL:** |
| **OFFICE HOURS:** | **SEMESTER:** |

1. **COURSE NUMBER AND TITLE, CATALOG DESCRIPTION, CREDITS:**

**MCB 2010C MICROBIOLOGY (4 CREDITS)**

This combined lecture and laboratory course is an introduction to Microbiology. It expands upon general biological concepts including: inorganic and organic chemistry, biochemistry, cell structure and function, metabolism, and genetic mechanisms. These concepts are applied to the morphology, physiology, biochemistry, and genetic mechanisms of microorganisms. The course includes a survey of the representative types of microorganisms and the role of pathogenic microorganisms in causing diseases and infections.

1. **PREREQUISITES FOR THIS COURSE:**

Minimum grade of a “C” in {BSC 1010 and BSC 1010L} or minimum of a “C” in BSC 1085C

**CO-REQUISITES FOR THIS COURSE:**

None

1. **GENERAL COURSE INFORMATION:** Topic Outline.

• History of microbiology

• Morphology and functional anatomy of prokaryotic and eukaryotic microorganisms

• Microbial growth and metabolism

• Control of microbial growth

• Microbial genetics

• Classification and survey of microorganisms

• Principles of disease and epidemiology

• Microbial mechanisms of pathogenicity

• Microorganisms and human disease

1. **All courses at Florida SouthWestern State College contribute to the general education program by meeting one or more of the following general education competencies:**

**C**ommunicate clearly in a variety of modes and media.

**R**esearch and examine academic and non-academic information, resources, and evidence.

**E**valuate and utilize mathematical principles, technology, scientific and quantitative data.

**A**nalyze and create individual and collaborative works of art, literature, and performance.

**T**hink critically about questions to yield meaning and value.

**I**nvestigate and engage in the transdisciplinary applications of research, learning, and knowledge.

**V**isualize and engage the world from different historical, social, religious, and cultural approaches.

**E**ngage meanings of active citizenship in one’s community, nation, and the world.

**A.**  **General Education Competencies and Course Outcomes**

Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student’s general education along with the general education competency it supports.

1. Integral General Education Competency or competencies: **Evaluate**

* Distinguish between the morphology and functional anatomy of prokaryotic and eukaryotic microorganisms.
* Recognize the physical and chemical requirements for microbial growth and analyze the techniques used to measure microbial growth
* Evaluate the principles and methods used for the physical and chemical control of microorganisms

2.  Supplemental General Education Competency or competencies: **Communicate**

* Perform simple and differential staining techniques
* Explain methods of disease transmission, predisposing factors for disease, and the mechanisms of microbial pathogenicity
* Assess the causative agents, modes of transmission, clinical symptoms, and treatments for various human infectious diseases
* Understand the role of the innate and adaptive immune system in protection and prevention of diseases.

**B. All Course Objectives/Standards**

* Recognize and justify the important contributions made by scientists to microbiology
* Compare and contrast the different types of microscopes and demonstrate proper use of a light microscope
* Perform simple and differential staining techniques
* Distinguish between the morphology and functional anatomy of prokaryotic and eukaryotic microorganisms.
* Assess the key features of microbial metabolism and differentiate between microbial and non-microbial cellular metabolic pathway
* Recognize the physical and chemical requirements for microbial growth and analyze the techniques used to measure microbial growth
* Evaluate the principles and methods used for the physical and chemical control of microorganisms
* Explain microbial genetics, mutation, and the mechanisms of genetic recombination in microbes
* Identify and appraise the classification, identification, and defining characteristics of the different groups of microorganisms
* Explain methods of disease transmission, predisposing factors for disease, and the mechanisms of microbial pathogenicity
* Assess the causative agents, modes of transmission, clinical symptoms, and treatments for various human infectious diseases
* Understand the role of the innate and adaptive immune system in protection and prevention of diseases.

1. **DISTRICT-WIDE POLICIES:**

**Programs for Students with Disabilities**

Florida SouthWestern State College, in accordance with the Americans with Disabilities Act and the College’s guiding principles, offers students with documented disabilities programs to equalize access to the educational process. Students needing to request an accommodation in this class due to a disability, or who suspect that their academic performance is affected by a disability should contact the Office of Adaptive Services at the nearest campus. The office locations and telephone numbers for the Office of Adaptive Services at each campus can be found at <http://www.fsw.edu/adaptiveservices>.

**REPORTING TITLE IX VIOLATIONS**

Florida SouthWestern State College, in accordance with Title IX and the Violence Against Women Act, has established a set of procedures for reporting and investigating Title IX violations including sexual misconduct.  Students who need to report an incident or need to receive support regarding an incident should contact the Equity Officer at [equity@fsw.edu](mailto:equity@fsw.edu).  Incoming students are encouraged to participate in the Sexual Violence Prevention training offered online.  Additional information and resources can be found on the College’s website at <http://www.fsw.edu/sexualassault>.

1. **REQUIREMENTS FOR THE STUDENTS:**

List specific course assessments such as class participation, tests, homework assignments, make-up procedures, etc.

1. **ATTENDANCE POLICY:**

The professor’s specific policy concerning absence. (The College policy on attendance is in the Catalog, and defers to the professor.)

1. **GRADING POLICY:**

Include numerical ranges for letter grades; the following is a range commonly used by many faculty:

90 - 100 = A

80 - 89 = B

70 - 79 = C

60 - 69 = D

Below 60 = F

(Note: The “incomplete” grade [“I”] should be given only when unusual circumstances warrant. An “incomplete” is not a substitute for a “D,” “F,” or “W.” Refer to the policy on “incomplete grades.)

1. **REQUIRED COURSE MATERIALS:**

(In correct bibliographic format.)

1. **RESERVED MATERIALS FOR THE COURSE:**

Other special learning resources.

1. **CLASS SCHEDULE:**

This section includes assignments for each class meeting or unit, along with scheduled Library activities and other scheduled support, including scheduled tests.

1. **ANY OTHER INFORMATION OR CLASS PROCEDURES OR POLICIES:**

(Which would be useful to the students in the class.)