

**MICRO 60 Course Outline as of Fall 1981****CATALOG INFORMATION**

Dept and Nbr: MICRO 60 Title: FUND/MICROBIOLOGY

Full Title: Fundamentals of Microbiology

Last Reviewed: 5/8/2023

| Units   |      | Course Hours per Week |      | Nbr of Weeks | Course Hours Total |        |
|---------|------|-----------------------|------|--------------|--------------------|--------|
| Maximum | 4.00 | Lecture Scheduled     | 3.00 | 17.5         | Lecture Scheduled  | 52.50  |
| Minimum | 4.00 | Lab Scheduled         | 3.00 | 5            | Lab Scheduled      | 52.50  |
|         |      | Contact DHR           | 0    |              | Contact DHR        | 0      |
|         |      | Contact Total         | 6.00 |              | Contact Total      | 105.00 |
|         |      | Non-contact DHR       | 0    |              | Non-contact DHR    | 0      |

Total Out of Class Hours: 105.00

Total Student Learning Hours: 210.00

Title 5 Category: AA Degree Applicable

Grading: Grade or P/NP

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly:

**Catalog Description:**

Survey of the major groups of microorganisms with emphasis on those related to human disease. Basic techniques for cultivation of microorganisms, principles of metabolism, growth and physiology.

**Prerequisites/Corequisites:**

Chemistry 60, Biology 10 or equivalent with grade of "C" or better.

**Recommended Preparation:**

English 100B or 104, and Math 150B with grade of "C" or better or their equivalents in college or in high school.

**Limits on Enrollment:****Schedule of Classes Information:**

Description: Survey of the major groups of micro- organisms with emphasis on those related to human disease. Basic lab techniques. (Grade or P/NP)

Prerequisites/Corequisites: Chemistry 60, Biology 10 or equivalent with grade of "C" or better.

Recommended: English 100B or 104, and Math 150B with grade of "C" or better or their equivalents in college or in high school.

Limits on Enrollment:

Transfer Credit: CSU;

Repeatability: Two Repeats if Grade was D, F, NC, or NP

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

|                      |                      |                     |                   |                  |
|----------------------|----------------------|---------------------|-------------------|------------------|
| <b>AS Degree:</b>    | <b>Area</b>          |                     | <b>Effective:</b> | <b>Inactive:</b> |
|                      | C                    | Natural Sciences    | Fall 1981         |                  |
| <b>CSU GE:</b>       | <b>Transfer Area</b> |                     | <b>Effective:</b> | <b>Inactive:</b> |
|                      | B2                   | Life Science        | Fall 1981         |                  |
|                      | B3                   | Laboratory Activity |                   |                  |
| <b>IGETC:</b>        | <b>Transfer Area</b> |                     | <b>Effective:</b> | <b>Inactive:</b> |
|                      |                      |                     |                   |                  |
| <b>CSU Transfer:</b> | Transferable         | <b>Effective:</b>   | Fall 1981         | <b>Inactive:</b> |
|                      |                      |                     |                   |                  |
| <b>UC Transfer:</b>  |                      | <b>Effective:</b>   |                   | <b>Inactive:</b> |
|                      |                      |                     |                   |                  |

**CID:**

**Certificate/Major Applicable:**

Not Certificate/Major Applicable

## **COURSE CONTENT**

**Outcomes and Objectives:**

The students will:

1. Isolate, grow and identify bacteria and fungi in the laboratory using routine microbiological techniques.
2. Explain the differences between virus particles, prokaryotic cells and eukaryotic cells..
3. Explain the role of microorganisms in human disease.

**Topics and Scope:**

1. Fundamentals of Microbiology.
  - A. history of microbiology
  - B. use of microscope
  - C. survey of microorganisms
  - D. bacterial morphology
  - E. bacterial reproduction
  - F. bacterial nutrition and physiology
  - G. structure and reproduction of viruses
  - H. life history of protozoan and metazoan parasites
  - I. morphology of fungi
  - J. sterile technique
2. Application of Microbiology.
  - A. normal flora of the body
  - B. methods of invasion of the body by microorganisms
  - C. control of microorganisms by physical and chemical factors ( disinfection, sterilization, and chemotherapy)
3. Immune System.

- A. antigens
  - B. antibodies
  - C. vaccines
  - D. role of antibodies in diagnosis
  - E. other defense mechanisms
4. Specific Infectious Diseases and Current Status of our Knowledge of Transmission and Control.
- A. respiratory
  - B. gastro-intestinal
  - C. urinary-genital
  - D. skin
  - E. vector-transmitted

**Assignment:**

1. Read textbook and additional readings.
2. Lab reports.

**Methods of Evaluation/Basis of Grade:**

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

|   |                                 |
|---|---------------------------------|
| Lab reports, Term papers  | Writing<br>70 - 90%             |
| <b>Problem Solving:</b> Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills. | Problem solving<br>5 - 15%      |
| Lab reports, Exams  | Skill Demonstrations<br>5 - 10% |
| <b>Skill Demonstrations:</b> All skill-based and physical demonstrations used for assessment purposes including skill performance exams.              | Exams<br>5 - 10%                |
| Class performances, Performance exams   | Other Category<br>0 - 0%        |
| <b>Exams:</b> All forms of formal testing, other than skill performance exams.  |                                 |
| ESSAY   |                                 |
| <b>Other:</b> Includes any assessment tools that do not logically fit into the above categories.  |                                 |
| None  |                                 |

**Representative Textbooks and Materials:**

MICROBIOLOGY, 3rd ed., by I.E. Alcamo, Benjamin/Cummings Publ Co Inc, 1991.

