**CALIFORNIA STATE UNIVERSITY CHANNEL ISLANDS**

# NEW COURSE PROPOSAL

DATE NOVEMBER 2, 2005
PROGRAM AREA BIOLOGY

**1. Catalog Description of the Course.** *[Follow accepted catalog format.]*

Prefix BIOL Course# 217 Title MEDICAL MICROBIOLOGY Units (4)
3 hours of lecture and 3 hours of laboratory per week
☐ Prerequisites
☐ Corequisites
Description Study of disease-causing microorganisms such as bacteria, viruses, fungi, protozoa and parasites, emphasizing microbial structure, genetics, physiology and pathogenesis of microorganisms. Topics also include interaction between pathogens and their hosts, animal and human diseases, diagnosis, treatment, disease prevention as well as impact of infectious diseases on psychology, society, economy and global affairs. Microbial culturing, identification, differentiation and clinical diagnostic assays will be studied in the laboratory. No credit given toward the biology major. A lab fee is required.
GenEd: B2

| | Graded | |
|---|---|---|
| ☒ Gen Ed | ☐ CR/NC | ☐ Repeatable for up to units |
| Categories B2 | | |
| ☒ Lab Fee Required | ☒ A - Z | Total Completions Allowed 3 |

**2. Mode of Instruction.**

| | Units | Hours per Unit | Benchmark Enrollment | Graded Component | CS # (filled in by Dean) |
|---|---|---|---|---|---|
| Lecture | 3 | 1 | 24 | ☒ | |
| Seminar | | | | ☐ | |
| Laboratory | 1 | 3 | 24 | ☒ | |
| Activity | | | | ☐ | |

**3. Justification and Learning Objectives for the Course.** (Indicate whether required or elective, and whether it meets University Writing, and/or Language requirements) *[Use as much space as necessary]*

Medical Microbiology is a required course for pre-nursing. It provides valuable knowledge and skills to students in dealing with disease-causing microbes such as bacteria, viruses, fungi and protozoa in the hospital or clinical settings. It is a highly relevant course particularly in this era of global epidemics of numerous infectious diseases and potential biological warfare.

Students completing this class should be equipped with the knowledge and skills to:

1. Describe disease-causing microorganisms and microbial agents at organismal, cellular and/or molecular levels.
2. Relate normal cellular and molecular structures to their functions.
3. Explain cellular processes and mechanisms that lead to physiological functions and pathological state.
4. Handle situations and incidents at medical settings involving potential pathogens.
5. Apply modern biological techniques to identify potential pathogens and solve aspects of scientific problems.

**4. Is this a General Education Course** **YES** ☒ **NO** ☐
**If Yes, indicate GE category and attach GE Criteria Form:**

**A (English Language, Communication, Critical Thinking)**
A-1 Oral Communication ☐
A-2 English Writing ☐
A-3 Critical Thinking ☐
**B (Mathematics, Sciences & Technology)**
B-1 Physical Sciences ☐
B-2 Life Sciences – Biology ☒
B-3 Mathematics – Mathematics and Applications ☐
B-4 Computers and Information Technology ☐

**C (Fine Arts, Literature, Languages & Cultures)**
C-1 Art ☐
C-2 Literature Courses ☐
C-3a Language ☐
C-3b Multicultural ☐
**D (Social Perspectives)** ☐
**E (Human Psychological and Physiological Perspectives)** ☐
**UD Interdisciplinary** ☐

**5. Course Content in Outline Form.** *[Be as brief as possible, but use as much space as necessary]*

Introduction to medical microbiology
Basic principles of medical microbiology
Basic concepts in immune response
General principles of laboratory diagnosis
Medical bacteriology
Medical virology
Medical mycology
Medical parasitology
Impact of infectious diseases

Does this course overlap a course offered in your academic program? YES ☒ NO ☐
If YES, what course(s) and provide a justification of the overlap? BIOL 217 overlaps with BIOL 301, Microbiology. However, BIOL 301 is a course that covers microorganisms in the general scope whereas BIOL 217 covers medically related microorganisms. BIOL 301 is a required course for the biology majors whereas BIOL 217 is a service course for nursing as well as allied health students.

Does this course overlap a course offered in another academic area? YES ☐ NO ☒
If YES, what course(s) and provide a justification of the overlap?
Signature of Academic Chair of the other academic area is required on the consultation sheet below.

**6. Cross-listed Courses (Please fill out separate form for each PREFIX)**
List Cross-listed Courses

Signature of Academic Chair(s) of the other academic area(s) is required on the consultation sheet below

Department responsible for staffing: Biology

**7. References.** *[Provide 3 - 5 references on which this course is based and/or support it.]*


1. Medical Microbiology, Patrick Murray, Ken Rosenthal, G. Kobayashi, M. Pfaller. C. V. Mosby, ISBN: 0323012132; 4th edition (Jan, 2002)
2. Sherris Medical Microbiology, Kenneth J. Ryan, C. George Ray, McGraw-Hill/Appleton and Lange; ISBN: 0838585299; 4th edition (July, 2003)
3. Laboratory Fundamentals of Microbiology, I. Edward, Alcamo, Jones & Bartlett Pub; ISBN: 0763712353; 6th spiral edition (January 15, 2001)


**8. List Faculty Qualified to Teach This Course.**

Ching-Hua Wang and other biology faculty members

**9. Frequency.**
a. Projected semesters to be offered: Fall ☒ Spring ☐ Summer ☐

**10. New Resources Required. YES ☐ NO ☒**

If YES, list the resources needed and obtain signatures from the appropriate programs/units on the consultation sheet below.

a. Computer (data processing), audio visual, broadcasting needs, other equipment)

b. Library needs

c. Facility/space needs

**11. Will this new course alter any degree, credential, certificate, or minor in your program? YES ☐ NO ☒**

If, YES attach a program modification form for all programs affected.

| Ching-Hua Wang | 9/15/2004 |
|---|---|
| Proposer of Course | Date |

**Approvals**

_____

Program Chair Date

_____

GE Committee Chair Date

_____

Curriculum Committee Chair Date

_____

Dean Date

# GE CRITERIA APPROVAL FORM

*Course Number and Title:* BIOL 217 Medical Microbiology

*Faculty member(s) proposing Course*: Ching-Hua Wang

**Indicate which of the following GE would be satisfied by this course by marking an "X" on the appropriate lines.** Courses may be placed in up to *two* GE categories as appropriate. Upper Division Interdisciplinary GE courses (UDIGE) may be placed in two GE categories in addition to the UDIGE category.

| | **GE Category** | |
|---|---|---|
| | A1: | Oral Communication |
| | A2: | English Writing |
| | A3: | Critical Thinking |
| | B1: | Physical Sciences—Chemistry, Physics, Geology, and Earth Sciences |
| x | B2: | Life Sciences—Biology |
| | B3 | Mathematics—Mathematics and Applications |
| | B4 | Computers and Information Technology |
| | C1 | Art |
| | C2: | Literature |
| | C3a: | Language |
| | C3b: | Multicultural |
| | D: | Social Perspectives |
| | E: | Human Physiological and Psychological Perspectives |
| | Upper Division Interdisciplinary GE | |
| | Lab Included? | Yes x No |

Please provide a brief explanation of how the proposed course meets *each* of the criteria for the selected GE categories.

BIOL. 217 Medical Microbiology is a study of disease-causing microorganisms such as bacteria, viruses, fungi, protozoa and parasites. The course covers extensively the relationship between these pathogenic organisms and their hosts and their environment. The principles and concepts that form the foundation of living systems will be discussed throughout this course. The impact of infectious diseases on psychology, society, economy and global affairs will be emphasized as well. It will present scientific knowledge in a historical perspective and demonstrate the importance of science to the development of civilizations. The course uses the scientific method to study the various microbial forms, and builds skills in scientific reasoning and critical thinking.

Students who successfully complete this course will be able to:

1. Describe disease-causing microorganisms and microbial agents at organismal, cellular and/or molecular levels.
2. Relate normal cellular and molecular structures to their functions.
3. Explain cellular processes and mechanisms that lead to physiological functions and pathological state.
4. Handle situations and incidents at medical settings involving potential pathogens.
5. Apply modern biological techniques to identify potential pathogents and solve aspects of scientific problems.

***Hence we believe that this course meets each of the criteria in GE category B.***