Template B

14-126c

UWUCC: AP 2/17/15
Senate: App 3/3/15

Course Revision/Deletion Template

Steps to the approval process:

1. Complete the applicable template(s) and email them to the departmental or program curriculum committee chair.
2. The curriculum chair emails the proposal to the curriculum committee, then to the department/program faculty for a vote and finally to the department/program chair.
3. The department/program chair emails the proposal to curriculum-approval@iup.edu; this email will also serve as an electronic signature.
4. Curriculum committee staff will log the proposal, forward it to the appropriate dean's office(s) for review within 14 days and post it on the X Drive for review by all IUP faculty and administrators. Following the dean's review the proposal goes to the UWUCC/UWGC and the Senate.
5. Questions? Email curriculum-approval@iup.edu.

Contact Person:	Megan Knoch	Email Address:	mknoch@iup.edu
Proposing Depart/Unit:	Biology	Phone:	357-2613

Course Revisions *(Check all that apply; fill out categories below as specified; i.e. if only changing a course title, only need to complete Category A information; if Category B need information in both A and B; For Category C, complete entire form)*:

Category A: ☐ Course Prefix/Number Change ☒ Course Title Change ☐ Course Deletion

Category B: ☒ Catalog Description Change ☒ Modify Prerequisite(s)

Category C: ☐ Add Dual Level ☐ Add Liberal Studies *(Complete Template C)* ☒ Change in Class/Lab Hours

☐ Add Distance Education *(Complete Template E)* ☐ Add/Revise TECC *(Complete Template D)*

☐ Other - Click here to enter text.

Current Course Information		Proposed Changes	
Category A *(if not changed leave blank)*			
Current Prefix	BIOL	Proposed Prefix	
Current Number	241	Proposed Number	
Current Course Title	General Microbiology	Proposed Course Title	Introductory Medical Microbiology
Prerequisite(s)	Non-biology majors only (nursing and respiratory care majors), BIOL 105, CHEM 101, or equivalent	Proposed Prerequisite(s)	Non-biology Health and Human Services and Natural Science and Mathematics majors only. BIOL 240; CHEM pre-med; or instructor permission
Category B *(if not changed leave blank)*			

Template B

Current Catalog Description	A study of microorganisms and the role they play in water, soil, food, and infection. Microbes and disease are emphasized. Standard methods and techniques are emphasized in laboratory. 2c-3l-3cr.	Proposed Catalog Description	An introductory course in medical microbiology that focuses on the structure, biology, and genetics of microbes in relation to human disease and the immune system. Topics will include aspects of basic bacteriology as well as bacterial, viral, fungal pathogens and mechanisms of disease. In addition, the course will prepare students for advance study in microbiology and the health sciences. Standard methods and techniques are emphasized in laboratory. 3c-3l-4cr
Category C *(if not changed leave blank)*			
Current Course (Student Learning) Outcomes	N/A	Proposed Course (Student Learning) Outcomes	1) Identify the evolutionary, structural and functional similarities between different microbial populations. 2) Explain the basics of microbial gene expression and regulation and how it differs from non-microbes. 3) Recognize the importance of microbial interactions with other microbes and/or non-microbes, especially humans in terms of Infection, Disease and Epidemiology. 4) Explain the various forms of human host immune systems and the basis of immune disorders. 5) Distinguish between pathogenic and non-pathogenic microbes. 6) Describe the mechanism of pathogenicity by various microbes. 7) Analyze laboratory results obtained from experimental protocols.
Brief Course Outline *(it is acceptable to copy this from the old syllabus)*	Lecture Topics 1) The Main Themes of Microbiology 2) Tools of the Laboratory: Methods of Studying Microorganisms 3) A Survey of Prokaryotic Cells and Microorganisms **4)** An Introduction to Viruses 5) Microbial Nutrition, Ecology and Growth 6) An Introduction to Microbial Metabolism 7) An Introduction to Microbial Genetics 8) Drugs, Microbes, Host – The Elements of Chemotherapy	Brief Course Outline *(Give sufficient detail to communicate the content to faculty across campus. It is not necessary to include specific readings, calendar, or assignments.*	Lecture Topics 1) Introduction to Microbiology : General Characteristics of Microbes, Taxonomy, Origin and Evolution 2) Tools of the Laboratory: Methods of Studying Microorganisms 3) Survey of Prokaryotic Cells and Microorganisms, Basic Characteristics of Cells and Life Forms 4) An Introduction to Viruses 5) Microbial Nutrition, Ecology and Growth 6) Microbial Metabolism

Template B

	9) Microbe-Human Interactions: Infection, Disease and Epidemiology 10) Host Defenses and the Immune Response 11) Bacterial Agents of Disease Lab Topics 1) Safety Considerations in the Microbiology Laboratory 2) Aseptic and Pure Culture Techniques 3) Microscopy and Measurement of Microscopic Specimens 4) Serial Dilution Techniques 5) Cultivation and Identification of Bacteriophages and Opportunistic Bacterial Pathogens 6) Study of Environmental Factors and Antibacterial Drugs on Microbial Growth 7) Microbiological Measures of Food, Milk and Water Quality 8) Biochemical and Enzymatic Differentiation of Various Microbes 9) Clinical Microbiology and Immunological Techniques		7) Applied and Industrial Microbiology 8) Microbial Genetics 9) Drugs, Microbes, Host-The Elements of Chemotherapy 10) Microbe-Human Interactions: Infection, Disease and Epidemiology 11) Host Defenses and the Immune Response 12) Microbes of Medical Importance: Gram-Positive and Gram-Negative Cocci, Gram-Positive Bacilli, Gram-Negative Bacilli, Spirochetes, Curviform Gram-Negative Bacteria, Mollicutes and Other Cell-Wall-Deficient Bacterial, Fungi, Parasites 13) Viruses That Infect Humans: DNA Viruses, RNA Viruses, Arboviruses, Retroviruses, Non-Enveloped Single-Stranded and Double-Stranded RNA Viruses 14) Prions and Spongiform Encephalopathies Lab Topics 1) Safety Considerations in the Microbiology Laboratory 2) Aseptic and Pure Culture Techniques 3) Microscopy and Measurement of Microscopic Specimens 4) Serial Dilution Techniques 5) Cultivation and Identification of Bacteriophages and Opportunistic Bacterial Pathogens 6) Study of Environmental Factors and Antibacterial Drugs on Microbial Growth 7) Microbiological Measures of Food, Milk and Water Quality 8) Biochemical and Enzymatic Differentiation of Various Microbes 9) Clinical Microbiology and Immunological Techniques
Rationale for Proposed Changes (All Categories)			
Why is the course being	BIOL 241 is being converted to a 4 credit course to align the lecture and laboratory components with similar courses at		

revised/deleted:	other institutions. The additional credit will allow the lecture instructors to more completely review microbiology topics with students. This change will also benefit students who apply to graduate and professional programs requiring a 4 credit combined lecture and laboratory course in microbiology. Students must take BIOL 240 prior to taking BIOL 241 since BIOL 240 will include many of the basic biology and chemistry principles needed for BIOL 241. We felt that listing CHEM prerequisites already required for BIOL 240 would be redundant, so BIOL 240 is included as the only pre-requisite for both Natural Science students and HHS students.
Implication of the Change on: - Program - Other programs - Students	Program: These courses will not impact the Biology majors but it will impact students in the Nursing, Food and Nutrition, and Natural Sciences programs. - Other programs: This course is being revised in conjunction with BIOL 150 and BIOL 240 (formerly BIOL 151). Revisions to these courses will actually decrease the number of required credits for Nursing and Allied Health majors by one credit hour. Students will no longer be required to take BIOL 105, Cell Biology, a three credit course. Students instead will complete the following three 4-credit courses: BIOL 150, BIOL 240 and BIOL 241. The total number of BIOL course hours that students currently take is equal to 13 credit hours. The proposed revisions will reduce this to 12 credit hours. Students may use the additional contact hour towards courses in their major.
For Dual Listed Courses	*List additional learning objectives for the higher-level course* Click here to enter text.

For Dean's Review

- Are resources available/sufficient for this course? ☐ Yes ☐ No ☐ NA
- Is the proposal congruent with college mission? ☐ Yes ☐ No ☐ NA
- Has the proposer attempted to resolve potential conflicts with other academic units? ☐ Yes ☐ No ☐ NA

Comments: Click here to enter text.

Subject: Re: Letter of Support for BIOL 150, 151 and 241 changes
From: <lkup@iup.edu>
Date: 2/25/2015 11:44 AM
To: "Megan E Knoch" <megan.knoch@iup.edu>

Dear Megan,

As Coordinator of the Natural Science Pre-Professional Programs, which includes the Pre-Dental, the Pre-Optometry, the Pre-Pharmacy, the Pre-Physical Therapy, the Pre-Podiatry, and the Pre-Chiropractic tracks, I lend my support the course changes that you listed in your e-mail message (below). Several of the professional schools, the Physical Therapy and Physician Assistant programs most notably, list among the prerequisites both 4-credit human anatomy and 4-credit microbiology courses. In the past, Natural Science students who have taken the existing 3-credit courses have been disadvantaged when they sought admission to many post-graduate professional school programs. Since your proposed changes will only serve to make the professional school application packages of our IUP students even more widely competitive, I enthusiastically support the course revisions.

Lawrence Kupchella

-----Original Message----- From: Megan E Knoch
Sent: Tuesday, February 24, 2015 5:25 PM
To: lkup@iup.edu
Cc: Bharathan
Subject: Letter of Support for BIOL 150, 151 and 241 changes

Greetings Larry,

As you are aware, the Biology Department is converting BIOL 150 and BIOL 241 to 4-credit lecture and lab courses. Furthermore, BIOL 151 will be renumbered to BIOL 240. Students will take BIOL 150, followed by BIOL 240 and finally BIOL 241. Would you be willing to provide me with a letter of support for these changes?

Best,
Megan

Dr. Megan E. Knoch
Associate Professor
Department of Biology
Indiana University of Pennsylvania