BIOL 105 Cell Biology-CrsRvs-2017-10-19

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Form Information

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First Step: **ONLY** change the text in the [brackets] so it looks like this: **CRIM 101 Intro to Criminology-CrsRvs-2015-08-10**

- ***If DUAL LISTED list BOTH courses in the page title***

Second Step: Click **"SAVE"** on bottom right

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Third Step: Make sure the word ***DRAFT*** is in yellow at the top of the proposal

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**Indicates a required field*

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Proposing Department/Unit*	Biology	**Contact Phone***	7-2613

Course Level*	undergraduate-level

Course Revisions **(Check all that apply;fill out categories below as specified; i.e. if only changing a course title, only complete Category A)**	
Category A:	Category B:
mod_prereq	course_revision ** Teacher Education: Please complete the Teacher Education section of this form (below)* ** Liberal Studies: Please complete the Liberal Studies section of this form (below)* ** Distance Education: Please complete the Distance Education section of this form (below)*

Rationale for Proposed Changes (All Categories)	
(A) Why is the course being revised /deleted:*	BIOL 105 was originally designed for students in the Nursing and Allied Health tracks. Several years ago, these tracks were modified to remove BIOL 105 as part of their curriculum requirements. The Biology Department began offering BIOL 105 as a course for underprepared first year students that are required to take CHEM 100 and lower level MATH courses. Normally, these students would not be advised into BIOL 201 during their first semester since they would need to wait an additional semester following completion of BIOL 201 before meeting the prerequisites for BIOL 202. BIOL 105 allows this population of students to begin taking a biology course their first semester before transitioning into BIOL 201 their second semester. This allows the Biology Department faculty to begin interacting with these students during their critical first semester and preparing them with study skills and introductory material for the more challenging BIOL 202. We are including student learning outcomes and assessment to assist the Biology Department with upcoming program review.

(B) University Senate Summary of Rationale*	*Please enter a single paragraph summary/rationale of changes or proposal for University Senate.* BIOL 105 was originally designed for students in the Nursing and Allied Health tracks. Several years ago, these tracks were modified to remove BIOL 105 as part of their curriculum requirements. The Biology Department began offering BIOL 105 as a course for underprepared first year students that are required to take CHEM 100 and lower level MATH courses. Normally, these students would not be advised into BIOL 201 during their first semester since they would need to wait an additional semester following completion of BIOL 201 before meeting the prerequisites for BIOL 202. BIOL 105 allows this population of students to begin taking a biology course their first semester before transitioning into BIOL 201 their second semester. This allows the Biology Department faculty to begin interacting with these students during their critical first semester and preparing them with study skills and introductory material for the more challenging BIOL 202. We are including student learning outcomes and assessment to assist the Biology Department with upcoming program review.
(C) Implications of the change on the program, other programs and the Students:*	By changing the prerequisites for BIOL 105, the Biology Department will make it easier to enroll Biology students into this course. Furthermore, the Biology Department will use this course to fulfill 3 credits of the Biology Controlled Electives that students in all biology tracks are required to complete.

Current Course Information*	
Category A	
(D) Current Prefix*	BIOL
Proposed Prefix	BIOL
(E) Current Number*	105
Proposed Number	105
(F) Current Course Title*	Cell Biology
Proposed Course Title	Cell Biology
(G) Prerequisite (s)	Enrollment restricted to students in the College of Health and Human Services.
Proposed Prerequisite(s)	For biology majors only. Restricted to students who have completed fewer than 24cr.
(H) Current Catalog Description	Introduces concepts and applications for understanding human biological function from the point of view of cellular biology.
Proposed Catalog Description	Introduces concepts and applications for understanding human biological function from the point of view of cellular biology.
If changing Category A, no further action required.	
Category B (if no change, leave blank)	
(I)Repeatable Course This is for a course that can be repeated Multiple times e. g. Internship	If YES, please complete the following: Number of Credits that May be Repeated: Maximum Number of Credits Allowed to be Repeated:

Proposed Repeatable Course	If YES, please complete the following: Number of Credits that May be Repeated: Maximum Number of Credits Allowed to be Repeated:
(J) Number of Credits	Class Hours per week:3 Lab Hours:0 Credits:3
Proposed Number of Credits	Class Hours:Lab Hours:Credits:
(K) Current Course Student Learning Outcomes (SLOs)	1. To develop an appreciation and understanding of the cell as the unity of structure and function of living organisms. 2. To stimulate the student to analyze the important current concepts and hypotheses of biology in terms of cell biology. 3. To make students aware of the areas of cell biology which are open to investigation. 4. To demonstrate how the development of technology has paralleled the developments of cell biology. 5. To establish an awareness of the contributions of cell biology to both our understanding of basic life processes and its utility in medical sciences, and applied biology. 6. To develop the concept of cell evolution as evidenced by comparative cell morphology and physiology and by the fossil record. 7. To establish the importance of cell biology as a discipline in relation to other biological sciences and human activities.
(L) Proposed Course Student Learning Outcomes (SLOs) For each outcome, describe how the outcome will be achieved	Note that the text box in the table expands

SLO #	Outcome	How outcome is assessed
1	Relate the significance of chemistry and carbon-based life to important concepts in cellular and molecular biology.	Online quizzes and in-class participation questions will measure basic understanding of cell organization and role of carbon in life.
2	Describe intracellular structures and their role in essential cell-based functions.	Online quizzes, mobile devices, and in-class participation questions will measure demonstrated knowledge of form, subcellular function, hierarchy, and cell diversity.
3	Compare patterns of inheritance between eukaryotes and prokaryotes.	Will be assessed by course-embedded measures that could include online quizzes, exams, and information literacy test
4	Explain how cell-to-cell communication is used in eukaryotes.	Will be assessed by course-embedded measures that could include online quizzes, exams, and information literacy test.
5	Describe how cancer and other diseases affect normal cellular function.	Students will use computer simulations to compare the normal and cancerous cells.

(M) Previous Brief Course Outline *(It is acceptable to copy* *from old syllabus)*	*As outlined by the federal definition of a "credit hour", the following should be a consideration* *regarding student work - For every one hour of classroom or direct faculty instruction,* *there should be a minimum of two hours of out of class student work.* 1. Orientation a. Historical background of the Cell Concept b. Cellular structure c. The 5 kingdom concept 2. Cellular chemistry a. Cellular energetics b. Enzymes c. Cellular membranes d. Cellular metabolism e. Photosynthesis 3. Cellular information processing a. Nucleic acids b. Gene structure c. Transcription d. Cellular packaging e. Cell nucleus 4. Cell division 5. Reproducation a. Mitosis b. Meiosis c. Patterns of inheritance 6. Cellular evolution

(N) 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)*	*As outlined by the federal definition of a "credit hour", the following should be a consideration regarding student work - For every one hour of classroom or direct faculty instruction, there should be a minimum of two hours of out of class student work.* **UNIT 1** Exploring Life The Chemistry of Life Water Carbon and Molecular Diversity of Life Structure and functions of Macromolecules **UNIT 2** The Cell Membrane Structure & Functions Metabolism Cellular Respiration Photosynthesis Cell Communication **UNIT 3** Chromosomal Basis of Inheritance The Molecular basis of Inheritance From Gene to Protein Genetics of Viruses & Bacteria Eukaryotic Genomes Prokaryotes **UNIT 4** Cellular Reproduction Cell Signaling and Signal Transduction Cancer Immune System Techniques in Cell and Molecular Biology

Distance Education Section

- Complete this section only if adding Distance Education to a New or Existing Course

If Completing this Section, Check the Box to the Right:	**NOTE: you must check this box if the Course has previously been approved for Distance Education**
Course Prefix/Number	
Course Title	
Type of Proposal	*See CBA, Art. 42.D.1 for Definition*

Brief Course Outline	*Give an outline of sufficient detail to communicate the course content to faculty across campus. It is not necessary to include specific readings, calendar or assignments* *As outlined by the federal definition of a "credit hour", the following should be a consideration regarding student work - For every one hour of classroom or* *direct faculty instruction, there should be a minimum of two hours of out of class student work.*
Rationale for Proposal (Required Questions from CBA)	
How is/are the instructor(s) qualified **in the Distance Education delivery** **method as well as the discipline?**	
For each outcome in the course, describe **how the outcome will be achieved using** **Distance Education technologies.**	
How will the instructor-student and **student-student interaction take place?** **(if applicable)**	
How will student achievement be evaluated?	
How will academic honesty for tests **and assignments be addressed?**	

Liberal Studies Section

- Complete this section only for a new Liberal Studies course or Liberal Studies course revision

If Completing this Section, **Check the Box to the Right:**	**NOTE: you must check this box if the Course/Program has previously been approved for Liberal Studies**

Liberal Studies Course Designations (Check all that apply)	
Learning Skills:	
Knowledge Area:	

Liberal Studies Elective	*Please mark the designation(s) that apply - must meet at least one*

Expected Undergraduate Student Learning Outcomes (EUSLOs)

Map the Course Outcome to the **ESULO's**

Map each course outcome to as many of the characteristics of the EUSLOs tha apply. Fill in the course outcome number

See https://www.iup.edu/liberal/faculty-and-staff/euslos/ for additional information regarding mapping EUSLOs

Informed Learners demonstrate:	**Course SLO #**
• the ways of modeling the natural, social and technical worlds	
• The aesthetic facets of human experience	
• the past and present from historical, philosophical and social perspectives	
• the human imagination, expression and traditions of many cultures	
• the interrelationships within and across cultures & global communiites	
• the interrelationships within and across disciplines	
Empowered Learners demonstrate:	**Course SLO #**
• effective oral and written communication abilities	
• ease with textual, visual and electronically-mediated literacies	
• problem solving skills using a variety of methods and tools	
• information literacy skills including the ablity to access, evaluate, interpret and use informatoin from a variety of sources	
• the ablity to transform information into knowledge and knowledge into judgement and action	
• the ability to work within complex systems and with diverse groups	
• critical thinking skills including analysis, application and evaluation	
• reflective thinking and the ability to synthesize information and ideas	
Responsible Learners demonstrate:	**Course SLO #**
• intellectual honesty	

	• concern for social justice
	• civic engagement
	• an understanding of the ethical and behavioral consequences of decisions and actions on themselves, on society, and on the physical world
	• an understanding of themselves and a respect for the identities, histories and cultures of others

How will each outcome be measured **(note should mirror (L) Student Learning** **Outcomes* (SLO) from the course proposal**	*Narrative on how the course will address the Selected Category Content*

Course SLO #	Assessment Tool to be used to measure the outcome
1	
2	
3	

All Liberal Studies courses are required to include perspectives on cultures and have a supplemental reading.

Please answer the following questions.

Liberal Studies courses must include **the perspectives and contributions of ethnic and racial minorities and of women whenever appropriate to the subject matter. Please explain how this course will meet this criterion.**	
Liberal Studies courses require the reading and use by students of at least one non-textbook work of fiction or non-fiction or a collection of related articles. Please describe how your course will meet this criterion.	

Teacher Education Section

- Complete this section only for a new Teacher Education course or Teacher Education course revision

If Completing this Section, **Check the Box to the Right:**	**NOTE: you must check this box if the Course/Program has previously been approved for Teacher Education related items**
Course Designations:	
Key Assessments	

	For both new and revised courses, please attach (see the program education coordinator): • The Overall Program Assessment Matrix • The Key Assessment Guidelines • The Key Assessment Rubric **File** **Modified** No files shared here yet. • Drag and drop to upload or browse for files
Narrative Description of the **Required Content**	*How the proposal relates to the Education Major*

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