

Cover Sheet: Request 10428

ISC3XXX Integrative Biomedical Science

Info

Process	Course New Ugrad/Pro
Status	Pending
Submitter	Julian,David djulian@ufl.edu
Created	9/18/2015 9:27:44 AM
Updated	10/20/2015 5:07:08 PM
Description	Proposal for new, interdisciplinary natural sciences course

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CLAS - Biology 011690003	St Mary, Colette Marie		10/1/2015
Added ISC3xxx_ucc_consult-1.pdf					10/1/2015
College	Recycled	CLAS - College of Liberal Arts and Sciences	Pharies, David A	The CCC feels that the textbook assigned is not reflective of the content of the course. Please explain.	10/20/2015
No document changes					
Department	Approved	CLAS - Biology 011690003	St Mary, Colette Marie		10/20/2015
No document changes					
College	Approved	CLAS - College of Liberal Arts and Sciences	Pharies, David A		10/20/2015
No document changes					
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			10/20/2015
No document changes					
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					
Student Academic Support System					
No document changes					
Catalog					
No document changes					
College Notified					
No document changes					

Course|New for request 10428

Info

Request: ISC3XXX Integrative Biomedical Science

Submitter: Julian,David djulian@ufl.edu

Created: 10/20/2015 11:08:13 AM

Form version: 3

Responses

Recommended Prefix: ISC

Course Level : 3

Number : XXX

Lab Code : None

Course Title: Integrative Biomedical Science

Transcript Title: Integ Biomedical Sci

Effective Term : Earliest Available

Effective Year: Earliest Available

Rotating Topic?: No

Amount of Credit: 3

Repeatable Credit?: No

S/U Only?: No

Contact Type : Regularly Scheduled

Degree Type: Baccalaureate

Weekly Contact Hours : 3

Category of Instruction : Intermediate

Delivery Method(s): On-Campus

Course Description : An introduction to biomedical science as the application of the natural sciences to medicine. Course content focuses on integration of biological and biochemical sciences, chemical and physical sciences, and social and behavioral sciences in the context of health. Course activities promote skills in problem-solving, critical analysis, and quantitative reasoning.

Prerequisites : BSC 2011 & (CHM 2211 or CHM 2213 or CHM 3217) & (PHY 2048 or PHY 2053 or PHY 2060) & (MAC 2311 or STA 2023) & (PSY 2012 or SYG 2000)

Co-requisites : (BCH 4024 or CHM 3218) & (PHY 2049 or PHY 2054 or PHY 2061)

Rationale and Placement in Curriculum : This course is designed for junior and senior students who are pre-professional (e.g., pre-med, pre-dent, pre-vet, pre-pharm) or who intend to pursue graduate study in biomedically-related disciplines.

Course Objectives : 1. Apply quantitative reasoning and appropriate mathematics to describe or explain biomedical phenomena.

2. Apply the process of scientific inquiry, and explain how scientific knowledge is discovered and validated.

3. Apply basic principles of physics and some of their applications to explain representative processes in living systems.

4. Apply basic principles of chemistry and some of their applications to explain representative processes in living systems.

5. Utilize knowledge of how biomolecules contribute to the structure and function of cells to explain representative metabolic and cellular processes.

6. Apply an understanding of principles of how molecular and cell assemblies, organs, and organisms develop structure and carry out function to explain representative physiological and pathophysiological processes.

7. Explain how organisms sense and control their internal environment and how they respond to external change.

8. Utilize an understanding of the principle of evolution by natural selection to explain the diversity of life on earth.

9. Explain how behavior, social interactions and culture are influenced by biological and psychological factors.

Course Textbook(s) and/or Other Assigned Reading: There is no core textbook for this course. Materials will be provided by the instructor. Students may use any reliable reference for reviewing the foundational biology, chemistry, physics, and social and behavioral sciences content. A recommended reference is the Examcrackers MCAT Complete Study Package, 9th Edition. Examcrackers, Inc., 2014. ISBN-10: 1893858707.

Weekly Schedule of Topics : Section 1: Scientific Inquiry and Reasoning

1. Scientific reasoning and problem solving
2. Design and execution of biomedical research
3. Quantitative, data-based reasoning
4. Reading primary biomedical science research literature

Section 2: Biological foundations of living systems

5. Biomolecules
6. Cells and tissues
7. Organs and homeostasis

Section 3: Chemical and physical foundations of biological systems

8. Transport processes
9. Communication, senses and transduction
10. Molecular structure, function and interactions
11. Chemical thermodynamics and kinetics

Section 4: Psychological, social and biological foundations of behavior

12. Influence of psychological, sociocultural, and biological factors on perception
13. Influence of psychological, sociocultural, and biological factors on behavior and interactions
14. Cultural and social differences and social stratification

15. Course review

Grading Scheme : Active Learning Questions (100 at 0.3% each) = 30%

Section Exams (4 at 10% each) = 40%

Final Exam (1 at 30%) = 30%

Instructor(s) : David Julian and others to be determined.

External Consultation Results (departments with potential overlap or interest in proposed course, if any)

Department	Name and Title
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Phone Number	E-mail
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Comments	

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