Course	es must be s	INEW CO submitted by Octo semester for t Use YELLO	OURSE PRO ober 15, 2013, and he next catalog WED areas to end	POSAL nd finalized by t production. nter data.	he end of that fall	
TE (<i>Change if modifie</i>)GRAM AREA(S)	d and redate	file with current date	e)) <mark>12 October</mark> Biology	<mark>R 2013; REV 11.12</mark> .	13	
Course Informat Prefix(es) (Add addi Title: ADVANCED x Prerequisites BIOL Corequisites Consent of Instru Catalog Description molecular biology fro Emphasizes critical a expression, protein st membrane dynamics,	tion. [Follow tional prefixes TOPICS IN 504 (Do not use a om the perspen nalysis and ef ructure and fu and the mole	accepted catalog fo s if cross-listed) and CELL AND MOLI d for Enrollment any symbols): Exan ctive of the primary l fective communicati inction, signal transd cular basis of disease	nines selected areas biterature and the ex- on of scientific info buction, metabolisme.	L 518 OGY Units: 3 s of current research xperimental basis ormation. Topics n, the cytoskeleton	ch interest in cellular and of current knowledge. may include gene and extracellular matrix,	
Grading Scheme:		Repeatability:		Course	e Level Information:	
x A-F Grades		Repeatable for a maximum of		f U	Undergraduate	
x A-F Grades		unite			lidergraduate	
Credit/No Credi Optional (Stude	t nt Choice)	units Total Completions Multiple Enro	Allowed Ilment in Same Se	Po mester x Grad	st-Baccalaureate/Credential luate	
Credit/No Credi Optional (Stude Mode of Instruction	t nt Choice) / Component Units	s (Hours per Unit ar Hours per Uni	Allowed Allowe	Po mester x Grad Graded Component	st-Baccalaureate/Credential luate CS & HEGIS # (Filled in by the Provost's Office)	

2. Course Attributes:

General Education Categories: All courses with GE category notations (including deletions) must be submitted to the GE website: <u>http://summit.csuci.edu/geapproval</u>. Upon completion, the GE Committee will forward your documents to the Curriculum Committee for further processing.

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-2 Mathematics – Mathematics and Applications				
		B-5 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)				
		UDIGE/INTD Interdisciplinary				
		Meets University Writing Requirement (Graduation Writing Assessment Requirement)				
		Meets University Language Requirement				
		American Institutions, Title V Section 40404: Government US Constitution US History				
]	Regarding Exec Order 405, for more information: <u>http://senate.csuci.edu/comm/curriculum/resources.htm</u>				
	ł	Service Learning Course (Approval from the Center for Community Engagement must be received before you				
		can request this course attribute).				
NC).	Online Course (Answer YES if the course is ALWAYS delivered online).				

- Lab Fee Request Lab fee requests should be directed to the Student Fee Committee.
- 3. Justification and Requirements for the Course. (Make a brief statement to justify the need for the course)
- A. Justification: BIOL 518 is an elective for students in all emphases within the M.S. Biotechnology program, covering emerging research in cell and molecular biology and building on fundamental principles covered in BIOL 504. This course will focus on critical analysis of primary scientific literature and emphasis will be placed on developing written and verbal skills appropriate for the masters-level student.

B. Degree Requirement: Requirement for the Major/Minor Note: Submit Program Modification if x Elective for the Major/Minor this course changes your program. Free Elective

4. Student Learning Outcomes. List in numerical order. Please refer to the Curriculum Committee's "Learning Outcomes" guideline for measurable outcomes that reflect elements of Bloom's Taxonomy: http://senate.csuci.edu/comm/curriculum/resources.htm. The committee recommends 4 to 8 student learning outcomes, unless governed by an external agency (e.g., Nursing).

Upon completion of the course, the student will be able to:

- Discuss current research in the fields of eukaryotic cell and molecular biology •
- Identify topic-appropriate research materials
- Dissect and analyze primary scientific literature •
- Communicate effectively the results of scientific articles in both written and oral forms

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

- · Cell biochemistry and metabolism
- Eukaryotic gene expression
- Membrane structure and transport
- Protein sorting
- Cell-cell communication
- Cytoskeleton
- Cell adhesion and extracellular matrix
- Molecular and cellular basis of disease

Does this course content overlap with a course offered in your academic program? Yes If YES, what course(s) and provide a justification of the overlap.	No x
Does this course content overlap a course offered in another academic area? Yes No x If YES, what course(s) and provide a justification of the overlap.	

Overlapping courses require Chairs' signatures.

- 6. Cross-listed Courses (*Please note each prefix in item No. 1*) Beyond three disciplines consult with the Curriculum Committee.
 A. List Cross-listed Courses (Signature of Academic Chair(s) of the other academic area(s) is required). List each cross-listed prefix for the course:
 - B. Program responsible for staffing: Biology
- 7. References. [Provide 3 5 references]

Lodish, H., A. Berk, C. Kaiser, M. Krieger, A. Bretscher, H. Ploegh, A. Amon, H. Scott. (2012). Molecular Cell Biology, 7th Edition. W.H. Freeman.

Alberts, B., A. Johnson, B. Lewis, M. Raff, K. Roberts, P. Walter. (2007). *Molecular Biology of the Cell, 5th Edition*. Garland Science.

Articles from appropriate scientific journals to be determined by faculty member upon scheduling.

8. Tenure Track Faculty Qualified to Teach This Course.

Biology faculty

9. Requested Effective Date:

First semester offered: Fall 2014

- **10. New Resources Requested. Yes** No x If YES, list the resources needed.
 - A. Computer Needs (data processing, audio visual, broadcasting, other equipment, etc.)
 - B. Library Needs (streaming media, video hosting, databases, exhibit space, etc.)
 - C. Facility/Space/Transportation Needs
 - D. Lab Fee Requested Yes No x (Lab fee requests should be directed to the Student Fee Committee)
 - E. Other

11. Will this new course alter any degree, credential, certificate, or minor in your program? Yes x No If, YES attach a program update or program modification form for all programs affected. <u>Priority deadline</u> for New Minors and Programs: October 1, 2013 of preceding year. <u>Priority deadline</u> for Course Proposals and Modifications: October 15, 2013, of preceding year. Last day to submit forms to be considered during the current academic year: April 15th.

Amy Denton

Approval Sheet

Program/Course: BIOL 518

If your course has a General Education Component or involves Center affiliation, the Center will also sign off during the approval process.

Multiple Chair fields are available for cross-listed courses.

The CI program review process includes a report from the respective department/program on its progress toward accessibility requirement compliance. By signing below, I acknowledge the importance of incorporating accessibility in course design.

Program Chair		
	Signature	Date
Program Chair		
	Signature	Date
Program Chair		
	Signature	Date
General Education Chair		
	Signature	Date
Center for International Affairs Director		
	Signature	Date
Center for Integrative Studies Director		
	Signature	Date
Center for Multicultural Engagement Director		
	Signature	Date
Center for Civic Engagement Director		
	Signature	Date
Curriculum Chair		
	Signature	Date
AVP		
	Signature	Date