

BIO 127: DEVELOPMENTAL BIOLOGY

In Workflow

1. BIO Committee Chair (kneitel@csus.edu)
2. BIO Chair (kneitel@csus.edu)
3. NSM College Committee Chair (mikkel.jensen@csus.edu)
4. NSM Dean (datwyler@csus.edu)
5. Academic Services (catalog@csus.edu)
6. Senate Curriculum Subcommittee Chair (curriculum@csus.edu)
7. Dean of Undergraduate (james.german@csus.edu; renee.leonard@csus.edu)
8. Dean of Graduate (cnewsome@skymail.csus.edu)
9. Catalog Editor (catalog@csus.edu)
10. Registrar's Office (wlindsey@csus.edu)
11. PeopleSoft (PeopleSoft@csus.edu)

Approval Path

1. Tue, 20 Sep 2022 02:31:47 GMT
Jamie Kneitel (kneitel): Approved for BIO Committee Chair
2. Tue, 20 Sep 2022 02:32:13 GMT
Jamie Kneitel (kneitel): Approved for BIO Chair
3. Fri, 23 Sep 2022 16:48:17 GMT
Mikkel Jensen (mikkel.jensen): Approved for NSM College Committee Chair
4. Fri, 23 Sep 2022 16:48:44 GMT
Shannon Datwyler (datwyler): Approved for NSM Dean

Date Submitted: Fri, 02 Sep 2022 20:47:56 GMT

Viewing: BIO 127 : Developmental Biology

Last edit: Thu, 22 Sep 2022 03:20:36 GMT

Changes proposed by: Thomas Peavy (102041496)

Contact(s):

Name (First Last)	Email	Phone 999-999-9999
Thomas Peavy	trpeavy@csus.edu	916-764-2054

Catalog Title:

Developmental Biology

Class Schedule Title:

Developmental Biology

Academic Group: (College)

NSM - Natural Sciences & Mathematics

Academic Organization: (Department)

Biological Sciences

Will this course be offered through the College of Continuing Education (CCE)?

No

Catalog Year Effective:

Fall 2023 (2023/2024 Catalog)

Subject Area: (prefix)

BIO - Biological Sciences

Catalog Number: (course number)

127

Course ID: (For administrative use only.)

105921

Units:

4

Is the primary purpose of this change to update the term typically offered or the enforcement of requisites at registration?

No

In what term(s) will this course typically be offered?

Fall term only

Does this course require a room for its final exam?

Yes, final exam requires a room

This course complies with the credit hour policy:

Yes

Justification for course proposal:

Bio 127 has evolved over the years from a more simple embryology course to a more integrated and comprehensive developmental biology course to serve our majors. Currently, students are being informed that they should have completed Bio 184 prior to taking this course due to the heavy emphasis on cell and molecular biology concepts that are integrated into the course. However, this does not serve students well if they do not put in the time in to grasp these molecular concepts and thus Bio 184 (genetics) needs to be a prerequisite for their preparation. This course is taught at many universities and they all typically build upon concepts that a general genetics course would cover. In essence, Bio 2 is inadequate preparation for the molecular concepts that are essential for an understanding of developmental biology.

Course Description: (Not to exceed 80 words and language should conform to catalog copy.)

This course examines the progression of fertilized eggs of vertebrate organisms through embryonic development. This progression will be studied at biochemical, molecular, genetic, morphological and physiological levels, with an emphasis on the progressive changes that occur within cells, tissues and organs in the embryo. We will use a comparative approach between a variety of model organisms to understand similarities and differences among vertebrate and selected invertebrate species.

Are one or more field trips required with this course?

No

Fee Course?

Yes

Is this course designated as Service Learning?

No

Is this course designated as Curricular Community Engaged Learning?

No

Does this course require safety training?

No

Does this course require personal protective equipment (PPE)?

No

Does this course have prerequisites?

Yes

Prerequisite:

BIO 2 and Bio 184

Prerequisites Enforced at Registration?

Yes

Does this course have corequisites?

No

Graded:

Letter

Approval required for enrollment?

No Approval Required

Course Component(s) and Classification(s):

Discussion
Laboratory

Discussion Classification

CS#04 - Lecture /Recitation (K-factor=1 WTU per unit)

Discussion Units

3

Laboratory Classification

CS#16 - Science Laboratory (K-factor=2 WTU per unit)

Laboratory Units

1

Is this a paired course?

No

Is this course crosslisted?

No

Can this course be repeated for credit?

No

Can the course be taken for credit more than once during the same term?

No

Description of the Expected Learning Outcomes and Assessment Strategies:

List the Expected Learning Outcomes and their accompanying Assessment Strategies (e.g., portfolios, examinations, performances, pre-and post-tests, conferences with students, student papers). Click the plus sign to add a new row.

	Expected Learning Outcome	Assessment Strategies
1	explain the molecular signaling that contributes to the developmental processes	all 4 lecture exams address this learning outcome
2	describe how stem cells contribute to development and to regenerative medicine	the last lecture exam focuses on this learning objective
3	describe the evolution of the developmental mechanisms used by organisms	all 4 lecture exams address this learning outcome, but the third exam has more of this focus
4	be able to use the microscopes to image the developmental progression of a variety of model organisms	1 laboratory practical to assess whether students understand the tools and strategies to examine developmental processes
5	compare and contrast the developmental progression of model organisms	3 lab reports to assess student understand of the developmental processes which includes images that students captured during class; student lab notebook is graded to assess whether a student knows how to maintain a scientific notebook documenting their laboratory experiences

Attach a list of the required/recommended course readings and activities:

Bio 127 Syllabus F22.pdf
BIO 127_ F22 Schedule.pdf

Is this course required in a degree program (major, minor, graduate degree, certificate?)

No

Does the proposed change or addition cause a significant increase in the use of College or University resources (lab room, computer)?

No

Will there be any departments affected by this proposed course?

No

I/we as the author(s) of this course proposal agree to provide a new or updated accessibility checklist to the Dean's office prior to the semester when this course is taught utilizing the changes proposed here.

I/we agree

University Learning Goals

Undergraduate Learning Goals:

Competence in the disciplines
Integrative learning
Intellectual and practical skills

Is this course required as part of a teaching credential program, a single subject, or multiple subject waiver program (e.g., Liberal Studies, Biology) or other school personnel preparation program (e.g., School of Nursing)?

No

GE Course and GE Goal(s)

Is this a General Education (GE) course or is it being considered for GE?

No

Key: 431