



SOUTH DAKOTA BOARD OF REGENTS
ACADEMIC AFFAIRS FORMS
 New Course Request

USD	Biology
Institution	Division/Department
<i>Elizabeth M. Freeburg</i>	3/20/2017
Institutional Approval Signature	Date

Section 1. Existing Course Title and Description

Prefix & No.	Course Title	Credits
BIOL 770	Computational Genomics and Systems Biology	3

Course Description
The objective of this course is to provide an organized forum for students to learn basic concepts and recent developments in computational genomics and systems biology. Topics discussed will include recombinant DNA, DNA sequencing methods, bioinformatics, sequence assembly, analysis and annotation of genomes, and the evolution of genomics. Transcriptomics, epigenomics and metagenomics and their analysis will also be covered.

Pre-requisites or Co-requisites

Prefix & No.	Course Title	Pre-Req/Co-Req?
BIOL 769	Programming for Biology	Pre-Req or permission of the instructor

Registration Restrictions N/A

Section 2. Review of Course

- 2.1. Was the course first offered as an experimental course? **No**
- 2.2. Will this be a unique or common course?

Unique Course

Prefix & No.	Course Title	Credits
BIOL 735	Evolutionary Genomics	3
BIOL 578	Microbial Genomics	3

Provide explanation of differences between proposed course and existing system catalog courses below:

The existing courses BIOL 735 and BIOL 578 mainly focus on the biological aspect of genomics, including evolution, parasites (e.g., transposons), duplications, sequence, and structure. BIOL 578 especially only focuses on introducing microbial genomics. The proposed course focuses more on computational aspects and systems biology, with an emphasis on how to analyze and interpret/annotate genomic next-generation sequencing data.
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Section 3. Other Course Information

3.1. Are there instructional staffing impacts?

- No.** Schedule Management, explain below: Will be taught by existing faculty member as part of load.

3.2. Existing program(s) in which course will be offered: Graduate Programs in Biology

- 3.3. Proposed instructional method by university: R-Lecture
- 3.4. Proposed delivery method by university: 001 Face-to-face
- 3.5. Term change will be effective: Spring 2018
- 3.6. Can students repeat the course for additional credit?
 Yes, total credit limit: _____ No
- 3.7. Will grade for this course be limited to S/U (pass/fail)?
 Yes No
- 3.8. Will section enrollment be capped?
 Yes, max per section: 15 No
- 3.9. Will this course equate with any other unique or common courses in the common course system database in Colleague and the [Course Inventory Report](#)?
 Yes No
- 3.10. Is this prefix approved for your university?
 Yes No

Section 4. Department and Course Codes (Completed by University Academic Affairs)

- 4.1. University Department Code: UBIOL
- 4.2. Proposed [CIP Code](#): 26.1103 Bioinformatics
Is this a new CIP code for the university? Yes No