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| For Academic Affairs and Research Use Only |
| Proposal Number: |  |
| CIP Code:  |  |
| Degree Code: |  |

 **Course Deletion Proposal Form**

**[] Undergraduate Curriculum Council**

**[X] Graduate Council**

Signed paper copies of proposals submitted for consideration are no longer required. Please type approver name and enter date of approval.

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| Virginie Rolland | 11/11/2021 |

**Department Curriculum Committee Chair** |

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**COPE Chair (if applicable)** |
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| Stephen J. Mullin | 11/11/2021 |

**Department Chair** |

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**Head of Unit (if applicable)**   |
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| John Hershberger | 1/21/2022 |

**College Curriculum Committee Chair** |

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**Undergraduate Curriculum Council Chair** |
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| Lynn Boyd | 2/8/2022 |

**College Dean** |

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**Graduate Curriculum Committee Chair** |
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**General Education Committee Chair (if applicable)**   |

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| Alan Utter | 2/21/2022 |

**Vice Chancellor for Academic Affairs** |

1. **Course Title, Prefix and Number**

BIO 5684 Biological Data Analyses

1. **Contact Person** (Name, Email Address, Phone Number)

Virginie Rolland, vrolland@astate.edu, 870-972-3194

1. **Justification**

The course was upgraded to BIO 6684 Biological Data Analyses a few years ago, but BIO 5684 Biological Data Analyses did not get deleted at the same time. Biological Data Analyses has not been taught as BIO 5684 since the upgrade.

1. **Last semester course will be offered**

It has not been offered as BIO 5684 in a few years. .

1. No **Does this course appear in your curriculum? (if yes, and this deletion changes the curriculum, a Program Modification Form is required)**

Enter text...

1. No **Is this course dual-listed (undergraduate/graduate)?**

Enter text...

1. No **Is this course cross-listed with a course in another department?**

If yes, which course(s)?

 Enter text...

1. Yes **Is there currently a course listed in the Bulletin or Banner which is a one-to-one equivalent to this course (please check with the Registrar’s Office if unsure)?**

If yes, which course?

Yes, BIO 6684 Biological Data Analyses.

**Bulletin Changes**

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| **Instructions**  |
| **Please visit** [**http://www.astate.edu/a/registrar/students/bulletins/index.dot**](http://www.astate.edu/a/registrar/students/bulletins/index.dot) **and select the most recent version of the bulletin. Copy and paste all bulletin pages this proposal affects below. Please include a before (with changed areas highlighted) and after of all affected sections.** **\*Please note: Courses are often listed in multiple sections of the bulletin. To ensure that all affected sections have been located, please search the bulletin (ctrl+F) for the appropriate courses before submission of this form.**  |

Before changes: p.417

**BIO 5613. Conservation Biology** A study of global and local biological resources, including the diversity of life, the value of biodiversity, the importance of diversity to humans and human cultures, and interdisciplinary strategies to conserve biological resources. Lecture three hours per week. Prerequisites, BIO 3023 or permission of professor.

**BIO 5623. Environmental Microbiology** A study of the physiology and diversity of microorganisms and their role in cycling of nutrients and mineralization of pollutants in the world. Prerequisites, CHEM 1023 and BIO 2103, or 4014, or 4133.

**BIO 5633. Environmental Toxicology: Mechanisms and Impacts** Understanding the basic principles behind the study of impacts and the mechanisms of physiological disturbances associated with environmental toxicant exposure to natural systems. Prerequisites, BIO 4131, BIO 4133 and CHEM 4232 or permission of professor. Lecture three hours per week.

**~~BIO 5684. Biological Data Analyses~~** ~~Use of statistical tests and models (regression, ANOVA, generalized linear models, and mixed-effect models, PCA) to analyze ecological/biological data. Applications using a free statistical program. Prerequisite, Applied Statistics or equivalent.~~

**BIO 5704. Plant Systematics** A study of the systematics, nomenclature, morphology, and identification terminology for vascular plants with an emphasis on dichotomous key-based identification of flowering plants of Arkansas.

**BIO 5714. Dendrology** A study of the systematics, nomenclature, morphology, phenology, geographic range, and natural history of woody plants with an emphasis on field recognition throughout the year.

**BIO 5813. Curation of Collections** Current, appropriate museum-quality specimen curation for a range of taxa including the collection and preservation of specimens of vascular plants, fungi, mussels, fish, reptiles and amphibians, and mammals. Dual listed as BIO 4813. Prerequisites, BIO 1301, BIO 1303, BIO 1501 and BIO 1503 or with the instructor approval.

**BIO 5823. Natural History Collections Research Design** Evaluation and development of research questions using current, peer-reviewed literature as a basis for discussion supported by natural history specimens and data. Research topics include taxonomy, biogeography, ecology, and global change biology. Activities demonstrate hypothesis testing in biodiversity science. Dual listed as BIO 4823. Prerequisite, BIO 5813 or instructor approval.

**BIO 6001. Biological Seminar** Required of all graduate students.

**BIO 6003. Scientific Methods and Research Design** A focus on the understanding and development of the scientific method as it pertains to research. Required of the graduate life sciences major, including students studying within the Biology, Botany, Wildlife Management and Zoology emphasis.

**BIO 6013. Evolutionary Biology** A summary of current theories concerned with evolution of biological organisms. An elective course particularly directed to the needs of biological science majors including students of Biology, Botany, Zoology, and Wildlife Management.

**BIO 6113. Advanced Cell Biology** Study of recent advances in cell biology through critical analysis of current literature. Focusing on eukaryotic cell structure and function, topics may include, but not be restricted to, cellular structures and organelles; cell cycling; signal transduction; gene regulation; and intracellular trafficking. Perquisites: A course in cell biology or permission of the professor.

**BIO 6123. Specialized Biochemistry** An advanced study of biochemical pathways leading to specialized biologically active metabolites. Emphasis will be on specialized pathways in plants and their counterparts in animals, and microorganisms.

**BIO 6143. Introduction to Biotechnology & Research Design** Study of molecular biological techniques and experimental designs through oral and written review of scientific literature. Career preparation by construction of curriculum vitae and work portfolios. Prerequisites: Students must be graduate students in a biological field of science

After changes:

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