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| For Academic Affairs and Research Use Only |
| Proposal Number: | SM17 |
| CIP Code:  |  |
| Degree Code: |  |

 **Course Deletion Proposal Form**

**[ X ] Undergraduate Curriculum Council**

**[ ] 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 | 9/13/2021 |

**Department Curriculum Committee Chair** |

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**COPE Chair (if applicable)** |
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| Stephen J. Mullin | 9/13/2021 |

**Department Chair** |

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**Head of Unit (if applicable)**   |
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| John Hershberger 9/23/2021 | Enter date |

**College Curriculum Committee Chair** |

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**Undergraduate Curriculum Council Chair** |
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| Lynn Boyd | 10/1/2021 |

**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 | 11/16/2021 |

**Vice Chancellor for Academic Affairs** |

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

Laboratory Techniques in Electron Microscopy – BIO 4001

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

SJ Mullin, smullin@astate.edu, 870-972-3082

1. **Justification**

Faculty expertise and facility support within the dept. no longer exist. This course hasn’t been offered in over 5 years.

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

N/A

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

No.

1. Yes **Is this course dual-listed (undergraduate/graduate)?**

Yes. A course deletion form is also being submitted for the graduate-level course BIO 5001.

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

If yes, which course(s)?

 No

1. No **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?

No.

**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.**  |

CURRENT VERSION (pg. 471):

**BIO 3541. Plant Pathology Laboratory** Two hours per week. To be taken concur­rently with BIO 3542. Special course fees may apply.

**BIO 3542. Plant Pathology** Nature, cause, and control of diseases of orchard, garden, and field crops. Lecture two hours per week. Special course fees may apply. Prerequisites, BIO 1501 and BIO 1503.

**BIO 3553. Economic Botany** Economic plants and their use by man. Lecture three hours per week. Special course fees may apply. Prerequisites, BIO 1501 and BIO 1503.

**BIO 3673. Human Dimensions of Natural Resources** Evolution of human perception of natural resources, sociocultural beliefs and practices of traditional societies, lessons for effective conser­vation/management plans of marine and terrestrial/freshwater systems, and global case studies. Fall.

**BIO 4001. Laboratory Techniques in Electron Microscopy** An introduction to the preparation of biological materials for viewing with the transmission and scanning electron microscope. Emphasis will be placed on preparative techniques that are commonly used in the laboratory. Lecture one hour per week. Special course fees may apply. Prerequisite, eight hours upper-level biology. Instructor permission required.

**BIO 4003. Laboratory Techniques in Electron Microscopy Laboratory** Six hours per week. To be taken concurrently with BIO 4001. Special course fees may apply.

**BIO 4011. Microtechnique** Methods of killing, fixing, staining, and mounting tissues. Lecture one hour per week. Special course fees may apply. Prerequisites, BIO 1501, BIO 1503, CHEM 3103, and CHEM 3101.

**BIO 4012. Microtechnique Laboratory** Four hours per week. To be taken concurrently with BIO 4011. Special course fees may apply.

**BIO 4013. Population Genetics** This course will investigate the theories describing the temporal nature of the genetic structure of populations. There will be an emphasis on problem solving applying statistical tools. Intended for students entering the disciplines of systematics, conservation, agriculture, and wildlife and fisheries sciences. Special course fees may apply. Spring, odd.

**BIO 4021. Biological Seminar** Conferences, readings, and reports on material relevant to the biological sciences. Required of all department majors. Open only to biology department majors with 18 hours or more of course work in the subject area. Special course fees may ap­ply. Fall, Spring.

**BIO 4033. Bioinformatics and Applications** Provides a basic understanding of computa­tional methods used in bioinformatics, including hands on training to access and use biological data sources to analyze nucleotide/amino acid sequences and three-dimensional atomic struc­tures of proteins, nucleic acids allowing interpretations of biological processes. Lecture three hours per week. Prerequisite, BIO 3013. Spring.

**BIO 403V. Special Problems in Biology** Specific area with the topic and mode of inquiry agreed upon by student and instructor. Registration may be repeated with various topics. Registration must be approved by the program director. Special course fees may apply. Fall, Spring, Summer.

**BIO 404V. Special Topics in Biological Sciences** Topical or technique driven semi­nar relating to the biological sciences that will lead to the training of students in a body of work, such as newly developed research technique and approach. Number of credit hours will vary. Special course fees may apply. Instructor permission required. May be repeated for a total credit of 6 hours. Fall, Spring.

**BIO 4053. Applications in Biotechnology** A capstone course which focuses on real world applications of biotechnology presented as case studies and utilizing current literature reviews. Medical, agricultural, environmental and industrial biotechnology and their ethical, legal and social implications covered. Prerequisite, BIO 3013. Spring.

REVISED VERSION:

**BIO 3541. Plant Pathology Laboratory** Two hours per week. To be taken concur­rently with BIO 3542. Special course fees may apply.

**BIO 3542. Plant Pathology** Nature, cause, and control of diseases of orchard, garden, and field crops. Lecture two hours per week. Special course fees may apply. Prerequisites, BIO 1501 and BIO 1503.

**BIO 3553. Economic Botany** Economic plants and their use by man. Lecture three hours per week. Special course fees may apply. Prerequisites, BIO 1501 and BIO 1503.

**BIO 3673. Human Dimensions of Natural Resources** Evolution of human perception of natural resources, sociocultural beliefs and practices of traditional societies, lessons for effective conser­vation/management plans of marine and terrestrial/freshwater systems, and global case studies. Fall.

**BIO 4011. Microtechnique** Methods of killing, fixing, staining, and mounting tissues. Lecture one hour per week. Special course fees may apply. Prerequisites, BIO 1501, BIO 1503, CHEM 3103, and CHEM 3101.

**BIO 4012. Microtechnique Laboratory** Four hours per week. To be taken concurrently with BIO 4011. Special course fees may apply.

**BIO 4013. Population Genetics** This course will investigate the theories describing the temporal nature of the genetic structure of populations. There will be an emphasis on problem solving applying statistical tools. Intended for students entering the disciplines of systematics, conservation, agriculture, and wildlife and fisheries sciences. Special course fees may apply. Spring, odd.

**BIO 4021. Biological Seminar** Conferences, readings, and reports on material relevant to the biological sciences. Required of all department majors. Open only to biology department majors with 18 hours or more of course work in the subject area. Special course fees may ap­ply. Fall, Spring.

**BIO 4033. Bioinformatics and Applications** Provides a basic understanding of computa­tional methods used in bioinformatics, including hands on training to access and use biological data sources to analyze nucleotide/amino acid sequences and three-dimensional atomic struc­tures of proteins, nucleic acids allowing interpretations of biological processes. Lecture three hours per week. Prerequisite, BIO 3013. Spring.

**BIO 403V. Special Problems in Biology** Specific area with the topic and mode of inquiry agreed upon by student and instructor. Registration may be repeated with various topics. Registration must be approved by the program director. Special course fees may apply. Fall, Spring, Summer.

**BIO 404V. Special Topics in Biological Sciences** Topical or technique driven semi­nar relating to the biological sciences that will lead to the training of students in a body of work, such as newly developed research technique and approach. Number of credit hours will vary. Special course fees may apply. Instructor permission required. May be repeated for a total credit of 6 hours. Fall, Spring.

**BIO 4053. Applications in Biotechnology** A capstone course which focuses on real world applications of biotechnology presented as case studies and utilizing current literature reviews. Medical, agricultural, environmental and industrial biotechnology and their ethical, legal and social implications covered. Prerequisite, BIO 3013. Spring.