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**Bulletin / Banner Change Transmittal 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.

Email completed proposals to curriculum@astate.edu for inclusion in curriculum committee agenda.

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| David F. Gilmore | 9/29/2017 |

**Department Curriculum Committee Chair** |

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**COPE Chair (if applicable)** |
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| Thomas Risch  | 9/29/2017 |

**Department Chair:**  |

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**Head of Unit (If applicable)**   |
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| David F. Gilmore | 9/29/2017 |

**College Curriculum Committee Chair** |

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**Undergraduate Curriculum Council Chair** |
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| Anne A. Grippo | 9/29/2017 |

**College Dean** |

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

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**Vice Chancellor for Academic Affairs** |

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

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

Paul Sikkel, psikkel@astate.edu, 870-972-3296

**2.Proposed Change**

From

**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 case studies from around the world. Prerequisites, 2 among: PSY 2013, SOC 2213, POSC 1003, ECON 2333. Fall, Odd

To

**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. Recommended preparatory courses: PSY 2013, SOC 2213, POSC 1003, or ECON 2333. Fall, Odd

**3.Effective Date**

Fall 2019

**4.Justification –** *Please provide details as to why this change is necessary.*

The general education courses we had listed are preferred as pre-requisites for the course because of its interdisciplinary nature, However, Wildlife, Fisheries, and Conservation majors taking the course have typically completed all their gen eds by the time they are registering for this course. Therefore any student changing major within our institution or transferring from another institution is handicapped by those pre-requisites. This leads to excessive overrides as this course is required for the Wildlife, Fisheries, and Conservation BS degree. Instead of providing overrides, we believe removal of these pre-requisites would better accommodate such students. The courses are listed as recommended for advising purposes instead.

**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. Follow the following guidelines for indicating necessary changes.** **\*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.** - Deleted courses/credit hours should be marked with a red strike-through (~~red strikethrough~~)- New credit hours and text changes should be listed in blue using enlarged font (blue using enlarged font). - Any new courses should be listed in blue bold italics using enlarged font (***blue bold italics using enlarged font***)*You can easily apply any of these changes by selecting the example text in the instructions above, double-clicking the ‘format painter’ icon 🡪 , and selecting the text you would like to apply the change to.**Please visit* [*https://youtu.be/yjdL2n4lZm4*](https://youtu.be/yjdL2n4lZm4) *for more detailed instructions.* |

**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. Spring, odd.

**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. Summer, even every 4 years.

**~~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 case studies from around the world. Prerequisites, 2 among: PSY 2013, SOC 2213, POSC 1003, ECON 2333. Fall, Odd.~~

**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, Odd**

**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. Fall, even.

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

**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. Fall, odd.

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

**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. Fall, even years.

**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 16 hours or more of course work in the subject area. Special course fees may apply. Fall, Spring, Summer.

**BIO 4023. History of Biological Ideas**   This course analyzes the history of biological ideas such as evolution, heredity, spontaneous generation, and molecular biology, aimed at a better understanding not only of the historical background of current research but also on how science proceeds. Special course fees may apply. Prerequisites will be at least two of the following courses, BIO 3033, BIO 3023, and BIO 3013. Permission of Instructor required. Fall, odd.

**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 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.

**BIO 4063. Biosafety and Ethics in Research** Biosafety in the workplace, including chemical and radiation safety. Examination of moral and ethical issues in the laboratory and in research, including the concepts of transgenics, intellectual property and writing in research. Lecture three hours per week. Prerequisite, BIO 2013. Fall.

**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. Demand.