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|  | **SOUTH DAKOTA BOARD OF REGENTS**  ACADEMIC AFFAIRS FORMS |
| Substantive Program Modification Form |
|  |  |

Use this form to request minor changes in existing programs (majors, minors, certificates, or specializations).

|  |  |
| --- | --- |
| **UNIVERSITY:** | DSU |
| **CURRENT PROGRAM DEGREE:** | **Bachelor of Science** |
| **CURRENT PROGRAM MAJOR/MINOR:** | **Biology** |
| **CURRENT SPECIALIZATION** *(If applicable)***:** | **Integrative Biology Specialization and**  **Biology Education Specialization** |
| **CIP CODE:** | **26.9999** |
| **UNIVERSITY DEPARTMENT:** | **Sciences** |
| **BANNER DEPARTMENT CODE:** | **DSCI** |
| **UNIVERSITY COLLEGE:** | **College of Arts and Sciences** |
| **BANNER COLLEGE CODE:** | **DAS** |

**University Approval**

*To the Board of Regents and the Executive Director: I certify that I have read this proposal, that I believe it to be accurate, and that it has been evaluated and approved as provided by university policy.*

|  |  |  |
| --- | --- | --- |
| A picture containing text  Description automatically generated |  | 11/28/2023 |
| Vice President of Academic Affairs or  President of the University |  | Date |

|  |
| --- |
|  |

1. **This modification addresses a change in (*place an “X” in the appropriate box*):**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Total credits required within the discipline |  | Total credits of supportive course work |
|  |  |  |  |
|  | Total credits of elective course work |  | Total credits required for program |
|  |  |  |  |
|  | Program name |  | Existing specialization |
|  |  |  |  |
|  | CIP Code |  | Other (explain below) |
|  | Modification requiring Board of Regents approval  *Must have prior approval from Executive Director or designee* | | |

1. **Effective date of change: 7/1/2024**
2. **Program Degree Level (*place an “X” in the appropriate box*):**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Associate |  | Bachelor’s |  | Master’s |  | Doctoral |  |

1. **Category (*place an “X” in the appropriate box*):**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Certificate |  | Specialization |  | Minor |  | Major |  |

1. **If a name change is proposed, the change will occur (*place an “X” in the appropriate box*):**

|  |  |
| --- | --- |
|  | On the effective date for all students |

|  |  |
| --- | --- |
|  | On the effective date for students new to the program (enrolled students will graduate from existing program) |
|  |

|  |  |
| --- | --- |
| **Proposed new name:** |  |
|  | *Reminder: Name changes may require updating related articulation agreements, site approvals, etc.* |

1. **Is the program being modified associated with a current articulation agreement?**

|  |  |  |  |
| --- | --- | --- | --- |
| Yes |  | No |  |

* 1. **If yes, will the articulation agreement need to be updated with the partner institution following the approve of the program change? Please explain:**

1. **Primary Aspects of the Modification (*add lines or adjust cell size as needed*):**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Existing Curriculum* | | | | *Proposed Curriculum (highlight changes)* | | | | | |
| **Pref.** | **Num.** | **Title** | **Cr.**  **Hrs.** |  | **Pref.** | | **Num.** | **Title** | **Cr. Hrs** |
| **System Wide General Education Requirement\*** | | | **30** |  | **System Wide General Education Requirement\*** | | | | **30** |
| \*Students choosing the education specialization should take ESPY 210 and INED 211 as part of the System-wide General Education Requirements. | | | |  | \*Students choosing the education specialization should take ESPY 210 and INED 211 as part of the System-wide General Education Requirements. | | | | |
| General Education 22 | | | |  | General Education 22 | | | | |
| BIOL | 151/  151L | General Biology I/Lab | 4 |  | BIOL | | 151/  151L | General Biology I/Lab | 4 |
| BIOL | 153/  153L | General Biology II/Lab | 4 |  | BIOL | | 153/  153L | General Biology II/Lab | 4 |
|  |  |  |  |  |  | |  |  |  |
| **Biology Core** | | | ~~21~~ |  | **Biology Core** | | | | 26 |
| BIOL | 145 | Introduction to Scientific Inquiry | 1 |  | BIOL | | 145 | Introduction to Scientific Inquiry | 1 |
| BIOL | 221 | Human Anatomy | 4 |  | BIOL | | 221 | Human Anatomy | 4 |
| BIOL | 221L | Human Anatomy Lab | 0 |  | BIOL | | 221L | Human Anatomy Lab | 0 |
| ~~BIOL~~ | ~~280~~ | ~~Inquiry and Analysis in Biology~~ | ~~1~~ |  |  | |  |  |  |
| ~~BIOL~~ | ~~280L~~ | ~~Inquiry and Analysis in Biology Lab~~ | ~~1~~ |  |  | |  |  |  |
| BIOL | 311 | Principles of Ecology | 4 |  | BIOL | | 311 | Principles of Ecology | 4 |
| BIOL | 311L | Principles of Ecology Lab | 0 |  | BIOL | | 311L | Principles of Ecology Lab | 0 |
| BIOL | 331 | Microbiology | 4 |  | BIOL | | 331 | Microbiology | 4 |
| BIOL | 331L | Microbiology Lab | 0 |  | BIOL | | 331L | Microbiology Lab | 0 |
|  |  |  |  |  | BIOL | | 335 | Introduction to Bioinformatics | 3 |
|  |  |  |  |  | BIOL | | 343 | Cell and Molecular Biology | 4 |
|  |  |  |  |  | BIOL | | 343 | Cell and Molecular Biology Lab | 0 |
| BIOL | 371 | Genetics | 4 |  | BIOL | | 371 | Genetics | 4 |
| BIOL | 371L | Genetics Lab | 0 |  | BIOL | | 371L | Genetics Lab | 0 |
| BIOL | 498 | Undergraduate Research/Scholarship | 2 |  | BIOL | | 498 | Undergraduate Research/Scholarship | 2 |
|  |  |  |  |  |  | |  |  |  |
| **Integrative Biology Specialization** | | | **~~59~~** |  | **Integrative Biology Specialization** | | | | **39** |
|  |  |  |  |  |  | |  |  |  |
| ~~Biology Component~~ | | |  |  | Biology Electives | | | | 7 |
|  | | |  |  | Choose 7 credits from the following: | | | |  |
| ~~BIOL~~ | ~~343~~ | ~~Cell and Molecular Biology~~ | ~~4~~ |  |  | |  |  |  |
| ~~BIOL~~ | ~~343L~~ | ~~Cell and Molecular Biology Lab~~ | ~~0~~ |  |  | |  |  |  |
| ~~Choose 15 credits from the following:~~ | | | ~~15~~ |  |  | |  |  |  |
| BIOL | 201 | General Botany | 3 |  | BIOL | | 201 | General Botany | 3 |
| BIOL | 201L | General Botany Lab | 0 |  | BIOL | | 201L | General Botany Lab | 0 |
|  |  |  |  |  | BIOL | | 211 | Environmental Biology | 4 |
|  |  |  |  |  | BIOL | | 211L | Environmental Biology Lab | 0 |
| BIOL | 235 | Introduction to Biotechnology | 3 |  | BIOL | | 235 | Introduction to Biotechnology | 3 |
| BIOL | 235 | Introduction to Biotechnology Lab | 0 |  | BIOL | | 235 | Introduction to Biotechnology Lab | 0 |
| BIOL | 325 | Physiology | 4 |  | BIOL | | 325 | Physiology | 4 |
| BIOL | 325L | Physiology Lab | 0 |  | BIOL | | 325L | Physiology Lab | 0 |
|  |  |  |  |  | BIOL | | 373 | Evolution | 3 |
|  |  |  |  |  | BIOL | | 373L | Evolution Lab | 1 |
| BIOL | 365 | Vertebrate Zoology | 4 |  | BIOL | | 365 | Vertebrate Zoology | 4 |
| BIOL | 365L | Vertebrate Zoology Lab | 0 |  | BIOL | | 365L | Vertebrate Zoology Lab | 0 |
| BIOL | 410 | Conservation Biology | 3 |  | BIOL | | 410 | Conservation Biology | 3 |
| BIOL | 422 | Immunology | 4 |  | BIOL | | 422 | Immunology | 4 |
| BIOL | 422L | Immunology Lab | 1 |  | BIOL | | 422L | Immunology Lab | 0 |
| BIOL | 492 | Topics\* | 1-4 |  | BIOL | | 492 | Topics\* | 1-4 |
| \*May be repeated provided student does not enroll in the same topics course. | | |  |  | \*May be repeated provided student does not enroll in the same topics course. | | | |  |
|  |  |  |  |  |  | |  |  |  |
| **Math and Science Core Support Courses**  Note: Students planning to pursue a career in medicine or health professions are encouraged to take CHEM 326, CHEM 460, ~~CHEM 492~~, MATH 123 or ~~MATH~~ ~~201~~, PHYS 111 ~~or 211~~ and PHYS 113 ~~or 213~~ | | | ~~22~~ |  | **Math and Science Core Support Courses**  Note: Students planning to pursue a career in medicine or health professions are encouraged to take CHEM 326, CHEM 328, CHEM 460, MATH 123, PHYS 111, and PHYS 113 | | | | 26 |
| CHEM | 112 | General Chemistry | 4 |  | CHEM | | 112 | General Chemistry | 4 |
| CHEM | 112L | General Chemistry Lab | 0 |  | CHEM | | 112L | General Chemistry Lab | 0 |
| CHEM | 114 | General Chemistry II | 4 |  | CHEM | | 114 | General Chemistry II | 4 |
| CHEM | 114L | General Chemistry II | 0 |  | CHEM | | 114 | General Chemistry II Lab | 0 |
| MATH | 281 | Introduction to Statistics | 3 |  | MATH | | 281 | Introduction to Statistics | 3 |
| Choose 11 credits from the following | | | ~~11~~ |  | Choose 15 credits from the following | | | | 15 |
| CHEM | 326 | Organic Chemistry I | 3 |  | CHEM | | 326 | Organic Chemistry I | 3 |
| CHEM | 326L | Organic Chemistry I Lab | 1 |  | CHEM | | 326L | Organic Chemistry I Lab | 1 |
| CHEM | 328 | Organic Chemistry II | 3 |  | CHEM | | 328 | Organic Chemistry II | 3 |
| CHEM | 328L | Organic Chemistry II Lab | 1 |  | CHEM | | 328L | Organic Chemistry II Lab | 1 |
| CHEM | 332 | Analytical Chemistry | 3 |  | CHEM | | 332 | Analytical Chemistry | 3 |
| CHEM | 332L | Analytical Chemistry Lab | 1 |  | CHEM | | 332L | Analytical Chemistry Lab | 1 |
| CHEM | 460 | Biochemistry | 3 |  | CHEM | | 460 | Biochemistry | 3 |
| CHEM | 492 | Topics | 1-4 |  | CHEM | | 492 | Topics | 1-4 |
|  |  |  |  |  | EXS | | 300 | Introduction to Research | 3 |
| EXS | 350 | Exercise Physiology | 3 |  | EXS | | 350 | Exercise Physiology | 3 |
| EXS | 350L | Exercise Physiology Lab | 1 |  | EXS | | 350L | Exercise Physiology Lab | 1 |
| EXS | 353 | Kinesiology | 2-3 |  | EXS | | 353 | Kinesiology | 3 |
|  |  |  |  |  | EXS | | 400 | Exercise Testing and Prescription | 3 |
|  |  |  |  |  | EXS | | 454 | Biomechanics | 3 |
|  |  |  |  |  | EXS | | 482 | Theory of Strength and Conditioning | 3 |
| HIM | 130 | Basic Medical Terminology | 2 |  | HIM | | 130 | Basic Medical Terminology | 2 |
| HLTH | 422 | Nutrition | 3 |  | HLTH | | 422 | Nutrition | 3 |
| MATH | 123 | Calculus I | 4 |  | MATH | | 123 | Calculus I | 4 |
| MATH | 125 | Calculus II | 4 |  | MATH | | 125 | Calculus II | 4 |
| MATH | 418 | Mathematical Modeling | 3 |  | MATH | | 418 | Mathematical Modeling | 3 |
|  |  |  |  |  | PE | | 207 | Professional Preparation: Strength Training | 1 |
| PHYS | 111 | Introduction to Physics I | 4 |  | PHYS | | 111 | Introduction to Physics I | 4 |
| PHYS | 111L | Introduction to Physics I Lab | 0 |  | PHYS | | 111L | Introduction to Physics I Lab | 0 |
| PHYS | 113 | Introduction to Physics II | 4 |  | PHYS | | 113 | Introduction to Physics II | 4 |
| PHYS | 113L | Introduction to Physics II Lab | 0 |  | PHYS | | 113L | Introduction to Physics II Lab | 0 |
| ~~PHYS~~ | ~~211~~ | ~~University Physics~~ | ~~4~~ |  |  | |  |  |  |
| ~~PHYS~~ | ~~211L~~ | ~~University Physics I Lab~~ | ~~0~~ |  |  | |  |  |  |
| ~~PHYS~~ | ~~213~~ | ~~University Physics II~~ | ~~4~~ |  |  | |  |  |  |
| ~~PHYS~~ | ~~213L~~ | ~~University Physics II Lab~~ | ~~0~~ |  |  | |  |  |  |
|  |  |  |  |  | Courses under the Biology electives list that are not already being used to satisfy this requirement can be used as Math and Science Core Support Courses | | | | |
|  |  |  |  |  |  | |  |  |  |
| ~~Science Technology Courses~~ | | | 15 |  | Computer Science courses | | | | 6 |
| CSC | 105 | Introduction to Computers | 3 |  | CSC | | 105 | Introduction to Computers | 3 |
| ~~ENGL~~ | ~~379~~ | ~~Technical Communication~~ | 3 |  |  | | | |  |
| ~~BIOL~~ | ~~303~~ | ~~Introduction to Biological Instrumentation~~ | 3 |  |  | |  |  |  |
| ~~BIOL~~ | ~~335~~ | ~~Introduction to Bioinformatics~~ | 3 |  |  | |  |  |  |
| Choose one course from the following | | | 3 |  | Choose one course from the following | | | | 3 |
| CIS | 123 | Problem Solving and Programming |  |  | CIS | | 123 | Problem Solving and Programming | 3 |
| CIS | 130 | Visual Basic Programming |  |  | CIS | | 130 | Visual Basic Programming | 3 |
| CSC | 150 | Computer Science |  |  | CSC | | 150 | Computer Science | 3 |
|  |  |  |  |  |  | |  |  |  |
| **~~Social Science Course (3 credits)~~**  ~~Select a course from Social Science listing with prefix ANTH, HIST or SOC that is not already used to satisfy general education requirements.~~ | | |  |  |  | |  |  |  |
|  |  |  |  |  |  | |  |  |  |
| ~~Electives~~ | | | ~~10~~ |  | **Electives** | | | | **25** |
|  | | |  |  |  | | | |  |
| **Biology Education Specialization** | | | ~~59~~ |  | **Biology Education Specialization** | | | | **54** |
|  |  |  |  |  |  | |  |  |  |
| **~~Biology Component~~** | | | **~~11~~** |  | **Biology Component (select 6 credits from the following:** | | | | **6** |
| BIOL | 325 | Physiology | 4 |  |  | |  |  |  |
| BIOL | 325L | Physiology lab | 0 |  |  | |  |  |  |
| ~~Select 7 credits from the following:~~ | | | ~~7~~ |  |  | |  |  |  |
| BIOL | 201 | General Botany | 3 |  | BIOL | | 201 | General Botany | 3 |
| BIOL | 201L | General Botany Lab | 0 |  | BIOL | | 201L | General Botany Lab | 0 |
|  |  |  |  |  | BIOL | | 211 | Environmental Biology | 3 |
|  |  |  |  |  | BIOL | | 211L | Environmental Biology Lab | 0 |
| ~~BIOL~~ | ~~235~~ | ~~Introduction to Biotechnology~~ | ~~3~~ |  |  | |  |  |  |
| ~~BIOL~~ | ~~235L~~ | ~~Intro to Biotechnology~~ | ~~0~~ |  |  | |  |  |  |
| ~~BIOL~~ | ~~335~~ | ~~Introduction to Bioinformatics~~ | ~~3~~ |  |  | |  |  |  |
| ~~BIOL~~ | ~~343~~ | ~~Cell and Molecular Biology~~ | ~~4~~ |  |  | |  |  |  |
| ~~BIOL~~ | ~~343L~~ | ~~Cell and Molecular Biol. Lab~~ | ~~0~~ |  |  | |  |  |  |
|  |  |  |  |  | BIOL | | 325 | Physiology | 4 |
|  |  |  |  |  | BIOL | | 325L | Physiology Lab | 0 |
| BIOL | 365 | Vertebrate Zoology | 4 |  | BIOL | | 365 | Vertebrate Zoology | 4 |
| BIOL | 365L | Vertebrate Zoology Lab | 0 |  | BIOL | | 365L | Vertebrate Zoology Lab | 0 |
|  |  |  |  |  | BIOL | | 373 | Evolution | 3 |
|  |  |  |  |  | BIOL | | 373L | Evolution Lab | 1 |
| BIOL | 410 | Conservation Biology | 3 |  | BIOL | | 410 | Conservation Biology | 3 |
| BIOL | 422 | Immunology | 3-4 |  | BIOL | | 422 | Immunology | 3-4 |
| BIOL | 422L | Immunology Lab | 0-1 |  | BIOL | | 422L | Immunology Lab | 0-1 |
| ~~BIOL~~ | ~~492~~ | ~~Topics\*~~ | ~~1-4~~ |  | BIOL | | 492 | Topics\* | 1-4 |
| \*May be repeated provided student does not enroll in the same topics course. | | |  |  | \*May be repeated provided student does not enroll in the same topics course. | | | | |
|  |  |  |  |  |  | |  |  |  |
|  |  |  |  |  |  | |  |  |  |
| **Chemistry Component** | | | **8** |  | **Chemistry Component** | | | | **8** |
| CHEM | 112 | General Chemistry | 4 |  | CHEM | | 112 | General Chemistry | 4 |
| CHEM | 112L | General Chemistry Lab | 0 |  | CHEM | | 112L | General Chemistry Lab | 0 |
| CHEM | 114 | General Chemistry II | 4 |  | CHEM | | 114 | General Chemistry II | 4 |
| CHEM | 114L | General Chemistry II | 0 |  | CHEM | | 114L | General Chemistry II Lab | 0 |
|  |  |  |  |  |  | |  |  |  |
| **Computer Technology Component** | | | **12** |  | **Computer Technology Component** | | | | **12** |
| CSC | 105 | Introduction to Computers | 3 |  | CSC | | 105 | Introduction to Computers | 3 |
| CSC | 161 | Computer Hardware, Data Communications, and Networking | 3 |  | CSC | | 161 | Computer Hardware, Data Communications, and Networking | 3 |
|  |  |  |  |  | BIOL | | 235 | Introduction to Biotechnology | 3 |
|  |  |  |  |  | BIOL | | 235L | Introduction to Biotechnology Lab | 0 |
| ~~BIOL~~ | ~~303~~ | ~~Introduction to Biological Instrumentation~~ | ~~3~~ |  |  | |  |  |  |
| Choose one course from the following | | | 3 |  | Choose one course from the following | | | | 3 |
| CIS | 123 | Problem Solving and Programming |  |  | CIS | | 123 | Problem Solving and Programming |  |
| CIS | 130 | Visual Basic Programming |  |  | CIS | | 130 | Visual Basic Programming |  |
| CSC | 150 | Computer Science |  |  | CSC | | 150 | Computer Science |  |
|  |  |  |  |  |  | |  |  |  |
| **Professional Education Component** | | | 28 |  | **Professional Education Component** | | | | **28** |
| All Professional Education Courses must be completed with a “C” or better.  ˡNo Grade Less that a “C” and must be complete prior to admission to Teacher Education. | | |  |  | All Professional Education Courses must be completed with a “C” or better.  ˡNo Grade Less that a “C” and must be complete prior to admission to Teacher Education. | | | |  |
| EDFN | 338 | Foundations of American Ed | 2 ¹ |  | EDFN | | 338 | Foundations of American Ed | 2 ¹ |
| EPSY | 302 | Educational Psychology | 3 ¹ |  | EPSY | | 302 | Educational Psychology | 3 ¹ |
| SEED | 295 | Practicum | 1 |  | SEED | | 295 | Practicum | 1 |
| SPED | 100 | Introduction to Persons with Exceptionalities | 3 ¹ |  | SPED | | 100 | Introduction to Persons with Exceptionalities | 3 ¹ |
| Note: Admission to the Teacher Education Program is required for the remaining courses. See Requirements for Admission in the College of Education section. | | |  |  | Note: Admission to the Teacher Education Program is required for the remaining courses. See Requirements for Admission in the College of Education section | | | |  |
| EDFN | 475 | Human Relations | 3 |  | EDFN | | 475 | Human Relations | 3 |
| SEED | 302 | Secondary/Middle/Content Area Major | 2 |  | SEED | | 302 | Secondary/Middle/Content Area Major | 2 |
| SEED | 401 | Methods of Educational Technology | 1 |  | SEED | | 401 | Methods of Educational Technology | 1 |
| SEED | 440 | Classroom Management | 2 |  | SEED | | 440 | Classroom Management | 2 |
| SEED | 450 | Reading and content Literacy | 3 |  | SEED | | 450 | Reading and content Literacy | 3 |
| SEED | 488 | 7-12 Student Teaching | 8 |  | SEED | | 488 | 7-12 Student Teaching | 8 |
|  |  |  |  |  |  | |  |  |  |
| **Electives** | | | **10** |  | **Electives** | | | | **10** |
| Total number of hours required for degree | | | ~~80~~ |  | | Total number of hours required for Integrative Biology Specialization  Biology Education Specialization | | | 65  80 |
| Total number of hours required for degree | | | 120 |  | | Total number of hours required for degree | | | 120 |

1. **Explanation of the Change:**

These curriculum changes were made to provide more flexibility with the Biology major. We increased the number of open elective credits, and we decreased the number of required Biology Elective credits. These features of the curriculum were previously identified as barriers to timely graduation, especially for transfer students. BIOL 303 and BIOL 280/280L were removed from the curriculum because we identified that these courses covered concepts are already covered in other required courses. Finally, these changes also give the ability for students to double major with other programs on campus.