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Curriculum Proposal

Please type or select the requested information. Print completed forms, add appropriate paper attachments, and route through MSU's curricular process for recommendations and decisions.

College: Science, Engineering and Technology
Department: Biological Sciences
Program: BS Biology: General Option
Type of Change Proposed: PROGRAM PROPOSALS — Redesign--Change in Total Program Credits
Title Current:
Title Proposed:
24-Char. Abbrev:

(Check all that apply):
☒ Undergraduate
☐ Graduate
CIP # _____

Proposal # 334
Effective Date of Change:
Academic Year 06-07
(For Office Use Only)

Course Designator and Number	Number of Credits

(if applicable)

Include a course or program description for the Bulletin (30-40 words maximum for courses, 100 for programs):

Rationale or Justification for change:

Several years ago we were informed that we had a problem with our various options within the BS Biology major in that some of them were standard majors with a required minor while others were broad majors which cannot require a minor. Evidently that is not allowed--all options within a major must be either standard or broad. We converted all of our other options to broad majors but missed the General option. The attached revision of the General option will convert it to a broad major to match with our other options.

For General Education or Cultural Diversity Courses Only

General Education Course:

GE Category # **GE Category Name (Maximum of 3 Categories)**

N/A
N/A
N/A

? For Writing Intensive Courses, attach a description of the kind and quantity of writing.
? For Upper Division Courses, include a description of the respects in which it is broad and general rather than narrow and specific, and so suitable as GE.

Cultural Diversity Course:

(Please check one.)

☐ **Core** (At least 75% devoted to topics of race, gender, sexual orientation, age, class, and disabilities as they occur in United States Society.)

☐ **Related** (At least 25% devoted to the above topics or to a global perspective on topics related to African American, Asian, Hispanic, and Native American inhabitants of the United States.)

Attach paper copies of the following:
a. Syllabus or course outline.
b. Course's student learning outcomes associated with each GE competency or CD designation.
c. List of strategies to be used to assess students' achievement of each GE competency or CD designation.

For New Courses

(Check all that apply:)
☐ Course is an elective.
☐ Course is required for program
☐ Pre- or Co-requisites:
☐ Other courses are being changed or eliminated. (Explain.)

Instructional Type: Lecture
Grading Format: ☐ Grade ☐ P/N

Course will be offered:
☐ Fall Semester
☐ Spring Semester
☐ Summer Session

☐ Course content or title is similar to courses in other departments. (Attach copy of letter of agreement with other program(s) contacted. Indicate the nature of the discussions and/or resolution of differences or potential conflicts.)

Attach paper copies of the following:
a. Syllabus or course outline.
b. Course's student learning outcomes.
c. A list of resources required to offer and support this course.
d. A description of how teaching this course will affect department staffing.
e. If 400/500 level course, an explanation of added expectations of graduate students.

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Minnesota State University, Mankato

Curriculum Proposal

Signature Page

Department
X Recommended (Category/ies_____)
__ Not Recommended (Category/ies_____)

Department Chair — Date: 10/6/06

Comments:

College Curriculum Committee
X Recommended (Category/ies_____)
__ Not Recommended (Category/ies_____)

Committee Chair — Date: 11/14/06

Comments:

College Dean
✓ Recommended (Category/ies_____)
__ Not Recommended (Category/ies_____)

Dean — Date: 2/17/07

Comments:

General Education Subcommittee
__ Recommended (Category/ies_____)
__ Not Recommended (Category/ies_____)

General Education Subcommittee Chair — Date

Comments:

Undergraduate Curriculum and Academic Policy Committee
__ Recommended (Category/ies_____)
__ Not Recommended (Category/ies_____)

UCAP Faculty Chair — Date: 3/29/07

Comments:

Faculty Association Graduate Committee
__ Recommended
__ Not Recommended

Faculty Association Graduate Chair — Date

Comments:

Graduate Dean
__ Recommended
__ Not Recommended

Graduate Dean — Date

Comments:

Academic Affairs Council
✓ Recommended (Category/ies_____)
__ Not Recommended (Category/ies_____)

Assistant Vice President — Date: 4/9/07

Comments:

Senior Vice President and Vice President for Academic Affairs
✓ Approved (Category/ies_____)
__ Not Approved (Category/ies_____)

Sr. Vice President / Vice Pres. Academic Affairs — Date: 4.9.07

Comments:

ADDENDUM FOR PROPOSED REVISION OF BS BIOLOGY: GENERAL OPTION

a. The student learning outcomes for this revision are found in the Outcomes column of the BA/BS Biology Assessment Plan, which is attached.

b. Minutes of the department meeting are attached with the appropriate section highlighted.

c. The BA/BS Biology Assessment Plan, of which this is an option, is attached.

d. We already offer this option and the revised program will not require any additional resources.

e. This revision will not affect our department staffing since we already offer it.

f. No additional library holdings will be required beyond those we purchase with our normal year-to-year budget.

New proposed revision

BS Biology: ~~General Option~~ General Non-specialized option ← This is how it is in the bulletin now. Keep this title

Required General education courses: (16-21 credits)
Bio 105 General Biology I (4)
Chem 201 General Chem I (5)

Physics 101 Introductory Physics (3) –OR—
Phys 211 Principles of Physics (4) --OR--
Phys 221 General Physics I (5)

Mathematics requirement—select one of the following sets:
Set 1: Math 112 College Algebra (4) AND
Math 113 Trigonometry (3)
Set 2: Math 115 Precalculus Mathematics (4)
Set 3: Math 121 Calculus I (4)

Required Supporting courses: (13 credits)

Chem 202 General Chem II (5)
Chem 320 Organic Chemistry (5)

Stat 154 Elementary Statistics (3) OR
Hlth 475 Biostatistics (3)

Recommended Supporting courses:

Chem 305 Analytical Chemistry (4)

Chem 360 Biochemistry(4) OR
[Chem 460 Biochemistry I (3)**and**
Chem 465 Biochemical Techniques (1)]

Required for Major (24-27 credits)
Bio 106 General Biology II (4)
Bio 211 Genetics (4)
Bio 215 General Ecology (4)
Bio 301 Evolution (2)
Bio 320 Cell Biology (4)
One of the following
a) Bio 220 Anatomy (4), and
Bio 230 Human Physiology (4)
b) Bio 217 Plant Science (4), and
Bio 441 Plant Physiology (4)
c) Bio 270 Microbiology (4), and
Bio 476 Microbial Physiology and Genetics (5)
d) Bio 316 Animal Diversity (3) and
Bio 431 Comparative Animal Physiology (3)

Required electives: 10-13 credits from 300 or 400 level biology courses; at least 7 credits must be courses with laboratory components.

The general option requires at least 40 credits of biology courses.

Current option

Biology

College of Science, Engineering & Technology
Department of Biological Sciences

242 Trafton Science Center S • 507-389-2786
Web site: www.mnsu.edu/dept/biology

Chair: Gregg Marg, Ph.D.

Daryl Adams, Ph.D.; Michael Bentley, Ph.D.; Bill Bessler, Ed.D.; Christopher Conlin, Ph.D.; Bradley Cook, Ph.D.; Marilyn Hart, Ph.D.; Penny Knoblich, DVM; Ph.D.; John D. Krenz, Ph.D.; Bethann Lavoie, Ph.D.; Mark Lyte, Ph.D.; Alison Mahoney, Ph.D.; Brock R. McMillan, Ph.D.; Steven Mercurio, Ph.D.; Donovan Nielsen, Ph.D.; Beth Proctor, Ph.D.; Christopher Ruhland, Ph.D.; Timothy Secott, Ph.D.; Robert Sorensen, Ph.D.; Edward Williams, Ph.D.; Dorothy Wrigley, Ph.D.; Peggy Stupca (Site Director, Cytogenetic Program, Mayo Clinic)

The Department of Biological Sciences offers programs for students preparing for careers in education, laboratory and field research, biotechnology, environmental sciences, clinical laboratory sciences, cytotechnology, food science technology and pre-professional programs including pre-agriculture, pre-forestry, pre-medicine, and pre-veterinary medicine.

The biology major offers a core program intended to develop a common background in biology and additional upper level courses designed to provide specialized options. Students typically take a broad based general biology major or an emphasis in one of the following: general biology, bio-business, cytotechnology, ecology, human biology, microbiology, physiology, plant science, toxicology, or zoology. Programs in biotechnology, environmental sciences, food science technology and science teaching are also offered.

Admission to Major is granted by the department. Admission requirements are 32 earned semester credit hours including BIOL 105W and 106, with a grade of a "C" or better in both BIOL 105W and 106; and a minimum cumulative GPA of 2.00.

BIOLOGY BS

Students may elect to complete the general non-specialized biology major or select one of the alternative specialized options or emphases.

GENERAL, NON-SPECIALIZED OPTION
(40 credits)
Required for Option (Core, Minimum 19 credits):
BIOL 105W General Biology I (4)
BIOL 106 General Biology II (4)
BIOL 211 Genetics (3)
Choose two courses from the following:
BIOL 215 General Ecology (4)
BIOL 320 Cell Biology (4)
One physiology course [Biol 230 (4), Biol 431 (3), Biol 441 (4), or Biol 476 (5)]

Required Electives (5-8 credits):
Choose two courses from the following:
BIOL 301 BIOL 316 BIOL 403 BIOL 408 BIOL 418
BIOL 430 BIOL 435 BIOL 436 BIOL 442 BIOL 443
BIOL 451 BIOL 452
Additional upper division electives:
Choose additional Biology 300-400 level courses to total 40 credits in this option.

Required Minor: Yes. Chemistry.

CYTOTECHNOLOGY/CYTOGENETICS OPTION

A cytotechnologist is an allied health professional and is involved in the microscopic study of cells for evidence of disease and cancer. Cytotechnologists are trained to accurately identify precancerous, malignant, and infectious conditions using cytological techniques. The "Pap test" (an evaluation of cells from the uterine cervix) is the best known test in this field. The four-year curriculum consists of three years spent at the university completing the required courses and the fourth year is a 32 credit internship spent in professional education at Mayo School of health-Related Sciences in Rochester, MN or Mercy Medical Center in Des Moines, IA. Admission into the fourth-year hospital clinical internship is competitive. Therefore, admission to the program does not ensure placement into the fourth-year internship. The BS degree is awarded by the university after successful completion of the internship year. Graduates are then eligible to take the certifying examination. Cytotechnologists are employed in hospital laboratories, universities, and private laboratories.

CYTOTECHNOLOGY/CYTOGENETICS OPTION

Cytogenetics is the specialized area of laboratory medicine involving the study of normal and abnormal chromosomes and their relationship to human disease. Cytogenetic technologists analyze chromosomes using tissue cultures and preparations from peripheral blood, bone marrow, amniotic fluid, products of conception, and tumor samples. Cytogenetic technologists use fluorescent-labeled DNA to detect chromosome abnormalities associated with birth defects, retardation, infertility, miscarriage, and cancers. Fluorescence In Situ Hyridization or FISH has become the mose rapidly growing area in cytogenetics. The four-year curriculum consists of three years spent at the university completing the required courses and the fourth year is a 32-credit internship spent in professional education at Mayo School of Health Sciences in Rochester, MN. Admission into the fourth-year hospital clinical internship is competitive. Therefore, admission to the program does not ensure placement into the fourth-year internship. The BS degree is awarded by the university after successful completion of the inernship year. Graduates are then eligible to take the certifying examination. Cytogenetic technologists are employed in hospitals, clinical laboratories, research laboratories, and cytogenetic-related biotechnology companies.

Required for Option (11 credits):
BIOL 105W General Biology I (4)
BIOL 106 General Biology II (4)
BIOL 211 Genetics (3)
Required General Education (4 credits):
One class from MATH 112, 113, 115, or 121.

Required Support Courses (18 credits) (# Highly recommended)
Choose from the following to total at least 18 credits in Chemistry:
CHEM 201 General Chemistry I (5)
CHEM 202 General Chemistry II (5)
CHEM 305 Analytical Chemistry (4)
CHEM 320 Organic Chemistry I (5)
CHEM 360 Principles of Biochemistry (4)#

Core Courses (16 credits):
BIOL 220 Human Anatomy (4)
BIOL 230 Human Physiology (4)
BIOL 270 Microbiology (4)
BIOL 320 Cell Biology (4)

Recommended Support Courses (0 credits)

Required Courses (3-4 credits)
BIOL 430 Hematology/Intro. to Immunology (4)
BIOL 434 Development and Human Embryology (3)
BIOL 435 Histology (4)*
BIOL 479 Molecular Biology (4)**

* Highly recommended for Cytotechnology Track
** Highly recommended for Cytogenetics Track

Required Minor: None

Professional Education (32 credits)

BA/BS Biology – Assessment Plan

Outcomes	Related College Goals	Related University Goals	Method of Assessment	Who Assessed	When Assessed	Standard of Mastery	What Is Hoped to Be Learned?	Notes
Knowledge - #1 Demonstrate a basic understanding of biological principles (biological literacy). The specific principles to be examined are a. chemical basis of biology including metabolism b. cell biology c. genetics d. evolution and natural selection e. ecology f. physiology g. development h. diversity of life	1	2	40 question multiple choice test (direct measure) student survey about how much they know, given after m/c test (indirect measure)	Seniors in courses (need to select 400-level courses)	Spring every year; department designates day(s); students take test during regular 400-level course class time	70% of students score 70% or better on test.	What proportion of students is achieving 70% or better for each outcome? Is this proportion above or below the standard of mastery (70% of students meet standard)? The results will be reported back to the department, and we will jointly decide further steps to take.	
Knowledge – #2 Demonstrate an in-depth understanding of biological principles specific to student's option. The principles for	1, 2, 3	2	m/c test (10 questions per option) with reason for answer OR essay (direct measure)	Seniors in courses (need to select 400-level courses)	Same as above	Same as above	Same as above	

each option can be found on the last page.			Student survey about how much they know, given after m/c test (indirect measure) Faculty in options write these items. Can be from exams in your courses or new items. Should measure holistic knowledge of your option and related knowledge in column to left Faculty in options develop grading rubric and grade these items	Seniors self-select their option and take the corresponding test				
Skills - Demonstrate the ability to apply scientific method to a biological problem. Specifically, the students will be able to a. read about a biological phenomenon and develop a testable hypothesis b. evaluate the design of a controlled experiment to that answers a biological question	2	2	m/c test questions about an experiment (direct measure) Student survey about how much they know given after m/c test (indirect measure)	Seniors in courses (need to select 400-level courses)	Same as above	Same as above	Same as above	

c. evaluate the design of a field study that answers an ecological question d. evaluate the design of an experiment that answers a cell biology question using techniques such as gel electrophoresis e. analyze the experimental results and apply the analysis to the problem being studied								
Attitudes – Students should demonstrate the following qualities. Students should be able to a. demonstrate curiosity about biology b. continue to pursue biological knowledge even when it becomes boring or repetitive, or requires overcoming a barrier c. learn about biology without being rewarded externally (i.e. through grades or money)	8, 9, 10	2, 5	Enrollment in 499, URC participants, grant applications to bio dept (direct measure) Student survey about attitudes given after m/c test (indirect measure)	All students in program – departmental data used Seniors in courses (need to select 400-level courses)	Data for school year compiled every spring semester Same as above	Collect baseline data for several years. Expect same % enrollment and participation as previous year. 70% of students have average attitude scores of 3 (agree) or better.	If % enrollment and participation fall 10% below baseline, the department will jointly decide further steps to take. If less than 70% of students have average attitude scores of 3 or more, the department will jointly decide further steps to take.	

Knowledge – #2
Demonstrate an in-depth understanding of biological principles specific to student's option.
The biological principles that apply to each option follow.

Option 1 – Human Biology

a. Anatomy of the human body
b. Integrative function of organ systems in the human body
c. Cell biology
d. Infectious diseases of the human body
e. Tissues of the human body
f. Development of the human body
g. Aging of the human biology
h. Chronic diseases of the human body
i. Neural regulation of organ systems in the human body
j. Endocrine regulation of organ systems in the human body
k. Cardiovascular function of the human body

Option 2 – Plant Sciences

Option 3 – Microbiology

a. Gram stain
b. Enumeration of bacteria (plate count)
c. General structure of bacterial cell
d. Basic metabolic pathway interactions
e. Interpretation of growth curve
f. How to read data tables or graphs
g. Bacterial genetics

Option 4 – Toxicology

Option 5 – Cytotechnology

a. basic cell structure and cellular biology including cell division and growth and general mechanisms of pathologic change
b. normal and abnormal anatomy, physiology, histology, pathology, and cytology of the genital tract, respiratory tract, urinary tract, gastrointestinal tract, cerebrospinal fluid, and body cavity fluids.
c. benign conditions, inflammatory disorders, malignancies, and therapeutic effects that are involved in the various areas of cytology

d. the collection and preparation techniques in cytology

Option 6 – Ecology

a. global patterns of climactic variation and nutrient cycles
b. bioenergetics
c. evolutionary causes of mate choice and sociality
d. population genetics
e. causes of evolution: natural selection, drift, gene flow, mutation
f. demographic processes: mortality, natality, growth, and dispersal
g. life-history evolution
h. geographic limits of animal distribution
i. interspecific relationships: competition, exploitation, and mutualism
j. community ecology
k. ecosystem energetics
l. global ecology

Option 7 – Zoology

Option 8 – Physiology

Options 9 and 10 – General Biology and Biobusiness

These options require in-depth understanding of the biological principles listed under "Knowledge #1" since the understanding required there is at a basic level, and a general biology major should understand ALL of these principles at both the basic level and in-depth level. Other options require more specific understandings since their courses contain more specific content. Biobusiness majors are general biology majors with a business minor, and as biologists, we cannot develop business test items. Therefore we will be sure to test the general biology knowledge of the biobusiness majors.

See top of page 2 for General option revision.

Department of Biological Sciences
Department Meeting Minutes
October 6, 2006, 12:06 PM

Present: Mike Bentley, Bill Bessler, Chris Conlin, Shannon Fisher, Geoff Goellner, Dave Grams, Marilyn Hart, Penny Knoblich, John Krenz, Beth Lavoie, Gregg Marg, Steven Mercurio, Donovan Nielsen, Becky Pierce, Beth Proctor, Karen Radermacher, Christopher Ruhland, Tim Secott, Robert Sorensen, Dan Toma, Ned Williams

Absent: Lois Anderson, Brad Cook, Margaret Durkee, Alison Mahoney (sabbatical), Brock McMillan (sabbatical), Brent Pearson, Dorothy Wrigley

The minutes of the September 22, 2006 meeting were approved with one correction: On November **14th (tentatively)**, Lois will be **hosting** .....

ANNOUNCEMENTS/UPDATES/REMINDERS:

Bob reported that the Advisory Committee is trying to organize a Christmas Party this year. Marilyn has reserved a room at Bandana Brewery for December 8th, but wanted department input. After some discussion, a motion was made to look for another place since Bandana Brewery is now allowing smoking again. The motion carried. John and Shannon will take on the responsibility of finding another location.

Next weekend is Family Weekend. Tim volunteered to represent our department. If Bob cannot find a substitute, he will also be there for our department.

The Fall 2007 class schedule is posted on the window ledge in TS-244. Please make any corrections/additions on it by the end of next week.

Sometime next week Gregg will be receiving the registration access codes for any student listing Biology, Environmental Science, etc. as their major.

After finding out that David Williams, University Advancement, works with departments on campus to attain land, Gregg said that he will be forming a committee to draft a two page paper for David as to what we are looking for in acquiring land for a research site.

Since some people feel that Veterans Day is not receiving the respect that is due to it, plans are under way to move the holiday back to Veterans Day from the day before/after Christmas Day. Starting in 2008, we may possibly be taking Veterans Days off as a holiday.

CURRICULUM ISSUES:

The three curriculum issues that were discussed were 1) adding a lab to Genetics; 2) review of the previously approved General Biology option revision; and 3) the revision/refining of the prerequisites for Human Physiology and Microbiology.

Adding a three hour lab to Genetics each term has been proposed. After discussing the ramifications of this (funds for start up, classroom space, etc.), a motion was made to accept this proposal. After more discussion/comments, the motion was voted on. The motion carried.

In April of 2005, the department approved a General Biology option revision. This revision was not forwarded at that time. The department decided that they were still satisfied with the revision and Gregg will now send it forward.

Revision/refining of the prerequisites for Human Physiology and Microbiology are needed. After discussing this issue, a motion was made to change the Chemistry prerequisite for these two classes from "1 semester of chemistry" to "CHEM 104, CHEM 106, CHEM 111, or CHEM 201". The motion carried.

DEPARTMENT GOALS:

Our department goals were looked at next. Dorothy's modification (#3 – "seek external funding for research projects; or seek funding, especially from external sources ...) was incorporated into the goals before they were sent to the Dean's Office. Chris Ruhland and John's addition of "publications" to the list of goals did not make it in time to be included on the list that was sent to the Dean's Office. Steve suggested that "the department encourage faculty and graduate students to publish ..." be included in #3. Also "attending conferences and presenting at them ..." was suggested to be added. A motion was made to table this discussion until our meeting next week. Chris Ruhland will come up with the wording for the addition/correction to #3. The motion carried.

Item #10 was also discussed. It was decided that what "outcome" really means and how it would apply to each of our courses (should be able to ...; should know ...; etc.) needed to be added to the item. This item was referred back to the Advisory Committee for more input.

ASSESSMENT:

Beth Lavoie presented the Assessment Committee's report. After much discussion, a motion was made to add "the assessment test is required before graduating" to our evaluation standards. After more discussion on how we would be able to enforce this, the motion was voted on. The motion carried. The assessment test will again be offered online and the students will be able to take it at their convenience.

There will a meeting next Friday. The draft document entitled "Graduate Faculty Status Version 6.2" that Tim e-mailed to everyone will be discussed.

The meeting was adjourned at 1:04 PM.

BS Biology: General Option **CURRENT**

Required for Option (Core, Minimum 19 credits)
BIOL 105W General Biology 1 (4)
BIOL 106 General Biology 2 (4)
BIOL 211 Genetics (3)

Choose two courses from the following:
BIOL 215 General Ecology (4)
BIOL 320 Cell Biology (4)
One physiology course [BIOL 230 (4), BIOL 431 (3), BIOL 441 (4) or BIOL 476 (5)]

Required Electives (5-8 credits):
Choose two courses from the following:
BIOL 301 BIOL 316 BIOL 403 BIOL 408 BIOL 418 BIOL 430 BIOL 435 BIOL 436 BIOL 442 BIOL 443 BIOL 451 BIOL 452

Choose additional Biology 300-400 level courses to total 40 credits in this option.

Required minor: Yes, Chemistry.

BS Biology: General Option **PROPOSED**

Required General education courses: (16-21 credits)
Bio 105 General Biology I (4)
Chem 201 General Chem I (5)

Physics 101 Introductory Physics (3) –OR—
Phys 211 Principles of Physics (4) --OR--
Phys 221 General Physics I (5)

Mathematics requirement—select one of the following sets:
Set 1: Math 112 College Algebra (4) AND Math 113 Trigonometry (3)
Set 2: Math 115 Precalculus Mathematics (4)
Set 3: Math 121 Calculus I (4)

Required Supporting courses: (13 credits)

Chem 202 General Chem II (5)
Chem 320 Organic Chemistry (5)

Stat 154 Elementary Statistics (3) OR
Hlth 475 Biostatistics (3)

Recommended Supporting courses:

Chem 305 Analytical Chemistry (4)

Chem 360 Biochemistry(4) OR
[Chem 460 Biochemistry I (3)**and**
Chem 465 Biochemical Techniques (1)]

Required for Major (24-27 credits)
Bio 106 General Biology II (4)
Bio 211 Genetics (4)
Bio 215 General Ecology (4)
Bio 301 Evolution (2)
Bio 320 Cell Biology (4)
One of the following
a) Bio 220 Anatomy (4), and Bio 230 Human Physiology (4)
b) Bio 217 Plant Science (4), and Bio 441 Plant Physiology (4)
c) Bio 270 Microbiology (4), and Bio 476 Microbial Physiology and Genetics (5)
d) Bio 316 Animal Diversity (3) and Bio 431 Comparative Animal Physiology (3)

Required electives: 10-13 credits from 300 or 400 level biology courses; at least 7 credits must be courses with laboratory components.

The general option requires at least 40 credits of biology courses.

Proposal 334
*KIM

Minnesota State Colleges and Universities

PROGRAM REDESIGN APPLICATION

RELATED POLICY or STATUTE: MS 1996, Ch. 368, Sec. 33; MS 1995, Ch. 248, Article 11, Sec. 10; and MS 1996, Ch. 398, Sec. 38; Board Policy 3.14, 3.17, 3.19

SECTION I: DESCRIPTION OF CURRENTLY APPROVED PROGRAM

8-Digit CIP #	Program Name	Award	Cr Length	Location/s
	Biology: General Option	BS	40 plus 19 for Chemistry minor	Minnesota State University, Mankato

Name of affiliated educational institution that offers one or more credits in this program: N/A

Is this award jointly offered: Yes No NO

SECTION II: PROPOSED CHANGES TO PROGRAM

Effective start date/s: Fall 2007

Rationale for Proposed Change/s: 1. Policy requires that all options within a program be either standard (requiring a minor) or broad (and not require a minor). All other options are broad so we are changing the General Option to be broad. 2. At the same time, based on assessment results and our external program review, we are refining the requirements for this option to better meet the needs of the students.

Section IIC: CHANGE CREDIT LENGTH WITHIN POLICY

Previous: 40 plus 19 credit minor	Proposed: 63, with no minor requirement

SECTION IV: APPROVAL VERIFICATION

Application Author: Gregg Marg Gregg A. Marg

Title: Chairperson, Department of Biological Sciences

Campus: Minnesota State University, Mankato

Phone and E-Mail: 507-389-5731, gregg.marg@mnsu.edu

Approval Chief Academic Officer:

Approval of President:

Signature of cooperating institution's president for joint awards: