

PROGRAM MODIFICATION PROPOSAL

Background Information

Provide a detailed description of the proposed modification, including its nature and purpose and centrality to institutional mission. (1500 characters)

The modification described in this application is to the USC Aiken Bachelor of Science in Biology curriculum and is designed to provide a degreed concentration in molecular biology. If approved, the Molecular Biology concentration will provide specific course options for students who wish to pursue this important area of biology and is particularly designed for those interested in pursuing careers in the biomedical and medical fields. This concentration will also become an option for students pursuing our proposed Bachelor of Science in Clinical Laboratory Science (BSCLS).

The purpose of the modification to our BS in biology program is to provide an appropriate degree option for students interested in a molecular-based biology degree, or who after earning 90 semester hours in the molecular-based BSCLS curriculum, either (1) choose to opt out of the BSCLS clinical component; or (2) fail to gain admittance into the clinical component. This concentration will provide students interested in molecular biology the option to obtain a degreed concentration and is based on a similar premise used to create our current concentration in Environmental Remediation and Restoration.

List the objectives of the modified program. (1500 characters)

Students pursuing a Bachelor of Science in Biology, concentration in Molecular Biology (BSCMB), are provided the opportunity to understand concepts, conduct research, communicate ideas, and accept responsibilities in scientific settings. Students will study the history, laws, principles, and theories of biology. By graduation, the BSCMB major will:

1. develop critical thinking skills;
2. apply the Scientific Method;
3. develop research and clinical skills;
4. demonstrate an understanding of the history, terminology, principles, and unifying theories of the Biological sciences

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Assessment of Need

Provide an assessment of the need for the program modification for the institution, the state, the region, and beyond, if applicable. (1500 characters)

This program modification has been created as a degree option for students who are interested in a molecular-based biology degree or for students who matriculate into the Bachelor of Science in Clinical Laboratory Science (pending approval). While our current degree program allows for wide variability in the curriculum, we have observed that our students tend to separate into two groups based on their career goals or biological interests: ecology/environmental science and molecular biology. Based upon this observation, five years ago the department created a concentration in Environmental Remediation and Restoration (ERR) to accommodate students who were interested in pursuing an environmental science-based degree. This has been a successful addition to our program and has attracted approximately 10% of our majors. This success led us to propose a concentration in Molecular Biology, which is based on our desire to accommodate the growing number of students who complete their degree with a heavy reliance on molecular biology courses, and who have stated career interests that are molecular/biomedical in nature. As a comprehensive university, an important part of our mission is to provide a quality education that meets the specific needs of the citizens in the area.

This program modification would meet the needs of Biology majors who are interested in continuing their education at the graduate level, or who are interested in careers as research laboratory scientists.

Will the proposed modification impact any existing programs and services at the institution?

Yes

No

If yes, explain. (1000 characters)

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List of Similar Programs in South Carolina

Program Name	Institution	Similarities	Differences
B.S. in Biology (Biotechnology concentration)	Allen University	Track has some course similarities and is a stated concentration within the degree	The biotechnical concentration appears to be similar, although requires 126 credit hours to complete.
Bachelor of Science in Biotechnology	Clayton University	Degree program has a number of course similarities.	Program is a full degree and not a concentration within the BS biology degree.
BS in Biology (Molecular biology concentration)	Coker College	Track has some course similarities.	The biomedical research track appears to be similar, although it appears to lack the focus of the proposed modification.
BS in Biology (Genetics emphasis)	Lander University	Track has some course similarities.	The genetics emphasis is an advisement track within the BS biology degree and not a specific degree requirement.
BS in Biology (Clinical advisement track)	North Greenville University	Track has some course similarities.	The clinical emphasis is an advisement track within the BS biology degree and not a specific degree requirement.
BS in Biology (Biomedical research track)	Winthrop University	Track has some course similarities and is a stated concentration within the degree.	The biomedical research track appears to be similar, although it appears to lack the focus of the proposed modification.

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Faculty

Provide a brief explanation of any additional institutional changes in faculty and/or administrative assignment that may result from implementing the proposed program modification. (1000 characters)

The proposed degree program will not require any changes in assignment to currently employed faculty and administrators. The one new course in the biology curriculum, BIOL A332 Integrated Human Anatomy, will be part of a recently hired faculty member's course rotation.

Resources

Identify any new library/learning resources, new instructional equipment, and new facilities or modifications to existing facilities needed to support the modified program. (2000 characters)

The current physical plant will provide adequate space for the concentration in Molecular Biology. No modifications to existing facilities are anticipated at this time. No purchases of major equipment will be needed to implement the BS in Biology, Concentration in Molecular Biology degree program.

Given that the biological sciences are particularly reliant on current peer-reviewed journal literature, our current monographs collection is adequate to meet student needs; however, additional resources should be acquired to strengthen the monographic holdings to fully meet the curricular needs in the areas that are weakest. This would require an estimated \$5,000 (\$1,000 per year) additional funds.

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Financial Support

Estimated New Costs by Year						
Category	1 st	2 nd	3 rd	4 th	5 th	Total
Program Administration	\$654	\$674	\$694	\$715	\$736	\$3,472
Faculty and Staff Salaries	\$256,638	\$264,337	\$272,268	\$280,435	\$288,849	\$1,362,527
Graduate Assistants	0	0	0	0	0	0
Equipment	0	0	0	0	0	0
Facilities	0	0	0	0	0	0
Supplies and Materials	\$120	\$440	\$1,790	\$2,790	\$2,790	\$7,930
Library Resources	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$5,000
Other*	0	0	0	0	0	0
Total	\$258,412	\$266,451	\$275,752	\$284,940	\$293,375	\$1,378,929
Sources of Financing						
Category	1 st	2 nd	3 rd	4 th	5 th	Total
Tuition Funding	\$90,180	\$200,380	\$285,177	\$325,194	\$328,446	\$1,229,377
Program-Specific Fees	0	0	0	0	0	0
State Funding (i.e., Special State Appropriation)*	0	0	0	0	0	0
Reallocation of Existing Funds*	0	0	0	0	0	0
Federal Funding*	0	0	0	0	0	0
Other Funding*	0	0	0	0	0	0
Total	\$90,180	\$200,380	\$285,177	\$325,194	\$328,446	\$1,229,377
Net Total (i.e., Estimated New Costs Minus Sources of Financing)	(\$168,232)	(\$66,071)	\$9,425	\$40,0254	\$35,071	(\$149,552)

*Provide an explanation for these costs and sources of financing in the budget justification.

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Budget Justification

Provide a brief explanation for the other new costs and any special sources of financing (state funding, reallocation of existing funds, federal funding, or other funding) identified in the Financial Support table. (1000 characters)

Note: Institutions need to complete this budget justification *only* if any other new costs, state funding, reallocation of existing funds, federal funding, or other funding are included in the Financial Support table.

Because the courses for this concentration are already developed and taught on a regular rotation, there are no real costs associated with the modification. The net revenue would most likely be neutral since it is expected that most students in the program would be current and matriculating biology majors. The costs in the table above reflect the costs for the students who select this track. The table does not reflect the fact that courses would be filled with other biology majors who take the courses to fulfill other biology program requirements. Therefore the negative (-) margins are not a true reflection of the revenue generated from these courses. Any costs associated with this modification, would be absorbed by reallocating resources within the departmental budget. Since the courses in the proposed modification are already offered on a regular basis, the tuition generated from all students enrolled in these courses should offset any costs associated with the modification.

Evaluation and Assessment

Will any the proposed modification impact the way the program is evaluated and assessed?

Yes

No

If yes, explain. (1000 characters)

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Will the proposed modification affect or result in program-specific accreditation?

Yes

No

If yes, explain; if the modification will result in the program seeking program-specific accreditation, provide the institution's plans to seek accreditation, including the expected timeline for accreditation. (500 characters)

Will the proposed modification affect or lead to licensure or certification?

Yes

No

If yes, explain how the program will prepare students for licensure or certification. (500 characters)

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Teacher or School Professional Preparation Programs

Is the proposed modified program a teacher or school professional preparation program?

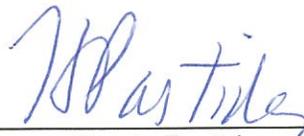
Yes

No

If yes, complete the following components.

Area of Certification

Attach a document addressing the South Carolina Department of Education Requirements and SPA or Other National Specialized and/or Professional Association Standards.



Harris Pastides

4-16-13

Date

Advisement Form—B.S. Concentration in Molecular Biology

Name: _____ Date of Entry: _____ ID#: _____

Advisor: _____ Bulletin of Choice: _____

GENERAL EDUCATION:	51-54 Hours		
	Sem	Grade	Credit
NATURAL SCIENCES			
CHEM A111—General Chemistry I			4
CHEM A112—General Chemistry II			4
HISTORY OF CIVILIZATION (HIST A101 or A102)			
HIST A10__			3
SOCIAL AND BEHAVIORAL SCIENCES (6 hrs—2 areas)*			
			3
			3
FOREIGN LANGUAGE (6-8 hrs—same language)			
			3-4
			3-4
HUMANITIES (9 hrs—two different areas)*			
			3
			3
			3
CRITICAL INQUIRY			
AFCI 101 (Required for freshmen only)			1
ENGLISH			
ENGL A101			3
ENGL A102			3
ORAL COMMUNICATION (COMM A201 OR A241)			
COMM A ____			3
MATHEMATICS (3-4 hrs—MATH A122 or A141 required)			
MATH A111 (placement or MATH A108)			3
MATH A122 (placement or MATH A108)			3
MATH A141 (placement or MATH A111/112)			4
STATISTICS (STAT A201, PSYC A225, or BADM A296)			
			3
AMERICAN POLITICAL INSTITUTIONS (POLI A201, HIST A201 or HIST A202)			
			3
*Three hours from Social & Behavioral Science or Humanities must be in Non-Western Studies			

- Non-Western requirement (3 hours)
 ICE Requirement Completed

MAJOR REQUIRMENTS	41 Hours		
Core Requirements (16 hours)	Sem	Grade	Credit
BIOL A121—Biological Science I			4
BIOL A122—Biological Science II			4
BIOL A350—Fundamental Genetics			4
BIOL A332--Integrated Human Anatomy			4

ADDITIONAL REQUIREMENTS			
BIOL A330—Microbiology			4
BIOL A340—Virology			4
BIOL A360—Animal Physiology			4
BIOL A502-Eukaryotic Cell/Molec Biol			3
BIOL A541—Biochemistry I			3
BIOL A550—Immunology			3
BIOL/GEOL 490– Senior Seminar			1
BIOL A499-Applied Biological Research			3

<input type="checkbox"/> COGNATE				12 Hours
CHEM A331/331L—Organic Chem I				4
CHEM A332/332L—Organic Chem II				4
PHYS A201—General Physics I				4

ELECTIVES (13-15 hours)			

TOTAL HOURS (120 required for graduation) _____

- Writing Proficiency: Date Completed _____ Score _____
 Writing Intensive Crs. 1. _____
 (Prereq ENGL A101/102) 2. _____
 (One in Major) 3. _____