

SOUTH CAROLINA COMMISSION ON HIGHER EDUCATION

June 10, 2019

President Harris Pastides, Ph.D. University of South Carolina Osborne Administration Building, Suite 206 Columbia, South Carolina 29208

Dear President Pastides:

This letter is to confirm at its meeting on June 6, 2019, the Commission approved the **Bachelor** of Arts in Chemistry degree at University of South Carolina Aiken to be implemented in Fall 2019.

The following table lists the chronology of the program approval process:

Program Proposal Received	2/1/2019
ACAP Consideration	3/28/2019
CAAL Consideration	5/14/2019
CHE Consideration	6/6/2019

Each program will be noted in the Commission's *Inventory of Approved Programs* with the following information:

Degree Designation	Title of Program	CIP Code	Site Identifier
B.A.	Chemistry	400501 001	50801 (University of South Carolina Aiken – Main Campus)

Please do not hesitate to contact Dr. John Lane, Director of Academic Affairs, should you have any questions about the Commission's action.

Sincerel

Mike LeFever Interim President and Executive Director

cc: Dr. Sandra J. Jordan Dr. Daren Timmons Inventory file Program file

New Program Proposal Bachelor of Arts in Chemistry University of South Carolina Aiken

<u>Summary</u>

University of South Carolina Aiken requests approval to offer a program leading to the Bachelor of Arts in Chemistry to be implemented in Fall 2019. The proposed program is to be offered through traditional instruction. The following chart outlines the stages of approval for the proposal. The Advisory Committee on Academic Programs (ACAP) voted to recommend approval of the proposal. The full program proposal and support documents are attached.

Stages of	Date	Comments		
Consideration				
		Francis Marion University representatives agreed.		
		Additional suggestions were provided by ACAP members to enhance the proposal. College of Charleston representatives encouraged USC Aiken to provide additional evidence on the acceptance and interest of a B.A. degree in a science field. Representatives from the South Carolina Technical College System and affiliated colleges suggested USC Aiken address the impact of the proposed program on increasing representation of minorities and women in science, and other STEM related majors, as well as detail operational expenses although most of the program structure is existing.		
		After remaining discussion, ACAP voted to approve the program proposal. Staff transmitted remaining questions for additional clarity.		
Comments and suggestions from CHE staff sent to the institution	4/2/19	 Staff requested the proposal be revised to: Include updated Institutional Approvals; Explain the importance of offering the degree as a new B.A. program rather than a track within the B.S. in Chemistry programs with reduced hours (or other amendments) and why it is more attractive to some students, especially considering the number of existing similar programs in South Carolina; Provide any evidence for efforts to increase the participation of minorities and women in a STEM related field; Examine and further explain enrollment projections to ensure adequate estimates; Verify credit hours of comparison programs; and Amend the budget to include any funding and costs associated with the implementation of the proposed program (e.g., change in enrollment, faculty, operational expenses, and outside funding sources. etc.) 		
Revised Program Proposal Received	4/14/19	The revised proposal satisfactorily addressed the requested revisions.		

Comments and	5/9/19	Staff requested the institution prepare to address the following		
CAAL sent to the institution		 Discuss how the institution plans to advise students between the B.S. and B.A. degree programs in Chemistry. 		
Response to Inquiry Received	5/13/19	The response satisfactorily addressed the inquiry.		
CAAL Consideration	5/14/19	The USC Aiken representatives explained the need for the program, emphasizing challenges in recruiting students to study the field of Chemistry. The representatives stated the proposed program provides a Chemistry degree option for pre-professional students interested in pursuing graduate education in medicine, pharmacy, law, or other professional schools.		
		The Committee on Academic Affairs and Licensing (CAAL inquired about differences in 1) graduate entrance exam- between students that pursue the B.A. versus B.S. in Chemistry 2) the recruitment strategy, and 3) the number of student anticipated to transfer from the B.S program. Representative confirmed no variation in graduate entrance exam outcomes detailed the recruitment strategy, and anticipate three to fou- students will transfer from the B.S. in Chemistry to the B.A. i Chemistry.		
		proposal.		
Comments and suggestions from CHE staff sent to the institution	5/16/19	 Staff requested the proposal be revised to: Include the written responses to the inquiries made prior to CAAL; and Describe the recruitment strategy for the proposed program. 		
Revised Program Proposal Received	5/23/19	The revised proposal satisfactorily addressed the requested revisions.		

Review

Proposal consideration focused on the importance of offering the degree as a B.A. program, recruitment strategy, advisement between the two program offerings, and the number of students anticipated to transfer from the B.S. program. The USC Aiken representatives responded satisfactorily, explaining advisement practices and the use of traditional and innovative recruitment strategies within existing and new programs.

Recommendation

The Committee on Academic Affairs and Licensing recommends the Commission approve the program leading to the Bachelor of Arts in Chemistry to be implemented in Fall 2019.

USC Aiken Student and Program Data

Undergraduate In-/Out-of-State Enrollment, Fall 2018	2,912 (87.06%) / 433 (12.94%)
Number of Approved Programs in 10 Yrs. (FY 2009-2018)	6
Number of Terminated Programs in 10 Yrs. (FY 2009-2018)	1

Industry related Occupational Wages and Projections in South Carolina, 2016 – 2026*

Occupational Field ¹	2016 Median Income ²	2016 Estimated Employment ³	2026 Projected Employment	Total 2016-2026 Employment Change	2016-2026 Annual Avg. Percent Change	Total Percent Change
Life, Physical, and Social Science	\$57,550	10,547	11,445	898	0.82%	8.51%

¹ "Occupational Field" represents the closest related occupation category that includes the occupations aligned with the program proposal.

² SC Department of Employment & Workforce (DEW), Labor Market Information. (2018). Occupational Employment and Wage Rates (OES) for All Major Groups in South Carolina in 2016 [Data file]. Retrieved from https://jobs.scworks.org/vosnet/lmi/default.aspx?pu=1

³ SC Department of Employment & Workforce (DEW), Labor Market Information. (2018). Occupational Projections (Long-term) for Multiple Occupations in South Carolina in 2016-2026 [Data file]. Retrieved from https://jobs.scworks.org/vosnet/lmi/default.aspx?pu=1

* Data downloaded October 8, 2018; Most recent data available.

NEW PROGRAM PROPOSAL FORM

Name of Institution: University of South Carolina Aiken

Name of Program (include degree designation and all concentrations, options, or	⁻ tracks):
Bachelor of Arts (B.A.) in Chemistry	

Program Designation:

—	_
Associate's Degree	Master's Degree

🛛 Bachelor's Degree: 4 Year

Specialist

Bachelor's Degree: 5 Year Doctoral Degree: Research/Scholarship (e.g., Ph.D. and DMA)

Doctoral Degree: Professional Practice (e.g., Ed.D., D.N.P., J.D., Pharm.D., and M.D.)

Consider the program for supplemental Palmetto Fellows and LIFE Scholarship awards?

🛛 Yes

🗌 No

Proposed Date of Implementation: Fall 2019

CIP Code: 400501

Delivery Site(s)	University of South	Carolina Aike	n (USC Aiken)
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Delivery Mode:

🛛 Traditional/face-to-face	Distance Education
*select if less than 25% online	100% online
	Blended/hybrid (50% or more online)
	Blended/hybrid (25-49% online)
	Other distance education (explain if selected)

Program Contact Information (name, title, telephone number, and email address): Dr. Chad Leverette, Professor and Chair, Dept. of Chemistry and Physics University of South Carolina Aiken 803-641-3291 chadl@usca.edu

Institutional Approvals and Dates of Approval (include department through Provost/Chief Academic Officer, President, and Board of Trustees approval):

Department 04/18/2018 College Council 08/13/2018 University Planning Committee 09/21/2018 Courses and Curriculum Committee 10/04/2018 Faculty Assembly 12/05/2018 Chancellor 12/05/2018 Board of Trustees 4/29/2019

Background Information

State the nature and purpose of the proposed program, including target audience, centrality to institutional mission, and relation to the strategic plan.

This B.A. degree is an attractive pre-professional degree for students seeking to enter medical school, pharmacy school, or some other professional school (law, veterinary medicine, etc.). There are three major advantages to offering this degree: 1) it can be completed in three years, if a student entering USC Aiken has a solid math background (entering ready for pre-calculus or calculus) and plans to utilize summer school for completion of some of the general education courses, 2) it allows students to double major in chemistry and another discipline more easily, and 3) is a more flexible degree option that will increase the accessibility of a chemistry degree for students who want to change majors. This degree augments our nationally certified B.S. degree in chemistry. Offering the B.A. degree to those entending careers outside the chemical industry is a better approach than reducing requirements of the existing B.S. degree (which would result in loss of the American Chemical Society certified status).

This degree supports the direction of our university's current strategic plan by meeting the following requirements: 1) it is a creative approach to a degree offering, 2) the flexibility of the program may allow for enhanced student retention and progression towards a degree by allowing students to easily switch majors and pursue this chemistry degree without extending the time it takes to obtain the degree, 3) it may help expand enrollment, and 4) it will improve our graduation rate. Currently, students pursuing pharmacy degrees transfer after three years (typically) to enter into the Pharm.D. program at another institution. This counts negatively against our university's graduation rate even though these students are getting accepted and are being successful in pharmacy school. This degree can be completed in 3 years and will allow students to obtain a degree before moving on into pharmacy school.

Assessment of Need

Provide an assessment of the need for the program for the institution, the state, the region, and beyond, if applicable.

The CHE Occupational Outlook study (Von Nessen, 2016) discusses the "value and need for additional graduates in the STEM fields". In particular, this report mentions the goal of the South Carolina Science and Technology Task Force to increase the number of students in STEM fields, which includes BA/BS degrees, by 25 percent by 2025. Within the last three years, in an attempt to help fill this demand and increase the marketability of its graduates, the Department of Chemistry and Physics at USC Aiken has sought and obtained national certification for its B.S. degree from the American Chemical Society and has developed two additional nationally certified degree options (B.S. Chemistry with a Concentration in Biochemistry, B.S. Chemistry with a Concentration in Engineering). These degree options are rigorous and most appropriate for students pursuing employment in the chemical industry or graduate school in chemistry. Unfortunately, these options have a full, rigid curriculum with research expectations that make the program difficult for students to switch majors or double major in chemistry without increasing time in college. This flexible B.A. degree will overcome this limitation and help increase the number of STEM graduates. The B.A. degree is also appropriate and flexible for admission into professional schools in the areas of medicine, dentistry, pharmacy, veterinary medicine, and law. In Proviso 117.127 "South Carolina's Workforce Study" (State Board for Technical and Comprehensive Education, 2016) a 25% increase in jobs in the "Health Care" Cluster from 2015 to 2025 is expected. Most of these jobs in this sector require an

undergraduate degree, such as this B.A. degree, before pursuing an advanced degree in a health care field.

Students with either the BS or the BA degree will be capable of seeking employment as a chemist. Since the preference of industry and chemistry graduate school is for students with B.S. degrees, the department plans to share the distinction between the B.A. and B.S. to make sure students are pursuing the best degree option based on their long term plans.

The way the department will share advisement information about these two degrees is as follows:

- The department has an advising coordinator. This is a faculty member that handles all administrative responsibilities related to departmental advisement. The coordinator will place clear statements that the B.A. degree is for pre-professional students on all course mapping handouts and on the department website that shares the curriculum with our students. This is updated each year by the coordinator.
- Summer Orientation Currently, USC Aiken has 4-6 summer orientation programs each summer. There is an allotted amount of time for the unit head/faculty to meet with incoming students. Advisement related to the B.A. versus the B.S. degree will be shared. Students will be advised based on their long term goals.
- Advisement periods during the school year Currently, we have two main periods for advisement during the school year. This is when faculty meet with students to determine schedules for the following term and to discuss career planning, etc. Faculty will be reminded by the department advisement coordinator to share the two options with students based on long term goals.
- Retention/Recruitment committee This is a department committee that looks at all issues related to retention and recruitment of students. This group will monitor the messaging of this to our students. This group may also recommend other ways of communicating this once we see how this is going.
- Open house events The college shares degree options with prospective students at all open house events throughout the year. A discussion about our chemistry degree options already takes place. We currently discuss the B.S. degree versus our B.S. degree with a concentration in biochemistry. We hope to add the B.A. to this discussion along with the B.S. in chemistry with a concentration in engineering (once approved).

Transfer and Articulation

Identify any special articulation agreements for the proposed program. Provide the articulation agreement or Memorandum of Agreement/Understanding.

None

	St	ate	National		
Occupation	Expected Number of Jobs	Employment Projection	Expected Number of Jobs	Employment Projection	Data Type and Source
Physician-general	3670 by 2026	12% growth (130 job/yr)	414,700 by 2026	11% growth (14,300/yr)	O*Net
Dentist	2180 by 2026	21% growth (90/yr)	158,500 by 2026	19% growth (6400/yr)	O*Net
Veterinarian	1200 by 2026	18% growth (60/yr)	94,600 by 2026	19% growth (4500/yr)	O*Net
Pharmacist	5230 by 2026	8% growth (250/yr)	329,900 by 2026	6% growth (15,300/yr)	O*Net
Chemist	1220 by 2026	7% growth (110/yr)	94,000 by 2026	7% growth (8600/yr)	O*Net
Lawyer	8870 by 2026	9% growth (420/yr)	857,500 by 2026	8% growth (40,700/yr)	O*Net

Employment Opportunities

Supporting Evidence of Anticipated Employment Opportunities

Provide supporting evidence of anticipated employment opportunities for graduates.

A recent market study completed by the USC Aiken School of Business Administration titled "USCA New Academic Program- BA in Chemistry" concluded that the B.A. degree is not a preferred degree for students seeking graduate school in chemistry or a position in chemical industry. Although 33% of respondents to a survey administered to over 362 companies in this study indicated that they do not differentiate between graduates with a B.A. and B.S. degree, an overwhelming 67% did say they preferred students with a B.S. degree for chemical industry jobs. Therefore, listing specific employment opportunities would not be the most appropriate evaluation of anticipated opportunities for graduates with this B.A. degree. It should be noted, however, that on March 12, 2018, a search on Indeed.com, using key word "chemist", yielded 114 chemistry related jobs in industry in South Carolina and 204 related jobs in Georgia.

<u>This B.A. degree will be advertised as a pre-professional degree option.</u> To this end, to understand if this degree option was acceptable for admittance into professional school, we developed a survey and contacted professional schools in the areas of medicine and pharmacy and asked the following questions:

- 1) Do you accept high performing students with a B.A. degree in chemistry?
- 2) How many students accepted into your programs have a B.A. degree?
- 3) Is an applicant with a B.A. degree as competitive as an applicant with a B.S. degree?
- 4) Do you differentiate between students with a B.A. degree from B.S. degree applicants?

We surveyed the following institutions: Medical University of South Carolina (MUSC) USC School of Medicine South Carolina College of Pharmacy Presbyterian College, College of Pharmacy South University, College of Pharmacy Augusta University Medical School

Conclusions:

A) These schools do accept students with either a B.S. or B.A. degree and they do not differentiate between them when considering admission. They are looking for high performing students that have taken the prerequisite undergraduate classes and that have scored well on entrance examinations (MCAT or PCAT).

B) Students with B.A. degrees are just as competitive as those with B.S. degrees. Admissions data from a recent fall semester entering class for both medical school and pharmacy school suggests that about 14% of students accepted had B.A. degrees. Although this implies differentiation during the selection process, the admissions staff for these institutions stated that they do not differentiate and speculated that this result may be because most schools either only have the B.S. degree option or students may think they need a B.S. degree when preparing for these professional schools.

Description of the Program

Projected Enrollment					
Year	Fall Headcount	Spring Headcount	Summer Headcount		
2019-2020	3	3	3		
2020-2021	7	7	7		
2021-2022	11	11	11		
2022-2023	15	15	15		
2023-2024	16	16	16		

Explain how the enrollment projections were calculated.

Projected enrollment based on a 0.3 4-year attrition rate. While the enrollments are not expected to be large, this is essentially a no-cost extention of departmental offerings. Nationally, it is difficult to attract students into chemistry, and this new BA degree program should add a handful more students to the department. The BA degree program will be advertised through our Admissions/Enrollment office and also during our Open House events, including STEM FRIDAY, a STEM-focused recruiting event hosted by the College of Sciences and Engineering. The department and all degree offerings within will be strengthened.

Entry Year/Year	2019-20	2020-21	2021-22	2022-23	2023-24
2018	3	2	2	2	0
2019		5	4	4	3
2020			5	4	4
2021				5	4
2022					5
Grand Total	3	7	11	15	16
Estimated 4-Year A	Attrition Rate				
0.3					

Besides the general institutional admission requirements, are there any separate or additional admission requirements for the proposed program? If yes, explain.

□Yes ⊠ No

Curriculum

New Courses

List and provide course descriptions for new courses.

N/A **All courses are currently being offered for the B.S. degree option.

Total Credit Hours Required: 122

		Curriculum by Ye	ar					
Course Name	Credit Hours	Course Name Cre		Course Name	Credit Hours			
	Year 1							
Fall		Spring		Summer				
ENGL 101	3	ENGL 102	3	U.S. Political Inst.	3			
CHEM 111	4	CHEM 112	4	Social/Behav. Science	3			
BIOL 121	4	MATH 142	4	Humanities	3			
MATH 141	4	Social/Behav. Science	3	Humanities	3			
AFCI 101	1	HIST 101 or 102	3					
Total Semester Hours	16	Total Semester Hours	17	Total Semester Hours	12			
	-	Year 2			-			
Fall		Spring		Summer				
CHEM 331	3	CHEM 332	3	Humanities	3			
CHEM 331L	1	CHEM 332L	1	COMM 201 or 241	3			
PHYS 201	4	PHYS 202	4	Elective	3			
CHEM 321	3	CHEM 311	3	Elective	3			
CHEM 321L	1	CHEM 311L	1					
Language	4	Language	4					
Total Semester Hours	16	Total Semester Hours	16	Total Semester Hours	12			

Course Name	Credit Hours	Course Name Credit Hours		Course Name	Credit Hours
		Year 3		1	
Fall		Spring		Summer	
CHEM 541	3	CHEM 542	3		
CHEM 541L	1	CHEM 542L	1		
BIOL 541	4	CHEM 522	5		
Elective	3	Cognate	4		
Elective	3	Cognate	3		
Elective	3				
Total Semester Hours	17	Total Semester Hours	16	Total Semester Hours	
		Year 4			
Fall		Spring		Summer	
Total Semester Hours		Total Semester Hours		Total Semester Hours	
		Year 5	·	·	
Fall		Spring		Summer	
Total Semester Hours		Total Semester Hours		Total Semester Hours	

Similar Programs in South Carolina offered by Public and Independent Institutions

Identify the similar programs offered and describe the similarities and differences for each program.

Program Name and	Total Credit			
Designation	Hours	Institution	Similarities	Differences
				Clemson does not require
				physical chemistry labs,
				biochemistry, or instrumentation
				analysis. All of these would be
			The two programs have similar	required for the B.A. in chemistry
Chemistry - BA	123	Clemson University	core classes.	at USC Aiken
				The CoC curriculum requires less
				hours than the USC Aiken
				degree. In particular, students
				can choose one of the following
				to take: inorganic chem,
				instrumental analysis, and
	At least		The two programs have similar	biochem. All three are required at
Chemistry - BA	122	College of Charleston	core classes.	USCA.
				The B.A. at Citadel has a
				research component, but a good
				bit less coursework required.
				Students only have to choose
				one of the following: analytical
				chemistry, physical chemistry,
				inorganic chemistry, or
				biochemistry. All of these are
			The two programs have similar	required for the B.A. at USC
Chemistry - BA	118-120	The Citadel	core classes.	Aiken.
				Converse only requires physical
				chemistry I and has a research
				component. USC Aiken requires
				physical chemistry I and II, no
				research component, and
				courses in inorganic and
			The two programs have similar	biochemistry along with
Chemistry - BA	120	Converse College	core classes.	instrumental analysis.

Chemistry - BA	120	Columbia College	The two programs have similar core classes.	Columbia College only requires 33 credit hours. USC Aiken requires 41 hours. In addition, Columbia College does not require coursework in inorganic chemistry, biochemistry, or instrumental analysis. SWU requires only requires one
Chemistry - BA	120	Southern Wesleyan University	The two programs have similar core classes.	calculus course and does not require physical chemistry I or II, unlike USC Aiken.
Chemistry - BA	120	Wofford College	The two programs have similar core classes.	Wofford is similar to USC Aiken. They do offer a biotechnology course offering that USC Aiken does not have. Other than this, the two programs require similar coursework. USC Aiken does not allow students to choose if they take the second PChem course unlike Wofford. USC Aiken requires a fundamental course in each of the five subdisciplines. Wofford allows Inorganic Chemistry with lab to be an option. Wofford only requires 33 hours. USC Aiken requires 41.
Onemistry - DA				USC Upstate allows students to choose 7 additional credit hours from a list of major courses. USC Upstate requires 2 semesters of organic chemistry and 1 semester or analytical and 1 semester of physical. Students can choose a research course from their 7 addn credit hours as well as the second course in analytical or physical. In
Chemistry - BA	120-125	USC Upstate	core classes.	fundamental course in each of

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				the five subdisciplines of chemistry compared to USC Aiken.
			The two programs have similar	Erskine only has the B.S. degree, but this degree is essentially the same as the proposed B.A.
Chemistry - BS	127	Erskine College	core classes.	degree at USC Aiken.
	At least		The two programs have similar	Coker only offers one degree in Chemistry, but offers a pre- pharmacy concentration to help those interested in going to pharmacy school. This degree is similar to the proposed B.A. at USC Aiken, but the B.A. at USC Aiken allows flexibility for students going into any type of professional school At Coker, they require a foundational course in each of the five subdisciplines of chemistry, but their degree has a research component. Their degree is only 36 hrs compared to 41 for the
Chemistry - BA	120	Coker College	core classes.	proposed B.A.

Faculty

Rank and Full- or Part-time	Courses Taught for the Program	Academic Degrees and Coursework Relevant to Courses Taught, Including Institution and Major	Other Qualifications and Relevant Professional Experience (e.g., licensures, certifications, years in industry, etc.)
Professor of Physical Chemistry (Full-Time)	CHEM 111 (4) – General Chemistry I – Fall CHEM 112 (4) – General Chemistry II – Spring CHEM 541/541L (4) – Physical Chemistry I – Fall CHEM 542/542L (4) – Physical Chemistry II – Spring	B.S. Wichita State – 1981 Ph.D. Physical Chemistry – UC Santa Barbara - 1987	
Professor of Analytical Chemistry (Full-Time)	CHEM 321/321L (4) – Quantitative Analysis – Fall CHEM 522 (5) – Instrumental Analysis – Spring	B.S. Erskine College – 1996 Ph.D. Analytical Chemistry – Univ. of Georgia - 2000	3.5 years in industry (Cargill, Incorporated – Global Research and Development)
Associate Professor of Inorganic Chemistry (Full-Time)	CHEM 111 (4) – General Chemistry I – Fall CHEM 112 (4) – General Chemistry II – Spring CHEM 311/311L (4) – Intro. to Inorganic Chemistry – Fall CHEM 511 (4) – Advanced Inorganic Chemistry - Fall	B.S. SUNY-Stony Brook – 2002 Ph.D. Inorganic Chemistry – Boston University - 2008	
Associate Professor of Biochemistry (Full-Time)	BIOL 541 (4) – Principles of Biochemistry - Fall	B.S. University of Arizona – Tucson – 1999 Ph.D. Biochemistry – University of Missouri – Columbia – 2005	

Assistant	CHEM 112 (4) –	B.S. University of	
Professor of	General Chemistry II	Washington – 1996	
Biochemistry	– Fall		
(Full-Time)		Ph.D. Biochemistry –	
· · · ·		Washington State	
		University - 2009	
Assistant	CHEM 331/331L (4)	B.S. Kennesaw State	
Professor of	– Organic Chemistry	University – 2004	
Organic	I – Fall		
Chemistry		Ph.D. Materials	
(Full-Time)	CHEM 332/332L (4)	Science – University	
, ,	– Organic Chemistry	of Georgia - 2010	
	II - Spring	5	

Total FTE needed to support the proposed program: Faculty: 1 Staff: .25 Administration:

Faculty, Staff, and Administrative Personnel

Discuss the Faculty, Staff, and Administrative Personnel needs of the program.

No changes are expected to current faculty load or number of courses offered each semester. The courses required for this degree are already being offered each semester. An expense is listed in the Financial Support table in an attempt to capture reallocated faculty salaries from within the department to support this program. An identical amount is listed in the "source" category that offsets the expense.

Resources

Library and Learning Resources

Explain how current library/learning collections, databases, resources, and services specific to the discipline, including those provided by PASCAL, can support the proposed program. Identify additional library resources needed.

Through the Gregg-Graniteville Library, the B.A. students in Chemistry will have access to: over 130,000 print volumes, over 4,000 media materials, 232 electronic databases (most with full text), over 100,000 e-journals, and approximately 350,000 e-books as well as more than 14,000 print government documents and electronic access to many additional titles. Important to the sciences, the library has access to online ACS publications and the search engine, Web of Science, in addition to many others in the disciplines of science and mathematics. The current monograph and journal collection is adequate to meet the needs of the proposed degree program with no additional library funds required.

Student Support Services

Explain how current academic support services will support the proposed program. Identify new services needed and provide any estimated costs associated with these services.

This program will be supported by our Center for Student Achievement like all other degrees at USC Aiken. No additional academic support services are expected for this program.

Physical Resources/Facilities

Identify the physical facilities needed to support the program and the institution's plan for meeting the requirements.

The current laboratory and classroom space in the Sciences building at USC Aiken will be used to support this program.

Equipment

Identify new instructional equipment needed for the proposed program.

No additional instructional equipment is needed for this program.

Impact on Existing Programs

Will the proposed program impact existing degree programs or services at the institution (e.g., course offerings or enrollment)? If yes, explain.

⊠Yes

□No

This B.A. degree will provide the fourth degree option for students majoring in chemistry at USC Aiken. It could lessen the number of graduates that complete the B.S. degree, but should increase the total number of students graduating from USC Aiken with a chemistry degree. The anticipated growth expected from this degree should increase the number of students enrolled in our chemistry courses, but not levels that would add strain to these offerings.

Financial Support

	Sources of Financing for the Program by Year											
	1	st	2 ^r	nd	3	rd	4	th	5	th	Grand	Total
Category	New	Total	New	Total	New	Total	New	Total	New	Total	New	Total
Tuition Funding	31,194	31,194	31,194	31,194	51,990	51,990	51,990	51,990	72,786	72,786	239,154	239,154
Program-Specific Fees												
Special State Appropriation												
Reallocation of Existing Funds	68,348	68,348	68,348	68,348	68,348	68,348	68,348	68,348	68,348	68,348	341,740	341,740
Federal, Grant, or Other Funding												
Total	99,542	99,542	99,542	99,542	120,338	120,338	120,338	120,338	141,134	141,134	580,894	580,894
			Estimated (Costs Assoc	iated with I	mplementir	ng the Prog	ram by Yea	r			
		L st	2	nd		3 rd		4 th		5 th	Gran	d Total
Category	New	Total	New	Total	New	Total	New	Total	New	Total	New	Total
Program Administration and Faculty/Staff Salaries	68,348	68,348	68,348	68,348	68,348	68,348	68,348	68,348	68,348	68,348	341,740	341,740
Facilities, Equipment, Supplies, and Materials												
Library Resources												
Other (specify)												
Total	68,348	68,348	68,348	68,348	68,348	68,348	68,348	68,348	68,348	68,348	341,740	341,740
Net Total (Sources of Financing Minus Estimated Costs)	31,194	31,194	31,194	31,194	51,990	51,990	51,990	51,990	72,786	72,786	239,154	239,154

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Note: New costs - costs incurred solely as a result of implementing this program. Total costs - new costs; program's share of costs of existing resources used to support the program; and any other costs redirected to the program.

Budget Justification

Provide an explanation for all costs and sources of financing identified in the Financial Support table. Include an analysis of cost-effectiveness and return on investment and address any impacts to tuition, other programs, services, facilities, and the institution overall.

Tuition Funding: (TOTAL STUDENTS X \$5,199 per semester

Reallocated funding and costs are from 1 FTE faculty and 0.25 FTE staff (average salary from department). There are no costs to implement this program. The courses will be taught regardless. This just enables USC Aiken Chemistry to attract more students to fill empty seats in existing classes. An expense is listed in the Financial Support table in an attempt to capture reallocated faculty salaries from within the department to support this program. An identical amount is listed in the "source" category that offsets the expense.

Evaluation and Assessment

Program Objectives

In the context of a liberal arts education, the Bachelor of Arts in Chemistry degree will provide students with:

- 1) Knowledge in the five subdisciplines of chemistry;
- 2) Experience applying chemical knowledge and skills to analyzing and solving problems;
- 3) Experience in communicating solutions to problems in chemistry.

Durante Obligations	Student Learning Outcomes	
Knowledge in the five	SLO1: Knowledge and	Administration of a Senior Exit
subdisciplines of chemistry.	Comprehension Students will recognize and distinguish the fundamental principles of the chemical sciences including the theory and practice of the discipline. Students will recognize and distinguish the theory and practice of: a). Analytical Chemistry, b). Inorganic Chemistry, c). Organic Chemistry, d). Physical Chemistry, e). Biochemistry.	Exam ACS national exam scores for CHEM 321, CHEM 332, CHEM A542, CHEM 522 Embedded questions in final exam for CHEM 311 and BIOL 541 Student Exit Survey
Experience applying chemical knowledge and skills to analyzing and solving problems	SLO2: Application Students will apply theory to practice by participating in eight laboratory courses that cover all five subfields of chemistry. Students will find placement into professional school.	Placement of graduates will be recorded each year Students will present an oral presentation in CHEM 522 Evaluation of a Formal Lab Report - CHEM 542 (Writing Intensive Course) ACS national exam scores for CHEM 321, CHEM 332, CHEM A542, CHEM 522 Embedded questions in final exam for CHEM 311 and BIOL 541 Student Exit Survey

Experience in communicating solutions to problems in	SLO3: Communication Students will communicate	Evaluation of the University Writing Proficiency Portfolios for
chemistry	clearly in writing through two writing intensive lab courses that are required as well as six other lab courses that will require formal lab reports. Students will	graduates (WPP) Students will present an oral presentation in CHEM 522 Evaluation of a Formal Lab Report - CHEM 542 (Writing
	be able to give an oral presentation in the discipline.	Intensive Course)

Explain how the proposed program, including all program objectives, will be evaluated, along with plans to track employment. Describe how assessment data will be used.

The department's assessment plan and results for program objectives and student learning outcomes are currently reviewed on a three-year rotation by USC Aiken's Academic Assessment Committee. This practice will continue. In the Department of Chemistry and Physics at USC Aiken, the department has an internal Academic Assessment Committee that reviews the curriculum of the department each year and provides recommendations to the unit head. The unit head conducts a comprehensive review of the assessment data each academic year. Annual oversight of the department's assessment results is carried out by the Dean of the College of Sciences and Engineering and by the university's Executive Vice Chancellor for Academic Affairs.

Watermark is the repository for assessment reports. Relevant data and reports for this new degree program will be uploaded to and available from Watermark. Continuous improvement to both courses and program will be pursued in response to assessment findings.

Employment of graduates will be tracked through the cooperative efforts of the department, Office of Career Services, and the Alumni Office.

Accreditation and Licensure/Certification

Will the institution seek program-specific accreditation (e.g., CAEP, ABET, NASM, etc.)? If yes, describe the institution's plans to seek accreditation, including the expected timeline.

Yes

⊠No

Will the proposed program lead to licensure or certification? If yes, identify the licensure or certification.

Yes

⊠No

Explain how the program will prepare students for this licensure or certification.

If the program is an Educator Preparation Program, does the proposed certification area require national recognition from a Specialized Professional Association (SPA)? If yes, describe the institution's plans to seek national recognition, including the expected timeline.

∐Yes

⊠No