

**New Program Proposal
Bachelor of Science in Pharmaceutical Sciences
University of South Carolina**

Summary

The University of South Carolina requests approval to offer a program leading to the Bachelor of Science in Pharmaceutical Sciences to be implemented in Fall 2015. The proposed program is to be offered through traditional and online instruction. The following chart outlines the stages for approval of the proposal; the Committee on Academic Affairs and Licensing (CAAL) voted to recommend approval of the proposal. The full program proposal **is attached**.

Stages of Consideration	Date	Comments
Program Planning Summary received and posted for comment	Not Applicable	Not Applicable
Program Proposal Received	9/15/14	Not Applicable
ACAP Consideration	10/16/14	ACAP members expressed support for and voted to approve the proposed program.
Comments and suggestions from CHE staff sent to the institution	10/28/14	Staff requested that the proposal be revised to make the degree requirements clearer, include course titles in the Curriculum section, and provide additional information about programmatic assessment.
Revised Program Proposal Received	12/2/2014	The revised proposal satisfactorily addressed all of the requested revisions.
CAAL Consideration	1/8/2015	Commissioners asked University representatives to explain the drop out problem that the proposed program is designed to correct. Dr. Finnigan explained that currently, students interested in becoming pharmacists must enroll in a major such as biology or chemistry and then “drop” that major when they are admitted to the College of Pharmacy as juniors or seniors. She explained that this program will allow the University to count these students as graduates and will also provide students with a credential should they not complete the PharmD program. Commissioners also discussed the enrollment chart used in the program proposal. Since the program will not lead to the enrollment of new students, the University used a cohort model to show enrollment. Commissioner Munns stated that by doing so, the proposal made it seem that the program will only admit students every

Stages of Consideration	Date	Comments
		<p>four years. Dr. Finnigan stated that she would revise the enrollment chart to show total enrollment. Commissioners also questioned the need for additional staff for the proposed program. Dr. Randall C. Rowen, Interim Dean of the College of Pharmacy, explained that while the proposed program will not require additional resources in terms of courses or facilities, but it would require the addition of someone to administer and manage the program. Dr. Finnigan then clarified that the University will not hire additional staff for the program, but that the program administration will result from a reallocation and reassignment of duties for an existing faculty member. Commissioners also discussed accreditation. Dr. Finnigan explained that the Accreditation Council for Pharmacy Education (ACPE) only accredits doctoral programs. Commissioner Munns referenced the proposal which states that “Accreditation approval from the ACPE is not required for the pre-professional component of the B.S. in Pharmaceutical Sciences since the ACPE gives colleges of pharmacy the authority to independently select pre-professional coursework as long as those courses are similar to the pre-professional curriculums in peer institutions.” He then asked whether the pre-professional courses are similar to those at peer institutions. Dr. Finnigan assured the Committee that the pre-professional courses are similar.</p>
<p>Revised Program Proposal Received</p>	<p>1/20/2015</p>	<p>The enrollment chart was revised to show total enrollment.</p>

Recommendation

The Committee on Academic Affairs and Licensing recommends that the Commission approve the program leading to the Bachelor of Science in Pharmaceutical Sciences to be implemented in Fall 2015.

**Committee Member Questions and CHE/Institutional Responses:
University of South Carolina Columbia, B.S., Pharmaceutical Sciences**

QUESTION: pg 4, section 4 b, the three objectives: 1) please explain the drop out problem this is designed to fix, 2) even if fixing the accounting peculiarity is a valid objective, I would think that it would rank behind providing post graduate opportunities, and opportunities for career changes (i.e., student outcomes prioritized over administrative accounting) -- please discuss.

INSTITUTIONAL RESPONSE: The “drop out problem” may be described as follows. Because there currently exists no undergraduate degree in Pharmacy, freshmen students intending to pursue a career in pharmacy must declare a major in some other field, usually biology or chemistry. At the point where these students are accepted into the Doctor of Pharmacy (PharmD) program as rising juniors or seniors, they drop out of their previous biology or chemistry major, and thus are not eligible to be counted in university baccalaureate graduation rates. They are in effect deprived of a USC credential that acknowledges the first part of their undergraduate work. The “institutional graduation rates” objective was added to address this institutional concern, and the proposed B.S. in Pharmaceutical Sciences will enable offering a baccalaureate degree for admitted PharmD students at the end of their second professional year.

It was not the intention of the College of Pharmacy to rank the purposes of the B.S. in Pharmaceutical Sciences in order of importance. Section 4 b) is a listing, not a ranking, of the objectives behind offering the degree. The “post-graduate opportunities” and “career changer” objectives address the interests of students, whereas the “institutional graduation rates” objective addresses those of the institution.

While the PharmD is the required degree to practice pharmacy in the U.S., there will be students who would like to earn a baccalaureate degree in addition to their PharmD for sentimental reasons. There will be a small number of students who plan to pursue a post-Doctor of Pharmacy degree program not offered by the College of Pharmacy (e.g. law, medicine, or biological sciences). The B.S. in Pharmaceutical Sciences degree will be helpful for career changers who withdraw prior to earning the PharmD who plan to pursue occupations or graduate and professional programs in which a baccalaureate is required.

QUESTION: Pg 7, total enrollment matrix. Please explain. The enrollment numbers imply that USC will only accept students to this program every four years, and it presents a very uneven work load (3405 credit hours of production one semester, all the way down to only 924 teaching hours in another semester). But the staffing on page 17 is flat at 4 FTE for every semester. Please explain how this works, and how it can be an efficient use of resources.

INSTITUTIONAL RESPONSE: USC accepts students into the program every year.

The enrollment numbers in section 7 represents one cohort group of students that begins with the freshmen year and ends with the second year of the professional program when the B.S. degree in Pharmaceutical Sciences is conferred. At the end of the second professional year the student would have completed 128 credit hours to earn the BS in Pharmaceutical Sciences degree. The 3405 hours represents the average number of new freshmen and transfer students multiplied by average number of class hours (15) these students will take in their first semester at USC. Admission into the professional program is highly competitive. Based on past

admissions data, slightly over half of the number of pre-pharmacy students who apply are accepted into the professional program their junior year. The 924 teaching hours is reflective of the number of students in that cohort who are projected to enroll into the professional program. The difference in credit hours load will not impact existing university resources since the enrollment numbers are reflective of the average number of pre-pharmacy students accepted into the SCCP, are accepted into other colleges of pharmacy, or who change major as undergraduates since the 2010-2011 academic year.

The FTE totals are representative of new and continuing cohorts of pre-professional and professional students. For example, faculty who primarily serve the professional students through instruction will instruct first or second year pharmacy students each semester. Staff who primarily serve pre-professional students through academic advisement will advise freshmen and sophomore pre-pharmacy students each semester. Since the FTE totals are representative of the teaching, administrative, and advisement loads for the past several years, the COP does not foresee that the B.S. degree will impact existing university resources.

QUESTION: Pg 8. Note J does not seem to be referenced anywhere. Please delete or explain.

INSTITUTIONAL RESPONSE: J represents a new cohort. If the j population needs to be referenced on the projected total enrollment table (7a), j can be added to the first box in the 2019-20 year under Fall Headcount. The other letters in the 2019-20 row can be deleted since those letters are already defined in the previous years.

QUESTION: Pg 16. If there are no new students, no new courses, no new facilities, why does the administration need to grow by one assistant dean? What does this cost?

INSTITUTIONAL RESPONSE: While the B.S. degree will not require additional resources in terms of courses or facilities, it would require the addition of someone to administer and manage the program. With the addition of a new program in the College of Pharmacy, the need for oversight, coordination, problem resolution, student advising, etc., requires the appointment of a 0.5 FTE Assistant Dean.

As indicated in section 16 b), administration costs are projected by the salary and fringe benefits of the Assistant Dean for Undergraduate Programs.

QUESTION: Pg 18. Accreditation. Makes the case that pre-professional courses do not need to be accredited as long as they are consistent with curriculums of peer institutions. But the proposal makes the point in page 6 that USC requires only 66 credit hours and others require 90 hours. This does not seem to be consistent with peer programs. Please explain. Additionally, even if accreditation were not to be a problem, how can USC achieve the same quality, scope and depth of curriculum in 66 hours as others do in 90 hours?

INSTITUTIONAL RESPONSE: The difference in credit hours within the undergraduate components of the B.S in Pharmaceutical Sciences versus the programs at peer institutions is indicative of the number of years students spend in the professional program. USC will offer the baccalaureate degree after two professional years of professional study while peer institutions require just one year of professional study. Since most baccalaureate degree programs in the state require at least 120 credit hours, peer institutions must require an additional year of undergraduate study so their students can meet minimum credit hour requirements after one year of pharmacy school.

Whether a student enrolls into the SCCP from one of the 90 hour programs or from USC's pre-pharmacy program), ALL students must take the 66 hours of pre-requisite requirements outlined in the pre-pharmacy curriculum – see undergraduate requirements in section 8 a). The bulk of the undergraduate coursework in the B.S. in Pharmaceutical Sciences and the programs at the peer institutions will be the same.

In terms of undergraduate coursework taken in addition to the 66 hours in the pre-pharmacy curriculum, programs at peer institutions may encompass coursework (e.g. math courses beyond the calculus and statistics SCCP requirement) that are required to obtain a baccalaureate degree at the respective institution, but may not have any impact on the ability of incoming students to progress through the professional program.

South Carolina College of Pharmacy

University of South Carolina Campus

Proposal for

Bachelor of Science in Pharmaceutical Sciences

Harris Pastides, President, University of South Carolina

Date

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2. Classification

Program Title:	Bachelor of Science in Pharmaceutical Sciences
Concentrations, options, and tracks:	None
Academic Unit:	College of Pharmacy
Designation, type, and level of degree:	New four-year Undergraduate Baccalaureate Program
Proposed Implementation:	Fall 2015
CIP Code:	51.2099
Site:	University of South Carolina, Columbia. SC
Program qualifies for supplemental Palmetto Fellows Scholarship and Life Scholarship awards:	Yes
Delivery Mode:	75% traditional and 25% distance. During the first two years of the program, students will take classes on the USC Columbia campus. During the last two years of the program, some courses are taught via “live” streaming video from the Medical University of South Carolina Campus of the South Carolina College of Pharmacy.
Area of Certification:	None for this program; however program graduates may go on to complete the Doctor of Pharmacy program and pass the North American Pharmacists Licensure Examination (NAPLEX) and Multistate Pharmacy Jurisprudence Examination (MPJE), enabling them to practice pharmacy in the state

3. Institutional Approval

Approved by the Office of the Provost on August 15, 2014

Approved by the Office of the President on August 18, 2014

4. Purpose

- a) The B.S. in Pharmaceutical Sciences degree program will benefit both students and USC. The students have the ability to earn an undergraduate degree while preparing for a career in

pharmacy and the institution accurately reflects student progression, attrition, and graduation rates.

- b)** The addition of the B.S. in Pharmaceutical Studies will meet the following three objectives:

Count students in institutional graduation rates - students interested in pursuing a career in the profession of pharmacy are “counted” as dropouts by USC when they leave the undergraduate program to enter pharmacy school. This reflects poorly on USC even though the institution offered a rigorous academic program and the student successfully gained admission to pharmacy school. Since USC can provide both the undergraduate courses and professional program to these students, conferring a BS degree will allow these students to be rightfully counted as graduates and not drop-outs.

Enhance post-graduate opportunities - many post-graduate programs (Ph.D., M.D., D.D.S, J.D., etc.) require an undergraduate degree, so students choosing to pursue this type of a degree program do not have the credentials to gain admission until they have graduated with an undergraduate degree.

Provide employment opportunities for career changers – for students who change their career paths while in pharmacy school, they will be able to pursue other employment opportunities such as a pharmacy technician, healthcare worker, pharmaceutical industry, research assistant, regulatory affairs, etc.

5. Justification

- a)** The majority of students who earn the B.S. in Pharmaceutical Sciences will earn the Doctor of Pharmacy (Pharm.D.) after two additional years in the professional program. For students who earn the Pharm.D. and pursue a career in pharmacy after graduation, the B.S. degree will have no bearing on their job prospects since the Pharm.D. is now required to practice pharmacy in the United States. The job projections for students who earn the Pharm.D. are promising. According to the U.S. Bureau of Labor Statistics, the pharmacy profession is expected to grow by 14% annually. The historical national average for job placement of pharmacy students immediately upon graduation ranges between 55% to 65%. Seventy-one (71) out of the 114 students who graduated from the USC Campus of the SCCP in May 2013 had obtained jobs prior to commencement (62% job placement rate). Twenty Six (26) students continued their post-graduate training by successfully obtaining a residency. Seventeen (17) students did not have a job or residency upon graduation. To the best of our knowledge, most of these students obtained job placements within six months after graduation.

Based on past experiences with students who have left the professional program at the conclusion of the second year, it is predicted that most B.S. in Pharmaceutical Sciences students who forgo obtaining the Pharm.D. will enroll into graduate and professional degree programs that require at least a baccalaureate degree. Post-baccalaureate options for B.S. in Pharmaceutical Sciences graduates include degrees in medicine, physical therapy, public health, dentistry, veterinarian science, law, education, business, etc. Other post-baccalaureate options include graduate study in pharmaceutical, biomedical, or basic sciences. Over the past several years, a few students (<5) have enrolled in medical school prior to completing the Pharm.D. program.

The B.S. in Pharmaceutical Sciences graduates who decide not to finish a professional or graduate program will have an advantage over other Bachelor of Science degree holders applying for pharmaceutical-related jobs. After completing two years of the Pharm.D. program, the B.S. in Pharmaceutical Sciences graduates will be uniquely qualified to work in pharmaceutical sales, pharmaceutical research, drug testing, drug marketing, and drug regulation.

Other career options for B.S. in Pharmaceutical Sciences graduates who do not obtain a graduate or professional degree include entry-level careers in post-graduate research, community health, diet and nutrition, non-profit health assessment (Peace Corps or AmeriCorps), environmental protection, air quality control, consumer safety, health insurance, and health assessments in industry. Graduates will have the option of pursuing entry level health careers such as a pharmacy technician, medical assistant, medical transcriptionist, massage therapist, health technologist, physical therapist, respiratory therapist, etc. These fields may require additional training in a technical or community college.

According to the U.S. Bureau of Labor Statistics, the job outlook for several of these career areas such as a pharmacy technician (20%), health educator (21%), health information technician (22%), health records technician (22%), and health environmental scientist (15%) are at least 3 percentage points higher than the national average for all occupations.

According to the most recent *South Carolina Economic Indicator Report* conducted in 2010, the average 2006-2016 job growth rate of Healthcare Support jobs (comprised mainly of health professions jobs that do not require a post-baccalaureate degree) is 27% versus 10.9% for all occupations in South Carolina. According to the SC Works *Occupational Employment and Future Employment* table, the annual percentage growth rates for several of the health support jobs that the B.S. in Pharmaceutical Sciences students could potentially obtain is 1.9% (pharmacy technician), 1.6% (health educator), 1.7% (respiratory therapist), 1.6% (health technologist), 2.2% (community health worker), 1.8% (environmental science and protection technician) and 1.7% (dietician/nutritionist) vs. 1.1% for all occupations in South Carolina.

- b)** USC's primary mission is the education of the state's citizens through teaching, research, creative activity, and community engagement. The addition of the B.S. in Pharmaceutical Sciences will fulfill this mission through undergraduate and professional level instruction, research opportunities in clinical pharmacy and biomedical sciences, creative opportunities in pharmacy innovation, and for those students who earn the Doctor of Pharmacy after obtaining the baccalaureate degree, community engagement through providing advanced level pharmaceutical care to meet the medication needs of the citizenry of the South Carolina and the nation.
- c)** The program will not impact existing programs at the University of South Carolina (USC); it will formalize into a degree program instruction that is already taking place. The academic departments that offer the pre-requisite and general education courses during the first two years of the program will continue to do so, and South Carolina College of Pharmacy (SCCP) faculty will instruct all of the professional courses taken in the last two years as they have been doing.
- d)** The list of similar programs in the state includes:

Bachelor of Science in Pharmaceutical Sciences at Francis Marion University,
Bachelor of Science in Pre-professional Studies at Clemson University,
Bachelor of Science in Biochemistry at Claflin University,
Degree Plus Pre-Pharmacy Path (Bachelor of Science in Chemistry or Biology) at
Presbyterian College.

- e) With regard to similarities and differences between the above-listed programs and our own, Claflin University, Francis Marion University, and Clemson University have established MOU agreements with the South Carolina College of Pharmacy (SCCP) and other colleges of pharmacy where they offer a bachelor of science degree that combines undergraduate coursework and professional coursework in a Doctor of Pharmacy (Pharm.D.) program. In these bachelor degree programs, students must take a minimum of 90 hours or three years of undergraduate coursework at the degree granting institution.

Presbyterian College does not have a MOU with the SCCP, but it also has a program that combines undergraduate coursework and coursework in their Doctor of Pharmacy program.

There are several differences the B.S. in Pharmaceutical Sciences from USC will have in relation to the programs at Claflin, Francis Marion, and Clemson University. First, the proposed USC-Columbia program will allow the student to complete both the B.S. and Pharm.D. degrees within one institution (USC). Second, the USC program only requires 66 hours (approximately 2 years) of undergraduate coursework, whereas the other institutions require 90 hours (approximately 3 years) of undergraduate coursework prior to entering the professional Pharm.D. program where the remaining two years of the B.S. in Pharmaceutical Sciences are completed. ~~to earn a bachelor's degree.~~ Third, USC is the only institution in South Carolina that teaches the entire pharmaceutical sciences curriculum.

6. Admission Criteria

Prospective freshmen entering the B.S. in Pharmaceutical Sciences program must meet the general admissions criteria for acceptance as outlined by the Office of Undergraduate Admissions at the University of South Carolina – Columbia. Prospective transfer students must earn a minimum GPA of a 3.0 upon completion of twelve college-credit courses.

Admission into the professional component of the degree program is based on the completion of a national and supplemental application, cumulative and pre-requisite GPA, the Pharmacy College Admissions Test (PCAT), an interview, and letters of recommendation.

7. Enrollment

a) Projected Total Enrollment

Projected Enrollment: Cohort totals for the first year enrollment of new freshmen, new transfers, and readmit students from years one to four

PROJECTED TOTAL ENROLLMENT						
YEAR	FALL		SPRING		SUMMER	
	Headcount	Credit Hours	Headcount	Credit Hours	Headcount	Credit Hours
2015– 16	227(a)	3405	215(b)	3225	70(c)	404
2016 – 17	182(d)	2730	164(e)	2460	12(f)	48
2017 – 18	69(g)	1173	69	1104	69(h)	276
2018– 19	66(i)	990	66	924	66	264
2019 – 20	227(a)	3405	215(b)	3225	70(c)	404

Based on enrollment during Fall 2011-Fall 2013

b) Discussion of how these estimates were made

(a) Includes approximately 227 new students (including new freshmen/transfers from the summer semester, new transfers, and readmits).

Note: the average three-year total enrollment for new and continuing pre-professional students (254 continuing students) has been 481 total students.

(b) First year spring semester total of 215 (227 students minus an average of 12 new students from the summer/fall semesters who will change into another degree program between the fall and spring semesters of the first year).

(c) Most students take a 4 hour lab course.

- (d) Second year fall semester total of 182 (215 students minus 33 students who change into another degree program).
 - (e) Second year spring semester total of 164 (182 minus 18 students who change into another degree program).
 - (f) Approximate number of students accepted into the professional program who have one or more pre-requisites to complete before professional program enrollment.
 - (g) First semester of the third year or first professional year total of 69 (164 students minus 51 pre-professional applicants who will apply, but who will not be accepted into the professional program, 7 students who enroll into the professional program at MUSC, and 37 students who do not apply into the professional program and change into another degree program).
- Note:** The 51 students not accepted into the professional program will typically change into another degree program that contains the majority of coursework from the first two years of the B.S. in Pharmaceutical Sciences program such as biological sciences, chemistry, biochemistry, public health (B.S.), exercise science (B.S.), and biomedical engineering. These students may reapply to enter the professional program in their senior year or pursue a different baccalaureate degree. An average of 7 -10 re-applicants are accepted into the professional program each year. After the conclusion of the second professional year, these students are eligible for the B.S. in Pharmaceutical Sciences if they do not have a prior degree and meet all requirements.
- (h) Professional students will take a 4-hour rotation between the first and second years (third and fourth years in B.S. degree) in the summer.
 - (i) Number of students who will graduate with a B.S. in Pharmaceutical Sciences minus the approximate number of students who will not persist between the first and second professional years.

Projected Enrollment: Total enrollment based on the enrollment of new freshmen, new transfers, readmit students, continuing undergraduates, and students in professional (pharmacy) program

PROJECTED TOTAL ENROLLMENT						
YEAR	FALL		SPRING		SUMMER	
	Headcount	Credit Hours	Headcount	Credit Hours	Headcount	Credit Hours
2015– 16	481(a)	7215	442(b)	6630	200(c)	800

2016 – 17	550(d)	8250	511(e)	7665	200(f)	800
2017 – 18	616(g)	9240	577 (h)	8655	200 (i)	800
2018– 19	616	9240	577	8655	200	800
2019 – 20	616	9240	577	8655	200	800

Based on enrollment during Fall 2011-Fall 2013

b) Discussion of how these estimates were made

- (a) In Year 1 of the program, headcount will consist of 227 new enrollees plus 254 continuing second- year students who will transfer to the BS in Pharmaceutical Sciences major.
- (b) Spring semester total of 442 (481 minus an average of 39 first and second year students from the summer/fall semesters who will change into another degree program by the spring semester).
- (c) Most students take a 4 hour lab course.
- (d) Includes 69 continuing students from previous year admitted to the PharmD in their third year; 227 new freshmen, new transfers, readmit students; and 254 continuing second year undergraduates.
- (e) Spring semester total of 511 (550 minus an average of 39 first and second year students from the summer/fall semesters who will change into another degree program by the spring semester)
- (f) First and second year students only. Third year students will take a summer rotation that is required for the Doctor of Pharmacy, but not the B.S. degree.
- (g) Includes 227 new enrollees, 254 continuing second-year students, 69 students admitted to the PharmD in their third year, and 66 students (69 students minus an average of three students who will not advance from years three to four) moving from their third year into their fourth year/second professional year.
- (h) Spring semester total of 577 (616 minus an average of 39 first and second year students from the summer/fall semesters who will change into another degree program by the spring semester.)
- (i) First- and second year students only. Third and fourth year students will take a summer rotation that is required for the Doctor of Pharmacy, but not the B.S. degree.

c) Transfers from Other Colleges of Pharmacy

Approximately 30 students from other degree programs at USC will transfer into the program each pre-professional year. Approximately 69 students will be accepted into the professional program at the USC Campus of the SCCP. Approximately 66 students will earn the B.S. in Pharmaceutical Sciences at the end of the second professional year. Transfers from other colleges of pharmacy are rare. The USC Campus of the SCCP receives about one to two transfers from the MUSC Campus of the SCCP or from other schools of pharmacy each year. However, those students must meet all pre-professional and professional requirements to earn the B.S. degree.

8. Curriculum

a) Sample Curriculum

Pre-Professional Curriculum (66 Hours)		
Year One – Fall Semester		
<u>Course</u>	<u>Credit Hours</u>	<u>Carolina Core Component</u>
ENGL 101 <i>Critical Reading & Comprehension</i>	3	CMW <i>Effective, Engaged, and Persuasive Communication: Written Component</i>
MATH 122 <i>Calculus for Business Administration & Social Sciences</i> OR MATH 141 <i>Calculus I</i>	3	ARP <i>Analytical Reasoning and Problem-Solving</i>
BIOL 101/101L <i>Principles of Biology I & Lab</i>	4	SCI <i>Scientific Literacy</i>
CHEM 111/111L <i>General Chemistry I & Lab</i>	4	SCI
UNIV 101 <i>The Student in the University</i>	3	
		Total = 17 Hours
Year One – Spring Semester		
ENGL 102 <i>Rhetoric & Composition</i>	3	CMW + INF <i>Information Literacy</i>
STAT 201 <i>Elementary Statistics</i> OR STAT205 <i>Elementary Statistics for Biological and Life Sciences</i>	3	ARP
BIOL 102/102L <i>Principles of Biology II & Lab</i>	4	
CHEM 112/112L <i>General Chemistry II & Lab</i>	4	
Any AIU <i>Aesthetic & Interpretive Understanding</i> option	3	AIU
		Total = 17 Hours
Year Two – Fall Semester		
BIOL 243 <i>Human Anatomy & Physiology I</i>	3	

CHEM 333 <i>Organic Chemistry I</i> & CHEM 331L <i>Organic Lab I</i>	4	
PHYS 201 <i>General Physics I</i>	3	
ECON 224 <i>Introduction to Economics</i> ORECON 221 <i>Principles of Microeconomics</i> , OR ECON 222 <i>Principles of Macroeconomics</i>	3	
PSYC 101	3	GSS <i>Global Citizenship and Multicultural Understanding: Social Science</i>
Total = 16 Hours		
Year Two – Spring Semester		
BIOL 244 <i>Human Anatomy & Physiology II</i>	3	
CHEM 334 <i>Organic Chemistry II</i> & 332L <i>Essentials of Organic Lab II</i>	4	
BIOL 250 <i>Microbiology</i>	3	
SAEL 200 <i>Social Advocacy & Social Life</i>	3	CMS <i>Effective, Engaged and Persuasive Communication: Spoken Component</i> + VSR <i>Values, Ethics, and Social Responsibility</i>
Any GHS option <i>Global Citizenship and Multicultural Understanding: Historical Thinking</i>	3	GHS
Total = 16 Hours		
GFL requirement met with a score of 2 or higher on foreign language placement test		
Professional Curriculum (62 Hours)		
Year Three – Fall Semester		
SCCP 602 <i>Foundations of Pathophysiology & Pharmacology I</i>	2	
SCCP 607 <i>Dosage Forms and Drug Delivery Systems</i>	4	
SCCP 615 <i>Pharmaceutical Biochemistry</i>	3	
SCCP 621 <i>Foundations of Pharmaceutical Chemistry & Pharmacogenomics I</i>	3	
SCCP 650 <i>Introduction to Pharmacy Practice</i>	2	
SCCP 656 <i>Pharmacy Calculations</i>	1	
SCCP 657 <i>Medical Terminology</i>	1	

SCCP 680 <i>Intro. to Drug Information</i>	1	
		Total = 17 Hours
Year Three – Spring Semester		
SCCP 603 <i>Foundations of Pathophysiology & Pharmacology II</i>	3	
SCCP 610 <i>Microbiology & Immunology</i>	4	
SCCP 616 <i>Pharmaceutical Biotechnology</i>	2	
SCCP 622 <i>Foundations of Pharmaceutical Chemistry & Pharmacogenomics II</i>	4	
SCCP 690 (IP 710) <i>Transforming Health Care</i>	2	
SCCP 661 <i>Clinical Applications II</i>	1	Integrative Course that meets INF, CMS, and SCI learning outcomes of the Carolina Core
		Total = 16 Hours
Year Four – Fall Semester		
SCCP 710 <i>Biopharmaceutics and Pharmacokinetics</i>	3	
SCCP 722 <i>Pathophysiology & Pharmacology I</i>	3	
SCCP 750 <i>Self-Care and Complementary Med.</i>	4	
SCCP 760 <i>Clinical Applications III</i>	1	
SCCP 772 <i>Pharmacotherapy I</i>	4	
		Total = 15 Hours
Year Four – Spring Semester		
SCCP 723 <i>Pathophysiology & Pharmacology II</i>	3	
SCCP 761 <i>Clinical Applications IV</i>	1	
SCCP 773 <i>Pharmacotherapy II</i>	4	
SCCP 780 <i>Outcomes Design and Assessment</i>	3	
SCCP 890 <i>Clinical Pharmacokinetics</i>	3	
		Total = 14 Hours

- b)** No new courses are currently projected at the pre-professional and professional levels. Programming changes for the first two years in the curriculum that are approved through the SCCP Curriculum Committee will also be approved through USC's Faculty Senate and all institutional bodies involved in the approval of course curriculum changes. Programming

changes for the last two years in the curriculum will be approved through the SCCP Curriculum Committee

9. Assessment

a) During the last two years of the curriculum, students complete the following assessments related to the program learning outcomes:

- Review and assess case study exercises to demonstrate student ability to understand patient medical situations and provide appropriate drug therapy monitoring.
- Complete exercises demonstrating ability to work and communicate in an interprofessional environment.
- Demonstrate basic competencies in sterile and non-sterile compounding by completion of practice exams and media fill exercises.
- Complete competency exams demonstrating familiarity with the top 300 oral/topical drug products and top 100 IV products.
- Complete case study, communication, and video exercises demonstrating knowledge in self-care, complementary, and preventive medicine.
- Counsel standardized patients on the appropriate use of medications.
- Successful completion of OSCE/OSLE Evaluations/Analytical Checklists; 70% performance or remediation required.

b) The following program goals and student learning outcomes are assessed during the third and fourth years of the program:

Goal 1: Provide pharmaceutical care in cooperation with patients, prescribers, and other members of an inter-professional health care team based upon sound therapeutic principles and evidence-based data, taking into account relevant legal, ethical, social, economic, and professional issues, emerging technologies, and evolving biomedical, socio-behavioral, and clinical sciences that may impact therapeutic outcomes

Outcome 1:

Students will acquire and be able to apply knowledge in the biological, social, pharmaceutical, and clinical sciences as a foundation for pharmaceutical care (including but not limited to the following courses: anatomy, physiology, biochemistry, pathophysiology, immunology, microbiology, pharmaceuticals, biopharmaceuticals, molecular biology, pharmaceutical calculations, pharmacokinetics, medicinal chemistry, pharmacology, drug information, pharmacogenomics, pharmacoeconomics, outcomes, statistics, pharmacy law, ethics, pharmacy practice, and therapeutics).

Assessment

- Academic performance based on course grades. 95% or above pass rate for required courses (final course grades 70 or above).
- Review and assess case student exercises to demonstrate student ability to understand patient medical situations and provide appropriate drug therapy monitoring.
- Complete competency exams demonstrating familiarity with the top 300 oral/topical drug products and top 100 IV products.

Outcome 2:

Students will develop the skills and knowledge to provide patient-centered care.

Assessment

- Academic performance based on course grades: 95% or above pass rate (final course grades 70 or above) for courses with major emphasis on patient-centered care
- Successful completion of OSCE/OSLE Evaluations/Analytical Checklists; 70% performance or remediation required.
- Ability to effectively counsel standardized patients on the appropriate use of medications.

Outcome 3:

Students will acquire the knowledge to provide population-based care.

Assessment:

- Academic performance based on course grades: 95% or above pass rate for courses with major emphasis on providing population-based care.
- Successful completion of OSCE/OSLE Evaluations/Analytical Checklists; 70% performance or remediation required.
- Review and assess case study exercises to demonstrate student ability to understand patient medical situations and provide appropriate drug therapy monitoring.

Goal 2:

Graduates will manage and use resources of the health care system, in cooperation with patients, prescribers, other health care providers, and administrative and supportive personnel, to promote health; to provide, assess, and coordinate safe, accurate, and time-sensitive medication distribution; and to improve therapeutic outcomes of medication use.

Outcome 1:

Students will develop the knowledge and skills to manage human, physical, medical, informational, and technological resources.

Assessment:

- Academic performance based on course grades: 95% or above pass rate for courses with major emphasis on management issues in patient care.
- Successful completion of online exercises demonstrating ability in drug information retrieval and literature searches.

Outcome 2:

Students will master appropriate principles to manage medication use systems.

Assessment:

- Academic performance based on course grades: 95% or above pass rate for courses with major emphasis on providing population-based care.
- Demonstrate basic competencies in sterile and non-sterile compounding by completion of practice exams and media fill exercises.

Goal 3:

Promote health improvement, self-care (including but not limited to nonprescription, complementary and alternative medicines), wellness, and disease prevention in cooperation with patients, communities, at-risk populations, and other members of an inter-professional team of health care providers

Outcome 1:

Graduates will develop skills that will allow them to promote health improvement, self-care (including but not limited to nonprescription, complementary and alternative medicines), wellness, and disease prevention in cooperation with patients, communities, at-risk populations, and other members of an interprofessional team of health care providers.

Assessment:

- Academic performance based on course grades: 95% or above pass rate for courses with major emphasis on health promotion and interprofessional practice.
- Complete case study, communication, and video exercises demonstrating knowledge and ability in self-care, complementary, and preventive medicine.
- Completion of assigned interprofessional exercises with students from medicine, nursing, public health, and social work; exercises demonstrate ability to work and communicate in an interprofessional environment.

- c) Program changes based on student performance assessment data are evaluated upon completion of the Doctor of Pharmacy degree and passing scores on the NAPLEX and MPJE two years after of the completion of the B.S. in Pharmaceutical Sciences. These data is evaluated by the SCCP Assessment Committee and the SCCP Curriculum Committee. Recommendations for changes in the academic program are proposed by these Committees, and are brought to the faculty for vote and then implementation, if approved.

10. Faculty

a) Faculty List Table

Table B– Faculty List

List Staff by Rank (e.g. Professor #1, Professor #2, Associate Professor #1, etc.)	Highest Degree Earned	Field of Study	Teaching in Field (Yes/No)
Professor #1	PhD	Outcomes Sciences/Medication Adherence	Y
Associate #1 Professor	PhD	Drug Discovery/Biomedical Sciences	Y
Associate Professor #2	PhD	Drug Discovery/Biomedical Sciences	Y
Associate Professor #3	PhD	Drug Discovery/Biomedical Sciences	Y
Associate Professor #4	PhD	Drug Discovery/Biomedical Sciences	Y
Associate Professor #5	PhD	Drug Discovery/Biomedical Sciences	Y
Associate Professor #6	PhD	Drug Discovery/Biomedical Sciences	Y
Associate Professor #7	PhD	Drug Discovery/Biomedical Sciences	Y
Associate Professor #8	Pharm.D.	Clinical Pharmacy	Y

List Staff by Rank (e.g. Professor #1, Professor #2, Associate Professor #1, etc.)	Highest Degree Earned	Field of Study	Teaching in Field (Yes/No)
Associate Professor #9	Pharm.D.	Clinical Pharmacy	Y
Assistant Professor #1	PhD	Drug Discovery/Biomedical Sciences	Y
Assistant Professor#2	Pharm.D.	Clinical Pharmacy	Y
Assistant Professor#3	Pharm.D.	Clinical Pharmacy	Y
Assistant Professor#4	Pharm.D.	Clinical Pharmacy	Y
Assistant Professor#5	Pharm.D.	Clinical Pharmacy	Y
Assistant Professor#6	Pharm.D.	Clinical Pharmacy	Y

- b)** Since the faculty and staff at both the pre-professional and professional levels already provide the necessary instruction and advisement to facilitate the program, no new hires are expected for students pursuing the B.S. in Pharmaceutical Sciences.
- c)** The addition of the B.S. in Pharmaceutical Sciences will require the addition of one assistant dean who will provide 50% effort to direct and oversee the BS in Pharmaceutical Sciences degree program. The Assistant Dean will be appointed from the existing faculty of the College of Pharmacy.
- d)** No new changes to the institutional plan for faculty development are expected with approval of this program, since the curriculum has been in place.
- e)** Full-time equivalent (FTE) faculty/staff include those members of the instruction/research staff who are employed full time and whose major regular assignment is instruction, including those with released time for research. Also, includes full-time [faculty](#) for whom it is not possible to differentiate between teaching, research and public service because each of these functions is an integral component of his/her regular assignment.

UNIT ADMINISTRATION, FACULTY, AND STAFF SUPPORT						
YEAR	NEW		EXISTING		TOTAL	
	Headcount	FTE	Headcount	FTE	Headcount	FTE
Administration						
2015– 16	0	0	1	0.5	1	0.5
2016 – 17	0	0	1	0.5	1	0.5
2017 – 18	0	0	1	0.5	1	0.5
2018– 19	0	0	1	0.5	1	0.5
2019 – 20	0	0	1	0.5	1	0.5
Faculty						
2015 – 16	0	0	16	4	16	4
2016 – 17	0	0	16	4	16	4
2017 – 18	0	0	16	4	16	4
2018 – 19	0	0	16	4	16	4

f) Unit Administration, Faculty, and Staff Support table (Table C)

2019 – 20	0	0	16	4	16	4
Staff						
2015 – 16	0	0	4	3	4	3
2016 – 17	0	0	4	3	4	3
2017 – 18	0	0	4	3	4	3
2018 – 19	0	0	4	3	4	3
2019 – 20	0	0	4	3	4	3

11. Physical Plant

a) The existing physical plant is adequate to

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provide physical accommodations for the B.S. in Pharmaceutical Sciences since the physical plant currently accommodates pre-professional and professional coursework students will take in the curriculum.

- b) Since the physical plant requirements needed to administer both the pre-professional and professional components of the B.S. in Pharmaceutical Sciences currently exists, no additions to the existing physical plant are needed.

12. Equipment

Since the equipment needed to administer the B.S. in Pharmaceutical Sciences at the pre-professional and professional levels of the program currently exists, no new major equipment will be needed for the program.

13. Library Resources

- a) The B.S. in Pharmaceutical Sciences will not require additional library resources. During the pre-professional component of the program, students will have the same access to library resources as undergraduates in other programs at USC. During the professional component of the B.S. degree, students will have access to a joint electronic database of online periodicals, journals, clinical collections, case studies, citation indexes, etc. between the USC and MUSC Campuses of the SCCP.

Due to continuous innovation and changing practices and standards in the pharmacy field, printed library resources are not commonly used by students in the College. Library holdings are all online on the joint USC and MUSC database for the SCCP.

- b) The B.S. in Pharmaceutical Sciences will not require the purchase of independent acquisitions. Since the joint electronic database consists of online sources that do not require a contract or subscription, the cost to maintain the database is nominal.
- c) Electronic resources are commonly shared between professional students in the USC and MUSC Campuses of the SCCP. Students in the professional component of the B.S. in Pharmaceutical Sciences may utilize PASCAL access resources in MUSC's electronic catalog.

14. Accreditation, Approval, Licensure, or Certification

- a)** The professional component of the B.S. in Pharmaceutical Sciences is subject to accreditation standards and guidelines of the Accreditation Council for Pharmacy Education (ACPE). The South Carolina College of Pharmacy is fully accredited until 2017. ACPE requires periodic monitoring and updates for the professional program within the multi-year accreditation cycle. The next ACPE self-study process for accreditation review will occur during 2016.

Accreditation approval from the ACPE is not required for the pre-professional component of the B.S. in Pharmaceutical Sciences since the ACPE gives colleges of pharmacy the authority to independently select pre-professional coursework as long as those courses are similar to the pre-professional curriculums in peer institutions. Additional accreditation is not required for the professional component of the B.S. degree since the Pharm.D. is already accredited by the ACPE.

- b)** Licensure/certification processes: not applicable. The ACPE is the only accrediting body outside the Commission and the Board of Trustees for the USC.
- c)** Teacher education: not applicable. Neither the B.S. in Pharmaceutical Sciences nor the Doctor of Pharmacy has a teacher education focus.

15. Articulation

- a)** Students from two-year institutions may enter the B.S. in Pharmaceutical Sciences upon completion of USC admissions requirements and after obtaining a minimum GPA of a 3.0 after the completion of at least twelve college credit courses.
- b)** After completing the B.S. in Pharmaceutical Sciences, graduates may earn the Doctor of Pharmacy (Pharm.D.) upon completion of two additional years of professional study.
- c)** The 3 + 1 programs at Clemson University, Francis Marion University, and Claflin University allow students to earn a baccalaureate degree at the host institution after three years of undergraduate coursework and one year of professional coursework in the SCCP. Since these institutions are not obligated to the Carolina Core and require just one year of professional coursework, these students will not qualify for the B.S. in Pharmaceutical Sciences at USC.

However, any student from another state institution who has met all the pre-professional requirements of the B.S. in Pharmaceutical Sciences, is successfully admitted into the professional program prior to obtaining a baccalaureate degree from another institution, and completes the first two years of the professional program, is eligible for the degree. This information will be posted on the SC Trac website.

16. Estimated Costs and Sources of Financing

- a) Estimated Costs and Sources of Financing by Year (Table D)**

ESTIMATED COSTS BY YEAR						
CATEGORY	1st	2nd	3rd	4th	5th	TOTALS
Program Administration	\$70,000	\$71,400	\$72,830	\$74,290	\$75,800	\$364,320
Faculty Salaries	\$560,000	\$570,200	\$581,600	\$593,200	\$605,100	\$2,910,100
Graduate Assistants	0	0	0	0	0	0
Clerical/Support Personnel	\$230,000	\$234,600	\$239,300	\$244,100	\$249,000	\$1,197,000
Supplies and Materials	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$50,000
Library Resources	0	0	0	0	0	0
Equipment	0	0	0	0	0	0
Facilities	0	0	0	0	0	0
Other (Identify)	0	0	0	0	0	0
TOTALS	\$870,000	\$886,200	\$903,730	\$921,590	\$939,900	\$4,521,420
SOURCES OF FINANCING BY YEAR						
Tuition Funding	\$3,240,000	\$3,337,200	\$3,437,316	\$3,540,36	\$3,646,650	\$17,201,602
Program-Specific Fees	0	0	0	0	0	0
State Funding	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 (Specify)	0	0	0	0	0	0
TOTALS	\$3,240,000	\$3,337,200	\$3,437,316	\$3,540,436	\$3,646,650	\$17,201,602

- b)** Tuition and Fees are calculated at a 3% increase per year. Assumes 135 students paying resident tuition of approximately \$24,000/year.

The program administration costs are projected by the salary and fringe benefits of the Assistant Dean for Undergraduate Programs.

The faculty costs are based on 4 FTE's providing the instruction to the students even though 16 faculty members will share in the teaching responsibilities.

Clerical/Support personnel are projected by 75% effort of 3 student advisors and 1 administrative assistant.

Supply costs reflect office and technology supplies.

- c)** No new costs to the institution or college are expected since the program is essentially being taught without recognizing or conferring the BS degree.

The college expects only limited additional costs for this new degree program since all of the courses and support personnel are currently in place in the institution and the college.

- d)** No unique costs or special state appropriations will be required or requested.

Additional costs are expected for an administrative supplement and support for the Assistant Dean which will be relocated from existing funds in the college budget.