FLORIDA ATLANTIC UNIVERSITY

NEW/CHANGE PROGRAM REQUEST
Undergraduate Programs

UUPC Approval 11-8-21
UFS Approval _____
Banner Posted _____
Catalog _____

Department Chemistry & Biochemistry

College CESCOS

Program Name
Bachelor of Science

☐ **New Program**

☑ **Change Program**

Effective Date
(TERM & YEAR)
Spring 2022

Please explain the requested change(s) and offer rationale below or on an attachment

Add CHM4274C to a list of possible elective options in our Bachelor of Science Programs, specifically, the ACS approved and biochemistry concentrations.

Faculty Contact/Email/Phone
Shailaja Allani/skesaraj@fau.edu/561-799-8224

Consult and list departments that may be affected by the change(s) and attach documentation

Approved by	***Date***
Department Chair Predrag Cudic	10/214/2021
College Curriculum Chair	10-25-21
College Dean	10-27-21
UUPC Chair Dan Meeroff	11-8-21
Undergraduate Studies Dean Edward Pratt	11-8-21
UFS President	
Provost	

Email this form and attachments to mjenning@fau.edu one week before the UUPC meeting so that materials may be viewed on the UUPC website prior to the meeting.

Chemistry and Biochemistry

Faculty:
Cudic, P., Chair; Haky, J. E., Associate Chair; Allani, S. K.; Ande, P.; Carraher, C. E.; Chamely-Wiik, D. M.; Cudic, M.; Du, D.; Fields, G. B.; Haces, A. M.; Huchital, D. H.; Lepore, S.; Louda, J. W.; Merk, V.; Rezler, E. M.; Roche, S. P.; Sempertegui, T.; Snyder, P. A.; Stawikowski, M.; Terentis, A. C.; Weissbach, H., Emeritus; West, L.; Wiesenfeld, J. R., Emeritus; Yildirim, I.

Accreditation: The Department of Chemistry and Biochemistry offers a Bachelor of Science program with a curriculum that is approved by the Committee on Professional Training of the American Chemical Society.

Chemistry is the central science encompassing elements of physics, biology and mathematics as well as unique elements of its own. The Chemistry and Biochemistry Department offers three undergraduate degree programs in Chemistry (one B.A. and two B.S.), which are designed to focus on individual student interests, and an Honors Program in Chemistry. A certificate program in Pharmaceutical Technology is designed for students who plan to pursue a career in the biopharmaceutical industry. A Post-Baccalaureate Research Education Program in Chemistry (PREPChem) certificate program is also offered. At the master's level, the department offers a Master of Science in Chemistry (M.S.) and a Master of Science in Teaching (M.S.T.). A doctoral degree program in Chemistry (Ph.D.) is also available. Link to graduate programs.

The Bachelor of Arts (B.A.) is a liberal arts degree intended for students planning professional careers in chemistry-related professions. These include health professions (medicine, dentistry, pharmacy), environmental consulting, technical sales and secondary school teaching. This degree is often pursued by students studying in related disciplines (e.g., biological sciences, geology, neuroscience and behavior) who wish to obtain a second major or a second degree.

The Bachelor of Science (B.S.) degrees are designed for students preparing for professional careers as chemists in industry, government or academic research. Students interested in pursuing advanced graduate studies in chemistry, biochemistry or related fields should also follow one of the B.S. degree programs.

Two B.S. degree programs in Chemistry are offered:

1. The **ACS-Approved B.S. Program** offers a rigorous program of study in all aspects of inorganic, organic, analytical, biochemical and physical chemistry. Its curriculum corresponds to certification guidelines of the Committee on Professional Training of the American Chemical Society (ACS). An ACS-certified degree can offer advantages in job placement and graduate school admission.

2. The **B.S. Program with a Concentration in Biochemistry** is designed for students pursuing careers in biochemistry and related disciplines, such as molecular biology, biophysics and pharmacology. Additionally, premedical students who wish to pursue a research-oriented curriculum might be interested in this program.

Prerequisite Coursework for Transfer Students
Students transferring to Florida Atlantic University must complete both lower-division requirements (including the requirements of the Intellectual Foundations Program) and requirements for the college and major. Lower-division requirements may be completed through the A.A. degree from any Florida public college, university or community college or through equivalent coursework at another regionally accredited institution. Before transferring and to ensure timely progress toward the baccalaureate degree, students must also complete the prerequisite courses for their major as outlined in the *Transition Guides.*

All courses not approved by the Florida Statewide Course Numbering System that will be used to satisfy requirements will be evaluated individually on the basis of content and will require a catalog course description and a copy of the syllabus for assessment.

Core Curriculum
All Chemistry majors must take a minimum of 16 credits of chemistry at Florida Atlantic University. The following courses are required for all Chemistry majors:

Biochemistry 1	BCH 3033	3

General Chemistry 1	CHM 2045	3
General Chemistry 1 Lab	CHM 2045L	1
General Chemistry 2	CHM 2046	3
General Chemistry 2 Lab	CHM 2046L	1
Organic Chemistry 1	CHM 2210	3
Organic Chemistry 2	CHM 2211	3
Organic Chemistry Lab	CHM 2211L	2
Quantitative Analysis	CHM 3120	2
Quantitative Analysis Lab	CHM 3120L	2
General Physics 1 Lab	PHY 2048L	1
General Physics 2 Lab	PHY 2049L	1

Bachelor of Arts with Major in Chemistry/Link to Master's Programs/Link to Doctoral Program

In addition to the core curriculum, the B.A. degree program requires the following courses:

Biochemistry Lab	BCH 3103L	3
Introduction to Physical Chemistry	CHM 3400	3
Inorganic Chemistry	CHM 3609	3
Inorganic Chemistry Lab	CHM 3609L	1
College Algebra	MAC 1105	3
Methods of Calculus	MAC 2233	3
College Physics 1	PHY 2053	4
College Physics 2	PHY 2054	4

Bachelor of Science with Major in Chemistry: ACS-Approved Program

In addition to the core curriculum, the ACS-Approved B.S. degree program requires the following courses:

Chemical Literature	CHM 3060	1
Physical Chemistry 1	CHM 3410	3
Physical Chemistry 1 Lab	CHM 3410L	2
Physical Chemistry 2	CHM 3411	3
Physical Chemistry 2 Lab	CHM 3411L	2
Inorganic Chemistry	CHM 3609	3
Inorganic Chemistry Lab	CHM 3609L	1
Bioanalytical Instrumentation	CHM 4139	2
Bioanalytical Instrumentation Lab	CHM 4139L	2
Calculus with Analytic Geometry 1	MAC 2311	4
Calculus with Analytic Geometry 2	MAC 2312	4
General Physics 1	PHY 2048	4

General Physics 2	PHY 2049	4

One of the following:		
Calculus with Analytic Geometry 3	MAC 2313	3
Differential Equations 1	MAP 2302	3

Three of the following:		
Biochemistry 2	BCH 3034	3
Environmental Chemistry	CHM 3080	3
Organic Chemistry 3	CHM 4220	3
Introduction to Drug Development	**CHM 4274C**	**3**
Structural Biochemistry	CHM 4350	3
Materials Chemistry	CHM 4714	3
Directed Independent Study	CHM 4905	3

Commented [KS1]: Course Option added to this list of possible elective options

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Bachelor of Science with Major in Chemistry: Concentration in Biochemistry

In addition to the core curriculum, the B.S. in Chemistry (Biochemistry concentration) program requires the following courses:

Biochemistry 2	BCH 3034	3
Biochemistry Lab	BCH 3103L	3
Advanced Biochemistry	BCH 4035	3
Biological Principles	BSC 1010	3
Biological Principles Lab	BSC 1010L	1
Chemical Literature	CHM 3060	1
Physical Chemistry 1	CHM 3410	3
Physical Chemistry 1 Lab	CHM 3410L	2
Calculus with Analytic Geometry 1	MAC 2311	4
Experimental Design and Statistical Inference	PSY 3234	3
General Physics 1	PHY 2048	4 **or**
College Physics 1	PHY 2053	4
General Physics 2	PHY 2049	4 **or**
College Physics 2	PHY 2054	4

Minimum of one of the following:		
Environmental Chemistry	CHM 3080	3
Inorganic Chemistry	CHM 3609	3
Inorganic Chemistry Lab	CHM 3609L	1
Bioanalytical Instrumentation	CHM 4139	2
Bioanalytical Instrumentation Lab	CHM 4139L	2
Organic Chemistry 3	CHM 4220	2

Introduction to Drug Design	CHM 4273	3
Introduction to Drug Development	**CHM 4274C**	**3**
Structural Biochemistry	CHM 4350	3
Materials Chemistry	CHM 4714	3

Minimum of one of the following:		
General Microbiology	MCB 3020	3
General Microbiology Lab	MCB 3020L	1
Genetics	PCB 3063	3
Cell Biology	PCB 3023	3
Biological Bases of Behavior	PSB 3002	3

Minimum of one of the following:		
Seminar	BSC 4932	1
Directed Independent Study	CHM 4905	1-3
Science Internship	IDS 3941	1-3

Additional courses for Pre-Professional majors:

Required:		
Biodiversity	BSC 1011	3
Biodiversity Lab	BSC 1011L	1

Suggested Electives		
Comparative Animal Behavior	CBH 4024	3
Medical Shadowing Internship	IDS 3940	1
Human Morphology and Function 1	PCB 3703	3
Human Morphology and Function 1 Lab	PCB 3703L	1 **or**
Comparative Vertebrate Morphology	ZOO 4690	3
Comparative Vertebrate Morphology Lab	ZOO 4690L	1
Human Morphology and Function 2	PCB 3704	3
Human Morphology and Function 2 Lab	PCB 3704L	1 **or**
Comparative Animal Physiology	PCB 4723	3
Comparative Animal Physiology Lab	PCB 4723L	1

Commented [KS2]: Course Option added to this list of possible elective options