 FLORIDA ATLANTIC UNIVERSITY	NEW/CHANGE PROGRAM REQUEST Undergraduate Programs		UUPC Approval <u>4/21/2025</u> UFS Approval _____ Banner _____ Catalog _____
Department Chemistry and Biochemistry College Science		Effective Date <small>(TERM & YEAR)</small> Spring 2026	
Program Name BS in Chemistry, Medicinal Chemistry Concentration	<input type="checkbox"/> New Program* <input checked="" type="checkbox"/> Change Program*		
<p>Please explain the requested change(s) and offer rationale below or on an attachment.</p> <p>The Department of Chemistry and Biochemistry at Florida Atlantic University proposes to revise our existing BS in Chemistry program by adding a new concentration in Medicinal Chemistry. The primary goal of this change is to create a more flexible opportunity for students to complete a BS in Chemistry by adding the "statistical reasoning" pathway as an option for general math requirements to increase enrollment in chemistry degree programs at FAU. This program revision will enhance student preparation for the demands of the current drug discovery labor market, and aligns with the College of Science's Strategic Plans and Mission to recognize our unique strength in health research. The expertise of the faculty within the department will support it.</p>			
<small>*All new programs and changes to existing programs must be accompanied by a catalog entry showing the new or proposed changes.</small>			
Faculty Contact/Email/Phone Tito Sempertegui / tsempert@fau.edu / (561) 297-2508		Consult and list departments that may be affected by the change(s) and attach documentation	
Approved by Department Chair <u>Andrew Teresh's</u> College Curriculum Chair <u>[Signature]</u> College Dean <u>Evonne Rezler</u> UUPC Chair <u>Korey Sorge</u> Undergraduate Studies Dean <u>Dan Meeroff</u> UFS President _____ Provost _____			Date <u>4/7/25</u> <u>4/10/25</u> <u>04/10/25</u> <u>4/21/2025</u> <u>4/21/2025</u> _____ _____

Email this form and attachments to mjennning@fau.edu seven business days before the UUPC meeting.

~~Two~~ **Three** 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.
3. The **B.S. Program with a Concentration in Medicinal Chemistry** is a unique opportunity for students passionate about chemistry and drug discovery. This program focuses on the principles of drug design, synthesis, and analysis, preparing students for a dynamic career in the pharmaceutical industry, biotechnology companies, research institutions, academia, and medicine.

Prerequisite Coursework for Transfer Students

Students transferring to Florida Atlantic University must complete both lower-division requirements (including the requirements of the General Education Curriculum) 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

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

CHEMISTRY

BACHELOR OF SCIENCE (B.S.)

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
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Choose one of the following.

Calculus with Analytic Geometry 3	MAC 2313	3
Differential Equations 1	MAP 2302	3

Choose three of the following.

Biochemistry 2	BCH 3034	3
RI: Advanced Biochemistry	BCH 4035	3
Environmental Chemistry	CHM 3080	3
Organic Chemistry 3	CHM 4220	3
RI: Introduction to Drug Design	CHM 4273	3
Introduction to Drug Development	CHM 4274C	3
RI: Structural Biochemistry	CHM 4350	3
Materials Chemistry	CHM 4714	3
Directed Independent Study	CHM 4905	3
Directed Independent Research in Chemistry	CHM 4915	1-3
Directed Independent Research in Chemistry	CHM 4916	0-3
Special Topics (Added, effective spring 2025.)	CHM 4933	1-4

CHEMISTRY

BACHELOR OF SCIENCE (B.S.)

Biochemistry Concentration

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
RI: 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

Choose a 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
RI: Introduction to Drug Design	CHM 4273	3
Introduction to Drug Development	CHM 4274C	3
RI: Structural Biochemistry	CHM 4350	3
Materials Chemistry	CHM 4714	3

Choose a 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

Choose a minimum of one of the following.

Seminar	BSC 4932	1
Directed Independent Study	CHM 4905	1-3
Science Internship	IDS 3941	1-3
Directed Independent Research in Chemistry	CHM 4915	1-3
Directed Independent Research in Chemistry	CHM 4916	0-3
Special Topics (Added, effective spring 2025.)	CHM 4933	1-4
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

CHEMISTRY

BACHELOR OF SCIENCE (B.S.)

Medicinal Chemistry Concentration

Mathematics sequence

Calculus with Analytic Geometry 1 and	MAC 2311	4
Calculus with Analytic Geometry 2*	MAC 2312	4
or		
Introductory Statistics and	STA 2023	3
Methods of Calculus or	MAC 2233	3
Mathematics for Biological Sciences	MAP 2491	3

Total=6-8 (*Preferred sequence, with Differential Equations or Calculus 3)

Medicinal Chemistry Concentration

In addition to the core curriculum, the Medicinal Chemistry 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
Inorganic Chemistry	CHM 3609	3
Inorganic Chemistry Lab	CHM 3609L	1
Bioanalytical Instrumentation	CHM 4139	2
Bioanalytical Instrumentation Lab	CHM 4139L	2
General Physics 1 or College Physics 1	PHY 2048 PHY 2053	4 4
General Physics 2 or College Physics 2	PHY 2049 PHY 2054	4 4
Medicinal Chemistry	CHM 4292	3

Medicinal Chemistry electives sequence:

Required electives, at least 9 credits

RI: Introduction to Drug Design	CHM 4273	3
Introduction to Drug Development	CHM 4274C	3
Organic Chemistry 3	CHM 4220	3
Organic Spectroscopy	CHM 4230C	3
Introduction to Chemical Biology	CHM 4300	3
Introduction to Bioinorganic Chemistry	CHM 4403	3
Introduction to Cosmetic Science	CHS 4403	3
Biochemistry Lab	CHM 3103L	3

Other chemistry or biochemistry elective courses – At least 1 class

Any **approved** course at the 3000, 4000, 5000, or 6000 levels from the Chemistry Department (CHM, CHS, or BCH)






Med Chem Program Change form-signed

Final Audit Report

2025-04-10

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"Med Chem Program Change form-signed" History

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