

## BS Mathematical Sciences Chemistry track- Fall 2022

The major in Mathematics – Chemistry Track gives an opportunity to undergraduate mathematics students interested in chemistry to be exposed to the interplay between the two disciplines.

**Course Availability: This is when courses are typically offered and is subject to change: F (Fall), S (Spring), SS (Summer) F = Fall, S = Spring, SS = Summer**

### Common Prerequisites (18-19 credits)

Complete all of the following with a grade of “C” or better (15 credits)

Course	Description	Pre-requisites	Term offered	Units
MAC 2311	Calculus I	Grade of “C” or higher in MAC 1147 or MAC 1140 + MAC 1114 (or placement score without prior coursework)	F, S, SS	4
MAC 2312	Calculus II	MAC 2311	F, S, SS	4
MAC 2313	Multivariable Calculus	MAC 2312	F, S, SS	4
MAP 2302	Differential Equations	MAC 2312	F, S, SS	3

Complete one of the following with a grade of “C” or better (3-4 credits):

COP 2210	Intro to Programming	MAC 1140 or MAC 1147 or MAC 2233 or MAC 2311, or Advisor’s Permission	F, S, SS	4
COP 2250	Java Programming		F, S, SS	3

### Required Courses (55 credits)

Complete all of the following with a grade of “C” or better (49 credits)

MAA 3200	Intro to Advanced Math	MAD 2104 and MAC 2312	F, S, SS	3
MAD 2104	Discrete Mathematics	MAC 1105 or appropriate placement score	F, S, SS	3
MAS 3105	Linear Algebra	MAC 2312	F, S, SS	3
STA 4321	Mathematical Statistics I	MAC 2313	F	3
MAD 3401	Numerical Analysis	COP 2210 or COP 2250 or COP 2270 or CGS 2420 and MAC 2312	F, S, SS	3
MAP 4104C	Topics in Math Modeling	MAP 2302, MAC 2313, MAS 3105	F	4
MAP 4401	Advanced Differential Eqs	MAP 2302 and MAC 2313	S	3
PHY2048	Physics W/Calculus I	Pre- or Co-requisite: MAC2311 Co-requisite: PHY 2048L	F, S, SS	4
PHY2048L	General Physics Lab I	Co-requisite: PHY 2048	F, S, SS	1
PHY2049	Physics W/Calculus II	Pre- or Co-requisite: MAC2312 Prerequisite: PHY 2048 Co-requisite: PHY 2049L	F, S, SS	4
PHY2049L	General Physics Lab II	Co-requisite: PHY 2049	F, S, SS	1
CHM 1045	General Chemistry I	“C” grade or higher in MAC 1105 or appropriate placement score Co-requisite: CHM 1045L	F, S, SS	3
CHM 1045L	General Chemistry I Lab	Co-requisite: CHM 1045	F, S, SS	1
CHM 1046	General Chemistry II	Prerequisite: CHM 1045 Co-requisite: CHM 1046L	F, S, SS	3
CHM 1046L	General Chemistry II Lab	Co-requisite: CHM 1046	F, S, SS	1

CHM 2210	Organic Chemistry I	Co-requisite: CHM 2210L, Pre-requisite: CHM 1046 & CHM 1046L	F, S, SS	4
CHM 3410*	Physical Chemistry I	MAC 2311, MAC 2312, PHY 2048 & L, PHY 2049 & L, CHM 3120 & L	F	4
CHM 3411*	Physical Chemistry II	CHM 3410	S	4

\*Students can request permission to enroll in CHM 3410 and CHM 3411 without the lab from [chemenroll@fiu.edu](mailto:chemenroll@fiu.edu)

Complete one course from the following list with a grade of “C” or better (3 credits, Global Learning Discipline Specific):

Course	Description	Pre-requisites	Term offered	Units
IDS 4174	Mathematics and Philosophy in Arts- GL	N/A	F	3
MHF 3404	History of Mathematics- GL	MAC 2312	F	3
MHF 4401	Methods in the History of Modern Mathematics- GL	MAC 2313 and MAS 3105	S	3

Students wishing to pursue a graduate degree in Mathematical Sciences are strongly advised to take MAA 4211 and MAS 4301. Students wishing to pursue graduate studies in Biochemistry or Bioinformatics will be encouraged to take Biological Chemistry, CHM 4304 (the Chemistry Department will waive Organic Chemistry II, CHM 2211, and Analytical Chemistry, CHM 3120).

Graduation Requirements:

- University Core Curriculum (UCC)
- Minimum of a 2.0 GPA
- 45 credits of Upper Division hours (3000-4000 level)
- 120 credit hours required for graduation
- Foreign Language requirement (FLENT/FLEX)
- Global Learning (GL) requirement
- Civic Literacy requirement

Students interested in Secondary Teacher Certification should contact the College of Arts, Sciences & Education Center for Advising & Student Success at (305) 348-2978