

Program Approval Form

For approval of new programs and deletions or modifications to an existing program.

Action Requested:

- ☐ Create New (SCHEV approval required except for minors)
- ☐ Inactivate Existing
- ☒ Modify Existing (check ALL that apply)
- ☐ Title (SCHEV approval required except for minors)
- ☐ Concentration (Choose one): ☐ Add ☐ Delete ☐ Modify
- ☒ Degree Requirements
- ☐ Admission Standards/ Application Requirements
- ☐ Other Changes:

Type (Check one):

- ☐ B.A. ☒ B.S. ☐ Minor
- ☐ Master's
- ☐ Ph.D.
- ☐ Undergraduate Certificate*
- ☐ Graduate Certificate*
- ☐ Bachelor's/Accelerated Master's ☐ Other:

College/School:
Submitted by:

COS
S.W. Slayden

Department:

Chemistry & Biochemistry

Ext: 3-1071

Email: sslayden@gmu.edu

Effective Term:

Fall

2017

Please note: For students to be admitted to a new degree, minor, certificate or concentration, the program must be fully approved, entered into Banner, and published in the University Catalog.

Justification: (attach separate document if necessary)

The changes will bring the requirements back in line with what they were in the past, as well as with those in most other Amer. Chem. Soc.-approved major programs

Program Title: (Required)

Title must identify subject matter. Do not include name of college/school/dept.

Concentration(s):

Admissions Standards / Application Requirements: (Required only if different from those listed in the University Catalog)

Degree Requirements:

Consult University Catalog for models, attach separate document if necessary using track changes for modifications

Courses offered via distance: (if applicable)

TOTAL CREDITS REQUIRED:

Existing	New/Modified
B. S. in Chemistry without concentration	
see attached	see attached

*For Certificates Only: Indicate whether students are able to pursue on a

☐ Full-time basis

☐ Part-time basis

Approval Signature:

College/School

Date

Provost's Office

Date

Required for Minors and Interdisciplinary Programs

In collaboration with another unit at Mason, the originating department must circulate this necessary signatures prior to submission. Failure to do so will delay action on this proposal.

Name

Unit Approver's Signature

Date

For Undergraduate Programs only

Undergraduate Council Member

Provost Office

Undergraduate Council Approval Date

For Graduate Programs Only

Graduate Council Member

Provost Office

Graduate Council Approval Date

For Registrar Office's Use Only: Received

Banner

Catalog

revised 9/2/2016

Program Proposal Submitted to the College of Science Curriculum Committee (COSCC)

The form above is processed by the Office of the University Registrar. This second page is for the COSCC's reference.
Please complete the applicable portions of this page to clearly communicate what the form above is requesting.

FOR ALL PROGRAMS (required)

Program Title: B.S. in Chemistry without concentration

Date of Departmental Approval: Dec. 16, 2016

FOR INACTIVATED PROGRAMS (required if inactivating a program)

- Reason for Inactivation:

FOR MODIFIED PROGRAMS (required if modifying a program)

- Summary of the Modification: Several of the courses for the B.S. Chemistry program have been re-categorized as requirements or electives.
- Text before Modification (title, degree requirements, etc.): See attachment
- Text after Modification (title, degree requirements, etc.): See attachment
- Reason for the Modification: These changes restore the B.S. Chemistry program to an earlier and more traditional version. During the years that we established and grew the Biochemistry concentration, we tinkered with both programs, especially trying to make the Chemistry option more attractive to students. However, we find that the low enrollment CHEM 445, 422, and 423 puts them in jeopardy of being cancelled and we have finally acknowledged that we are doing our graduates a disservice. With respect to Instrumental Methods of Chemical Analysis* (422, 423), as chemists we know our graduates are better off with a formal introduction to instruments since so many of the students will use instruments in their early career. As we look at other comparable chemistry programs throughout the country, we see they have retained the traditional approach of requiring Inorganic Chemistry lecture (441, required currently) and lab (445) and Instrumental Methods lecture and lab (422, 423). CHEM 413 was inadvertently left off the In-Depth elective list during the last program change. Since then, we have routinely approved it as a Substitution for the in-depth requirement for students who wish to count it.
- CHEM 446 (Bioinorganic) is being removed from the list of in-depth courses. CHEM 441 (Properties and Bonding of Inorganic Compounds) and CHEM 446 are essentially identical for the first half of each course. We do not want students to choose, as an in-depth elective, a course with significant overlap as one of their required courses.
- CHEM 413 (Synthetic and Mechanistic Organic Chemistry) is included in the list of in-depth courses. CHEM 413 was inadvertently left off the original list of in-depth courses. CHEM 413 builds on the foundation work that is laid in CHEM 314 and CHEM 318, along with CHEM 331.

*This course was formerly titled "Instrumental Analysis".

FOR NEW PROGRAMS (required if creating a new program)

- Reason for the New Program:
- Relationship to Existing Programs:

- Relationship to Existing Courses:
- Semester of Initial Offering:
- Insert Tentative SCHEV Proposal Below

Degree Requirements

BS without Concentration

Students who do not select an optional concentration complete the curriculum requirements listed below.

Mathematics (11 credits)

- MATH 113 - Analytic Geometry and Calculus I Credits: 4 (Mason Core: Quantitative Reasoning course)
 - MATH 114 - Analytic Geometry and Calculus II Credits: 4
 - MATH 213 - Analytic Geometry and Calculus III Credits: 3
-

In-depth Electives (3 credits)

Choose from:

- CHEM 413 – Synthetic and Mechanistic Organic Chemistry Credits: 3
- CHEM 427 - Aquatic Environmental Chemistry Credits: 3
- CHEM 438 - Atmospheric Chemistry Credits: 3
- CHEM 458 - Chemical Oceanography Credits: 3
- CHEM 464 - General Biochemistry II Credits: 3
- CHEM 467 - The Chemistry of Enzyme-Catalyzed Reactions Credits: 3
- CHEM 468 - Bioorganic Chemistry Credits: 3

Additional Chemistry (49 credits)

- CHEM 211 - General Chemistry I Credits: 3 (Mason Core: Natural Science course)
- CHEM 213 - General Chemistry Laboratory I Credits: 1 (Mason Core: Laboratory Natural Science course)
- CHEM 212 - General Chemistry II Credits: 3 (Mason Core: Natural Science course)
- CHEM 214 - General Chemistry Laboratory II Credits: 1 (Mason Core: Laboratory Natural Science course)
- CHEM 313 - Organic Chemistry I Credits: 3
- CHEM 314 - Organic Chemistry II Credits: 3
- CHEM 315 - Organic Chemistry Lab I Credits: 2
- CHEM 318 - Organic Chemistry Lab II Credits: 2
- CHEM 321 - Quantitative Chemical Analysis Credits: 4
- CHEM 331 - Physical Chemistry I Credits: 3
- CHEM 332 - Physical Chemistry II Credits: 3
- CHEM 336 - Physical Chemistry Lab I Credits: 2
- CHEM 337 - Physical Chemistry Lab II Credits: 2
- CHEM 442 – Instrumental Methods of Chemical Analysis Credits 3
- CHEM 443 – Instrumental Methods of Chemical Analysis Lab Credits 2
- CHEM 441 - Properties and Bonding of Inorganic Compounds Credits: 3
- CHEM 445 - Inorganic Preparations and Techniques Credits: 2
- CHEM 463 - General Biochemistry I Credits: 4

- Choose 3 credits of chemistry electives (any lecture, lab, or research course(s))

Physics (8 credits)

Mason Core: Natural Science courses:

- PHYS 160 - University Physics I Credits: 3
- PHYS 161 - University Physics I Laboratory Credits: 1
- PHYS 260 - University Physics II Credits: 3
- PHYS 261 - University Physics II Laboratory Credits: 1

Without Concentration Total: 71 credits
