



OFFICE OF THE PRESIDENT

May 4, 2012

Interim Dean Robert C. Stacey
College of Arts and Sciences
Box 353765

Dear Bob:

Based on the recommendation of its Subcommittee on Admissions and Programs, the Faculty Council on Academic Standards has recommended approval of the revised admissions requirements for both the Bachelor of Arts degree and the Bachelor of Science degree in Chemistry; and the revised program requirements for the Bachelor of Science degree in Chemistry. A copy of the changes is attached.

I am writing to inform you that the Department of Chemistry is authorized to specify these requirements beginning spring quarter 2012.

The new requirements should be incorporated in printed statements and in individual department websites as soon as possible. The *General Catalog* website will be updated accordingly by the Registrar's Office.

Sincerely yours,

A handwritten signature in black ink that reads "Michael K. Young".

Michael K. Young
President

Enclosure

cc: Ms. Mary Harty (with enclosure)
Mr. Robert Corbett (with enclosure)
Dr. Deborah H. Wiegand (with enclosure)
Ms. Virjean Edwards (with enclosure CHEM-20120125)



UNIVERSITY OF WASHINGTON

CREATING AND CHANGING UNDERGRADUATE ACADEMIC PROGRAMS

B-1-2012 JS

OFFICE USE ONLY
Control # APR 19 2012

CHEM-20120125

After college/school/campus review, send a signed original and 1 copy to the Curriculum Office/FCAS, Box 355850.

For information about when and how to use this form: <http://depts.washington.edu/uwcr/1503instructions.pdf>

College/Campus Arts & Science / Seattle	Department/Unit Chemistry	Date 1/25/12
--	----------------------------------	---------------------

New Programs

- Leading to a Bachelor of _____ in _____ degree.
- Leading to a Bachelor of _____ degree with a major in _____.
- Leading to a _____ Option within the existing major in _____.
- Leading to a minor in _____.

Changes to Existing Programs

- New Admission Requirements for the Major in _____ within the Bachelor of _____.
- Revised Admission Requirements for the Major in Chemistry within the Bachelor of Science and Bachelor of Arts.
- Revised Program Requirements for the Major in Chemistry within the Bachelor Science.
- Revised Requirements for the Option in _____ within the major in _____.
- Revised Requirements for the Minor in _____.

Other Changes

- Change name of program from _____ to _____.
- New or Revised Continuation Policy for Chemistry.
- Eliminate program in _____.

Proposed Effective Date: **Quarter:** Autumn Winter Spring Summer **Year: 20 12**

Contact Person: Mary Harty	Phone: 6169880	Email: harty@chem.washington.edu	Box: 351700
----------------------------	----------------	----------------------------------	-------------

EXPLANATION OF AND RATIONALE FOR PROPOSED CHANGE

For new program, please include any relevant supporting documentation such as student learning outcomes, projected enrollments, letters of support and departmental handouts. (Use additional pages if necessary).

We are updating the names of our Admission Pathways to "Direct", "Research/Honors", "Early", and "Regular" in order to avoid the term "First Year" since students thought this meant they must be Freshman in order to apply via the "First Year" Pathway.

A typographical error is in the current catalog copy under requirements for the BS Chemistry degree stating that "For graduation, a minimum of 182 credits is required with an overall cumulative GPA of 2.8". The GPA should be 2.5.

OTHER DEPARTMENTS AFFECTED

List all departments/units/ or co-accredited programs affected by your new program or changes to your existing program and acquire the signature of the chair/director of each department/unit listed. Attach additional page(s) if necessary. *See online instructions.

Department/Unit:	Chair/Program Director:	Date:
Department/Unit:	Chair/Program Director:	Date:

CATALOG COPY

Catalog Copy as currently written. Include only sections/paragraphs that would be changed if your request is approved. Please cross out or otherwise highlight any deletions.

See attached current catalog copy

PROPOSED CATALOG COPY

Reflecting requested changes (Include exact wording as you wish it to be shown in the printed catalog. Please underline or otherwise highlight any additions. If needed, attach a separate, expanded version of the changes that might appear in department publications). **Please note: all copy will be edited to reflect uniform style in the General Catalog.**

See attached proposed catalog copy

APPROVALS

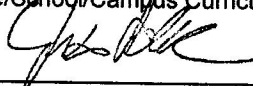
Chair/Program Director:

 PAUL B. HOPKINS

Date:

2/10/12

College/School/Campus Curriculum Committee:



Date:

4/17/2012

Dean/Vice Chancellor:



Date:

4/17/2012

Faculty Council on Academic Standards/ General Faculty Organization/Faculty Assembly Chair:



Date:

MAY 1, 2012

POST TRI-CAMPUS APPROVAL (when needed)

Faculty Council on Academic Standards/ General Faculty Organization/Faculty Assembly Chair:

Date:

Current Copy:

The Department of Chemistry offers the following programs of study:

- The Bachelor of Arts degree with a major in chemistry
- The Bachelor of Science degree with a major in chemistry - ACS certified
- The Bachelor of Science degree with a major in chemistry
- A minor in chemistry

The Bachelor of Science degree is designed primarily for those who wish to pursue a career in chemistry or a career in which chemistry plays a central role.

The department offers two Bachelor of Science degrees. The Bachelor of Science with a major in chemistry (ACS certified) meets guidelines established by the American Chemical Society (ACS). It provides an extensive education in all branches of chemistry and also emphasizes laboratory training. The non-certified major does not emphasize laboratory work as strongly, offers more options among chemistry courses, and allows more flexibility in incorporating coursework outside of chemistry.

The Bachelor of Arts in chemistry fills the needs of students whose chosen career requires a strong background in chemistry with additional expertise in other disciplines.

Bachelor of Science

Suggested First- and Second-Year Courses: CHEM 142, CHEM 152, CHEM 162 (or CHEM 145, CHEM 155, CHEM 165); CHEM 237, CHEM 238, CHEM 239, CHEM 241, CHEM 242 (or CHEM 335, CHEM 336, CHEM 337, CHEM 346, CHEM 347); MATH 124, MATH 125, MATH 126 (or MATH 134, MATH 135, MATH 136); PHYS 121, PHYS 122, PHYS 123 (or PHYS 114, PHYS 115, PHYS 116 plus one physics lab course). PHYS 121 sequence recommended. Courses in linear algebra and differential equations.

Department Admission Requirements

Application to BA and BS degree programs in chemistry is competitive. Applicants are considered in the following groups: Direct Freshman Admission, Research/Honors, Early Admission, and Regular Admission. Completion of minimum requirements described below does not guarantee admission. All applicants have the right to petition and appeal the department's admission decision. Applications are considered twice each academic year and are due on the second Friday of October and the second Friday of April, with the exception of Direct Freshman Admission. The application and additional information is available at <http://depts.washington.edu/chem/undergrad/>.

Direct Freshman Admission

1. Open to freshman students formally admitted to the UW
2. Score of 5 on the AP chemistry examination
3. Indication on the UW freshman application of chemistry as the student's first choice of major
4. Successful direct-admission applicants generally have received a minimum 1400 on the SAT (math and verbal sections) or a minimum 30 on the ACT.
5. Admission is for autumn quarter only.

Early Admission

1. Students with exceptional records can apply for consideration for early admission via the Honors or Research track. Students seeking early admission should submit an application that includes:
 - a. Cover sheet (available on the Department of Chemistry Website)
 - b. Unofficial transcript
 - c. Statement of purpose: May include a description of interest in chemistry, career goals, undergraduate research interests, degree interest (BA or BS), and any other information applicant believes is useful in evaluating the application.
 - d. (Research Track only) Written letter or recommendation from research adviser.
2. Honors Track. Students participating in the chemistry Honors sequence who have completed the following courses with a minimum cumulative GPA of 3.00: CHEM 145, CHEM 155 (10 credits); MATH 124 and MATH 125 (or MATH 134 and MATH 135) (10 credits).
3. Research Track. Students who have performed at least 6 credits of undergraduate research (CHEM 199, CHEM 299, or higher) and who provide a strong recommendation from faculty research advisers. Biochemistry undergraduate research may be considered as well.

First-Year Admission

1. Course requirements: CHEM 142, CHEM 152, CHEM 162 (or CHEM 144, CHEM 154, CHEM 164; or CHEM 145, CHEM 155, CHEM 165) (15 credits). PHYS 121, PHYS 122 (recommended) or PHYS 114, PHYS 115 (10 or 8 credits). MATH 124, MATH 125 (or MATH 134, MATH 135) (10 credits).
2. Factors in the admission decision include academic performance as measured by GPA in courses required for application, difficulty of other courses completed, frequency of incompletes or withdrawal grades, number of repeated courses, relevant work and life experience, and record of honors.
3. Successful applicants for the BS chemistry and BS chemistry-ACS certified programs typically have a cumulative GPA greater than 3.20 in courses listed

above under course requirements. Successful applicants for the BA chemistry program typically have a cumulative GPA greater than 3.00 in courses listed above under course requirements.

Regular Admission

1. Course requirements: CHEM 142, CHEM 152, CHEM 162 (or CHEM 144, CHEM 154, CHEM 164; or CHEM 145, CHEM 155, CHEM 165) (15 credits). CHEM 237, CHEM 238 (or CHEM 335, CHEM 336) (8 credits). PHYS 121, PHYS 122 (recommended) (or PHYS 114, PHYS 115) (10 or 8 credits). MATH 124, MATH 125 (or MATH 134, MATH 135) (10 credits).
2. Factors in the admission decision include academic performance as measured by GPA in courses required for application, difficulty of other courses completed, frequency of incompletes or withdrawal grades, number of repeated courses, relevant work and life experience, and record of honors.
3. Successful applicants for the BS chemistry and BS chemistry-ACS certified programs typically have a cumulative GPA greater than 2.50 in courses listed above under course requirements, with no individual grade lower than a 2.0. Successful applicants for the BA chemistry program typically have a cumulative GPA greater than 2.00 in courses listed above under course requirements, with no individual grade lower than 1.7.

Continuation Policy

~~Students enrolled in degree programs in chemistry must maintain both a cumulative GPA and individual course grades consistent with requirements for their degree. Students pursuing BS degrees must maintain a minimum cumulative major GPA of 2.50 and minimum 2.0 for individual courses required for the major. Students pursuing a BA degree must maintain a minimum cumulative major GPA of 2.00 and minimum 1.7 grade for individual courses required for the major. Failure to maintain these GPA and grade standards results in the student being placed on departmental academic probation for one quarter, and dropped from the major if marked improvement in academic performance is not achieved. Students who experience extraordinary circumstances may petition for one or more additional probationary quarters.~~

Major Requirements

Chemistry (ACS-Certified)

95 credits as follows:

1. *Chemistry and Biochemistry Courses:*
 - a. *General Chemistry:* CHEM 142, CHEM 152, CHEM 162 (or CHEM 145, CHEM 155, CHEM 165)

- b. *Organic Chemistry*: CHEM 237, CHEM 238, CHEM 239, CHEM 241, and CHEM 242 (or CHEM 335, CHEM 336, CHEM 337, CHEM 346 and CHEM 347)
 - c. *Inorganic Chemistry*: CHEM 312, CHEM 317, and CHEM 416 (students completing CHEM 165 are exempt from CHEM 312)
 - d. *Analytical Chemistry*: CHEM 321, CHEM 426
 - e. *Physical Chemistry*: CHEM 455, CHEM 456, CHEM 457, CHEM 461
 - f. *Biochemistry*: BIOC 405 (students should contact adviser regarding alternative prerequisites for BIOC 405)
 - g. *Advanced Chemistry*: 5 credits of numerically graded CHEM or BIOC 400-level courses (not previously listed) and one more course with laboratory (currently CHEM 428, CHEM 462, CHEM 463, and CHEM 465)
 - h. Strongly recommended, research credits in CHEM 399 and CHEM 499.
2. *Mathematics*: MATH 124, MATH 125, MATH 126 and two additional math courses above 300 (recommended MATH 307 and MATH 308, or AMATH 351 and AMATH 352); (alternative math requirement: MATH 134, MATH 135, MATH 136)
 3. *Physics*: PHYS 121, PHYS 122, PHYS 123 (or PHYS 114, PHYS 115, PHYS 116 plus one physics lab course). PHYS 121 sequence recommended.
 4. *Grade Requirements*: Minimum 2.0 grade in each chemistry course; minimum 2.50 GPA for courses used to satisfy the major degree requirements; minimum overall cumulative 2.50 GPA and minimum 185 credits required for graduation.

Chemistry

92 credits as follows:

1. *Chemistry and Related Courses*:
 - a. *General Chemistry*: CHEM 142, CHEM 152, CHEM 162, and CHEM 312 (or CHEM 144, CHEM 154, CHEM 164, and CHEM 312; or CHEM 145, CHEM 155, CHEM 165, and CHEM 416)
 - b. *Organic Chemistry*: CHEM 237, CHEM 238, CHEM 239, and CHEM 241 (or CHEM 335, CHEM 336, CHEM 337, and CHEM 346)
 - c. *Physical Chemistry*: CHEM 455, CHEM 456, CHEM 457
 - d. *Advanced Chemistry Labs*: Two of the following three: CHEM 317, CHEM 321, or CHEM 461
 - e. *Additional Labs*: 5 additional lab credits chosen from the following: CHEM 242, CHEM 317, CHEM 321, CHEM 347, CHEM 426, CHEM 428, CHEM 461, CHEM 462, CHEM 463, CHEM 465, and BIOC 426

- f. *Science Electives*: 11 credits chosen from CHEM 242, CHEM 317, CHEM 321, CHEM 347, any 400-level numerically graded chemistry or biochemistry courses, or MATH 307 (or AMATH 351). Students with a chemistry GPA of 3.30 or higher may apply up to 6 credits of approved research (CHEM 399 or CHEM 499) toward satisfying this requirement. CHEM 498 may *not* be used to satisfy this requirement.
2. *Mathematics*: MATH 124, MATH 125, MATH 126 and one course above 300 (recommended: MATH 308 or AMATH 352); alternative MATH requirement: MATH 134, MATH 135, MATH 136.
3. *Physics*: PHYS 121, PHYS 122, PHYS 123 (or PHYS 114, PHYS 115, PHYS 116 plus one physics lab course). PHYS 121 sequence recommended.
4. *Grade Requirements*: Minimum 2.0 grade in each chemistry course; minimum 2.50 GPA required for all chemistry, mathematics, and physics courses used to satisfy major requirements; minimum overall cumulative 2.50 GPA and minimum 182 credits required for graduation.
5. For graduation, a minimum of 182 credits is required with an overall cumulative GPA of 2.80.

Bachelor of Arts

~~*Suggested First and Second Year Courses*: CHEM 142, CHEM 152, CHEM 162 (or CHEM 145, CHEM 155, CHEM 165) CHEM 237, CHEM 238, CHEM 239, CHEM 241, CHEM 242 (or CHEM 335, CHEM 336, CHEM 337, CHEM 346, CHEM 347); MATH 124, MATH 125, MATH 126 (or MATH 134, MATH 135, MATH 136); PHYS 121, PHYS 122, PHYS 123 (or PHYS 114, PHYS 115, PHYS 116 plus one physics lab course). PHYS 121 sequence recommended.~~

Department Admission Requirements

~~Students in good academic standing may declare this major at any time.~~

Major Requirements

79-82 credits as follows:

1. *Chemistry Courses*:
 - a. *General Chemistry*: : CHEM 142, CHEM 152, CHEM 162, CHEM 312 (or CHEM 144, CHEM 154, CHEM 164, CHEM 312; or CHEM 145, CHEM 155, CHEM 165)
 - b. *Organic Chemistry*: CHEM 237, CHEM 238, CHEM 239, CHEM 241, CHEM 242 (or CHEM 335, CHEM 336, CHEM 337, CHEM 346, CHEM 347)
 - c. *Analytical Chemistry*: CHEM 321

- d. *Advanced Chemistry Lab*: Either CHEM 317 or CHEM 461
 - e. *Advanced Chemistry*: 11 credits of numerically graded CHEM 400-level courses to include either CHEM 455, CHEM 456, CHEM 457 series, or CHEM 452, CHEM 453 series
2. *Mathematics*: MATH 124, MATH 125, MATH 126 (or MATH 134, MATH 135, MATH 136)
 3. *Physics*: One year of physics including at least 1 credit of laboratory (PHYS 114, PHYS 115, and PHYS 116 and at least one of PHYS 117, PHYS 118, or PHYS 119; or PHYS 121, PHYS 122, and PHYS 123; PHYS 121 sequence recommended).
 4. *Grade Requirements*: Minimum 2.00 GPA in chemistry courses counted toward major; minimum 1.7 grade in all required chemistry courses

Proposed Copy:

The Department of Chemistry offers the following programs of study:

- The Bachelor of Arts degree with a major in chemistry
- The Bachelor of Science degree with a major in chemistry - ACS certified
- The Bachelor of Science degree with a major in chemistry
- A minor in chemistry

The Bachelor of Science degree is designed primarily for those who wish to pursue a career in chemistry or a career in which chemistry plays a central role.

The department offers two Bachelor of Science degrees. The Bachelor of Science with a major in chemistry (ACS certified) meets guidelines established by the American Chemical Society (ACS). It provides an extensive education in all branches of chemistry and also emphasizes laboratory training. The non-certified major does not emphasize laboratory work as strongly, offers more options among chemistry courses, and allows more flexibility in incorporating coursework outside of chemistry.

The Bachelor of Arts in chemistry fills the needs of students whose chosen career requires a strong background in chemistry with additional expertise in other disciplines.

Bachelor of Science

Suggested First- and Second-Year Courses: CHEM 142, CHEM 152, CHEM 162 (or CHEM 145, CHEM 155, CHEM 165); CHEM 237, CHEM 238, CHEM 239, CHEM 241, CHEM 242 (or CHEM 335, CHEM 336, CHEM 337, CHEM 346, CHEM 347); MATH 124, MATH 125, MATH 126 (or MATH 134, MATH 135, MATH 136); PHYS 121, PHYS 122, PHYS 123 (or PHYS 114, PHYS 115, PHYS 116 plus one physics lab course). PHYS 121 sequence recommended. Courses in linear algebra and differential equations.

Bachelor of Arts

Suggested First- and Second-Year Courses: CHEM 142, CHEM 152, CHEM 162 (or CHEM 145, CHEM 155, CHEM 165) CHEM 237, CHEM 238, CHEM 239, CHEM 241, CHEM 242 (or CHEM 335, CHEM 336, CHEM 337, CHEM 346, CHEM 347); MATH 124, MATH 125, MATH 126 (or MATH 134, MATH 135, MATH 136); PHYS 121, PHYS 122, PHYS 123 (or PHYS 114, PHYS 115, PHYS 116 plus one physics lab course). PHYS 121 sequence recommended.

Department Admission Requirements

Application to BA and BS degree programs in chemistry is competitive. Applicants are considered in the following groups: Direct Freshman Admission, Research/Honors, Early Admission, and Regular Admission. Completion of minimum requirements described below does not guarantee admission. All applicants have the right to petition and appeal the department's admission decision. Applications are considered twice each academic year and are due on the second Friday of October and the second Friday of April, with the exception of Direct Freshman Admission. The application and additional information is available at <http://depts.washington.edu/chem/undergrad/>.

Direct Freshman Admission

1. Open to freshman students formally admitted to the UW
2. Score of 5 on the AP chemistry examination
3. Indication on the UW freshman application of chemistry as the student's first choice of major
4. Successful direct-admission applicants generally have received a minimum 1400 on the SAT (math and verbal sections) or a minimum 30 on the ACT.
5. Admission is for autumn quarter only.

Research/Honors

1. Students with exceptional records can apply for consideration for early admission via the Honors or Research track. Students seeking early admission should submit an application that includes:
 - a. Cover sheet (available on the Department of Chemistry Website)
 - b. Unofficial transcript
 - c. Statement of purpose: May include a description of interest in chemistry, career goals, undergraduate research interests, degree interest (BA or BS), and any other information applicant believes is useful in evaluating the application.
 - d. (Research Track only) Written letter or recommendation from research adviser.
2. Honors Track. Students participating in the chemistry Honors sequence who have completed the following courses with a minimum cumulative GPA of 3.00: CHEM 145, CHEM 155 (10 credits); MATH 124 and MATH 125 (or MATH 134 and MATH 135) (10 credits).
3. Research Track. Students who have performed at least 6 credits of undergraduate research (CHEM 199, CHEM 299, or higher) and who provide a strong recommendation from faculty research advisers. Biochemistry undergraduate research may be considered as well.

Early Admission

1. Course requirements: CHEM 142, CHEM 152, CHEM 162 (or CHEM 144, CHEM 154, CHEM 164; or CHEM 145, CHEM 155, CHEM 165) (15 credits). PHYS 121, PHYS 122 (recommended) or PHYS 114, PHYS 115 (10 or 8 credits). MATH 124, MATH 125 (or MATH 134, MATH 135) (10 credits).
2. Factors in the admission decision include academic performance as measured by GPA in courses required for application, difficulty of other courses completed, frequency of incompletes or withdrawal grades, number of repeated courses, relevant work and life experience, and record of honors.
3. Successful applicants for the BS chemistry and BS chemistry-ACS certified programs typically have a cumulative GPA greater than 3.20 in courses listed above under course requirements. Successful applicants for the BA chemistry program typically have a cumulative GPA greater than 3.00 in courses listed above under course requirements.

Regular Admission

1. Course requirements: CHEM 142, CHEM 152, CHEM 162 (or CHEM 144, CHEM 154, CHEM 164; or CHEM 145, CHEM 155, CHEM 165) (15 credits). CHEM 237, CHEM 238 (or CHEM 335, CHEM 336) (8 credits). PHYS 121, PHYS 122 (recommended) (or PHYS 114, PHYS 115) (10 or 8 credits). MATH 124, MATH 125 (or MATH 134, MATH 135) (10 credits).
2. Factors in the admission decision include academic performance as measured by GPA in courses required for application, difficulty of other courses completed, frequency of incompletes or withdrawal grades, number of repeated courses, relevant work and life experience, and record of honors.
3. Successful applicants for the BS chemistry and BS chemistry-ACS certified programs typically have a cumulative GPA greater than 2.50 in courses listed above under course requirements, with no individual grade lower than a 2.0. Successful applicants for the BA chemistry program typically have a cumulative GPA greater than 2.00 in courses listed above under course requirements, with no individual grade lower than 1.7.

Major Requirements

Chemistry (ACS-Certified)

95 credits as follows:

1. *Chemistry and Biochemistry Courses:*
 - a. *General Chemistry:* CHEM 142, CHEM 152, CHEM 162 (or CHEM 145, CHEM 155, CHEM 165)

- b. *Organic Chemistry*: CHEM 237, CHEM 238, CHEM 239, CHEM 241, and CHEM 242 (or CHEM 335, CHEM 336, CHEM 337, CHEM 346 and CHEM 347)
 - c. *Inorganic Chemistry*: CHEM 312, CHEM 317, and CHEM 416 (students completing CHEM 165 are exempt from CHEM 312)
 - d. *Analytical Chemistry*: CHEM 321, CHEM 426
 - e. *Physical Chemistry*: CHEM 455, CHEM 456, CHEM 457, CHEM 461
 - f. *Biochemistry*: BIOC 405 (students should contact adviser regarding alternative prerequisites for BIOC 405)
 - g. *Advanced Chemistry*: 5 credits of numerically graded CHEM or BIOC 400-level courses (not previously listed) and one more course with laboratory (currently CHEM 428, CHEM 462, CHEM 463, and CHEM 465)
 - h. Strongly recommended, research credits in CHEM 399 and CHEM 499.
2. *Mathematics*: MATH 124, MATH 125, MATH 126 and two additional math courses above 300 (recommended MATH 307 and MATH 308, or AMATH 351 and AMATH 352); (alternative math requirement: MATH 134, MATH 135, MATH 136)
 3. *Physics*: PHYS 121, PHYS 122, PHYS 123 (or PHYS 114, PHYS 115, PHYS 116 plus one physics lab course). PHYS 121 sequence recommended.
 4. *Grade Requirements*: Minimum 2.0 grade in each chemistry course; minimum 2.50 GPA for courses used to satisfy the major degree requirements; minimum overall cumulative 2.50 GPA and minimum 185 credits required for graduation.

Chemistry

92 credits as follows:

1. *Chemistry and Related Courses*:
 - a. *General Chemistry*: CHEM 142, CHEM 152, CHEM 162, and CHEM 312 (or CHEM 144, CHEM 154, CHEM 164, and CHEM 312; or CHEM 145, CHEM 155, CHEM 165, and CHEM 416)
 - b. *Organic Chemistry*: CHEM 237, CHEM 238, CHEM 239, and CHEM 241 (or CHEM 335, CHEM 336, CHEM 337, and CHEM 346)
 - c. *Physical Chemistry*: CHEM 455, CHEM 456, CHEM 457
 - d. *Advanced Chemistry Labs*: Two of the following three: CHEM 317, CHEM 321, or CHEM 461
 - e. *Additional Labs*: 5 additional lab credits chosen from the following: CHEM 242, CHEM 317, CHEM 321, CHEM 347, CHEM 426, CHEM 428, CHEM 461, CHEM 462, CHEM 463, CHEM 465, and BIOC 426

- f. *Science Electives*: 11 credits chosen from CHEM 242, CHEM 317, CHEM 321, CHEM 347, any 400-level numerically graded chemistry or biochemistry courses, or MATH 307 (or AMATH 351). Students with a chemistry GPA of 3.30 or higher may apply up to 6 credits of approved research (CHEM 399 or CHEM 499) toward satisfying this requirement. CHEM 498 may *not* be used to satisfy this requirement.
2. *Mathematics*: MATH 124, MATH 125, MATH 126 and one course above 300 (recommended: MATH 308 or AMATH 352); alternative MATH requirement: MATH 134, MATH 135, MATH 136.
3. *Physics*: PHYS 121, PHYS 122, PHYS 123 (or PHYS 114, PHYS 115, PHYS 116 plus one physics lab course). PHYS 121 sequence recommended.
4. *Grade Requirements*: Minimum 2.0 grade in each chemistry course; minimum 2.50 GPA required for all chemistry, mathematics, and physics courses used to satisfy major requirements; minimum overall cumulative 2.50 GPA and minimum 182 credits required for graduation.
5. For graduation, a minimum of 182 credits is required with an overall cumulative GPA of 2.50.

Bachelor of Arts

Major Requirements

79-82 credits as follows:

1. *Chemistry Courses*:
 - a. *General Chemistry*: : CHEM 142, CHEM 152, CHEM 162, CHEM 312 (or CHEM 144, CHEM 154, CHEM 164, CHEM 312; or CHEM 145, CHEM 155, CHEM 165)
 - b. *Organic Chemistry*: CHEM 237, CHEM 238, CHEM 239, CHEM 241, CHEM 242 (or CHEM 335, CHEM 336, CHEM 337, CHEM 346, CHEM 347)
 - c. *Analytical Chemistry*: CHEM 321
 - d. *Advanced Chemistry Lab*: Either CHEM 317 or CHEM 461
 - e. *Advanced Chemistry*: 11 credits of numerically graded CHEM 400-level courses to include either CHEM 455, CHEM 456, CHEM 457 series, or CHEM 452, CHEM 453 series
2. *Mathematics*: MATH 124, MATH 125, MATH 126 (or MATH 134, MATH 135, MATH 136)
3. *Physics*: One year of physics including at least 1 credit of laboratory (PHYS 114, PHYS 115, and PHYS 116 and at least one of PHYS 117, PHYS 118, or PHYS

119; or PHYS 121, PHYS 122, and PHYS 123; PHYS 121 sequence recommended).

4. *Grade Requirements:* Minimum 2.00 GPA in chemistry courses counted toward major; minimum 1.7 grade in all required chemistry courses

Continuation Policy

Students enrolled in degree programs in chemistry must maintain both a cumulative GPA and individual-course grades consistent with requirements for their degree. Students pursuing BS degrees must maintain a minimum cumulative major GPA of 2.50 and minimum 2.0 for individual courses required for the major. Students pursuing a BA degree must maintain a minimum cumulative major GPA of 2.00 and minimum 1.7 grade for individual courses required for the major. Failure to maintain these GPA and grade standards results in the student being placed on departmental academic probation for one quarter, and dropped from the major if marked improvement in academic performance is not achieved. Students who experience extraordinary circumstances may petition for one or more additional probationary quarters.