B.S. in Chemistry Graduation Checklist

Student’s Name: ___________________________ Anticipated Graduation Year: ________________

ACS-Certified: ____________ Area of Emphasis: ______________________________

Introductory Course

CHE 120 ____________________________
(Chemical Principles of Organic Molecules)

Foundational Courses
ACS-certified majors must complete all of the foundational courses listed below. Non-ACS certified majors must complete all of the starred (*) courses below with the exception of CHE 305 and CHE 306 where only one of the two is required.

*CHE 140 ____________________________
(Reactions of Organic Molecules)

*CHE 220 ____________________________
(Quantitative Chemical Analysis)

*CHE 240 ____________________________
(Chemistry of the Elements)

*CHE 305 ____________________________
(Chemical Thermodynamics and Kinetics)
Non-ACS certified majors can take either CHE 305 or 306.

*CHE 306 ____________________________
(Quantum Chemistry and Spectroscopy)
Non-ACS certified majors can take either CHE 305 or 306.

*CHE 309 ____________________________
(CBC or Biochemistry) Premedical students must take CHE 309. BIO 111 is the prereq for CHE 309.

*CHE 340 ____________________________
(Chemistry of the Elements)

Elective Courses
ACS-certified and Non-ACS certified majors must take a minimum of three upper level chemistry electives (see approved list below).

Elective #1 ____________________________
Elective #2 ____________________________
Elective #3 ____________________________

Additional Required Courses

CHE 392 ____________________________
(Junior Seminar)

CHE 492 ____________________________
(Senior Seminar)

CHE SCE ____________________________

Ancillary Courses
ACS-certified major must take PHY 111 and PHY 112.

MAT 201 ____________________________
(Differential Calculus)

MAT 202 ____________________________
(Integral Calculus)

PHY 111 or PHY 101 ____________________________
(General Physics I or College Physics I)

PHY 112 or PHY 102 ____________________________
(General Physics II or College Physics II)
Chemistry Area of Emphasis Checklist

**Note: a student may only declare one area of emphasis.**

☐ **Organic and Medicinal Chemistry**
A student must complete three of the following courses, in addition to an SCE specialization in Organic or Medicinal Chemistry.

- CHE 320 ________________
  (Introduction to Medicinal Chemistry)
- CHE 403 ________________
  (Advanced Organic Chemistry)
- CHE 303 or CHE 309 ________________
  (CBC or Biochemistry)

☐ **Greener Materials Science**
A student must complete three of the following courses, in addition to an SCE specialization in Greener Materials Science.

- CHE 310 ________________
  (Greener and Sustainable Chemistry)
- CHE 314 ________________
  (Instrumental Methods of Analysis)
- CHE 410 ________________
  (Materials Science)

☐ **Physical and Instrumental Chemistry**
A student must complete three of the following courses, in addition to an SCE specialization in Physical and Instrumental Chemistry.

- CHE 305 & 306 ________________
  (Chemical Thermodynamics and Kinetics and Quantum Chemistry and Spectroscopy)
- CHE 405 ________________
  (Biophysical Methods)
- Physics Elective ________________
  (Physics course at the 200-level or above)
- MAT 203 or MAT 345 ________________
  (Multivariable Calculus or Differential Equations)

☐ **Biophysics and Biological Chemistry**
A student must complete three of the following courses, in addition to an SCE specialization in Biophysics or Biological Chemistry.

- CHE 303 ________________
  (CBC)
- CHE 320 ________________
  (Introduction to Medicinal Chemistry)
- CHE 305 & 306 ________________
  (Chemical Thermodynamics and Kinetics and Quantum Chemistry and Spectroscopy)
- CHE 309 ________________
  (Biochemistry)
- CHE 405 ________________
  (Biophysical Methods)
- Biology Elective ________________
  (Biology elective at the 200-level or above)
In-depth courses for an ACS-Certified Major

- CHE 210 Environmental Chemistry
- CHE 310 Greener and Sustainable Chemistry
- CHE 314 Instrumental Methods of Analysis
- CHE 320 Introduction to Medicinal Chemistry
- CHE 403 Advanced Organic Chemistry
- CHE 405 Biophysical Methods
- CHE 410 Materials Science
- Approved Special Topics Course
- Approved Research Experience

Electives for a Non-ACS Certified Major

- CHE 210 Environmental Chemistry
- CHE 305 Chemical Thermodynamics and Kinetics (if not taken to complete chemistry requirements)
- CHE 306 Quantum Chemistry and Spectroscopy (if not taken to complete chemistry requirements)
- CHE 303 Chemistry of Biological Compounds
- CHE 309 Biochemistry
- CHE 310 Greener and Sustainable Chemistry
- CHE 314 Instrumental Methods of Analysis
- CHE 320 Introduction to Medicinal Chemistry
- CHE 403 Advanced Organic Chemistry
- CHE 405 Biophysical Methods
- CHE 410 Materials Science
- Approved Special Topics Course
- Approved Research Experience
- Approved Biology Courses Category II (a maximum of one)
- Approved Physics Courses at the 200-level or above (a maximum of one)