

**AMERICAN CHEMICAL SOCIETY ACCREDITATION FOR THE  
BROOKLYN COLLEGE BACHELOR OF SCIENCE DEGREE**

The requirements for ACS certification amount to completing a BS in Chemistry at Brooklyn College and completing a specific set of elective courses.

**COURSES REQUIRED FOR BS IN CHEMISTRY:**

**All** of the following courses are required – {F} = Fall offerings; {S} = Spring offerings; \* = Writing Intensive

Chem 1100 – General Chemistry I (or Chem 1050 & Chem 2050 – General Chemistry IA&IB)  
Chem 2100 – General Chemistry II  
Chem 2110 – Principles of Chemical Reactivity  
Chem 3415W\* – Writing Intensive Analytical Chemistry  
Chem 3511/3512 – Organic Chemistry I Lecture/Lab  
Chem 3521/3522 – Organic Chemistry II Lecture/Lab  
Chem 3900 (S) – Professional Readiness for Chemists  
Chem 4610{F} – Physical Chemistry I  
Chem 4620 {S} – Physical Chemistry II  
Phys 1150 – General Physics I (or Phys 1100 – General Physics I)  
Phys 2150 – General Physics II (or Phys 2100 – General Physics II)  
Math 1201 – Calculus I  
Math 1206 – Calculus II  
Math 2201 – Multivariable Calculus

**9 Credits** from the following list of Advanced Courses are required – {F} = Fall offerings; {S} = Spring offerings

Chem 2700 {F} – Introduction to Inorganic Chemistry (3 credits)  
Chem 3420 {F} – Instrumental Analysis (5 credits)  
Chem 4530 {S} – Advanced Organic Lab Techniques (5 credits)  
Chem 4550 {S} – Advanced Organic Chemistry (3 credits)  
Chem 4570 {F} – Biochemistry (5 credits)  
Chem 4571 – Biochemistry Lectures (3 credits)  
Chem 4572 {F} – Biochemistry Laboratory (2 credit)  
Chem 4581 {S} – Biochemistry II Lectures (3 credits)  
Chem 4640 {F} – Quantum Chemistry (3 credits)  
Chem 4760 {S} – Inorganic Chemistry (5 credits) (or Chem 4761 {S} – Inorganic Chemistry (3 credits))  
Chem 4780 {F} – Environmental Chemistry (3 credits)

**Writing Intensive Requirement**

Chemistry majors must take a writing intensive course (denoted by \*) in an area relevant to the major

**Residency Requirement**

24 credits in advanced Chemistry course must be earned with a grade of C- or better at Brooklyn College

**Elective Courses**

Chem 5010, 5020, 5030 – Independent Research  
Chem 5110, 5120, 5130 – Independent Research (Honors)  
Chem 5210, 5220, 5230 – Seminar  
Chem 5400 – Industrial Internship in Chemistry

**ACS ACCREDITATION SPECIFIC REQUIREMENTS:**

- Choose one of the following elective courses: Chem 2700, 4570, 4571, 4760 or 4761.
- Choose 2 elective courses from the following list: Chem 3420, 4530, 4550, 4581, 4640, 4780, 5010 or 5110.
- Demonstrate that they have 400 hours of laboratory experience in Chemistry courses. Required laboratory courses for the BS (Chem 3410/3415W, 3510, 3520, 4610, 4620) account for 300 hours. Students must choose electives or take independent study courses for the remaining 100 hours. Laboratory courses in departments other than Chemistry may not be counted toward this total. Laboratory hours associated with each course are given in the table below.

Requirements for ACS Accreditation in Tabular Form:

(1) One course from the following list (circle)	(2) Two courses from the following list (circle)	(3) Nine or more credits in advanced electives in Chemistry (circle)	(4) 100 laboratory hours (list courses and number of hours)
Chem 2700 Chem 4570 Chem 4571 Chem 4760 Chem 4761	Chem 3420 Chem 4530 Chem 4550 Chem 4581 Chem 4640 Chem 5010 Chem 4780 Chem 5110	Chem 2700 (3 credits) Chem 3420 (5 credits) Chem 4530 (5 credits) Chem 4550 (3 credits) Chem 4570 (5 credits) Chem 4571 (3 credits) Chem 4581 (3 credits) Chem 4640 (3 credits) Chem 4760 (5 credits) Chem 4761 (3 credits) Chem 4780 (3 credits)	Chem 3420 (90 hours) Chem 4530 (90 hours) Chem 4570 (60 hours) Chem 4760 (60 hours) Chem 5010* _____ Chem 5110* _____ (Make sure your research mentor documents hours for Chem 5010 or 5110; see below.)

\*See below for notes on independent study for Chem 5010 and 5110.

Using Independent Study courses to meet ACS Accreditation Requirements:

The ACS allows the use of independent study courses to meet certain requirements for certification. However, there are several issues students considering using independent study courses should be aware of:

- Chem 5010 (and 5020 and 5030) and Chem 5110 (and 5120 and 5130) do not count as advanced electives in Chemistry for purposes of Brooklyn College's BS degree. Thus, students must still complete 9 credits from the list in the Table above. If students have completed these requirements and wish to use independent study courses to make up the balance for ACS accreditation, they may do so.
- Students wishing to use independent study (Chem 5010 or 5110) to satisfy this requirement must submit a well-written, comprehensive, and well-documented research report including safety considerations.
- Students wishing to apply independent study hours as required laboratory hours must submit a letter from their faculty advisor indicating the number of hours actually committed to laboratory work for the semester. Students are encouraged to make their mentors aware of this requirement at the beginning of the semester.