

## American Chemical Society Accreditation for the Brooklyn College Bachelor of Science Degree

Spring 2009

The Brooklyn College Department of Chemistry is an ACS-accredited program authorized to grant ACS-accredited BS degrees to students. The requirements for ACS certification amount to completing a BS in Chemistry at Brooklyn College and completing a specific set of elective courses.

ACS accreditation is not necessary either for a career in industry or for graduate work. However, it does serve to reassure prospective employers about the background of a prospective employee if they are unfamiliar with the program. While Brooklyn College (and CUNY generally) has an excellent reputation in the northeastern US, those considering working elsewhere in the country or internationally may want to consider acquiring ACS accreditation.

### Requirements for an ACS degree:

Students seeking an ACS-accredited degree must:

- Complete all of Brooklyn College's required courses for a BS degree (Math 3.3, 4.3, 5.3; Phys 1,2; CIS 1.5; Chem 1,2,41W,51,52,61,62). Students must also complete 9 credits in the designated courses in advanced electives in Chemistry.
- Choose one of the following elective courses: Chem 35, 57, 57.1, 76 or 76.1.
- Choose 2 elective courses from the following list: Chem 42, 53, 55, 58.1, 64, 78, 73 or 83.
- Demonstrate that they have 400 hours of laboratory experience in Chemistry courses. Required laboratory courses for the BS (Chem 41/41W, 51, 52, 61, 62) 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 35 Chem 57 Chem 57.1 Chem 76 Chem 76.1	Chem 42 Chem 53 Chem 55 Chem 58.1 Chem 64 Chem 73 Chem 78 Chem 83	Chem 35 (3 credits) Chem 42 (5 credits) Chem 53 (5 credits) Chem 55 (3 credits) Chem 57 (5 credits) Chem 57.1 (3 credits) Chem 58.1 (3 credits) Chem 64 (3 credits) Chem 76 (5 credits) Chem 76.1 (3 credits) Chem 78 (3 credits)	Chem 42 (90 hours) Chem 53 (90 hours) Chem 57 (60 hours) Chem 76 (60 hours) Chem 73* _____ Chem 83* _____ (Make sure your research mentor documents hours for Chem 73 or 83; see below.)

\*See below for notes on independent study for Chem 73 and 83.

### 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 73 and Chem 83 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 73 or 83) 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 toward their required laboratory hours must submit a letter from their faculty advisor indicating the number of hours actually committed to laboratory work for the semester they were enrolled. Students are encouraged to make their mentors aware of this requirement at the beginning of the semester.

### Notes on Meeting the Requirements:

Laboratory hours accumulated in meeting the requirements of parts (2) and (3) above may be applied toward meeting the total number of required laboratory hours in (4). Thus, the right choice of electives means a student can acquire ACS accreditation with little work beyond that required for the Brooklyn College ACS degree.

Here are a few examples of ways students can meet the requirements.

- I. A student completes all of the required courses for the BS degree, and takes 3 electives: Chem 42, 57 and 58.1. This student has met the requirements for ACS certification. Chem 57 satisfies column (1) of the table, and Chem 42 and 58.1 satisfy column (2). Column (3) is satisfied because the total credits from the list is 13 (more than 9), and column (4) is satisfied because the laboratory components of Chem 42 and 57 total 150 hours (more than 100).
- II. A student completes all of the required courses for the BS degree, and takes 3 electives: Chem 42, Chem 76 and Chem 73.1. The student writes a report at the end of the term for her Chem 73.1 project, and receives a letter from her instructor indicating that she logged 50 hours of laboratory work during the term; both of these documents are submitted to the Department Chair. The student has met the criteria for column (1) by completing Chem 76, and for column (2) by completing Chem 42 and Chem 73.1. The student has completed 10 credits in column (3) for Chem 42 and 76, satisfying the requirement, and 140 hours for column (4).
- III. Here is an example of how to do it wrong: A student completes all of the required courses for the BS degree, and takes 3 electives: Chem 42, Chem 76.1 and Chem 73.1. The student completes the report and has his mentor document 30 laboratory hours. The student has met the requirements for column (1) by completing Chem 76.1 and (2) by completing Chem 73.1 and Chem 76.1, and has adequate laboratory hours for column (4). However, the student has only 8 credits in advanced electives, and so has not met the criteria for column (3). What's worse, the student has not met the requirements for a Brooklyn College BS degree at all, and will have to take another advanced elective from the list to qualify for the degree (but when they do, they will have ACS accreditation).

See the department advisor if you have any questions on the criteria for the degree.