



Chemistry Major with American Chemical Society (ACS) Certification

The ACS Committee on Professional Training in their Spring 2015 document titled “ACS Guidelines and Evaluation Procedures for Bachelor’s Degree Programs” describes the certified degree as follows:

ACS authorizes the chair of the ACS-approved program to certify graduating students who complete a bachelor’s degree meeting the ACS guidelines. Graduates who attain a certified degree must complete requirements that may in fact exceed those of the degree-granting institution, but this comprehensive undergraduate experience provides an excellent foundation for a career in the molecular sciences. An ACS-certified degree signifies that a student has completed an integrated, rigorous program including introductory and foundational course work in chemistry and in-depth course work in chemistry or chemistry-related fields. The certified degree also emphasizes laboratory experience and the development of professional skills needed to be an effective chemist. Certification gives a student an identity as a chemist and helps in the transition from undergraduate studies to professional studies or employment.

The curriculum at BW provides students with the opportunity to take courses at a level that is introductory to all areas of chemistry along with foundational and in-depth study in the five sub-disciplines (analytical, biochemistry, inorganic, organic, and physical). Students meet the criterion of a minimum 400 hours of laboratory work through a combination of laboratory courses and faculty-student collaborative research culminating with a chemistry thesis. Students are encouraged to discuss the ACS-certified degree with their advisor early in their academic program.

Required Courses to complete the major requirements for BS in Chemistry with ACS Certification:

CHM-111	General Chemistry I	4
CHM-112	General Chemistry II	4
CHM-115	General Chemistry Laboratory	1
CHM-221	Quantitative Analysis	3
CHM-225	Quantitative Analysis Laboratory	1
CHM-251	Organic Chemistry I	4
CHM-255	Organic Chemistry I Laboratory	0.5
CHM-252	Organic Chemistry II	4
CHM-256	Organic Chemistry II Laboratory	1
CHM-311	Biochemistry	3
CHM-315	Biochemistry Laboratory	1

CHM-321	Instrumental Analysis	3
CHM-325	Instrumental Analysis Laboratory	1
CHM-331	Physical Chemistry I	3
CHM-332	Physical Chemistry II	3
CHM-335	Physical Chemistry Laboratory	1
CHM-341	Inorganic Chemistry	3
CHM-345	Inorganic Chemistry Laboratory	1
CHM-352	Polymer Chemistry	3
CHM-364	Junior Chemistry Project	0.5
CHM-464	Senior Chemistry Project I	1
CHM-465	Senior Chemistry Project II	0.5
MTH-141	Calculus I	4
MTH-142	Calculus II	4

Students are strongly encouraged to take MTH-242 Calculus III and MTH-212 Differential Equations.

PHY-131	General Physics I	4
PHY-151	General Physics I Laboratory	1
or		
PHY-145	Applied College Physics I	5
PHY-132	General Physics II	4
PHY-152	General Physics II Laboratory	1
or		
PHY-146	Applied College Physics II	5

A Minimum of 3.0 credit of laboratory research with a thesis is required.

CHM-403	Laboratory Projects (optional)
CHM-491/492	Departmental Thesis/Project

A minimum of one topics course is required.

CHM-411	Topics in Biochemistry
CHM-421	Topics in Analytical Chemistry
CHM-431	Topics in Physical Chemistry
CHM-441	Topics in Inorganic Chemistry
CHM-451	Topics in Organic Chemistry