CHEMISTRY AND BIOCHEMISTRY, PH.D.

Doctor of Philosophy

General requirements for the Doctor of Philosophy degree are given in the general requirements section of this catalog. It is not necessary that students with the B.S. degree obtain an M.S. degree in chemistry before pursuing the doctorate.

Code	Title	Hours
Lecture Courses		
Lecture course work in the major area		9
Additional lecture course work outside the major area		6
Chemistry Courses		
CHE 5260	Scientific Communication	2
CHE 5101	Responsible Conduct of Research	1
Additional Requirements		
Additional lecture and/or research course work as determined by the dissertation committee [1]		45
Pre-candidacy Seminar		
CHE 5150	Graduate Seminar	1
Candidacy Seminar		
CHE 5150	Graduate Seminar	1
Defense Seminar		
CHE 5150	Graduate Seminar	1
Dissertation		
CHE 6V99	Dissertation	12
Total Hours		**78**

[1] i.e. CHE 5V98 Graduate Research

Courses

Prefix	Analytical	Biochemistr	Inorganic	Organic	Physical
CHE	5310	5345	5301	4334	5320
CHE	5314	5346	5302	5335	5322
CHE	5315	5347	5305	5336	5325
CHE	5316	5348	5306	5331	5326
CHE	5312	5306	5304		5323
CHE	5345	5341	5323		5347

Analytical

Code	Title	Hours
CHE 5310	Advanced Chemical Instrumentation	3
CHE 5312	Advanced X-omics Mass Spectrometry	3
CHE 5314	Separation Science	3
CHE 5315	Electroanalytical Chemistry	3
CHE 5316	Analytical Spectroscopy	3
CHE 5345	Selected Topics in Bioanalytical Chemistry	3
ENV 5387	Advanced Environmental Chemistry	3

Biochemistry

Code	Title	Hours
CHE 5306	Bioinorganic Chemistry	3
CHE 5345	Selected Topics in Bioanalytical Chemistry	3
CHE 5346	Chemical Biology	3
CHE 5347	Physical Biochemistry	3
CHE 5348	Enzymology	3
BIO 5300	Advanced Studies in Biology	3
BIO 5304	Nucleic Acids	3
BIO 5307	Advanced Cell Biology	3
BIO 5311	Advanced Genetic Analysis	3

Inorganic

Code	Title	Hours
CHE 5301	Chemistry of the Elements	3
CHE 5302	Symmetry and Group Theory in Chemistry	3
CHE 5304	Special Topics in Inorganic Chemistry	3
CHE 5305	Organometallic Chemistry and Homogenous Catalysis	3
CHE 5306	Bioinorganic Chemistry	3
CHE 5323	Structural Studies by X-ray Crystallography	3

Organic

Code	Title	Hours
CHE 4334	Organic Spectroscopy	3
CHE 5331	Stereochemistry	3
CHE 5335	Physical Organic Chemistry	3
CHE 5336	Advanced Synthesis and Natural Products	3

Physical

Code	Title	Hours
CHE 5320	Thermodynamics and Statistical Thermodynamics	3
CHE 5322	Chemical Kinetics and Mechanisms	3
CHE 5323	Structural Studies by X-ray Crystallography	3
CHE 5325	Quantum Chemistry	3
CHE 5326	Lasers and Molecular Spectroscopy	3
CHE 5347	Physical Biochemistry	3

Performance Standard

A minimum grade of "B-" is required to satisfy a core course requirement. Grades of B or better are required to qualify in specific areas of chemistry. Students must also maintain a minimum overall graduate lecture course only GPA of 3.0. Falling below the minimum lecture course GPA will result in departmental probation. Students must attain the minimum overall lecture course GPA of 3.0 by the end of their subsequent semester. Failure to maintain the minimum GPA for two consecutive semesters will result in expulsion from the chemistry graduate program. ***Important**: Graduate School policy states that failure to maintain a minimum overall GPA of 3.0 results in immediate probationary status. Students on probation are ineligible for stipend support and tuition waivers.*

Further details regarding all degrees may be obtained by request from the Graduate Program Director of the Department of Chemistry and Biochemistry or can be found in the current Graduate Student Handbook of the department. Prior to graduation, all candidates for the Master of

Science or Doctor of Philosophy degree must comply with Department regulations concerning laboratory checkout. The checkout procedure includes a satisfactory inspection of the candidate's work area by the Department Safety Officer and Risk Management, as well as completion of the Department Clearance Form.