

# Biochemistry and Biotechnology MS, Professional Emphasis

This track requires a total of 32 graduate credit hours, of which at least half must be at the 5000-level or above. Students take 21 credit hours of science courses (Biology and Chemistry) and 9 hours in business courses. In addition, each student is required to take 2 credit hours of either an on-campus practicum course or an off-campus internship.

## Required Courses in Biology and Chemistry

CHEM 5722	Advanced Graduate Biochemistry	3
CHEM 5774	Bioinformatics	3
or BIOL 5436	Advanced Applied Bioinformatics	
BIOL 6615	Advanced Biotechnology Laboratory II	4
BIOL 6602	Advanced Molecular Biology	3
or BIOL 6608	Advanced Synthetic Biology	
BIOL 6889	Graduate Seminar	2

## Required Internship or Practicum 2

Choose one of the following:

CHEM/BIOL 5798

CHEM/BIOL 5799

## Professional Science Business Electives 9

MGMT 3623	Industrial and Organizational Psychology
BUS AD 5000	Economics for Managers
BUS AD 5100	Managerial Communication
MGMT 5600	Managing and Leading in Organizations
MKTG 5700	Integrated Marketing Strategies
BUS AD 5900	Law, Ethics and Business

## Elective Courses in Biology and Chemistry 6

CHEM 4733	Biochemistry Laboratory
CHEM 5302	Foundations of Physical Chemistry
CHEM 5694	Special Topics in Organic Chemistry
CHEM 5772	Advanced Physical Biochemistry
CHEM 5794	Special Topics in Biochemistry
CHEM 6787	Problem Seminar in Biochemistry <sup>1</sup>
CHEM 6905	Graduate Research in Chemistry <sup>2</sup>
or BIOL 6905	Graduate Research in Biology
BIOL 4842	Immunobiology
BIOL 5012	Advanced Genetics
BIOL 5069	Topics in Cellular and Molecular Biology <sup>1</sup>
BIOL 5099	Biology Colloquium <sup>1</sup>
BIOL 6602	Advanced Molecular Biology
BIOL 6608	Advanced Synthetic Biology
BIOL 6622	Advanced Cellular Basis of Disease
BIOL 6632	Advanced Nucleic Acid Structure and Function

BIOL 6642	Advanced Plant Biology and Biotechnology
BIOL 6652	Advanced Virology
BIOL 6920	Advanced Topics in Biology

**Total Hours 32**

1

Maximum of 2 credit hours between BIOL 5069, BIOL 5099 and CHEM 6787.

2

Can be taken for up to 2 credit hours in either CHEM 6905 or BIOL 6905. Students must have a 3.0 GPA in non-research courses.