The School of Science and Engineering

Biological Chemistry

Cell and Molecular Biology

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Chemistry

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Program Administrators

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David A. Mullin, Cell and Molecular Biology (Co-Director), damullin@tulane.edu

Faculty

Alex Burin, Ph.D. Moscow Inst. of Physics and Engineering (Chemistry)

Larry Byers, Ph.D., Princeton University (Chemistry)

Yi Ping Chen, Ph.D., Univ. of Iowa (Cell & Molecular Biology)

Peter Cserjesi, Ph.D., McGill, Montreal (Cell & Molecular Biology)

Harry Ensley, Ph.D., Harvard University (Chemistry)

W.T. Godbey, Ph.D., Rice University (Chemical & Biomolecular Engineering)

Scott Grayson, Ph.D., U.C. Berkeley (Chemistry)

Fiona Inglis, Ph.D., University of Glasglow (Cell & Molecular Biology)

David Mullin, Ph.D., Univ. of Texas, Austin (Cell & Molecular Biology)

Kim O'Connor, Ph.D., Cal Tech (Chemical and Biomolecular Engineering)

Wayne Reed, Ph.D., Clarkson University (Physics)

Igor Rubtsov, Ph.D., Inst. for Chemical Physics, Moscow (Chemistry)

Laura Schrader, Ph.D.,Tulane University,(Cell & Molecular Biology)

Bret Smith, Ph.D., Univ. of Tennessee (Cell & Molecular Biology)

MAJOR

A major in biological chemistry must include the cell and molecular biology courses in list I below plus three elective courses from list V below. In addition, the major must include all the chemistry, physics, and mathematics courses listed in lists II, III, and IV below. An appropriate six-credit special project such as CELL 495, 496 or CHEM 401, 402, or honor's thesis project (CELL or CHEM H499-H500), integrating the student's biological and chemical studies, is also required (This satisfies the capstone requirement). Because of the interdisciplinary nature of the biological chemistry major, students in this program may not minor in chemistry, cell and molecular biology, or ecology and evolutionary biology.

I. Cell and Molecular Biology Required Courses

CELL 101 General Biology

CELL 205 Genetics

CELL 301 Cell Biology

CELL 311 Molecular Biology

CELL 312 Molecular Biology Laboratory

CELL 422 Microbiology

II. Chemistry Required Courses

CHEM 107, 117 General Chemistry I (or 109, 111 Honors General Chemistry I)

CHEM 108, 118 General Chemistry II (or 110, 112 Honors General Chemistry II)

CHEM 241, 243 Organic Chemistry I (or 245, 247 Honors Organic Chemistry I)

CHEM 242, 244 Organic Chemistry II or 246, 248 Honors Organic Chemistry II

CHEM 312 Physical Chemistry II or 612 Physical Biochemistry

CHEM 314 Physical Chemistry Laboratory II

CHEM 383 Introduction to Biochemistry

CHEM 384 Intermediate Biochemistry

CHEM 385 Introduction to Biochemistry Laboratory

III. Physics Required Courses

PHYS 131 General Physics I

PHYS 132 General Physics II

IV. Mathematics Required Courses

MATH 121 Calculus I

MATH 122 Calculus II

Note: MATH 131 Consolidated Calculus may be taken in lieu of 121 and 122.

MATH 221 Calculus III

V. Elective Courses

CELL 302 Cell Biology Laboratory

CELL 305 or CHEM 305 Drugs and Their Actions

CELL 321 Cellular Physiology

CELL 331 Cellular Neuroscience

CELL 332 Systems Neuroscience

CELL 413 Embryology

CELL 416/417 Developmental Biology
(or H416/H417 Honors Developmental Biology)

CELL 423 Microbiology Laboratory

CELL 434 Neurobiology of Disease

CELL 437 Molecular Neurobiology

CELL 471 Molecular Biology of Cancer

CELL 478 Developmental Genetics

CENG 250 Intro. Biotech. & Biomolecular. Engineering

CENG 471 Biochemical Engineering

CHEM 311 Physical Chemistry I

CHEM 331 Instrumental Analysis

EBIO 333 Human Physiology

EBIO 453 Comparative Animal Physiology

PHYS 327 Biophysics