Biological Chemistry

Faculty: Mark Bathe, Angela Belcher, Michael Birnbaum, Paul Blainey, Ed Boyden, Pete Dedon, John Essigmann, Ernest Fraenkel, Alan Grodzinsky, Alan Jasanoff, Amy Keating, Alexander Klibanov, Angela Koehler, Robert Langer, Doug Lauffenburger, Harvey Lodish, Tim Lu, Jacquin Niles, Ram Sasisekharan, Steve Tannenbaum, Bruce Tidor, Forest White, Michael Yaffe, Feng Zhang

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Description: The biological chemistry concentration provides training in: (1) understanding the fundamental chemical principles governing biological systems; and (2) manipulating the chemistry-biology interface to achieve improved mechanistic understanding of biological systems and for developing therapeutics.

Restricted Electives

Required

5.08 Fundamentals of Chemical Biology (U) same as 7.08
Prereq: Biology (GIR) 5.13; 5.07 or 7.05

7.37 Molecular and Engineering Aspects of Biotechnology (G) same as 10.441
Prereq: 2.005, 3.012, 5.60, or 20.110; 7.06; or permission of instructor

20.201 Fundamentals of Drug Development (G)
Prereq: permission of instructor

20.352 Principles of Neuroengineering (U)
Prereq: permission of instructor

Electives
These additional subjects enhance the learning objectives of the concentration.

5.13 Organic Chemistry II (U)
Prereq: 5.12

5.310 Laboratory Chemistry (U)
Prereq: None Coreq: 5.12

5.54 Frontiers in Chemical Biology (G)
Prereq: 5.13, 5.07, 7.06; permission of the instructor

5.64 Frontiers of Interdisciplinary Science in Human Health and Disease (G)
same as HST.539
Prereq: 5.13, 5.60; 5.07 or 7.05

5.78 Biophysical Chemistry Techniques (G)
Prereq: 5.07 or 7.05

9.12 Experimental Molecular Neurobiology (U)
Prereq: 9.01, Biology (GIR)