DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY

Chemistry Building Room 238
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www.txstate.edu/chemistry

Chemistry is the central science and the study of chemistry provides the essential knowledge needed to address many of society’s most pressing needs, such as feeding, clothing, and housing the peoples of the world; tapping new sources of energy; improving health and conquering disease; providing renewable substitutes for dwindling resources; strengthening our national security; and monitoring and protecting our environment. Basic research in chemistry will help future generations address their evolving needs and ensure a higher quality of life.

Chemists and biochemists can work in almost any field and find careers in teaching, research, production, quality control, technical services, and/or sales. Graduates from the Department of Chemistry and Biochemistry have an excellent record of job placement in industrial, academic, and government positions. Many also seek advanced degrees or pursue careers in medicine, dentistry, or pharmacy.

Chemistry and biochemistry majors gain skills in quantitative thinking and problem solving. Majors can work as laboratory instructors for lower division courses or as research assistants in faculty research laboratories. Students often participate in internships and research programs both on and off campus during the summer. The faculty, facilities, library holdings, and chemistry curriculum of the Department of Chemistry and Biochemistry have been accredited by the American Chemical Society. Recipients of a B.S. major in Chemistry or B.S. major in Biochemistry, who have fulfilled the minimum requirements for professional chemists, are awarded certificates by the American Chemical Society. Receipt of the ACS certificate is recommended as preparatory training for work in industry or for continued graduate studies in chemistry or biochemistry. The Biochemistry program is accredited by the American Society for Biochemistry and Molecular Biology and recipients of a B.S. major in Biochemistry are awarded an ASMBB-certified degree upon successful completion of a scored examination.

Students seeking a B.S. major in Chemistry begin their studies taking foundation courses in chemistry, physics and mathematics. After completion of the foundation courses, students take advanced courses and laboratories in physical chemistry, analytical chemistry, inorganic chemistry and organic chemistry. A minor is required for this degree.

Students seeking a B.S. major in Biochemistry begin their studies taking foundation courses in chemistry, biology, physics and mathematics. After completion of the foundation courses, students take advanced courses and laboratories to gain knowledge and experience in the modern techniques of biochemistry and molecular genetics. The Biochemistry curriculum meets the standards set by the American Society for Biochemistry and Molecular Biology. A minor is required for this degree.

Qualified chemistry or biochemistry majors completing their junior year of chemistry courses who plan to pursue advanced studies have the opportunity to complete both B.S. and M.S. degrees with one additional year of course work and research after receipt of a B.S. degree. Students must be active in undergraduate research prior to their senior year to be eligible for the program.

Pharmacy
Pharmacy is a professional program and prerequisite courses required in order to apply to Pharmacy School may be taken at Texas State. The eight pharmacy schools in Texas (The University of Texas at Austin, University of Houston, Texas Southern University, Texas A&M Health Science Center, Texas Tech University Health Science Center, University of North Texas Health Science Center, University of the Incarnate Word, and The University of Texas at Tyler) all require two years of prerequisite courses in chemistry, biology, math, physics, English, humanities and social sciences, but the exact courses required vary by school. Consequently, it is imperative that pre-pharmacy students consult with an advisor prior to and during their pre-pharmacy program. For more information contact the Department of Chemistry and Biochemistry pre-pharmacy advisor.

Teacher Certification
Students may earn either a Chemistry (Grades 7-12) or Physical Science (Grades 6-12) certification in Texas, while pursuing a B.S. major in Chemistry. Initial or additional certification may also be acquired as a post-baccalaureate or graduate student. Students interested in certification are strongly encouraged to see the Science Advisor early in their undergraduate program or certification process.

Bachelor of Science (B.S.)
- Major in Biochemistry (http://mycatalog.txstate.edu/undergraduate/science-engineering/chemistry-biochemistry/biochemistry-bs)
- Major in Chemistry (http://mycatalog.txstate.edu/undergraduate/science-engineering/chemistry-biochemistry/chemistry-bs)
- Major in Chemistry (Teacher Certification in Chemistry, Grades 7-12) (http://mycatalog.txstate.edu/undergraduate/science-engineering/chemistry-biochemistry/chemistry-teacher-certification-grades-7-12-bs)
- Major in Chemistry (Teacher Certification in Physical Science, Grades 6-12) (http://mycatalog.txstate.edu/undergraduate/science-engineering/chemistry-biochemistry/chemistry-teacher-certification-physical-science-grades-6-12-bs)

Bachelor of Science and Master of Science (B.S./M.S.)
- Major in Biochemistry (Early-Entry Combined Program) (http://mycatalog.txstate.edu/undergraduate/science-engineering/chemistry-biochemistry/biochemistry-early-entry-combined-program-bs-ms)
- Major in Chemistry (Early-Entry Combined Program) (http://mycatalog.txstate.edu/undergraduate/science-engineering/chemistry-biochemistry/chemistry-early-entry-combined-program-bs-ms)

Minors
- Biochemistry (http://mycatalog.txstate.edu/undergraduate/science-engineering/chemistry-biochemistry/biochemistry-minor)
- Chemistry (http://mycatalog.txstate.edu/undergraduate/science-engineering/chemistry-biochemistry/chemistry-minor)
- Second Teaching Field in Chemistry (Grades 7-12) (http://mycatalog.txstate.edu/undergraduate/science-engineering/chemistry-biochemistry/second-teaching-field-chemistry)
Information about graduate programs can be found in the Graduate Catalog (http://mycatalog.txstate.edu/graduate).

Courses in Chemistry (CHEM)

CHEM 1141. General Chemistry Laboratory I.
First of two laboratory courses in general chemistry for science-related majors. Course introduces the students to the basics of experimental measurements, including density, separation techniques, formula determinations, titrations, thermodynamics, gas laws, and descriptive chemistry. Prerequisite or Co-requisite: CHEM 1341, CHEM 1335, or CHEM 1310.
about General Chemistry Laboratory I
1 Credit Hour. 0 Lecture Contact Hours. 3 Lab Contact Hours.
Grade Mode: Standard Letter
TCCN: CHEM 1111

CHEM 1142. General Chemistry Laboratory II.
Second of two laboratory courses in general chemistry. Laboratory techniques are emphasized, and applied to both qualitative and quantitative analysis. Prerequisites: CHEM 1341 and CHEM 1141. Prerequisite or Co-requisite: CHEM 1342.
about General Chemistry Laboratory II
1 Credit Hour. 0 Lecture Contact Hours. 3 Lab Contact Hours.
Grade Mode: Standard Letter
TCCN: CHEM 1112

CHEM 1310. Introductory Chemistry for Non-Science Majors.
A one semester principles course for students in non-science related majors. Course covers the major concepts of chemistry and the role of chemistry in contemporary society. Students will not receive credit for both CHEM 1310 and CHEM 1341.
about Introductory Chemistry for Non-Science Majors
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Course Attribute(s): Life & Physical Sciences Core
Grade Mode: Standard Letter
TCCN: CHEM 1305

CHEM 1335. Engineering Chemistry.
This one semester lecture course is tailored to engineering students. Topics include stoichiometry, gases, chemical bonding and structure, periodic trends, materials, energy, kinetics, equilibrium, electrochemistry and nuclear chemistry. Course is a stand-alone course and does not serve as a prerequisite to any courses currently requiring CHEM 1341 as a prerequisite. Restricted to Engineering and Engineering Technology majors. Prerequisite: MATH 1315 with a grade of C or higher, ACT Mathematics score of 24 or more, SAT Mathematics score of 520 or more, Accuplacer College Mathematics score of 86 or more, or Compass College Algebra score of 46 or more.
about Engineering Chemistry
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Standard Letter
about Engineering Chemistry

CHEM 1341. General Chemistry I.
Initial lecture course in general chemistry for science-related majors, covering atomic and molecular structure, bonding, states of matter, solutions, and descriptive chemistry. Students will not receive credit for both CHEM 1310 and CHEM 1341. Concurrent registration in CHEM 1141 is recommended. Prerequisite: MATH 1315 with a grade of C or higher, ACT Mathematics score of 24 or more, SAT Mathematics score of 520 or more, Accuplacer College Mathematics score of 86 or more, or Compass College Algebra score of 46 or more.
about General Chemistry I
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Course Attribute(s): Life & Physical Sciences Core
Grade Mode: Standard Letter
TCCN: CHEM 1311

CHEM 1342. General Chemistry II.
Second of two lecture courses in general chemistry for science-related majors, covering equilibrium processes, acid-base chemistry, and kinetics, and electrochemistry. A basic knowledge of algebra is needed. Concurrent enrollment in CHEM 1142 is recommended. Prerequisite: CHEM 1341 with a grade of "C" or higher.
about General Chemistry II
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Course Attribute(s): Life & Physical Sciences Core
Grade Mode: Standard Letter
TCCN: CHEM 1312

CHEM 1430. Chemistry for Non-Science Majors.
A one semester course which surveys organic and biochemistry and may include petro-chemistry, nuclear chemistry, synthetic and natural polymers. Prerequisite: CHEM 1310 or CHEM 1341.
about Chemistry for Non-Science Majors
4 Credit Hours. 3 Lecture Contact Hours. 3 Lab Contact Hours.
Course Attribute(s): Life & Physical Sciences Core/Lab Required
Grade Mode: Standard Letter
TCCN: CHEM 1407

CHEM 2130. Laboratory Technique in Organic Chemistry.
An optional laboratory to accompany CHEM 2330, covers experimental techniques of preparation, purification, and determination of physical and chemical properties of organic compounds. Prerequisites: CHEM 1342 and CHEM 1142. Co-requisite: CHEM 2330.
about Laboratory Technique in Organic Chemistry
1 Credit Hour. 0 Lecture Contact Hours. 3 Lab Contact Hours.
Course Attribute(s): Lab Required
Grade Mode: Standard Letter
about Laboratory Technique in Organic Chemistry

CHEM 2141. Organic Chemistry Laboratory I.
This laboratory introduces the student to the general techniques of organic chemistry. Prerequisites: CHEM 1342 with a grade of "C" or higher, CHEM 1142. Prerequisite or Co-requisite: CHEM 2341.
about Organic Chemistry Laboratory I
1 Credit Hour. 0 Lecture Contact Hours. 3 Lab Contact Hours.
Grade Mode: Standard Letter
TCCN: CHEM 2123

department of chemistry and biochemistry
CHEM 2142. Organic Chemistry Laboratory II.
This laboratory involves the study of typical organic reactions. Prerequisites: CHEM 2341 with a grade of “C” or higher, CHEM 2141. Prerequisite or Co-requisite: CHEM 2342.

Grade Mode: Standard Letter
TCCN: CHEM 2125
about Organic Chemistry Laboratory II
1 Credit Hour. 0 Lecture Contact Hours. 3 Lab Contact Hours.

CHEM 2150. Biochemistry & Metabolism Lab.
An optional laboratory to accompany CHEM 2350. This laboratory examines the physical properties and chemistry of carbohydrates, amino acids, proteins, lipids and nucleotides. Course is designed for students majoring in nutrition, clinical laboratory science and agriculture. Prerequisites: CHEM 2330/CHM 2130 or CHEM 2342/CHM 2142. Co-requisite: CHEM 2350.

Grade Mode: Standard Letter
TCCN: CHEM 2125
about Biochemistry & Metabolism Lab
1 Credit Hour. 0 Lecture Contact Hours. 3 Lab Contact Hours.

A one-semester course which covers nomenclature, structure and reactions of organic compounds with an introduction to bioorganic molecules. Course is designed for students majoring in nutrition, clinical laboratory science and agriculture. Prerequisites: CHEM 1342 and CHEM 1142.

Grade Mode: Standard Letter
TCCN: CHEM 2125
about Fundamentals of Organic Chemistry
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.

CHEM 2341. Organic Chemistry I.
This course covers the nomenclature, reactions and reaction mechanisms of the hydrocarbons and the alkyl halides. Prerequisites: CHEM 1342 with a grade of “C” or higher. Pre- or Co-requisite: CHEM 1142.

Grade Mode: Standard Letter
TCCN: CHEM 2323
about Organic Chemistry I
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.

CHEM 2342. Organic Chemistry II.
This course covers the nomenclature, reactions and reaction mechanisms of the major functional groups. Prerequisite: CHEM 2341 with a grade of “C” or higher. Prerequisite or Co-requisite: CHEM 2141.

Grade Mode: Standard Letter
TCCN: CHEM 2325
about Organic Chemistry II
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.

CHEM 2350. Biochemistry & Metabolism.
A one-semester study of carbohydrate, proteins, lipids and nucleotides which presents both structure and intermediary metabolism along with an introduction to the function of enzymes and coenzymes. Course is designed for students majoring in nutrition, clinical laboratory science and agriculture. Prerequisites: CHEM 2330/CHM 2130 or CHEM 2342/CHM 2142.

Grade Mode: Standard Letter
TCCN: CHEM 2125
about Biochemistry & Metabolism
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.

CHEM 3245. Physical Chemistry Laboratory.
Experiments illustrating principles and methods of physical chemistry are performed. Written reports on the experiments are prepared. Prerequisites: CHEM 3330 with a “C” or better, and CHEM 3410. Prerequisite or Co-requisite: CHEM 3340. (WI).

Grade Mode: Standard Letter
TCCN: CHEM 2125
about Physical Chemistry Laboratory
2 Credit Hours. 1 Lecture Contact Hour. 4 Lab Contact Hours.

CHEM 3275. Biochemical Techniques.
Course introduces biochemistry majors to techniques in analytical and physical biochemistry. Experiments reinforce fundamental concepts and utilize modern instrumentation. Experimental design, interpretation of results, and data reporting will be emphasized. Prior completion or concurrent enrollment in BIO 2400 is strongly recommended. Prerequisites: CHEM 3375 with a grade of “C” or higher. Co-requisite: CHEM 3380. (WI).

Grade Mode: Standard Letter
TCCN: CHEM 2125
about Biochemical Techniques
2 Credit Hours. 2 Lecture Contact Hours. 4 Lab Contact Hours.

CHEM 3276. Experimental Biochemistry.
Course introduces biochemistry minors to the fundamental techniques used in modern biochemistry. Experiments use the essential techniques employed in the study of proteins, enzymes and nucleic acids with emphasis on the use of modern instrumentation and the manipulation and analysis of experimental data. Prerequisites: CHEM 3375 or CHEM 4375 with a grade of “C” or higher.

Grade Mode: Standard Letter
TCCN: CHEM 2125
about Experimental Biochemistry
2 Credit Hours. 1 Lecture Contact Hour. 4 Lab Contact Hours.

CHEM 3330. Physical Chemistry I.
The course covers principles of thermodynamics and thermochemistry, phase equilibria, electrochemistry and elementary kinetics including rate laws and mechanisms. Prerequisites: CHEM 1142; CHEM 1342 and MATH 2472 with a grade of “C” or higher.

Grade Mode: Standard Letter
TCCN: CHEM 2125
about Physical Chemistry I
3 Credit Hours. 4 Lecture Contact Hours. 0 Lab Contact Hours.

TEXAS STATE UNIVERSITY
CHEM 3340. Physical Chemistry II.
The course covers kinetics, quantum mechanics, spectroscopy, and other selected topics. Prerequisites: CHEM 3330 with a C or better; MATH 2472 with a "C" or better; and PHYS 2425 with a grade of "C" or higher.

3 Credit Hours. 4 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Standard Letter

CHEM 3341. Descriptive Inorganic Chemistry.
An analysis of atomic, molecular, and solid state bonding and structure with an emphasis on coordination compounds and bioinorganic chemistry. Representative compounds and reactions of the elements will be surveyed. Prerequisite: CHEM 2342 with a grade of "C" or higher.

3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Standard Letter

Course provides biochemistry majors and minors with a rigorous introduction to biochemistry. Topics include the chemical function and structure of proteins, nucleic acids, lipids and carbohydrates; enzyme mechanisms, kinetics and regulation. Prior completion or concurrent enrollment in BIO 2450 is strongly recommended. Prerequisites CHEM 2342 with a grade of "C" or higher.

3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Standard Letter

CHEM 3380. Analytical Biochemistry.
This course is designed to acquaint the student with the chemical and physical principles of modern biochemical methods. Emphasis is placed upon the application of the methods to current problems in biochemistry and molecular biology and the interpretation of data. Prerequisite: CHEM 3375 with a grade of "C" or higher.

3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Standard Letter

CHEM 3390. Physical Chemistry for Biochemists.
A study of the theories and laws of physical chemistry as it relates to biochemistry. The topics covered include ideal and real gases, classical thermodynamics, reaction kinetics, phase equilibria, electrochemistry, quantum mechanics, spectroscopy and statistical mechanics. Prerequisite: CHEM 3375 and MATH 2472 with a "C" or better.

3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Standard Letter

CHEM 3410. Quantitative Analysis.
Course covers the general theory and practice of typical methods of gravimetric and volumetric analysis, satisfies the quantitative analysis requirements for chemistry majors, minors, pre-medical and pharmacy students. Prerequisites: CHEM 1342 with a grade of "C" or higher, CHEM 1142.

about Quantitative Analysis

4 Credit Hours. 3 Lecture Contact Hours. 6 Lab Contact Hours.
Course Attribute(s): Lab Required
Grade Mode: Standard Letter

CHEM 4231. Advanced Laboratory I.
An advanced integrated lab illustrating a variety of chemical techniques for the preparation, characterization and analysis of organic and inorganic materials. Prerequisites: CHEM 3245, CHEM 3340, CHEM 3410. Prerequisite or Co-requisite: CHEM 4331. (WI).

about Advanced Laboratory I

2 Credit Hours. 1 Lecture Contact Hour. 4 Lab Contact Hours.
Course Attribute(s): Lab Required|Writing Intensive
Grade Mode: Standard Letter

CHEM 4241. Advanced Laboratory II.
An advanced integrated lab illustrating a variety of chemical techniques for the preparation, characterization and analysis of inorganic and organic materials. Prerequisites: CHEM 4331, CHEM 4231. Prerequisite or Co-requisite: CHEM 4341. (WI).

about Advanced Laboratory II

2 Credit Hours. 1 Lecture Contact Hour. 4 Lab Contact Hours.
Course Attribute(s): Lab Required|Writing Intensive
Grade Mode: Standard Letter

CHEM 4282. Advanced Biochemistry Research Laboratory.
The second of two laboratory courses providing instruction in the modern techniques of biochemistry. Students will perform independent research projects involving isolation, manipulation and characterization of biomolecules. Results of these experiments and the scientific literature investigations will be used to prepare formal written reports and oral presentations. Prerequisite: CHEM 4481. (WI).

about Advanced Biochemistry Research Laboratory

2 Credit Hours. 2 Lecture Contact Hours. 4 Lab Contact Hours.
Course Attribute(s): Lab Required|Writing Intensive
Grade Mode: Standard Letter

CHEM 4295. Laboratory Development and Practice.
This course develops the laboratory instructional abilities of students seeking either 8-12 Chemistry or 8-12 Physical Science Teaching Certification. Topics include both traditional laboratory techniques and guided inquiry techniques, safety, laboratory management, pedagogical theory and practical knowledge of laboratory experiments. Prerequisite: Junior standing and an overall GPA of 2.5 or higher.

about Laboratory Development and Practice

2 Credit Hours. 1 Lecture Contact Hour. 2 Lab Contact Hours.
Course Attribute(s): Lab Required
Grade Mode: Standard Letter

CHEM 4295. Laboratory Development and Practice.
CHEM 4299. Undergraduate Research.
This course is available to undergraduate chemistry or biochemistry majors only. It may be repeated for credit but a maximum of four semester hours from this course are applicable toward advanced chemistry electives. Prerequisite: Permission of department.
Grade Mode: Standard Letter
about Undergraduate Research

2 Credit Hours. 0 Lecture Contact Hours. 4 Lab Contact Hours.
Course Attribute(s): Exclude from 3-peat Processing|Lab Required

CHEM 4312. Organometallic Chemistry.
This course will survey the structure, bonding, and reactivity of organometallic complexes. Homogeneous catalysis of the transition metals as well as the main group elements along with specialized "seminal research papers" in the field of organometallic chemistry will also be presented. Prerequisites: CHEM 2342 and CHEM 3341 with a grade of "C" or higher.
about Organometallic Chemistry

3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Standard Letter
about Organometallic Chemistry

CHEM 4331. Instrumental Analysis.
The theory and methodology associated with the quantitative analysis of materials, i.e., electronics, spectroscopy, electrochemistry and chromatography are presented. Prerequisite: CHEM 3340.
about Instrumental Analysis

3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Standard Letter
about Instrumental Analysis

CHEM 4333. Spectroscopy.
The study of various spectrometric techniques in qualitative and structural analysis of chemical substances. Prerequisite: CHEM 2342 with a grade of "C" or higher.
about Spectroscopy

3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Standard Letter
about Spectroscopy

CHEM 4341. Advanced Inorganic Chemistry.
This course will use group theory analysis to predict vibrational spectra and bonding in molecules, including metal complexes. Numerous approaches (acid/base, redox, etc.) will be employed to rationalize the products of inorganic and organometallic reactions. The materials properties of solids and nanomaterials will also be discussed. Prerequisites: CHEM 3341 and CHEM 4331.
about Advanced Inorganic Chemistry

3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Standard Letter
about Advanced Inorganic Chemistry

CHEM 4350. Modern Molecular Modeling.
A study of the application of computational techniques to molecular modeling. Topics covered include quantum mechanical modeling, forcefield based molecular modeling, molecular energy minimization, molecular dynamics, vibrational spectra, solution of crystalline structures, diffraction patterns, molecular blends, phase equilibria, crystal morphology, physical property prediction and mesoscale modeling. Prerequisite: CHEM 3340.
about Modern Molecular Modeling

3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Standard Letter
about Modern Molecular Modeling

CHEM 4351. Introduction to Polymers.
This course is designed to develop the student's general understanding of polymer history and importance as well as terminology, structure, and synthesis. The overall scope of the course will be to develop the student's general knowledge of polymer synthesis and structure. Prerequisite: CHEM 2342 with a grade of "C" or higher.
about Introduction to Polymers

3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Standard Letter
about Introduction to Polymers

CHEM 4360. Molecular Biology.
This course provides Biochemistry majors and minors with advanced knowledge of the field of molecular biochemistry. Topics include gene expression (transcription and translation of genes in bacteria and higher organisms), post-translational modification of proteins, chromosomal DNA replication, cell cycle checkpoint controls, DNA damage and repair, as well as theories of cancer and aging. Prerequisite: CHEM 3375 or CHEM 4375.
about Molecular Biology

3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Standard Letter
about Molecular Biology

CHEM 4371. Directed Study.
Independent study on a particular subject area in chemistry or biochemistry. The specific study area, resource material, goals, and achievements will be approved by the instructor. Prerequisites: CHEM 2342 with a C or better, and permission of department.
about Directed Study

3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Course Attribute(s): Exclude from 3-peat Processing
Grade Mode: Standard Letter
about Directed Study

CHEM 4375. Biochemistry.
Course provides Chemistry majors and minors with an overview of biochemistry topics. Topics include a description of the structure and function of proteins, enzymes, nucleic acids, lipids and carbohydrates. Students may not receive credit for both CHEM 3375 and CHEM 4375. Prerequisites CHEM 2342 with C or better.
about Biochemistry

3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Standard Letter
about Biochemistry
CHEM 4385. Metabolism.
A study of the biodegradation and biosynthesis of carbohydrates, lipids, amino acids, proteins, and nucleic acids. Prerequisite: CHEM 3375 or CHEM 4375.

3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Standard Letter

CHEM 4390. Supramolecular Chemistry.
This course is designed to be a survey of the nature of non-covalent interactions between host and guest species. Emphasis will be focused on the rational design of hosts, thermodynamic and kinetic parameters involved in binding and the applications of various binding/recognition phenomena. Prerequisite: CHEM 2342 with a grade of "C" or higher.

3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Course Attribute(s): Writing Intensive
Grade Mode: Standard Letter

CHEM 4481. Advanced Biochemistry Lab I.
The first of two laboratory courses providing instruction in the modern techniques of biochemistry. Experiments are performed on the isolation, manipulation and characterization of DNA, RNA and proteins. Students will prepare formal written reports and oral presentations. Prerequisites: CHEM 3275 with a grade of "C" or higher; CHEM 3380. (WI).

4 Credit Hours. 2 Lecture Contact Hours. 8 Lab Contact Hours.
Course Attribute(s): Lab Required|Writing Intensive
Grade Mode: Standard Letter

Allison, Jeffrey Corbin, Lecturer, Chemistry & Biochemistry, Ph.D., University of Texas at Austin
Beall, Gary W, Associate Dean, College of Science and Engineering and Professor, Chemistry & Biochemistry, Ph.D., Baylor University
Betancourt, Tania, Assistant Professor, Chemistry & Biochemistry, Ph.D., University of Texas at Austin
Blanda, Michael T, Assistant Vice President of Research and Federal Relations and Professor, Chemistry & Biochemistry, Ph.D., Texas A&M University
Booth, Chad, Associate Professor, Chemistry & Biochemistry, Ph.D., Univ of Southern Mississippi
Booth, Rachell, Associate Professor, Chemistry & Biochemistry, Ph.D., Univ of Southern Mississippi
Brittain, William J, Chair - Professor, Chemistry & Biochemistry, Ph.D., California Inst of Technology
Compton, Ross D, Associate Professor Emeritus, Chemistry & Biochemistry, Ph.D., University of Texas at Austin
Damin, Craig A, Lecturer, Chemistry & Biochemistry, Ph.D., Miami University
David, Wendi M, Senior Lecturer, Chemistry & Biochemistry, Ph.D., University of Texas at Austin
Dorsey, Christopher L, Lecturer, Chemistry & Biochemistry, Ph.D., Texas A&M University
Du, Liqin, Assistant Professor, Chemistry & Biochemistry, Ph.D., University of Kentucky
Easter, David C, Professor, Chemistry & Biochemistry, Ph.D., Univ of California-Los Angeles
Feakes, Debra A, Professor, Chemistry & Biochemistry, Ph.D., Utah State University
Gray, Joel William, Lecturer, Chemistry & Biochemistry, Ph.D., Texas A&M University
Holland, Cory Lee, Lecturer, Chemistry & Biochemistry, Ph.D., Univ of Tex Hlth Sci San Antonio
Hudnall, Todd W, Assistant Professor, Chemistry & Biochemistry, Ph.D., Texas A&M University
Irvin, Jennifer A, Associate Professor, Chemistry & Biochemistry, Ph.D., University of Florida
Ji, Chang, Associate Professor, Chemistry & Biochemistry, Ph.D., Indiana University Bloomington
Kerwin, Alexander Vladimir, Associate Professor, Chemistry & Biochemistry, Ph.D., Univ of California-Berkeley
Kornienko, Alexander Vladimir, Associate Professor, Chemistry & Biochemistry, Ph.D., Tufts University
Lewis, Karen A, Assistant Professor, Chemistry & Biochemistry, Ph.D., Univ of Texas Southwestern Med Ct
Lewis, Lysle, Professor, Chemistry & Biochemistry, Ph.D., University of Arizona
Li, Xiaopeng, Assistant Professor, Chemistry & Biochemistry, Ph.D., Cleveland State University
Luxford, Cynthia J, Assistant Professor, Chemistry & Biochemistry, Ph.D., Miami University
Martin, Benjamin, Associate Professor, Chemistry & Biochemistry, Ph.D., Penn State University Park
McVey, William J, Senior Lecturer, Chemistry & Biochemistry, M.S., Texas State University
Montalvo, Sedriel J, Lecturer, Chemistry & Biochemistry, M.S., Texas State University
Patterson, Donald Eugene, Lecturer, Chemistry & Biochemistry, Ph.D., Rice University
Patterson, Mary Jane, Lecturer, Chemistry & Biochemistry, Ph.D., Rice University
Rhodes, Christopher Peter, Assistant Professor, Chemistry & Biochemistry, Ph.D., Univ of Oklahoma Norman Campus
Rudzinski, Walter Eugene, Professor Emeritus, Chemistry & Biochemistry, Ph.D., University of Arizona
Shoulders, Ben Allen, Lecturer, Chemistry & Biochemistry, Ph.D., University of Texas at Austin

Streusand, Barry Jay, Lecturer, Chemistry & Biochemistry, Ph.D., Univ of South Carolina Columbia

Walter, Ronald B, Professor - Endowed Chair, Chemistry & Biochemistry, Ph.D., Florida State University

Whitten, Steven T, Associate Professor, Chemistry & Biochemistry, Ph.D., Johns Hopkins University