



**University of Texas at Arlington**  
**Department of Chemistry**  
**and Biochemistry**

# B.S. in Biological Chemistry

2003–2005 Catalog

**Total Credit Hours Required: 120**

**Advanced Credit Hours Required: 36 (3000 level or above)**

## Required Chemistry Courses:

### General Chemistry

- 1441 General Chemistry I and Lab  
1442 General Chemistry II and Lab (Prerequisite: CHEM 1441)

### Organic Chemistry

- 2321 Organic Chemistry I (Prerequisite: CHEM 1442)  
2181 Organic Chemistry Lab I (Corequisite: CHEM 2321)  
2322 Organic Chemistry II (Prerequisite: CHEM 2321)  
2182 Organic Chemistry Lab II (Corequisite: CHEM 2322)

### Quantitative Chemistry

- 2335 Quantitative Chemistry (Prerequisites: CHEM 1442)  
2285 Quantitative Chemistry Lab (Corequisite: CHEM 2335)

### Physical Chemistry

- 3315 Biophysical Chemistry (Prereq: CHEM 2335, 8 hrs Physics)  
(Prereq: MATH 2425)  
3175 Biophysical Chemistry Lab (Corequisite: CHEM 3315)

### Inorganic Chemistry

- 3317 Inorganic Chemistry I (Pre/corequisite: CHEM 2322)  
*or*  
4318 Inorganic Chemistry II (Prerequisite: CHEM 2322)

### Biochemistry

- 4311 General Biochemistry I (Prerequisite: CHEM 2322)  
4242 Lab Techniques in Biochemistry (Prerequisite: CHEM 4311)  
4312 General Biochemistry II (Prerequisite: CHEM 4311)  
4313 Metabolism and Regulation (Prerequisite: CHEM 4312)  
*or*  
4316 Biochemical Genetics (Prerequisite: CHEM 4312)  
4314 Enzymology (Prerequisite: CHEM 4311)

### Analytical Chemistry

- 4461 Instrumental Analysis (Prerequisites: CHEM 3315, 3175)

## Undergraduate Advisors:

Student's Last Name A–L    Dr. Seichiro Tanizaki  
303B SH  
(817) 272-1056  
tanizaki@uta.edu

Student's Last Name M–Z    Dr. Jimmy Rogers  
104 CRB  
(817) 272-5442  
jimrogers@uta.edu

## Other Required Courses:

### English

- 1301 Critical Thinking, Reading, and Writing I  
1302 Critical Thinking, Reading, and Writing II

### Literature

**Three** hours of English or foreign language literature.

### Liberal Arts Elective

**Three** hours at the 2000 level or above from the College of Liberal Arts, fine arts, philosophy, or technical writing.

### Social/Cultural Studies

**Three** hours of an approved course. See attached list.

### Fine Arts

**Three** hours from architecture, art, dance, music, theater art. See attached list.

### Political Science

- 2311 Government of the United States  
2312 State and Local Government

### History

- 1311 History of the United States (→1865)  
1312 History of the United States (1865→)

### Computer Science

**One class** from: CSE 1301, 1306, 1310, or GEOL 1391

### Mathematics

- 1323 Pre-Calculus  
1426 Calculus I  
2425 Calculus II

### Physics

- 1441 General College Physics I (prerequisite: high school trig.)  
1442 General College Physics II (prerequisite: PHYS 1441)

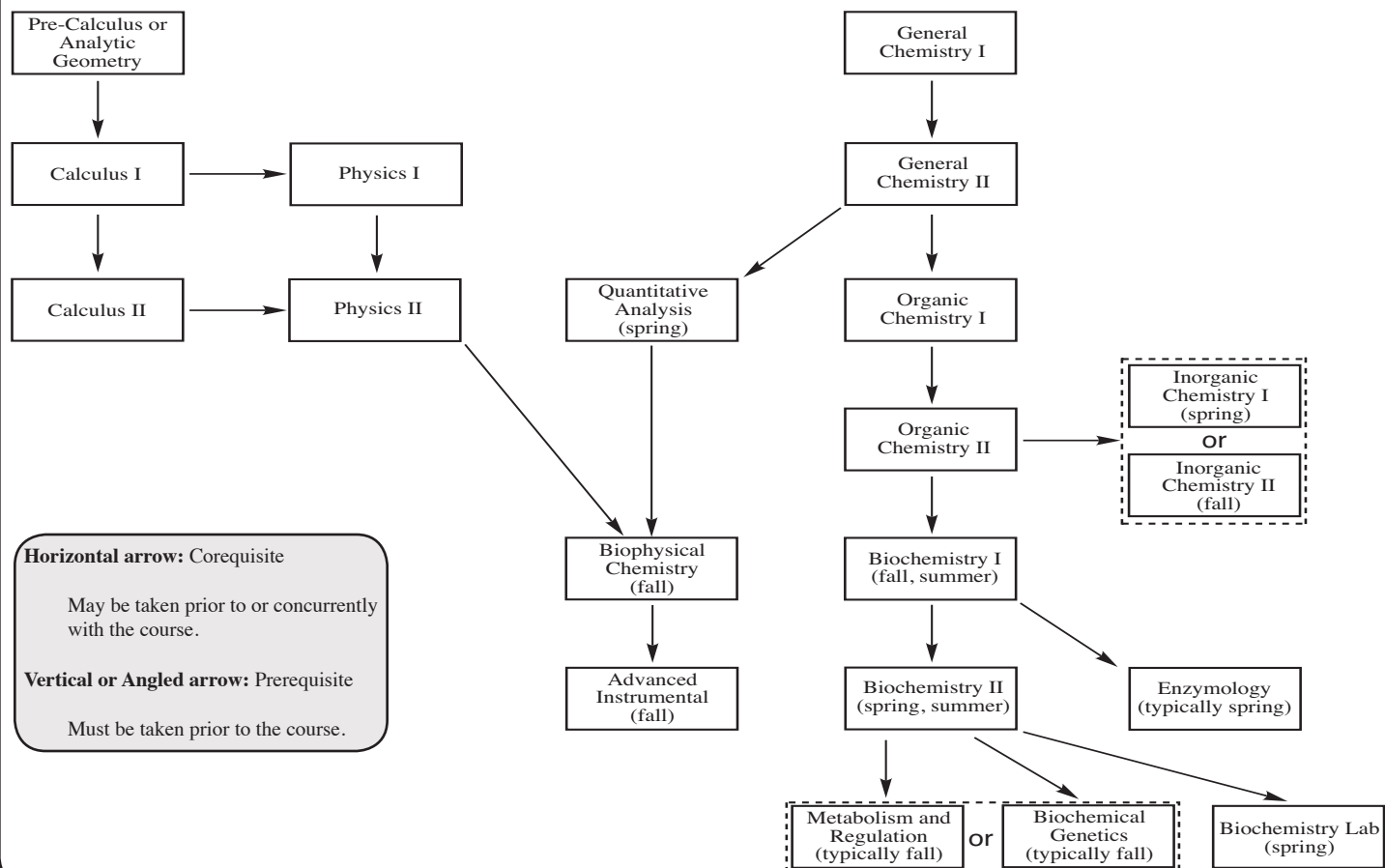
### Biology

- 1441 Cell and Molecular Biology  
1442 Structure and Function of Organisms  
3444 General Microbiology  
**Six** hours from BIOL 3312, 3315, 3333, 3345

### Electives

Approved coursework necessary to achieve 120 total credit hours and 36 advanced credit hours (3000 level or higher)

## Chemistry, Math, and Physics Pre- and Corequisite Flow Chart



## Suggested Course Sequence

### First Year

#### Fall (17 credit hours)

\_\_\_CHEM 1441  
 \_\_\_MATH 1323  
 \_\_\_BIOL 1441  
 \_\_\_ENGL 1301  
 \_\_\_CSE 1301 or 1306 or 1310 or GEOL 1391

#### Spring (15 credit hours)

\_\_\_CHEM 1442  
 \_\_\_MATH 1426  
 \_\_\_BIOL 1442  
 \_\_\_ENGL 1302

### Second Year

#### Fall (16 credit hours)

\_\_\_CHEM 2321  
 \_\_\_CHEM 2181  
 \_\_\_MATH 2425  
 \_\_\_PHYS 1441  
 \_\_\_BIOL 3444

#### Spring (13 credit hours)

\_\_\_CHEM 2322  
 \_\_\_CHEM 2182  
 \_\_\_CHEM 2335  
 \_\_\_CHEM 2285  
 \_\_\_PHYS 1442

### Third Year

#### Fall (16 credit hours)

\_\_\_CHEM 3315  
 \_\_\_CHEM 3175  
 \_\_\_CHEM 4311  
 \_\_\_BIOL 3312/3315/3333/3345  
 \_\_\_POLS 2311  
 \_\_\_Liberal Arts Elective

#### Spring (14 credit hours)

\_\_\_CHEM 4312  
 \_\_\_CHEM 4242  
 \_\_\_BIOL 3312/3315/3333/3345  
 \_\_\_Social/Cultural Studies  
 \_\_\_POLS 2312

### Fourth Year

#### Fall (16 credit hours)

\_\_\_CHEM 4313 or 4316  
 \_\_\_CHEM 4461  
 \_\_\_HIST 1311  
 \_\_\_Literature  
 \_\_\_Elective (3000 or higher)

#### Spring (15 credit hours)

\_\_\_CHEM 4314  
 \_\_\_CHEM 3317  
 \_\_\_BIOL 3345  
 \_\_\_HIST 1312  
 \_\_\_Fine Arts

Please consult the University of Texas at Arlington Undergraduate Catalog for a thorough explanation of degree requirements.

## Courses Approved to Satisfy the Social/Cultural Studies Requirement

ADVT	2337	Introduction to Advertising	ENGL	3351	History of British Literature
ANTH	1306	Introduction to Anthropology	ENGL	3352	History of British Literature II
ANTH	2301	Meeting the New Millennium	ENGL	3370	Women in Literature
ANTH	2322	Cultural Anthropology	EXSS	3307	Socio-Cultural Aspects of Sport
ANTH	3311	Human Adaptation and the Concept of Race	FREN	3311	French Literature and Culture
ANTH	3323	Folk and Peasant Societies	FREN	3312	French Literature and Culture II
ANTH	3325	Ethnography of South America	FREN	3316	Topics: Cities of France
ANTH	3328	Civilizations of South America	FREN	3318	Topics: The Representation of Class in French Culture
ANTH	3330	Cultural Diversity and Identity	GEOG	3350	Reading the Landscape
ANTH	3331	Culture and Personality	GEOG	3355	Environmental History of the U.S.
ANTH	3333	North American Indians	GEOG	3371	Images of the Southwest
ANTH	3336	Anthropology of Religion	GEOG	4301	Historical Geography and Cartography
ANTH	3338	Comparative Kinship and Family Systems	GEOG	4310	Geography of the Greater Southwest
ANTH	3343	Ecological and Cultural Geography	GERM	3301	Topics in German Literature and Culture
ANTH	3346	Cultures of the American Southwest	GERM	3317	The German Heritage
ANTH	3350	North American Archaeology	GERM	3318	Contemporary German Culture & Literature
ANTH	3353	Stone Age Hunters and Farmers	HIST	2301	History of Civilization Through 16th Century
ANTH	3355	The Rise of Civilization	HIST	2302	History of Civilization
ANTH	3366	Sex, Gender & Culture	HIST	3308	Women in the West, 1500-1900
ANTH	3369	Medical Anthropology	HIST	3309	Women and Work, 1600 to the Present
ANTH	4330	Culture Change	HIST	3310	U.S. Women's History to 1860
ANTH	4342	Topics in Cultural Anthropology	HIST	3311	U.S. Women's History 1860 to Present
ANTH	4348	Political Anthropology	HIST	3312	Family and Social Change in Early America
ARCH	2300	Masterworks of World Architecture	HIST	3313	Family and Social Change in America 1820-Present
ART	4301	Art & Gender	HIST	3314	Gender and Race
BIOL	2317	Basic Concepts in Human Sexuality	HIST	3315	Work, Culture, and Society in America to 1870
BUSA	2301	Human Behavior in Business Organizations	HIST	3316	Work, Culture, and Society in America 1870-Present
CLAS	1300	Introduction to Classical Mythology	HIST	3326	The Old South, 1607-1863
CLAS	2307	Women in the Ancient World	HIST	3342	Contemporary America- 1845-Present
CLAS	3310	Introduction to Greek Civilization	HIST	3345	Social History of American Film
CLAS	3320	Introduction to Roman Civilization	HIST	3352	The Southwest
CLAS	3335	Topics in Classical Studies	HIST	3353	Contemporary American Issues
COMM	1300	Introduction to Communication	HIST	3360	Twentieth Century American Cultural History
COMM	4305	Communication and Society	HIST	3362	United States Urban History
COMM	4315	Communication Theory	HIST	3365	African-American History to 1865
COMM	4325	Communication History	HIST	3366	African-American History 1865-Present
COMM	4335	International-Intercultural Communication	HIST	3367	American Indian History
ECED	2301	Early Childhood Professions	HIST	3368	The History of the Mexican American
ECON	2305	Principles of Macroeconomics	HIST	3370	The Image of the American West
ECON	2337	Economics of Social Issues	HIST	3382	Revolutions and Revolutionaries in History
ENGL	2309	World Literature	HIST	4354	Early France: Old Regime and Revolution, 1610-1799
ENGL	2319	British Literature	HIST	4355	Modern France, 1799-Present
ENGL	2329	American Literature	HIST	4366	Latin American History: Origins Through Independence
ENGL	3301	Nineteenth Century Russian Literature	HIST	4367	Latin American History: Post-Independence to the Present
ENGL	3306	Soviet and Post-Soviet Literature	HIST	4368	History of Mexico
ENGL	3339	Classical Backgrounds	HIST	4374	African History I
ENGL	3340	History of American Literature	HIST	4375	African History II
ENGL	3343	Topics in American Ethnic Literature	HONR	2302	Honors Interdisciplinary Seminar in Social Sciences
			HONR	4310	Honors Studies Abroad
			HUMA	2301	Humanities
			HUMA	4301	Culture and Ideas
			HUMA	4302	Social and Political Theory

## Courses Approved to Satisfy the Social/Cultural Studies Requirement, cont.

LING	2301	Introduction to the Study of Human Languages	RUSS	3322	Intermediate Russian Language and Politics
LING	3311	Introduction to Linguistic Science	RUSS	3323	Intermediate Russian Language and Politics II
LING	4317	Sociolinguistics	SOCI	1311	Introduction to Sociology
LING	4318	Language and Gender	SOCI	2312	Topics in Social Problems
MUSI	2300	Musical Traditions of the World	SOCI	3313	Criminology
NURS	3355	Health Care Systems	SOCI	3317	Individual and Society
PHIL	2300	Introduction to Philosophy	SOCI	3318	Self and Social Identities
PHIL	1304	Contemporary Moral Problems	SOCI	3320	Deviance: Social and Personal
PHIL	1310	Philosophical Perspectives	SOCI	3321	Socialization and Social Control
PHIL	2312	Ethics	SOCI	3322	Family Violence
PHIL	2313	Philosophy of the Arts	SOCI	3323	Riots, Fads, Cults, and Social Movements
PHIL	3301	History of Philosophy: Ancient Philosophy	SOCI	3326	Sociology of Language
PHIL	3302	History of Philosophy: Roman and Medieval	SOCI	3327	Intercultural Interaction
PHIL	3303	History of Philosophy: Renaissance	SOCI	3328	Marital and Sexual Lifestyle
PHIL	3304	History of Philosophy: Nineteenth & Early 20th	SOCI	3331	Sociology of the Family
PHIL	3316	Philosophy of Religion	SOCI	3334	Gender Roles
PHIL	3319	Biomedical Ethics	SOCI	3336	Social Inequality
PHIL	3320	Philosophy of Law	SOCI	3340	Sociology of Education
PHIL	3321	Philosophy of Language	SOCI	3343	Poverty and Homelessness in America
PHIL	4318	Philosophy of Literature	SOCI	3346	U.S. Into the Twenty-first Century
PHIL	4388	Topics in the History of Philosophy	SOCI	3350	Power and Bureaucracy
POLS	3304	Introduction to Comparative Politics	SOCI	3351	Sociology of Work
POLS	3305	Government in Urban America	SOCI	3353	Urban Sociology
POLS	3314	Political Systems of Eastern and Central Europe	SOCI	3357	Law and Society
POLS	3316	Latin American Politics	SOCI	3356	Women, Work, and Social Change
POLS	3317	Mexican Politics and U.S.–Mexico Relations	SOCI	3360	Science and Society
POLS	3318	Political Systems of East Asia	SOCI	4303	Women in Society
POLS	4315	Constitutional & Democratic Political Systems	SOCI	4309	Social Policy and Health Care Delivery
POLS	4317	Ethnic Group Politics in the U.S.	SOCI	4310	Minorities
POLS	4318	Politics of African Americans	SOCI	4315	Violence in Society
POLS	4319	Politics of Mexican Americans	SOCI	4318	Social Change and Conflict
POLS	4323	Feminist Political Thought	SOCI	4320	Medical Sociology
POLS	4336	Contemporary U.S. Foreign Policy	SOCW	2311	Introduction to Social Work
POLS	4355	International Politics	SPAN	3302	Hispanic Literature in Translation
POLS	4361	Political Environment of Russia/Successor States	SPAN	3311	Spanish Culture and Civilization
POLS	4362	Russia and the Successor States Today	SPAN	3312	Spanish-American Culture and Civilization
POLS	4363	Special Topics in Russian and Euro-Asian Studies	SPAN	3318	Selected Readings in Hispanic Literature
POLS	4365	Foreign Policies of Russia and the Successor States	SPAN	3320	Introduction to Hispanic Literature and Culture I
POLS	4387	Communism and Political Development -	SPAN	3321	Introduction to Hispanic Literature and Culture II
PREL	2338	Introduction to Public Relations	URPA	1301	Introduction to Urban Life
PSYC	2310	Behavior Analysis and Modification	WOMS	2310	Introduction to Women's Studies
PSYC	2317	Basic Concepts in Human Sexuality	WOMS	4318	Language and Gender
PSYC	3301	Psychology of Human Relations			
PSYC	3310	Developmental Psychology			
PSYC	3311	Adulthood and Aging			
PSYC	3312	Infancy and Early Childhood			
PSYC	3313	Psychology of Women			
PSYC	3315	Social Psychology			
PSYC	3316	Environmental Psychology			
RUSS	3301	Russian Literature in Translation			
RUSS	3306	Soviet and Post Soviet Literature in Translation			
RUSS	3314	Political Systems of Eastern and Central Europe			

## Courses Approved to Satisfy the Fine Arts Requirement

ARCH	1301	Introduction to Architecture and the Design Professions I
ARCH	2300	Masterworks of Western Architecture
ARCH	2303	History of Architecture and Design
ARCH	2304	History of Architecture and Design II
ARCH	4305	The City of Rome
ARCH	4308	History of Urban Form
ARCH	4309	The City of London
ARCH	4310	American Architecture
ART	1301	Introduction to Art
ART	1309	Art of the Western World I: Greece through Renaissance
ART	1310	Art of the Western World II: Baroque to Modern
ART	3302	Art of Antiquity
ART	3305	Early Christian and Byzantine
ART	3306	Byzantine and Medieval Art
ART	3307	The Early Renaissance
ART	3308	High Renaissance
ART	3310	Film as Art
ART	3311	American Art
ART	3312	Neo-Classicism and Romanticism
ART	3313	Backgrounds of Modern Art
ART	3314	Modern Art
ART	3315	Impressionism
ART	3320	Mesoamerican Art
ART	3325	Studies in the Baroque
ART	3331	English Art: Eighteenth and Nineteenth Centuries
ART	3389	Contemporary Art
ART	3391	History of Photography
ART	3392	History and Aesthetics of the Video Image
ART	4302	Greek and Roman Painting
ART	4303	Roman Art
ART	4304	The Etruscans
ART	4306	Mid-Renaissance
ART	4317	The Art of Other Traditions
ART	4330	Eighteenth Century Art
CLAS	3310	Introduction to Greek Civilization
CLAS	3320	Introduction to Roman Civilization
DNCE	1300	Dance Appreciation
HONR	2300	Honors Interdisciplinary Seminar in Humanities and Fine Arts
MUSI	1300	Music Appreciation
MUSI	1301	Elements of Music
MUSI	1302	History of Jazz
MUSI	2300	Musical Traditions of the World
MUSI	2301	Music in Film
MUSI	3300	Music History I
MUSI	3301	Music History II
THEA	1343	Introduction to Theatre
THEA	3307	History of Costume
THEA	4303	Classical Theatre History