**Sample Double Major Pathway**

**AIS and** **BIO CHEM**

*Created by*

*Robert Keith Collins, PhD*

*Associate Professor*

*American Indian Studies*

*College of Ethnic Studies*

*5/1/15*

Minimum Units Required for Graduation: 120 units

With no double/triple counting:

GE 48 units

AIS Major 39 units

BIO CHEM Major 72 units

 159 units needed for double major and GE

With double counting from the sample double major program in AIS and BIO CHEM (see below):

 Double Count for GE Non-GE Units Required Total Major Units

AIS Major 30 units + 9 units = 39 total

BIO CHEM Major 0 units + 72 units = 72 total

 96 units 111 units for 2 majors

 with no GE

 double-counting

Results: 30 double counted units for GE and 2 majors

 18 additional GE units to fulfill required 48 units

 72 additional units to fulfill 2 majors

 **120 total units (instead of 159) to finish 2 majors and GE requirements**

Note: BIO CHEM courses that fulfill other GE requirements are not factored in this sample pathway. Please consult with BIO CHEM for their list of GE certified courses that double count for their major.

**College of Ethnic Studies**

**American Indian Studies Department – 39 units**

The following sample is based on the Law, Politics, and Society Studies emphasis, with a UD Topical Perspective on Human Diversity.

15 units (highlighted) can double count for GE and AIS major, fulfilling D2, D3, LLD, AERM, GP, SJ, AI, UD Human Diversity.

Core Requirements (21 units)

* AIS 100 Introduction to American Indian Studies (AERM, SJ)
* AIS 150 American Indian History in the United States (AI, D2, AERM, SJ)
* AIS 160 Survey of Native California (AERM, ES)
* AIS 205 American Indians and U.S. Laws (AI, D3, AERM, SJ)
* AIS 300 American Indian Studies Research Methodologies (AERM, GP, SJ, UD-D: Human Diversity)
* AIS 694 Community Service Learning (1 - 3 unit options for a total of 3 in any combination)
* AIS 680 American Indian Studies Senior Seminar

Law, Politics, and Society (18 units – Note: 15 Units must be complete at the Upper Division level.)

* AIS 230 Urban Indians
* AIS 330 American Indian Law
* AIS 350 Black Indians in the Americas
* AIS 400 American Indian Education
* AIS 420 American Indian Women
* AIS 430 American Indian Sovereignty
* AIS 460 Power and Politics in American Indian History
* AIS 470 American Indian Identity: Problems in Ethnicity
* AIS 480 American Indian Social Movements
* AIS 490 Ancestors or Data? The Politics of NAGPRA
* AIS 540/840 Advanced Topics in American Indian Law
* AIS 600 Contemporary Issues in the American Indian Community

**College of Science and Engineering**

**BioChemistry (BS) – 72 units**

The following sample is based on the Biochemistry emphasis.

6 units (highlighted) can double count for GE and CHEM major, fulfilling GP, UD Human Diversity. (NOTE: DR. NANCY PLEASE MODIFY AS NECESSARY. )

Note: BioChem courses that fulfill other GE requirements are not factored in. Courses are 3 units unless specified.

Lower Division Requirements (34 units)

* CHEM 115 General Chemistry I: Essential Concepts of Chemistry (5)
* CHEM 215 General Chemistry II: Quantitative Applications of Chemistry Concepts
* CHEM 216 General Chemistry II Laboratory: Quantitative Applications of Chemistry Concepts (2)
* CHEM 233 Organic Chemistry I
* CHEM 234 Organic Chemistry I Laboratory (2)
* MATH 226 Calculus I (4)
* MATH 227 Calculus II (4)
* BIOL 230 Introductory Biology

One of the following sets:

* PHYS 111 General Physics I
* PHYS 112 General Physics I Laboratory (1)

And

* PHYS 121 General Physics II
* PHYS 122 General Physics II Laboratory (1)

Or

* PHYS 220 General Physics with Calculus I
* PHYS 222 General Physics with Calculus I Laboratory

And

* PHYS 240 General Physics with Calculus III
* PHYS 222 General Physics with Calculus III Laboratory

Upper Division Requirements (25 units)

* CHEM 300 General Physical Chemistry I
* CHEM 301 General Physical Chemistry II
* CHEM 321 Quantitative Chemical Analysis
* CHEM 335 Organic Chemistry II
* CHEM 340 Biochemistry I
* CHEM 341 Biochemistry II
* CHEM 343 Biochemistry I Laboratory
* CHEM 390 GW Contemporary Chemistry and Biochemistry Research – GWAR

Upper Division Chemistry Electives

Student must complete at least 12 units of upper division chemistry and biology electives from the following (Note: Be sure to consult with a Chemistry advisor regarding delection of elective courses and check course co-and prerequisites before enrolling.):

* CHEM 322 Quantiative Chemical Analysis Laboratory (2)
* CHEM 325 Inorganic Chemistry
* CHEM 327 Practical GC and HPLC (4)
* CHEM 336 Organic Chemistry II Laboratory
* CHEM 370 Computer Applications in Chemistry and Biochemistry
* CHEM 420 Environmental Analysis
* CHEM 422 Instrumental Analysis (4)
* CHEM 426 Advanced Inorganic Chemistry Laboratory (2)
* CHEM 433 Advanced Organic Chemistry
* CHEM 443 Biophysical Chemistry Laboratory (4)
* CHEM 451 Experimental Physical Chemistry (2)
* CHEM 470 Research
* CHEM 640 Advanced Topics in Biochemistry (1-3)
* CHEM 645 Research Trends in Chemistry and Biochemistry
* CHEM 680 Chemical Oceanography
* CHEM 699 Independent Study (1-3)

Upper Division Biology Electives

* BIOL 350 Cell Biology
* BIOL 351 GW Experiments in Cell and Molecular Biology – GWAR (4)
* BIOL 355 Genetics
* BIOL 357 Molecular Genetics
* BIOL 401 General Microbiology
* BIOL 402 GW General Microbiology Laboratory – GWAR (2)
* BIOL 420 General Virology
* BIOL 435 Immunology
* BIOL 436 Immunology Laboratory (2)
* BIOL 612 Human Psysiology
* BIOL 613 GW Human Psysiology Laboratory – GWAR
* BIOL 638 Bioinformatics and Gene Annotation (4)
* BIOL 640 Cellular Neurosciences