**Sample Double Major Pathway**

**AIS and** **CHEM**

*Created by*

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*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

CHEM Major 56 units

143 units needed for double major and GE

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

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

AIS Major 15 units + 24 units = 39 total

CHEM Major 0 units + 56 units = 56 total

80 units 95 units for 2 majors

with no GE

double-counting

Results: 15 double counted units for GE and 2 majors

33 additional GE units to fulfill required 48 units

63 additional units to fulfill 2 majors

111 total units (instead of 143) to finish 2 majors and GE requirements

Note: CHEM courses that fulfill other GE requirements are not factored in this sample pathway. Please consult with 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 Science, Health, and Environmental 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

Science, Health, and Environmental Studies (18 units)

* AIS 260 American Indian Health and Cultural Recovery
* AIS 450 American Indian Science
* AIS 490 Ancestors or Data: The Politices of NAGPRA
* AIS 520 Before the Wilderness: American Indian Ecology
* AIS 530 American Indian Psychology

**College of Science and Engineering**

**Chemistry (BA) – 56 units**

The following sample is based on the World Music emphasis, with a UD Topical Perspective on Human Diversity.

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

Note: Chem courses that fulfill other GE requirements are not factored in.

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)

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 321 Quantitative Chemical Analysis
* CHEM 322 Quantitative Chemical Analysis Laboratory (2)
* CHEM 325 Inorganic Chemistry
* CHEM 335 Organic Chemistry II
* CHEM 336 Organic Chemistry II Laboratory
* CHEM 340 Biochemistry I

Or

* CHEM 349 General Biochemistry
* CHEM 390 GW Contemporary Chemistry and Biochemistry Research – GWAR

Advanced Laboratoery Electives (3 units)

Student must complete at least 3 units 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 327 Practical GC and HPLC (4)
* CHEM 343 Biochemistry I 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 451 Experimental Physical Chemistry (2)
* CHEM 470 Research
* CHEM 699 Independent Study (1-3)

***Note: A minumum of 40 upper division units must be completed for the degree (including upper division units required for the major, general education, electives, etc.). A student can complete this major yet not attain the necessary number of upper division units required for graduation. In this case, additional upper division courses will be needed to reach the required total.***