

# Advising Guide for Natural Sciences 7-12 Certification

This advising guide is for students on the following academic bulletins: 2009/2010; 2010/2011; 2011/2012; 2012/2013

**Students can teach Biology, Chemistry, Earth Science and Physics with Natural Sciences endorsement.**

This advising guide and your personal long range planning guide are designed to accompany the Degree Audit.

While every attempt has been made to accurately list all course requirements, please refer to the Undergraduate Bulletin and Degree Audit.

Last updated May, 2012 - BJ

Achievement-Centered Education (ACE) requirements are found in the undergraduate bulletin.

## Pre-Professional Education Courses (13 hrs)

TEAC 331	School and Society (Sophomores +)	3 hrs
EDPS 251	Adolescent Development for Ed	3 hrs
EDPS 297	Practicum (take with EDPS 251)	1 hr
TEAC 259	Instructional Technology	3 hrs
TEAC 330	Multicultural Education (Sophomores+)	3 hrs

Select one of the following sequences: 10 hrs

### A. Non-calculus based physics

PHYS 141	Elementary General Physics I
PHYS142	Elementary General Physics II

### B. Calculus based physics

PHYS 211/221	General Physics I
PHYS 212/222	General Physics II

## Natural Science Endorsement (60 hrs)

ASTR 103	Descriptive Astronomy	3 hrs
BIOS 101/101L	General Biology w/lab	4 hrs
BIOS 109	General Botany	4 hrs
BIOS 112/112/L	Zoology w/lab	4 hrs
BIOS 213/213L	Physiology w/lab	4 hrs
BOIS 220/222 *	Principles of Ecology	4 hrs
* cross-listed as NRES 220/222		
BIOS 312/314	Microbiology w/lab	4 hrs
CHEM 109	General Chemistry I	4 hrs
CHEM 110	General Chemistry II	4 hrs
CHEM 251/253	Organic Chemistry w/lab	4 hrs
METR 200	Weather and Climate	4 hrs

Acceptance into the Science Teacher Education Program is required before enrollment in the Professional Education courses. 80% of the endorsement courses must be completed prior to enrolling in TEAC 451V. The professional education sequence begins spring semester, continues in the fall semester, and is followed by a semester of student teaching.

## Professional Education Courses (27 hrs)

### Methods

TEAC 451V	Teaching Principles	3 hrs
TEAC 452V	Curriculum Principles	3 hrs
TEAC 397V	Practicum	3 hrs
EDPS 457	Learning and Motivation	3 hrs
SPED 401B	Mainstreaming	3 hrs

### Student Teaching

TEAC 497V	Student Teaching	9 hrs
TEAC 403B	Student Teaching Seminar (ACE 10)	3 hrs

Select one of the following courses: 4 hrs

GEOL 101	Physical Geology
GEOL 103	Historical Geology
GEOL 160	Geoscience Fundamentals in the Field

Select one of the following courses: 3 hrs

GEOL 105	Life of the Past
GEOL 106	Environmental Geology
GEOL 109	Oceanography
GEOL 110	Geological Natural Hazards
GEOL 115	The Earth's Energy Resources

**Achievement-Centered Education (ACE)**  
**Requirements for Secondary Natural Sciences Grades 7 – 12**  
**ACE courses may be used to satisfy education and endorsement requirements.**  
**See undergraduate bulletin for list of ACE courses.**

<b>Achievement – Centered Education (ACE)</b>	<b>Course Taken Term and Grade Earned</b>	<b>Suggested Course(s)</b>	<b>Suggested Courses that if taken will meet an education or endorsement requirement as well as the ACE requirement</b>
ACE 1. Written Communication		ENGL 101, 150, 151 or 254	
ACE 2. Communication Competence		COMM 109, 209 or 210	
ACE 3. Math, Statistics		MATH 106, STAT 218 or EDPS 459	
ACE 4. Scientific Method			ASTR 103, CHEM 109, 110, GEOL 103, 115, METR 200, PHYS 141, 142, 211/221, 212/222
ACE 5. History/Humanities			
ACE 6. Human Behavior			EDPS 251, 457
ACE 7. Arts		COMM 205 if speech not taken as ACE 2 requirement	
ACE 8. Ethics			TEAC 331
ACE 9. Global Awareness			TEAC 330
ACE 10. Integration			TEAC 403B

**Additional ACE Course Work Requirements**

**These may double dip with course work in the education and endorsement that are ACE courses.**

- Speech course: COMM 109, 209, 210 (ACE 2 courses) or COMM 205 (ACE 7 course).** You may choose to meet the speech course requirement and an ACE 2 or ACE 7 requirement with one course.
- Two ACE courses at the 300/400 level.** TEAC 330, Teac 331, EDPS 457, and TEAC 403B are courses that meet program requirements, ACE requirements, and also may satisfy this requirement.
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- Four additional ACE courses for a total of 14 ACE courses.** You may choose to select ACE courses above that meet education or endorsement requirements
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