The Bachelor of Science in Education with a major in Secondary Education leads to a Michigan Standard Teaching Certificate in one or more of the subjects below in Grades 6-12.

### Certification Subject Areas

**Major Concentrations (One Required)**  
(coursework on page 3)

- **Science (6-12)**
  - Integrated Science
  - Biology
  - Chemistry
  - Earth/Space
  - Physics

- **Social Studies (6-12)**
  - Economics
  - History
  - Political Science
  - Social Studies Group
  - Social Studies Comp

**Minor Concentrations (Optional)**  
(see additional endorsements)

- **Science (6-12)**
  - Biology
  - Chemistry
  - Earth/Space
  - Physics

- **Social Studies (6-12)**
  - Economics
  - History
  - Political Science

### Other Certification Programs and Options

The following certification options have curriculum different from what is in this advising guide. Please see below for information about each of these options.

- **Health & Physical Education Teaching (K-12)**  
  [Advising Guide](#)

- **English Language Arts**  
  [Advising Guide (Grades 7-12)](#)

- **Mathematics**  
  [Advising Guide (Grades 7-12)](#)
  [Advising Guide (Grades 5-9)](#)

- **Music (Vocal & Instrumental)**  
  [Music Education Homepage](#)

- **Visual Arts Education (K-12)**  
  [Advising Guide](#)

- **World Languages (K-12)**  
  [Arabic, French and Spanish Advising Guide](#)
LEVEL 1
◊ Gen Eds including ICN
◊ TED 2200/2205
◊ Some Subject Courses
◊ Some Education Courses

LEVEL 2
◊ Apply
◊ Complete Cornerstone Welcome Online

PROFESSIONAL ED
◊ Methods Courses
◊ Clinical Experiences
◊ Graduation

EDUCATION COURSES (7 CREDITS)
The following courses may be taken in Level 1 or 2
☐ TED 2020: Technology Integration in Teaching (3cr)
☐ TED 2210: Foundations II (2cr)
☐ TED 2220: Foundations III (2cr)

LEVEL 2 COURSEWORK (8 CREDITS)
Professional Education Courses
☐ EDP 5480: Adolescent Psychology (2cr)
☐ EHP 3600: Introduction to the Philosophy of Edu (3cr)
☐ RLL 6121: Reading: Middle & Secondary Subjects (3cr)

METHODS COURSES (6-9 CREDITS)
Major Required (6 Credits) | Minor Optional (3 credits)
INTEGRATED SCIENCE
☐ SCE 5060: Methods & Materials: Secondary Science I (3cr)
☐ SCE 6030: Advanced Studies in Teaching Science (3cr)
BIOLOGY, CHEMISTRY, PHYSICS, EARTH/SPACE
☐ SCE 5060: Methods & Materials: Secondary Science I (3cr)
☐ SCE 5070: Methods & Materials: Secondary Science II (3cr)
SOCIAL STUDIES (ECONOMICS, HISTORY, POLITICAL SCIENCE)
☐ SSE 6710: Methods & Materials: Secondary Social Studies (3cr)
☐ SSE 6730: New Perspectives in Social Studies Education (3cr)

CLINICAL EXPERIENCES (15-17 CREDITS)
PRE STUDENT TEACHING
☐ TED 5650: Pre-Student Teaching for Secondary (5cr)
*Requires subject area methods course
*Requires formal application
STUDENT TEACHING
☐ TED 5780: Directed Teaching & Conference (10-12cr)
*Requires TED 5650 & all coursework
*Requires formal application

IMPORTANT RESTRICTIONS & REQUIREMENTS
• Minimum total credits to degree, 120
• 2.5 Minimum GPA required
• Minimum grade of “C” in major, program electives, program requirements, (BC), (ICN) & (QE)
• The Academics Exclusion Policy can be found by clicking here.
• Please consult the University Bulletin (bulletins.wayne.edu/undergraduate) for official curriculum.
## SCIENCE MAJOR CONCENTRATIONS (SINGLE SUBJECT)

Science major concentrations require the following additional courses:
- **Chemistry (32 credit minimum):**
  - CHM 1100: General Chemistry I (4cr)
  - CHM 1130: Lab (concurrent w/1100) (1cr)
  - CHM 1140: General Chemistry II (4cr)
  - CHM 1150: Lab (concurrent w/1150) (1cr)
  - CHM 1240: Organic Chemistry I (4cr)
  - CHM 1250: Lab (concurrent w/1240) (1cr)
  - CHM 2220: Organic Chemistry II (4cr)
  - CHM 2230: Lab (concurrent w/2220) (1cr)
  - CHM 3020: Inter Inorganic Chem I (3cr)
  - CHM 5400: Bio Physical Chemistry (3cr)
  - CHM 5550: Physical Chemistry Lab (2cr)
  - CHM 5600: Survey of Biochemistry (3cr)
  - Science electives (4cr)
  - Additional coursework to complete major:
    - MAT 2020: Calculus I (4cr)
    - MAT 2030: Calculus III (4cr)
    - PHY 2170/2171: Univ Physics I w/lab (5cr)
    - PHY 2180/2181: Univ Physics II w/lab (5cr)
- **Biology (32 credit minimum):**
  - BIO 1500: Basic Life Diversity (3cr)
  - BIO 1501: Lab (concurrent w/1500) (1cr)
  - BIO 1510: Basic Life Mechanisms (3cr)
  - BIO 1511: Lab (concurrent w/1510) (1cr)
  - BIO 2270: Principles of Microbiology (3cr)
  - BIO 2271: Lab (concurrent w/2271) (2cr)
  - BIO 3070: Genetics (4cr)
  - BIO 3500: Ecology & the Environment (3cr)
  - BIO 4200: Evolution (3cr)
  - Science electives (5cr)

## Environmental Science (32 credit minimum):
- ESG 1010: Geology (3cr)
- ESG 2130: Mineralogy (4cr)
- ESG 3160: Petrology (4cr)
- ESG 3300: Structural Geology (4cr)
- ESG 3400: Sedimentology & Stratigraphy (4cr)
- PHY 2170: University Physics I (4cr)
- PHY 2171: Lab (concurrent w/2170) (1cr)
- PHY 2180: University Physics II (4cr)
- PHY 2181: Lab (concurrent w/2180) (1cr)
- PHY 3300: Intro Modern Physics (3cr)
- PHY 3310: Lab (concurrent w/3300) (2cr)
- PHY 5200: Classical Mechanics I (3cr)
- PHY 5340: Optics (3cr)
- PHY 5341: Lab (concurrent w/5340) (2cr)
- PHY 5620: Elect & Electrical Measure (3cr)
- PHY 6600: Electromagnetic Fields I (3cr)
- Additional coursework to complete major:
  - MAT 2020: Calculus II (4cr)
  - MAT 2030: Calculus III (4cr)
  - PHY 2170/2171: Univ Physics I w/lab (5cr)
  - PHY 2180/2181: Univ Physics II w/lab (5cr)

## Social Studies Major Concentrations (Single Subject)

- **American Studies:**
  - HIS 1000: World Civilization to 1500 (3cr)
  - HIS 1300: Eur & World: 1500-1914 (3cr)
  - HIS 1400: The World Since 1914 (3cr)
  - HIS 2040: US Foundations to 1877 (3cr)
  - HIS 2050: Modern US: Since 1877 (3cr)
  - HIS 2240: History of Michigan (3cr)
  - HIS 3140: Afr Am Hist I: 1400-1865 (3cr)
  - HIS 3150: Afr Am Hist II: 1865-1968 (3cr)
  - Two HIS electives (3XXX or higher) (6cr)

- **Economics:**
  - ECO 2010: Microeconomics (4cr)
  - ECO 2020: Macroeconomics (4cr)
  - ECO 5100: Stats & Econometrics (4cr)
  - ECO 5300: International Trade (4cr)
  - ECO 5310: International Finance (4cr)
  - ECO 5400: Labor Economics (4cr)
  - Two ECO Electives (5XXX or higher) (8cr)

- **History:**
  - HIS 1000: World Civilization to 1500 (3cr)
  - HIS 1300: Eur & World: 1500-1914 (3cr)
  - HIS 1400: The World Since 1914 (3cr)
  - HIS 2040: US Foundations to 1877 (3cr)
  - HIS 2050: Modern US: Since 1877 (3cr)
  - HIS 2240: History of Michigan (3cr)
  - HIS 3140: Afr Am Hist I: 1400-1865 (3cr)
  - HIS 3150: Afr Am Hist II: 1865-1968 (3cr)
  - Two HIS electives (3XXX or higher) (6cr)

- **Political Science:**
  - PS 1010: American Government (4cr)
  - PS 2710: Intro to Comp Politics (4cr)
  - PS 2810: World Politics (4cr)
  - PS 3020: Political Parties & Elections (4cr)
  - PS 3070: Michigan Politics (4cr)
  - PS 5120: Constitutional Rights (4cr)
  - Two PS electives (3XXX or higher) (6cr)

- **Social Studies Group Major Concentrations (Single Subject):**
  - PS 1010: American Government (4cr)
  - PS 2710: Intro to Comp Politics (4cr)
  - PS 2810: World Politics (4cr)
  - PS 3020: Political Parties & Elections (4cr)
  - PS 3070: Michigan Politics (4cr)
  - PS 5120: Constitutional Rights (4cr)
  - Two PS electives (3XXX or higher) (6cr)