

Program is under revision to meet the emerging Indiana Rules for Educator Preparation and Accountability (REPA) requirements. Please see an education advisor for more details.

This program sheet is effective for all students starting at IUB beginning summer 2015.



**INDIANA UNIVERSITY**

SCHOOL OF EDUCATION  
Office of Teacher Education  
Bloomington

## B.S. EDUCATION: SCIENCE (CHEMISTRY)

This Bachelor of Science in Education degree enables you to teach Middle School/Junior High or High School students. Course requirements for this program are valid at IUB as reflected in the School of Education Bulletin. A 4 year college plan requires completion of 15-16 credits each semester. A 2.5 GPA overall is required for retention and graduation. A total of 120 credits are required for graduation.

May 2015

### PREREQUISITES FOR AUTHORIZED COURSES

(Competitive enrollment. Meeting minimum requirements does not guarantee enrollment in authorized courses.)

- Students may satisfy the Academic Skills Assessment requirement by using any of the following options:
  - Qualifying scores on CASA
    - Reading 220, Math 220, Writing 220
  - SAT combined score of at least 1100
    - Sum of MA + VE = 1100
  - ACT composite score of at least 24
    - Sum of EN + MA + RE + SR scores divided by 4 = 24
- 2.5 GPA overall.
- 21 credits and a 2.5 GPA in the content field with at least 15 credits completed and 6 credits in progress. Grade of C or higher is required in each content field course.
- Completion of or enrollment in prerequisites: Grade of C or higher is required in each EDUC course.

Courses		Credits
• EDUC-M 300	<i>Teaching in a Pluralistic Society (D)</i>	3
• EDUC-P 312	<i>Learning Theory into Practice AND</i>	3
• EDUC-P 313	<i>Adolescents in a Learning Community</i>	3
	<b>(To enroll in P312 and P313 you must register for EDUC-BE 312)</b>	
• EDUC-W 200	<i>Using Computers in Education (IF)</i>	3

- Apply by October 1 for Spring Semester Block I courses.
- Submit TEP Application Online:  
<https://info.educ.indiana.edu/teachered/>

### I. IUB & SCHOOL OF EDUCATION GENERAL EDUCATION REQUIREMENTS

<http://gened.iub.edu/courses/genedcourses.html>

(Careful selection & completion of courses with a "C" or higher grade may allow double counting within General Education, Professional Education &/or Content Field.)

### Oral Expression (Select one) (Grade of C or higher required) 3 credits

ANTH-A 122	<i>Interpersonal Communication (S&amp;H)</i>	3
COLL-P 155	<i>Public Oral Communication</i>	3
EDUC-G 203	<i>Comm. for Youth Serving Professionals (S&amp;H)</i>	3

### English Composition (EC) (Select one) (Grade of C or higher required) 0-3 credits

CMLT-C 110	<i>Writing the World</i>	3
ENG-W 131	<i>Reading, Writing &amp; Inquiry I OR</i>	3
ENG-W 131EX	<i>Elementary Composition-Exempt</i>	0
ENG-W 170	<i>Intro to Argumentative Writing-Projects in Reading &amp; Writing</i>	3

### Intensive Writing Course (IW) (Select one) 3 credits

EDUC-H 205	<i>Intro to Educational Thought (P: English comp) (S&amp;H)</i>	3
EDUC-H 340	<i>Education &amp; American Culture (P: English comp &amp; Soph. standing)</i>	3

### Mathematical Modeling (MM) (Select one) 3-4 credits

MATH-M/S/V 118	<i>Finite Mathematics</i>	3
MATH-D 116	<i>Intro to Finite Mathematics I AND</i>	2
MATH-D 117	<i>Intro to Finite Mathematics II (P: D116)</i>	2
MATH-J 113	<i>Intro to Calculus with Applications</i>	3
MATH-M 119	<i>Brief Survey of Calculus I (Recommended)</i>	3
MATH-M 211	<i>Calculus I (Recommended)</i>	4
MATH-M 213	<i>Accelerated Calculus</i>	4

### Arts & Humanities (A&H) 6 credits

Complete at least 2 courses for a total of at least 6 credits.

- \_\_\_\_\_
- \_\_\_\_\_

### Social & Historical Studies (S&H) 6 credits

Complete at least 2 courses for a total of at least 6 credits.

- \_\_\_\_\_
- \_\_\_\_\_

### Natural & Mathematical Sciences (N&M) (Complete ONE of the following options.) 5+ credits

**Option I:** Complete at least 2 courses for a total of at least 5 credits. At least 1 of these courses must be a Natural Science ( \* ) course.

- \_\_\_\_\_
- \_\_\_\_\_

**Option II:** Complete a 5 credit science course.

- \_\_\_\_\_

(The class taken to fulfill the Mathematical Modeling requirement cannot be counted towards the 5+ credits needed to fulfill the N&M requirement.)

### World Languages (WL)/World Cultures (WC) (Complete ONE of the following options.) 6 credits

**Option I: Language Study (WL):** Complete the study of an approved single language through the second semester of the second-year level of college-level coursework.

- \_\_\_\_\_
- \_\_\_\_\_

**Option II: World Culture (WC):** Complete at least 2 courses for a total of at least 6 credits.

- \_\_\_\_\_
- \_\_\_\_\_

**Option III: International Experience (IE):** Complete an approved study abroad program or internship of at least 6 credits & at least 6 weeks abroad in duration.

- \_\_\_\_\_
- \_\_\_\_\_

**Information Fluency (IF) 3 credits**EDUC-W 200 *Using Computers in Education* 3**Diversity in the U. S. (D) 3 credits**EDUC-M 300 *Teach in a Pluralistic Society (P: Soph. standing)* 3**Enriching Educational Experiences (EEE) 12 credits**EDUC-M 480 *Student Teaching: Secondary* 12**II. PROFESSIONAL EDUCATION****48 credits/2.5 GPA****(C or higher grade is required in each course listed below.)****TEP Prerequisite Education Courses 12 credits**EDUC-M 300 *Teaching in a Pluralistic Society (P: Soph. standing) (D)* 3EDUC-P 312 *Learning Theory into Practice (P: Soph. standing) AND* 3EDUC-P 313 *Adolescents in a Learning Community (P: Soph. standing) (To enroll in P312 and P313 you must register for EDUC-BE 312)* 3EDUC-W 200 *Using Computers in Education (IF)* 3**Required Non-Authorized Course 6 credits**EDUC-A 308 *Legal & Ethical Issues for Teachers (P: Soph. standing)* 3EDUC-H 205 *Intro to Educational Thought (P: English comp) (S&H) (IW) OR* 3EDUC-H 340 *Education & American Culture (P: English comp & Soph. standing) (IW)* 3**Teacher Education Program (TEP) 30 credits**

Completion of TEP prerequisites is required.

These courses must be taken before student teaching.

EDUC-K 306 *Teaching Students with Special Needs: Secondary Classrooms* 3**Courses must be taken in prescribed blocks. Successful completion (C or higher) of all courses in each block is a prerequisite for the next block and student teaching.****Block I and Block II must be completed in sequence, without interruption, from one semester to the next. Students may add an additional semester(s) between the completion of Block II and Student Teaching (Block III).****Block I (Spring only) 8 credits**EDUC-M 346 *Exploring Secondary School Science Teaching* 3EDUC-M 303 *Field Experience I* 2EDUC-M 469 *Content Area Literacy* 3**Block II (Fall only) 6 credits**EDUC-M 446 *Methods of Teaching Jr/Middle/Sr High School Science* 3EDUC-M 403 *Field Experience II* 2EDUC-S 303 *Classroom Management* 1**Block III (Student Teaching) 13 credits****Students may not enroll in other classes while completing student teaching. (Exception: EDUC-M 202 Job Search Strategies for Educators)**EDUC-M 420 *Student Teaching Seminar* 1EDUC-M 480 *Student Teaching in the Secondary School (EEE)* 12**III. CHEMISTRY CONTENT****49 credits/2.5 GPA****(C or higher grade is required in each course listed below.)****(Check with the department regarding when courses will be offered.)****Required Science 19 credits**BIOL-E/L 111 *Foundations of Biology: Diversity, Evolution & Ecology (N&M) OR* 3BIOL-E/L 112 *Foundations of Biology: Biological Mechanisms (P: HS/College Chem) (N&M)* 3GEOL-G/S 103 *Earth Science: Mat. & Processes (N&M) OR* 3GEOL-G 104 *Evolution of the Earth (N&M) OR* 3GEOL-G 105 *Earth: Our Habitable Planet (N&M)* 3HPSC-X 102 *Science Revolutions: Plato to NATO (S&H, WC) OR* 3HPSC-X 222 *Big Science in 20<sup>th</sup> Century (S&H)* 3PHYS-P 201 *General Physics I (P: MATH-M026 or HS equiv.) (N&M) AND* 5PHYS-P 202 *General Physics II (P: P201 or HS equiv.) (N&M) OR* 5PHYS-P 221 *Physics I (C: MATH-M211) AND* 5PHYS-P 222 *Physics II (C: MATH-M/S212, P: P221)* 5**Chemistry Major 30 credits**CHEM-C 117 *Principles of Chem & Biochem I (P: CHEM & MATH Placement Exams & Consent of Dept) (N&M) AND* 3CHEM-C 127 *Principles of Chem & Biochem I Lab OR* 2CHEM-S 117 *Principles of Chem & Biochem I-Honors* 5CHEM-C/S 341 *Organic Chem I Lectures (P: C117/127 or S117)* 3CHEM-C/S 342 *Organic Chem II Lectures (P: C/S341) (R: C343 Concurrently)* 3CHEM-C/S 343 *Organic Chem I Lab (P: C341) (P/C: C342)* 2CHEM-C 360 *Intro to Physical Chem (P: C117/127 or S117; N330 strongly recommended, MATH-M119, PHYS-P201 or equiv.) OR* 3CHEM-C 361 *Physical Chem of Bulk Matter (P: C117/127 or S117, MATH-M212, PHYS-202 or P222) OR* 3CHEM-C 362 *Physical Chem of Molecules (P: C117-127 or S117, N330 strongly recommended. MATH-M212, PHYS-P202 or P222)* 3**Complete 14 credits from the following:**CHEM-N 330 *Intermediate Inorganic Chem (P: C/S342 & R340) (P: C/S343) OR* 5CHEM-C/S 118 *Principles of Chem & Biochem II (P: C117/127 or S117) OR* 2CHEM-A 314 *Biol. & Envir. Chemical Analysis (P: C/S341 or R340 & MATH-M119 or M211) OR* 2CHEM-C 317 *Equilibria and Electrochem (P/C: C/S341 & MATH-M211 or M213) AND* 2CHEM-C 318 *Spectrochem and Separations (P/C: C/S 341 and MATH-M211 or M213)* 2CHEM-A 315 *Chemical Measurements Lab (P: C317 & C318 or A314)* 2CHEM-A 316 *Bioanalytical Chem Lab (P: C317 & C318 or P/C: A314)* 2CHEM-C/S 344 *Organic Chem II Lab (P C/S342 & C/S343)* 2CHEM-C 364 *Intro to Basic Measurements (P: C/S361) OR* 3CHEM-P 364 *Basic Measurements-Physical Chem (P: C/S361) AND* 2CHEM-P 464 *Advanced Measurements-Physical Chem (P: P364. P/C: C362)* 2CHEM-C 430 *Inorganic Chem (P: C/S118 or N/S330 & C/S342) (R: C362)* 3CHEM-C 432 *Spectroscopic Methods in Inorganic Chem (P: C360 or C361 & C430)* 3CHEM-C 437 *Inorganic Chem Lab (P: C/S343 & C430)* 2CHEM-C 443 *Organic Spectroscopy (P: C342 & C362)* 3CHEM-C 460 *Nuclear Chem (P/C: C360 & C/S361)* 3CHEM-C 481 *Physical Biochem (P: C361 & C484)* 3CHEM-C 483 *Biological Chem (P: C/S342 or R340) OR* 3CHEM-C 484 *Biomolecules and Catabolism (P: C/S342)* 3CHEM-C 485 *Biosynthetic Pathways & Control of Metabolism (P: C484)* 3**IV. ELECTIVES (To total 120 credits)**

