This program sheet is effective for all students starting at IUB beginning summer 2016.

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

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 four year college plan requires completion of 15 credits each semester. A 2.5 GPA overall is required for retention and graduation. A total of 120 credits are required for graduation.

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MATH-M/S/V 118</td>
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<td>MATH-D 116</td>
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<td>MATH-D 117</td>
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<td>MATH-J 113</td>
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<td>MATH-M 119</td>
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<tr>
<td>MATH-M/S 211</td>
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### 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 Teaching in a Pluralistic Society (P: Soph. status) 3

Enriching Educational Experiences (EEE) 12 credits
EDUC-M 480 Student Teaching: Secondary 12

II. PROFESSIONAL EDUCATION 48 credits/2.5 GPA
(A grade of C or higher is required in each course listed below.)

Prerequisite courses for admission to the TEP 12 credits
EDUC-M 300 Teaching in a Pluralistic Society 3
(P: Sophomore status) (D)
EDUC-P 312 Learning Theory into Practice (P: Soph. status) 3
EDUC-P 313 Adolescents in a Learning Community 3
(P: Sophomore status)
EDUC-W 200 Using Computers in Education (IF) 3

Required Non-Authorized Course 6 credits
EDUC-A 308 Legal & Ethical Issues for Teachers 3
(P: Sophomore status)
EDUC-H 205 Intro to Educational Thought (P: English comp) 3
(S&H) (IW) OR
EDUC-H 340 Education & American Culture 3
(P: English comp & Soph. status) (IW)

Teacher Education Program (TEP) 30 credits
Admission to the TEP 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 303 Field Experience I 2
EDUC-M 469 Content Area Literacy 3

Block II (Fall only) 6 credits
EDUC-M 446 Methods of Teaching Jr/Middle/Sr High School Science 3
EDUC-M 403 Field Experience II 2
EDUC-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 1
EDUC-M 480 Student Teaching in the Secondary School (EEE) 12

III. PHYSICS CONTENT 53 credits/2.5 GPA
(A grade of C minus or higher is required in each course.)
(Check with the department regarding when courses will be offered.)

Required Science & Mathematics 23 credits
BIOL-E/L 111 Foundations of Biology: Diversity, Evolution & Ecology (N&M) OR 3
BIOL-E/L 112 Foundations of Biology: Biological Mechanisms (P: HS or college chemistry) (N&M) 3
CHEM-C 117 Principles of Chem & Biochem I (P: CHEM & MATH Placement & consent of Dept) (N&M) 3
GEOL-G/S 103 Earth Sci: Materials & Processes (N&M) OR 3
GEOL-G 104 Evolution of the Earth (N&M) OR 3
GEOL-G 105 Earth: Our Habitable Planet (N&M) 3
HPSC-X 102 Science Revolutions: Plato to NATO (S&H, WC) OR 3
HPSC-X 222 Big Science in the 20th Century (S&H) 3
MATH-M/S 211 Calculus I (N&M) (MM) 4
MATH-M/S 212 Calculus II (P: M/S 211) (N&M) 4
MATH-M/S 343 Intro to Differential Equations I (P: M/S 212) 3

Physics Major 30 credits
PHYS-P 201 General Physics I 5
(P: MATH-M 26 or HS equiv.) (N&M) AND
PHYS-P 202 General Physics II 5
(P: P 201 or HS equiv.) (N&M) OR
PHYS-P/H 221 Physics I (C: MATH-M/S 211) AND 5
PHYS-P/H 222 Physics II (C: MATH-M/S 212, P: P 221) 5
PHYS-P/H 301 Physics III (P: P 222 or P 202 with consent of instructor) 3

Complete 17 credits in Physics at the 300-400 level from the Physics department course listing:

IV. ELECTIVES (To total 120 credits)