### SCIENCE EDUCATION
### CHEMISTRY CONCENTRATION

Grade Levels 5-12
REPA 3

*Purdue University Course Catalog 2022-2023*

<table>
<thead>
<tr>
<th>Required Science Education Core Courses</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 24100 Introductory Inorganic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHM 29400 Sophomore Chemistry Seminar</td>
<td>1</td>
</tr>
<tr>
<td>CHM 34200 Inorganic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHM 37300 Physical Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHM 37400 Physical Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 17200 Modern Mechanics</td>
<td>4</td>
</tr>
</tbody>
</table>

**One of the following:**

- STAT 30100 Elementary Statistical Methods 3
- STAT 35000 Introduction To Statistics

**One of the following:**

- CHM 11600 General Chemistry (4) 4-5
- CHM 12600 Introduction to Chemistry II (5)
- CHM 12901 General Chemistry with a Biological Focus (5)
- CHM 13600 General Chemistry Honors 4

**One of the following:**

- CHM 26500 Organic Chemistry Laboratory (2) 1-2
- CHM 26300 Organic Chemistry Laboratory (1)
- CHM 26700 Organic Chemistry Laboratory Honors (2)

**One of the following:**

- CHM 26100 Organic Chemistry 3
- CHM 26505 Organic Chemistry

**One of the following:**

- CHM 11500 General Chemistry (4) 4-5
- CHM 12500 Introduction to Chemistry I (5)

**One of the following:**

- CHM 26200 Organic Chemistry 3
- CHM 26605 Organic Chemistry

**One of the following:**

- CHM 26600 Organic Chemistry Laboratory (2) 1-2
- CHM 26400 Organic Chemistry Laboratory (1)
- CHM 26800 Organic Chemistry Laboratory Honors (2)

**One of the following:**

- CHM 32100 Analytical Chemistry I (4) 4
- CHM 32300 Analytical Chemistry I Honors (4) 3
One of the following:
CHM 33300  Principles of Biochemistry (3)
CHM 53300  Introductory Biochemistry (3)
BCHM 56100  General Biochemistry I (3)

One of the following:
CHM 37301  Physical Chemistry Laboratory (1)
CHM 37401  Physical Chemistry Laboratory (1)

One of the following:
CS 17700  Programming with Multimedia Objects (4)
CS 18000  Problem Solving and Object-Oriented Programming (4)

One of the following:
MA 16100  Plane Analytic Geometry and Calculus I (5)
MA 16500  Analytic Geometry and Calculus I (4)

One of the following:
MA 16200  Plane Analytic Geometry and Calculus II (5)
MA 16600  Analytic Geometry and Calculus II (4)

One of the following:
MA 26100  Multivariate Calculus (4)
MA 27101  Honors Multivariate Calculus (5)

One of the following:
PHYS 27200  Electric and Magnetic Interactions (4)
OR
PHYS 24100  Electricity and Optics (3) AND
PHYS 25200  Electricity and Optics Laboratory (1)

**Total Content 69-76**

**PROFESSIONAL EDUCATION**

Educational Program Course Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDCI 20500</td>
<td>Exploring Teaching as a Career *required for TEP admission</td>
<td>2</td>
</tr>
<tr>
<td>EDCI 27000</td>
<td>Introduction to Education Technology and Computing</td>
<td>1</td>
</tr>
<tr>
<td>EDCI 28500</td>
<td>Multiculturalism and Education *required for TEP admission</td>
<td>2</td>
</tr>
<tr>
<td>EDPS 23500</td>
<td>Learning and Motivation</td>
<td>2-3</td>
</tr>
<tr>
<td>EDPS 26501</td>
<td>The Inclusive Classroom</td>
<td>2</td>
</tr>
<tr>
<td>EDST 20010</td>
<td>Educational Policies and Laws *required for TEP admission</td>
<td>1</td>
</tr>
<tr>
<td>EDPS 32700</td>
<td>Classroom Assessment</td>
<td>1-3</td>
</tr>
<tr>
<td>EDPS 43010</td>
<td>Secondary Creating and Managing Learning Environments</td>
<td>1</td>
</tr>
<tr>
<td>EDCI 20001</td>
<td>Special Populations Seminar: Focus On Students with Disabilities and Differentiation Approaches</td>
<td>1</td>
</tr>
<tr>
<td>EDCI 20002</td>
<td>Special Populations Seminar: English Language Learners and Students with Gifts and Talents</td>
<td>1</td>
</tr>
<tr>
<td>EDCI 30900</td>
<td>Reading in Middle and Secondary Schools: Methods and Problems</td>
<td>3</td>
</tr>
<tr>
<td>EDCI 35000</td>
<td>Community Issues &amp; Applications for Educators</td>
<td>1</td>
</tr>
<tr>
<td>EDCI 37001</td>
<td>Teaching and Learning English as a New Language</td>
<td>2-3</td>
</tr>
<tr>
<td>EDPS 24000</td>
<td>Children with Gifts, Creativity, and Talents</td>
<td>1</td>
</tr>
<tr>
<td>EDPS 24800</td>
<td>Differentiating Curriculum and Instruction</td>
<td>1</td>
</tr>
<tr>
<td>EDPS 36201</td>
<td>Positive Behavioral Supports</td>
<td>2</td>
</tr>
<tr>
<td>EDCI 49800</td>
<td>Supervised Teaching (16 weeks)</td>
<td>12</td>
</tr>
</tbody>
</table>
Methods Courses

EDCI 42400 The Teaching of Earth and Physical Science in the Secondary Schools\(^1\) 3
EDCI 42800 Teaching Science in the Middle and Junior High School\(^1\) 2
EDCI 55800 Integrated Science, Technology, Engineering and Mathematics (STEM) Education Methods-Secondary 12
EDCI 49800 Supervised Teaching (16 weeks)\(^1\)

Learner Pathway Selective

Pick ONE course from the selective below in a pathway of your choice (required). ABA courses are included if allowed by the plan of study. Students can take two additional courses in the same pathway to complete requirements for an add-on teaching license in ELL or HA or take one additional course in the SPED pathway for a certificate in SPED.

**English Language Learners Licensure Pathway**
EDCI 51900 Teaching English Language Learners (3)
EDCI 52600 Language Study for Educators (3)
EDCI 55900 Academic Language and Content Area Learning (3)

**High Ability Licensure Pathway**
EDPS 54200 Curriculum and Program Development in Gifted Education (3)
EDPS 54500 Social and Affective Development of Gifted Students (3)

**Special Education Non-Licensure Pathway**
EDPS 21100 Special Education Law, Policy, and Ethical Guidelines (3)

**Applied Behavior Analysis Non-Licensure Pathway**
EDPS 34100 Introduction to Philosophical Underpinnings and Concepts of Applied Behavior Analysis (3)
EDPS 34200 Applied Behavior Analysis – Assessment and Intervention (3)
EDPS 44100 Introduction to Ethics and Practice of Applied Behavior Analysis (3)
EDPS 44200 Advanced Intervention in Applied Behavior Analysis (3)
EDPS 34100 Introduction to Philosophical Underpinnings and Concepts of Applied Behavior Analysis (3)

\(^1\) indicates a Restricted methods course

**Total Professional Education 44-49**

**Licensure Information**

All Purdue University Program and Indiana Department of Education requirements must be met for recommendation for Indiana licensure.

After all requirements are met, Purdue graduates will be considered eligible to apply to the Indiana Department of Education for licensure under REPA 3 in:

**Chemistry (5-12)**
Addition in Blended and Online Teaching (5-12)

Optional: Addition in High Ability (P-12) or ELL (P-12) if chosen pathway requirements are completed

Visit the Indiana Department of Education website for more information about what courses can be taught once licensed in this area.

Please reference the 2022-2023 Science: Chemistry Education Guidelines and Requirements and the 2022-2023 Science: Chemistry Education Checklist for more information.