

Science Education - Chemistry Concentration

License: Chemistry

Grade Levels 5-12
REPA 3

Purdue University Catalog 2023-2024

Credit Hours

64-73

CONTENT

Overall GPA for Chemistry Concentration courses with the Departmental/Program Major Courses must be at least 2.50/4.00

Required Science Education Core Courses

Required Chemistry Course (Select One)

CHM	11500	General Chemistry OR	4
CHM	12500	Introduction to Chemistry	5

Required Computing Option (Select one)

CS	15900	C Programming OR	3
CS	17600	Data Engineering in Python OR	3
CS	17700	Programming with Multimedia Objects OR	4
CS	18000	Problem Solving and Object-Oriented Programming	4

Required calculus Courses (Select One Pair)

MA	16100	Plane Analytic Geometry and Calculus I	5
MA	16200	Plane Analytic Geometry and Calculus II	5
OR			
MA	16500	Analytic Geometry and Calculus I	4
MA	16600	Analytic Geometry and Calculus II	4

Required Physics Courses (Select One Pair)

PHYS	17200	Modern Mechanics	4
PHYS	27200	Electric and Magnetic Interactions	4
OR			
PHYS	17200	Modern Mechanics	4
PHYS	24100	Electricity and Optics	3
PHYS	25200	Electricity and Optics Laboratory	1

Required Statistics Course

Choose one available for your concentration. NOT included in the CONTENT GPA

STAT	30100	Elementary Statistical Methods OR	3
STAT	35000	Introduction to Statistics	3

Chemistry Concentration

CHM	24100	Introductory Inorganic Chemistry	4
CHM	29400	Sophomore Chemistry Seminar	1
CHM	34200	Inorganic Chemistry	3
CHM	37300	Physical Chemistry	3
CHM	37301	Physical Chemistry Laboratory	1
CHM	37400	Physical Chemistry	3
CHM	37401	Physical Chemistry Laboratory	1
<i>Select One</i>			
CHM	11600	General Chemistry OR	4
CHM	12600	Introduction to Chemistry II OR	5
CHM	12901	General Chemistry with a Biological Focus OR	5
CHM	13600	General Chemistry Honors	4
<i>Select One</i>			
CHM	26100	Organic Chemistry OR	3
CHM	26505	Organic Chemistry	3
<i>Select One</i>			
CHM	26300	Organic Chemistry Laboratory OR	1
CHM	26500	Organic Chemistry Laboratory OR	2
CHM	26700	Organic Chemistry Laboratory Honors	2
<i>Select One</i>			
CHM	26200	Organic Chemistry OR	3
CHM	26600	Organic Chemistry Laboratory OR	2
CHM	26605	Organic Chemistry	3
<i>Select One</i>			
CHM	26400	Organic Chemistry Laboratory OR	1
CHM	26800	Organic Chemistry Laboratory Honors	2
<i>Select One</i>			
CHM	32100	Analytical Chemistry I OR	4
CHM	32300	Analytical Chemistry I Honors	4
<i>Select One</i>			
CHM	53300	Introductory Biochemistry OR	3
BCHM	30700	Biochemistry OR	3
BCHM	56100	General Biochemistry I	3
<i>Select One</i>			
MA	26100	Multivariate Calculus OR	4
MA	27101	Honors Multivariate Calculu	5

Credit Hours**43-54****PROFESSIONAL EDUCATION**

All Professional Education courses, including University Concentration courses, are calculated into the Professional Education GPA ("B" average with no grade lower than a "C")

Required for TEP Admission

EDCI	20500	Exploring Teaching as a Career	2
EDCI	28500	Multiculturalism and Teaching	2

EDST	20010	Educational Policies and Laws	1
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Core Courses

EDCI/EDPS	20001	Special Populations Seminar: Focus On Students with Disabilities and Differentiation Approaches	1
EDCI/EDPS	20002	Special Populations Seminar: English Language Learners and Students with Gifts and Talents	1
EDCI	27000	Introduction to Educational Technology and Computing	1
EDCI	30900	Reading in the Middle and Secondary Schools: Methods and Problems	1-3
EDCI	35000	Community Issues & Applications for Educators	1-3
EDCI	37001	Teaching and Learning English as a New Language	2-3
EDPS	23500	Learning and Motivation	2-3
EDPS	24000	Children with Gifts, Creativity, and Talents	1
EDPS	24800	Differentiating Curriculum and Instruction	1
EDPS	26501	The Inclusive Classroom	2
EDPS	32700	Classroom Assessment	1-3
EDPS	36201	Positive Behavioral Supports	2-3
EDPS	43010	Secondary Creating and Managing Learning Environments	2-3

Methods Courses

EDCI	42400	The Teaching of Earth and Physical Science in Secondary Schools	3
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Select One

EDCI	42800	Teaching Science in the Middle and Junior High School OR	2
EDCI	55800	Integrated Science, Technology, Engineering, and Mathematics (STEM) Educations Methods-Secondary	3

Student Teaching

Completion of education methods courses and other Milestone requirements for the major area and admittance to teacher education required prior to this course.

EDCI	49800	Supervised Teaching	12
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University Concentrations

Choose one course from the concentrations below that was not already taken as a required course. Students can elect to take additional coursework to complete a full concentration if they choose, but it is not required.

English Language Learners (Licensure Eligible) 12-13

EDCI	37001	Teaching and Learning English as a New Language	2-3
EDCI	51900	Teaching English Language Learners	3
EDCI	52600	Language Study for Educators	3
EDCI	55900	Academic Language and Content Area Learning	3
EDCI/ EDPS	20002	Special Pop Sem: English Lang Learners and Students with Gifts OR Special Pop Sem: English Lang Learners and Students with Gifts	1

High Ability (Licensure Eligible)

13-15

All courses must be completed with a B- or better average

EDCI/ EDPS	20001	OR Special Pop Sem: Focus on Students with Disabilities and Differentiation	1
EDCI/ EDPS	20002	Special Pop Sem: English Lang Learners and Students with Gifts OR Special Pop Sem: English Lang Learners and Students with Gifts	1
EDPS	24800	Differentiating Curriculum and Instruction	1
EDPS	49500	Practicum in Gifted, Creative, and Talented Education	3
EDPS	54200	Curriculum and Program Development in Gifted Education	3
EDPS	54500	Social and Affective Development of Gifted Students	3
<i>Select one</i>			
EDPS	24000	Children with Gifts, Creativity, and Talents OR	1
EDPS	54000	Gifted, Creative, and Talented Children	3
<i>Special Education (Non-Licensure)</i>			12-13
EDCI/ EDPS	20001	Special Pop Sem: Focus on Students with Disabilities and Differentiation OR Special Pop Sem: Focus on Students with Disabilities and	1
EDCI/ EDPS	20002	Special Pop Sem: English Lang Learners and Students with Gifts OR Special Pop Sem: English Lang Learners and Students with Gifts	1
EDPS	21100	Special Education Law, Policy, and Ethical Guidelines	3
EDPS	26501	The Inclusive Classroom	2
EDPS	36201	Positive Behavioral Supports	2-3
EDPS	41700	Special Education Knowledge and Skills for General Educators	3
<i>Applied Behavioral Analysis (Non-Licensure)</i>			12
EDPS	34100	Introduction to Philosophical Underpinning and Concepts of Behavior	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

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 Education (P-12) or Teachers of English Learners (P-12) if chosen university concentration requirements are complete

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

Please reference the 2023-2024 Chemistry Education Guidelines and Requirements and the 2023-2024 Chemistry Education Checklist for more information.