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Goodwin College School of Education

The [School of Education](#) seeks to enrich knowledge and practice related to lifespan learning, based on the most current and appropriate research and practice. The goal of the school goal is to improve human understanding through programs and activities that emphasize creative uses of human effort, technology and problem solving.

The [School of Education](#) offers offer bachelor's, master's, and doctoral degrees in addition to a number of certification programs.

Title II Reporting

In compliance with Title II, Section 207, of the Higher Education Act of 1998 and General Standards for the Institutional Preparation of Professional Educators (Chapter 354), pass rates on the Praxis Series Exam for students prepared as teachers by Drexel University are available at the School of Education.

Combination Certifications

Combination certifications are available from teh School of Education. Sample combinations include:

- Biology certification, with courses for additional certification in chemistry.
- Chemistry certification, with courses for additional certification in biology.
- Earth and space science certification, with courses for additional certification in chemistry.
- Earth and space science certification, with courses for additional certification in physics.
- Mathematics certification, with courses for additional certification in physics.
- Physics certification, with courses for additional certification in mathematics.

Post-Graduate Opportunities

Students obtain employment in the School District of Philadelphia and neighboring school districts in Pennsylvania and such surrounding states as New Jersey, Delaware, Ohio, and New York. Often, students begin a graduate degree program in combination with their employment.

Visit the [School of Education](#) website for more information on graduate degree programs in education at Drexel.



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- [Drexel Home](#)
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The School of Education

About the Curriculum

Certification for classroom instruction is available in:

- Elementary education
 - Elementary: PK-4
 - Elementary: PK-4 and Special Education
 - Middle Level Math and English
 - Middle Level Science and English
 - Middle Level Science and Math
- Secondary education (grades 7-12)
 - Biology
 - Chemistry
 - Earth and Space Science
 - English
 - General Science
 - Mathematics
 - Physics
 - Social Studies
- Secondary education (grades K-12)
 - Environmental Education

Students may acquire certification in [more than one subject area](#).

The program in Teacher Education uses university-wide resources to prepare fully qualified mathematics and science teachers at both the elementary and secondary levels. It applies the microcomputer in teaching and learning, and it is the only such program in the country to incorporate a six-month paid internship in industry related to the student's area of certification (for example, a prospective chemistry teacher might co-op at a chemical company).

Because the program requires that students have a B average in content courses needed for certification, the student's content coursework is evaluated at the end of the sophomore year for formal admittance into the Teacher Preparation program. All students are expected to meet the B average requirement in content coursework before beginning pre-student field teaching experience. Students who fail to meet this requirement must take additional content coursework until the B average is met.

Students participate in two periods of direct teaching experience. The first period, in the junior year, consists of a ten-week field experience (EDUC 320 WI) through which students participate in limited teaching; on-campus coursework accompanies the field experience (EDUC 325 and EDUC 326 WI). In the senior year, students complete the 12-week student-teaching experience (EDUC 412 WI) required for certification. Students must receive a grade of at least B in student teaching and in all pedagogy coursework to be recommended for certification.

Students pursuing the appropriate majors in the College of Arts and Sciences may also complete the requirements for certification within their area of study. For more information, contact the Program Coordinator for the School of Education at .

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the [Writing Intensive Course List](#) on the [Drexel University Writing Center](#) page. Students scheduling their courses in Banner/DrexelOne can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.



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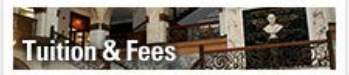
The Goodwin College of Professional Studies School of Education

Co-operative Education

Drexel University has long been known for its co-operative education program, through which students combine periods of fulltime, career-related employment with their studies. Internship employment is a requirement for all teacher education majors.

The degree is completed in four years, and it includes one six-month internship period of full-time employment related to the student's initial area of teacher certification. The goal of the co-op program in teacher education is to provide real-world experiences for future teachers to use in their classrooms.

Students pursue varied positions geared directly to their area(s) of certification. For example, a student working toward certification in chemistry might seek employment in a corporate laboratory, just as a chemistry major would do. Some students, especially elementary certification majors, intern in liberal arts areas or such educationally oriented museums as Philadelphia's Please Touch Museum and the Franklin Institute Science Museum.



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The Goodwin College of Professional Studies School of Education

Facilities

The [Drexel Center for the Prevention of School-aged Violence](#) is located within the School of Education at Drexel University, 3141 Chestnut Street, Philadelphia, PA 19104. The mission of the center is to provide a research venue for investigating applications of creativity and the power of creativity as a force in uncovering hidden talents of youth of diverse age groups, cultures, and economic backgrounds.

The [Multicultural Collaborative](#) is a School of Education center that serves as a hub where scholars and communities beyond the university work together to create projects that transform the lives of all students.

For more information about these and other School of Education centers, visit the [The Centers of Goodwin College](#).



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BS in Elementary Education

About the Major

The BS in Elementary Education uses university-wide resources to prepare fully qualified teachers at the primary education levels. Primary teacher certification options include:

- Pre-Kindergarten - Grade 4
- Pre-Kindergarten - Grade 4 & Special Education
- Middle Level (grades 4-8) Mathematics and Science
- Middle Level (grades 4-8) Science and English
- Middle Level (grades 4-8) Mathematics and English

Students may acquire certification in more than one subject area.

The program requires that students have a B average (3.0 GPA) in content courses needed for teacher certification in addition to the grade of B or better in each EDUC course throughout their time in the program. These requirements must be satisfied in order for Drexel to recommend the student for teacher certification upon graduation and/or be considered to have completed the program.

A benchmark to assist students in meeting the GPA and B grade requirements is the formal review of each student's content and pedagogy coursework at the end of the sophomore year. Students who meet these requirements, as well as pass the *Pre-Professional Skills Test* (PPST Reading, PPST Writing, PPST Mathematics) of the *ETS Praxis Exams* according to Pennsylvania standards at that time, are officially accepted into Drexel's Teacher Preparation Program. Students who do not meet the requirements work with their academic advisor to develop a plan of action to work toward meeting the requirements, continue in the program to work toward the BS degree without being recommended for a teaching certificate, or explore another major.

Students participate in classroom observations and limited direct teaching experiences as a component of many of their pedagogy courses beginning in their freshman year. Students have the option of the following teacher certification/concentration tracks within their major which determines their individual program of study:

Elementary Education, Pre-Kindergarten through Grade 4: focused study to work with children in pre-kindergarten, kindergarten, and grades 1-4 across subject areas (ages 3-9). The competencies for this concentration include child development (birth through age 5), language development, early literacy and math foundations for preschool years, early intervention, integrating the arts for the developing child and family and community partnerships.

Elementary Education, Pre-Kindergarten through Grade 4 and Special Education: focused study to work with children in pre-kindergarten, kindergarten, and grades 1-4 across subject areas (ages 3-9) within the competencies listed previously as well as working with students with disabilities in pre-kindergarten, kindergarten and grades 1-8 (ages 3-14). The special education competencies emphasize the Response to Intervention process, working with students at risk for and with/without disabilities, progress monitoring techniques, research-based instructional practices and interventions.

Elementary Education, Middle Level: focused study to work with students in grades 4-6 across subjects and with students in grades 7-8 in two core academic subject(s) the teacher education candidate chooses to pursue:

- Middle School Mathematics & English
- Middle School Science & English
- Middle School Science & Math

In the senior year, students who are officially accepted into the Teacher Preparation Program and maintain the GPA and grade requirements, enroll and complete the 12-week, full-time, student-teaching experience (EDUC 410 WI) in their primary area of certification. Students must receive a grade of at least B in EDUC 410 (and EDUC 414 if applicable) and in all pedagogy (EDUC) coursework, as well as maintain an overall 3.0 GPA to be recommended for teacher certification.

Students who were not officially accepted into the Teacher Preparation Program and/or do not maintain the GPA and grade requirements but who are working towards the BS degree without being recommended for teacher certification take other courses as assigned by the Teacher Education Program Director and/or academic advisor to fulfill needed credits for the degree in lieu of student teaching.

Students pursuing the appropriate majors in the College of Arts and Sciences may also complete the requirements for certification within their area of study. For more information, contact the Program Coordinator for the School of Education at .

Additional information is available at the [School of Education's](#) web site.



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COLLEGES & SCHOOLS MAJORS MINORS GRADUATE PROGRAMS CERTIFICATE PROGRAMS ARCHIVE

BS in Elementary Education: PK-4

Bachelor of Science Degree: 180.5 quarter credits

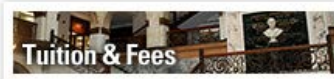
Degree Requirements

Incoming students, 2011/2012

This certification enables teachers to work with children in prekindergarten, kindergarten, and grades 1-4 across subject areas. Required competencies are covered in areas such as child development, language development, early literacy and math foundations for preschool years, early intervention, integrating the arts for the developing child, and family and community partnerships.

For a sample plan of study listing the sequence of how courses should be completed, see the [BS in Elementary Education: PK-4 Sequence](#) page.

General education/Content requirements		65.0 Credits
BIO 100	Applied Cells, Genetics & Physiology	3.0
BIO 101	Applied Biological Diversity, Ecology & Evolution	3.0
CHEM 111	General Chemistry I	4.0
COM 111	Techniques of Speaking	3.0
ECON 201	Principles of Microeconomics	4.0
ENGL 101	Expository Writing and Reading	3.0
ENGL 102	Persuasive Writing and Reading	3.0
ENGL 103	Analytical Writing and Reading	3.0
ENVS 260	Environmental Science and Society	3.0
HIST 276	History of Philadelphia	3.0
MATH 181	Mathematical Analysis I	3.0
MATH 182	Mathematical Analysis II	3.0
MATH 183	Mathematical Analysis III	3.0
MUSC 130	Introduction to Music	4.0
PHYS 151	Applied Physics	3.0
PSY 101	General Psychology	3.0
PSY 320 WI	Educational Psychology	3.0
PSY 330	Cognitive Psychology	3.0
SOC 335	Sociology of Education	3.0
UNIV 101	The Drexel Experience	2.0
	English elective course between 200-329	3.0
Nutrition elective*		3.0



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*NFS 101 is the recommended Nutrition elective.

**Students wishing to receive PA Teacher Certification upon graduation in the area of Elementary Education should take [EDUC 475](#) Conflict Resolution and Prevention School Violence as an elective.

Pedagogy requirements **89.5 Credits**

EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 105	Freshman Seminar	3.0
EDUC 120	Child Development I: Typical Development	3.0
EDUC 121	Child Development II: Atypical Development	3.0
EDUC 142	Special Education Foundations	4.5
EDUC 205	Sophomore Pedagogy Seminar	1.0
EDUC 210	Early Language Development	3.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 236	Early Literacy I	3.0
EDUC 244	Inclusionary Practices for Exceptional Students	4.5
EDUC 246	Literacy Development	4.5
EDUC 265	Instructing English Language Learners	3.0
EDUC 305	Junior Pedagogy Seminar	1.0
EDUC 306	Assessment of Young Children I	3.0
EDUC 307	Assessment of Young Children II	4.0
EDUC 314	Elementary Science Teaching Methods	3.0
EDUC 315	Secondary Science Teaching Methods	3.0
EDUC 317	Math: Methods and Content: Early Childhood	3.0
EDUC 318	Elementary Math Methods and Content	3.0
EDUC 324	Current Research in Curriculum and Instruction	3.0
EDUC 325	Multimedia in Instructional Design	3.0
EDUC 326 WI	Language Arts Processes	3.0
EDUC 335	Engaging the Learner	3.0
EDUC 336	Early Literacy II	3.0
EDUC 338	Expressive Arts for PreK-4	3.0
EDUC 355	Social Studies Teaching Methods	3.0
EDUC 405	Senior Pedagogy Seminar	1.0
EDUC 411	Family and Community Partnerships	3.0
EDUC 355	Social Studies Teaching Methods	3.0

Student teaching experience

EDUC 410	Student Teaching	9.0
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Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the [Writing Intensive Course List](#) on the [Drexel University Writing Center](#) page. Students scheduling their courses in Banner/DrexelOne can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.



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Recommended Plan Of Study

BS Elementary Education, PK-4

4 YR UG Co-op Concentration /Elementary PK-4

Term 1	Credits
EDUC 101 Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 105 Freshman Pedagogy Seminar	1.0
EDUC 120 Child Development I: Typical Development	3.0
ENGL 101 Expository Writing and Reading	3.0
MATH 181 Mathematical Analysis I	3.0
PSY 101 General Psychology I	3.0
UNIV 101 The Drexel Experience	1.0
Term Credits	17.0

Term 2	Credits
BIO 100 Applied Cells, Genetics & Physiology	3.0
COM 111 Principles of Communication	3.0
EDUC 105 Freshman Pedagogy Seminar	1.0
EDUC 121 Child Development II: Atypical Development	3.0
ENGL 102 Persuasive Writing and Reading	3.0
MATH 182 Mathematical Analysis II	3.0
UNIV 101 The Drexel Experience	1.0
Term Credits	17.0

Term 3	Credits
EDUC 105 Freshman Pedagogy Seminar	1.0
EDUC 114 Science Teaching Methods	3.0
EDUC 142 Special Education Foundations: Referral and Assessment	4.5
ENGL 103 Analytical Writing and Reading	3.0
MATH 183 Mathematical Analysis III	3.0
NFS 101 Introduction to Nutrition & Food	3.0
Term Credits	17.5

Term 4	Credits
BIO 101 Applied Biological Diversity, Ecology & Evolution	3.0
EDUC 205 Sophomore Pedagogy Seminar	1.0
EDUC 236 Early Literacy I	3.0
EDUC 244 Inclusionary Practices for Exceptional Students	4.5
ENGL 200 through ENGL 399	3.0
Term Credits	14.5

Term 5	Credits
EDUC 217 Math Methods and Content: Early Childhood	3.0
EDUC 265 Instructing English Language Learners	3.0
EDUC 326 Language Arts Processes	3.0
HIST 276 The History of Philadelphia	3.0
PHYS 151 Applied Physics	3.0
Term Credits	15.0

Term 6	Credits
ECON 201 Principles of Microeconomics	4.0
EDUC 210 Early Language Development	3.0
EDUC 216 Diversity and Today's Teacher	3.0
EDUC 246 Literacy and Content Skill Development	4.5
Term Credits	14.5

Term 7	Credits
CHEM 111 General Chemistry I	4.0
EDUC 305 Junior Pedagogy Seminar	1.0
EDUC 324 Current Research in Curriculum & Instruction	3.0
EDUC 325 Multimedia in Instructional Design	3.0
PSY 320 Educational Psychology	3.0
SOC 335 Sociology of Education I	3.0
Term Credits	17.0

Term 8	Credits
EDUC 218 Math: Methods & Content	3.0
EDUC 306 Assessment of Young Children I	3.0
EDUC 335 Engaging the Learner	3.0
EDUC 355 Social Studies Teaching Methods	3.0
ENVS 260 Environmental Science and Society I	3.0
Term Credits	15.0

Term 9	Credits
EDUC 307 Assessment of Young Children II	4.0
EDUC 336 Early Literacy II	3.0
Free electives	9.0
Term Credits	16.0

Term 10	Credits
EDUC 338 Expressive Arts for PK-4	3.0
EDUC 405 Senior Pedagogy Seminar	1.0
EDUC 411 Family and Community Partnerships	3.0
MUSC 130 Introduction to Music	3.0
PSY 330 Cognitive Psychology	3.0
Term Credits	13.0

Term 11	Credits
EDUC 410 Student Teaching	9.0
Free elective	3.0
Term Credits	12.0

Term 12	Credits
Free electives	12.0
Term Credits	12.0

Total Credits (minimum) 180.5

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BS in Elementary Education: PK-4 and Special Education

Bachelor of Science Degree: 188.0 quarter credits

Degree Requirements

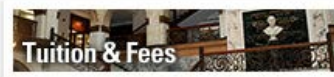
Incoming students, 2011/2012

This certification enables teachers to work with children in prekindergarten, kindergarten, and grades 1-4 across subject areas. Required competencies are covered in areas such as child development, language development, early literacy and math foundations for preschool years, early intervention, integrating the arts for the developing child, and family and community partnerships.

In addition, this certification enables teachers to work with students with disabilities in prekindergarten, kindergarten, and grades 1-4. Students will learn how to work with students at risk for disabilities or with disabilities, progress monitoring techniques, research based instructional practices, and interventions.

For a sample plan of study listing the sequence of how courses should be completed, see the [BS in Elementary Education: PK-4 and Special Education Sequence](#) page.

General education/Content requirements		65.0 Credits
BIO 100	Applied Cells, Genetics & Physiology	3.0
BIO 101	Applied Biological Diversity, Ecology & Evolution	3.0
CHEM 111	General Chemistry I	4.0
COM 111	Techniques of Speaking	3.0
ECON 201	Principles of Microeconomics	4.0
ENGL 101	Expository Writing and Reading	3.0
ENGL 102	Persuasive Writing and Reading	3.0
ENGL 103	Analytical Writing and Reading	3.0
ENVS 260	Environmental Science and Society	3.0
HIST 276	History of Philadelphia	3.0
MATH 181	Mathematical Analysis I	3.0
MATH 182	Mathematical Analysis II	3.0
MATH 183	Mathematical Analysis III	3.0
MUSC 130	Introduction to Music	4.0
PHYS 151	Applied Physics	3.0
PSY 101	General Psychology	3.0
PSY 320 WI	Educational Psychology	3.0
PSY 330	Cognitive Psychology	3.0
SOC 335	Sociology of Education	3.0
UNIV 101	The Drexel Experience	2.0



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English elective course between 200-329	3.0
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Nutrition elective*	3.0
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*NFS 101 is the recommended Nutrition elective.

Pedagogy requirements 90.0 Credits

EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 105	Freshman Seminar	3.0
EDUC 120	Child Development I: Typical Development	3.0
EDUC 121	Child Development II: Atypical Development	3.0
EDUC 142	Special Education Foundations	4.5
EDUC 205	Sophomore Pedagogy Seminar	1.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 236	Early Literacy I	3.0
EDUC 244	Inclusionary Practices for Exceptional Students	4.5
EDUC 246	Literacy Development	4.5
EDUC 265	Instructing English Language Learners	3.0
EDUC 305	Junior Pedagogy Seminar	1.0
EDUC 314	Elementary Science Teaching Methods	3.0
EDUC 315	Secondary Science Teaching Methods	3.0
EDUC 317	Math: Methods and Content: Early Childhood	3.0
EDUC 318	Elementary Math Methods and Content	3.0
EDUC 324	Current Research in Curriculum and Instruction	3.0
EDUC 326 WI	Language Arts Processes	3.0
EDUC 335	Engaging the Learner	3.0
EDUC 336	Early Literacy II	3.0
EDUC 338	Expressive Arts for PreK-4	3.0
EDUC 355	Social Studies Teaching Methods	3.0
EDUC 405	Senior Pedagogy Seminar	1.0
EDUC 411	Family and Community Partnerships	3.0
EDUC 355	Social Studies Teaching Methods	3.0

Special Education Core Courses 31.5

EDUC 347	Special Education Processes	4.5
EDUC 348	Emotional & Behavioral Support	4.5

EDUC 349	High Incident Disabilities	4.5
EDUC 350	Low Incident Disabilities	4.5
EDUC 351	Pervasive Developmental Disorders	4.5
EDUC 352	Integrating Technology for Learning & Achievement	4.5
EDUC 353	Special Education: Methods & Practices	4.5

Student teaching experience

EDUC 414	Special Education: Field Placement Seminar	9.0
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Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the [Writing Intensive Course List](#) on the [Drexel University Writing Center](#) page. Students scheduling their courses in Banner/DrexelOne can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.



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Recommended Plan Of Study

BS Elementary Education, PK-4 & Special Ed

4 YR UG Co-op Concentration /Elementary PK-4 & Special Ed

Term 1		Credits
EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 105	Freshman Pedagogy Seminar	1.0
EDUC 120	Child Development I: Typical Development	3.0
ENGL 101	Expository Writing and Reading	3.0
MATH 181	Mathematical Analysis I	3.0
PSY 101	General Psychology I	3.0
UNIV 101	The Drexel Experience	1.0
<i>Term Credits</i>		17.0

Term 2		Credits
BIO 100	Applied Cells, Genetics & Physiology	3.0
COM 111	Principles of Communication	3.0
EDUC 105	Freshman Pedagogy Seminar	1.0
EDUC 121	Child Development II: Atypical Development	3.0
ENGL 102	Persuasive Writing and Reading	3.0
MATH 182	Mathematical Analysis II	3.0
UNIV 101	The Drexel Experience	1.0
<i>Term Credits</i>		17.0

Term 3		Credits
EDUC 105	Freshman Pedagogy Seminar	1.0
EDUC 114	Science Teaching Methods	3.0
EDUC 142	Special Education Foundations: Referral and Assessment	4.5
ENGL 103	Analytical Writing and Reading	3.0
MATH 183	Mathematical Analysis III	3.0
NFS 101	Introduction to Nutrition & Food	3.0
<i>Term Credits</i>		17.5

Term 4		Credits
BIO 101	Applied Biological Diversity, Ecology & Evolution	3.0
EDUC 205	Sophomore Pedagogy Seminar	1.0
EDUC 236	Early Literacy I	3.0
EDUC 244	Inclusionary Practices for Exceptional Students	4.5
<i>Term Credits</i>		11.5

Term 5		Credits
EDUC 217	Math Methods and Content: Early Childhood	3.0
EDUC 265	Instructing English Language Learners	3.0
EDUC 326	Language Arts Processes	3.0
HIST 276	The History of Philadelphia	3.0
PHYS 151	Applied Physics	3.0
	ENGL 200 through ENGL 399	3.0
<i>Term Credits</i>		18.0

Term 6	Credits
ECON 201 Principles of Microeconomics	4.0
EDUC 216 Diversity and Today's Teacher	3.0
EDUC 246 Literacy and Content Skill Development	4.5
EDUC 347 Special Education Processes	4.5
Term Credits	16.0

Term 7	Credits
CHEM 111 General Chemistry I	4.0
EDUC 305 Junior Pedagogy Seminar	1.0
EDUC 324 Current Research in Curriculum & Instruction	3.0
EDUC 338 Expressive Arts for PK-4	3.0
EDUC 353 Special Education: Methods & Practices	4.5
PSY 320 Educational Psychology	3.0
Term Credits	18.5

Term 8	Credits
EDUC 218 Math: Methods & Content	3.0
EDUC 307 Assessment of Young Children II	4.0
EDUC 335 Engaging the Learner	3.0
EDUC 348 Emotional & Behavioral Support	4.5
EDUC 355 Social Studies Teaching Methods	3.0
ENVS 260 Environmental Science and Society I	3.0
Term Credits	20.5

Term 9	Credits
EDUC 336 Early Literacy II	3.0
EDUC 349 High Incident Disabilities	4.5
EDUC 351 Pervasive Developmental Disorders	4.5
Term Credits	12.0

Term 10	Credits
EDUC 405 Senior Pedagogy Seminar	1.0
EDUC 410 Student Teaching	9.0
EDUC 411 Family and Community Partnerships	3.0
Term Credits	13.0

Term 11	Credits
EDUC 352 Integrating Technology for Learning & Achievement	4.5
EDUC 414 Special Education: Field Placement Seminar	9.0
Term Credits	13.5

Term 12	Credits
EDUC 350 Low Incident Disabilities	4.5
MUSC 130 Introduction to Music	3.0
PSY 330 Cognitive Psychology	3.0
SOC 335 Sociology of Education I	3.0
Term Credits	13.5

Total Credits (minimum) 188.0

Drexel University CATALOG 2011-2012

COLLEGES & SCHOOLS MAJORS MINORS GRADUATE PROGRAMS CERTIFICATE PROGRAMS ARCHIVE

BS in Elementary Education: Middle Level Math and English

Bachelor of Science Degree: 180.5 quarter credits

Degree requirements

Incoming students, 2011/2012

This certification enables to teachers to work with students in grades 4-6 across subjects, and with students in grades 7-8 in the core academic subjects of mathematics and English. Additional information about the degree is available at the [School of Education's](#) web site.

For a sample plan of study listing the sequence of how courses should be completed, see the [BS in Elementary Education: Middle Level Math and English Sequence](#) page.

General education/Content requirements		82.0 Credits
ARTH 101	History of Art	3.0
BIO 161	General Biology I	3.0
BIO 162	General Biology I	3.0
CHEM 111	General Chemistry I	4.0
COM 111	Techniques of Speaking	3.0
ECON 201	Principles of Microeconomics	4.0
ENGL 101	Expository Writing and Reading	3.0
ENGL 102	Persuasive Writing and Reading	3.0
ENGL 103	Analytical Writing and Reading	3.0
ENGL 304	Young Adult Fiction	3.0
ENVS 260	Environmental Science and Society	3.0
HIST 276	History of Philadelphia	3.0
LING 101	Linguistic Analysis	3.0
MATH 181	Mathematical Analysis I	3.0
MATH 182	Mathematical Analysis II	3.0
MATH 183	Mathematical Analysis III	3.0
MUSC 130	Introduction to Music	4.0
PHYS 151	Applied Physics	3.0
PSY 101	General Psychology	3.0
PSY 320 WI	Educational Psychology	3.0
PSY 330	Cognitive Psychology	3.0
SOC 335	Sociology of Education	3.0



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- [Accreditation](#)
- [Academic Policies](#)

UNIV 101	The Drexel Experience	2.0
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One of the following American History courses:

HIST 201	US History to 1815	3.0
HIST 202	US History, 1815-1900	3.0
HIST 203	US History since 1900	3.0

Nutrition elective* 3.0

Free electives** 12.0

*NFS 101 is the recommended Nutrition elective.

**Students wishing to receive PA Teacher Certification upon graduation in the area of Elementary Education should take EDUC 475 Conflict Resolution and Prevention School Violence as an elective.

Pedagogy requirements 92.5 Credits

EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 105	Freshman Seminar	3.0
EDUC 123	Adolescent Development	3.0
EDUC 142	Special Education Foundations	4.5
EDUC 205	Sophomore Pedagogy Seminar	1.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 223	Teaching the Middle School Child	3.0
EDUC 240	Proportional Reasoning in Middle School	3.0
EDUC 244	Inclusionary Practices for Exceptional Students	4.5
EDUC 246	Literacy Development	4.5
EDUC 256	Teaching Writing Grades 4-8	3.0
EDUC 257	Content Area Reading (Grades 4-8)	3.0
EDUC 265	Instructing English Language Learners	3.0
EDUC 284	Teaching Life Science in the Middle School	3.0
EDUC 285	Teaching Physical Science in the Middle School	3.0
EDUC 286	Teaching Earth & Space Science for Middle School	3.0
EDUC 292	Science Methods for Middle School	3.0
EDUC 305	Junior Pedagogy Seminar	1.0
EDUC 306	Assessment of Young Children I	3.0
EDUC 307	Assessment of Young Children II	4.0
EDUC 310	Computer Applications in Teaching	3.0
EDUC 314	Elementary Science Teaching Methods	3.0
EDUC 315	Secondary Science Teaching Methods	3.0
EDUC 318	Math: Methods and Content	3.0

EDUC 324	Current Research in Curriculum and Instruction	3.0
EDUC 325	Multimedia in Instructional Design	3.0
EDUC 326 WI	Language Arts Processes	3.0
EDUC 328	Language Arts Processes 4-8	3.0
EDUC 355	Social Studies Teaching Methods	3.0
EDUC 405	Senior Pedagogy Seminar	1.0

Student teaching experience

EDUC 410	Student Teaching	9.0
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Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

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Drexel University

CATALOG 2011-2012

Recommended Plan Of Study

BS Elementary Education, Middle Level Math and English

4 YR UG Co-op Concentration /Middle Level Math & English

Term 1		Credits
BIO 161	General Biology I	3.0
EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 105	Freshman Pedagogy Seminar	1.0
EDUC 123	Adolescent Development	3.0
ENGL 101	Expository Writing and Reading	3.0
MATH 181	Mathematical Analysis I	3.0
<i>Term Credits</i>		16.0

Term 2		Credits
COM 111	Principles of Communication	3.0
EDUC 105	Freshman Pedagogy Seminar	1.0
EDUC 115	Reasoning about Numbers/Quantity (4-8)	3.0
ENGL 102	Persuasive Writing and Reading	3.0
MATH 182	Mathematical Analysis II	3.0
UNIV 101	The Drexel Experience	2.0
<i>Term Credits</i>		15.0

Term 3		Credits
EDUC 105	Freshman Pedagogy Seminar	1.0
EDUC 114	Science Teaching Methods	3.0
EDUC 142	Special Education Foundations: Referral and Assessment	4.5
ENGL 103	Analytical Writing and Reading	3.0
LING 101	Introduction to Linguistics	3.0
MATH 183	Mathematical Analysis III	3.0
<i>Term Credits</i>		17.5

Term 4		Credits
BIO 162	General Biology II	3.0
EDUC 205	Sophomore Pedagogy Seminar	1.0
EDUC 223	Teaching the Middle School Child	3.0
EDUC 244	Inclusionary Practices for Exceptional Students	4.5
PSY 101	General Psychology I	3.0
<i>Term Credits</i>		14.5

Term 5		Credits
EDUC 240	Proportional Reasoning in Middle School	3.0
EDUC 265	Instructing English Language Learners	3.0
EDUC 328	Language Arts Processes 4-8	3.0
HIST 276	The History of Philadelphia	3.0
PHYS 151	Applied Physics	3.0
<i>Term Credits</i>		15.0

Term 6		Credits
ECON 201		

	Principles of Microeconomics	4.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 246	Literacy and Content Skill Development	4.5
EDUC 257	Content Area Reading (Grades 4-8)	3.0
ENGL 304	Young Adult Fiction	3.0
	Term Credits	17.5

Term 7		Credits
CHEM 111	General Chemistry I	4.0
EDUC 305	Junior Pedagogy Seminar	1.0
EDUC 324	Current Research in Curriculum & Instruction	3.0
EDUC 325	Multimedia in Instructional Design	3.0
PSY 320	Educational Psychology	3.0
SOC 335	Sociology of Education I	3.0
	Term Credits	17.0

Term 8		Credits
EDUC 218	Math: Methods & Content	3.0
EDUC 256	Teaching Writing Grades 4-8	3.0
EDUC 306	Assessment of Young Children I	3.0
EDUC 355	Social Studies Teaching Methods	3.0
ENVS 260	Environmental Science and Society I	3.0
	Term Credits	15.0

Term 9		Credits
EDUC 307	Assessment of Young Children II	4.0
EDUC 310	Computer Applications in Teaching	3.0
EDUC 326	Language Arts Processes	3.0
EDUC 416	Introduction to Math Teaching Methods (4-8)	3.0
EDUC 432	Algebraic Reasoning	3.0
	Term Credits	16.0

Term 10		Credits
EDUC 405	Senior Pedagogy Seminar	1.0
EDUC 417	Advanced Math Teaching Methods (4-8)	3.0
EDUC 433	Functions in Middle School Math	3.0
MUSC 130	Introduction to Music	3.0
PSY 330	Cognitive Psychology	3.0
	Term Credits	13.0

Term 11		Credits
EDUC 410	Student Teaching	9.0
	Free elective	3.0
	Term Credits	12.0

Term 12		Credits
ARTH 101	History of Art I: Ancient to Medieval	3.0
NFS 101	Introduction to Nutrition & Food	3.0
HIST 201	US History to 1815	3.0
or		
HIST 203	US History since 1900	3.0
or		
HIST 202	US History, 1815-1900	3.0
	Free elective	3.0
	Term Credits	12.0

Total Credits (minimum) 180.5

Drexel University

CATALOG 2011-2012

COLLEGES & SCHOOLS MAJORS MINORS GRADUATE PROGRAMS CERTIFICATE PROGRAMS ARCHIVE

BS in Elementary Education: Middle Level Science and Math

Bachelor of Science Degree: 180.5 quarter credits

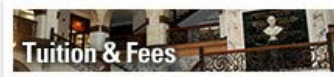
Degree Requirements

Incoming students, 2011/2012

This certification enables to teachers to work with students in grades 4-6 across subjects, and with students in grades 7-8 in the core academic subjects of science and mathematics. Additional information about the degree is available at the [School of Education's](#) web site.

For a sample plan of study listing the sequence of how courses should be completed, see the [BS in Elementary Education: Middle Level Science and Math Sequence](#) page.

General education/Content requirements		88.0 Credits
ARTH 101	History of Art	3.0
BIO 161	General Biology I	3.0
BIO 162	General Biology I	3.0
CHEM 111	General Chemistry I	4.0
COM 111	Techniques of Speaking	3.0
ECON 201	Principles of Microeconomics	4.0
ENGL 101	Expository Writing and Reading	3.0
ENGL 102	Persuasive Writing and Reading	3.0
ENGL 103	Analytical Writing and Reading	3.0
ENVS 260	Environmental Science and Society	3.0
HIST 276	History of Philadelphia	3.0
MATH 181	Mathematical Analysis I	3.0
MATH 182	Mathematical Analysis II	3.0
MATH 183	Mathematical Analysis III	3.0
MUSC 130	Introduction to Music	4.0
PHYS 151	Applied Physics	3.0
PSY 101	General Psychology	3.0
PSY 320 WI	Educational Psychology	3.0
PSY 330	Cognitive Psychology	3.0
SOC 335	Sociology of Education	3.0
UNIV 101	The Drexel Experience	2.0



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One of the following American History courses:

HIST 201	US History to 1815	3.0
HIST 202	US History, 1815-1900	3.0
HIST 203	US History since 1900	3.0

Nutrition elective*	3.0
Free electives**	9.0

*NFS 101 is the recommended Nutrition elective.
 **Students wishing to receive PA Teacher Certification upon graduation in the area of Elementary Education should take EDUC 475 Conflict Resolution and Prevention School Violence as an elective.

Pedagogy requirements 101.5 Credits

EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 105	Freshman Seminar	3.0
EDUC 115	Reasoning about Numbers/Quantity (4-8)	3.0
EDUC 123	Adolescent Development	3.0
EDUC 142	Special Education Foundations	4.5
EDUC 205	Sophomore Pedagogy Seminar	1.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 223	Teaching the Middle School Child	3.0
EDUC 240	Proportional Reasoning in Middle School	3.0
EDUC 244	Inclusionary Practices for Exceptional Students	4.5
EDUC 246	Literacy Development	4.5
EDUC 265	Instructing English Language Learners	3.0
EDUC 284	Teaching Life Science in the Middle School	3.0
EDUC 285	Teaching Physical Science in the Middle School	3.0
EDUC 286	Teaching Earth & Space Science for Middle School	3.0
EDUC 292	Science Methods for Middle School	3.0
EDUC 305	Junior Pedagogy Seminar	1.0
EDUC 306	Assessment of Young Children I	3.0
EDUC 307	Assessment of Young Children II	4.0
EDUC 310	Computer Applications in Teaching	3.0
EDUC 314	Elementary Science Teaching Methods	3.0
EDUC 315	Secondary Science Teaching Methods	3.0
EDUC 317	Math: Methods and Content: Early Childhood	3.0
EDUC 324	Current Research in Curriculum and Instruction	3.0

EDUC 325	Multimedia in Instructional Design	3.0
EDUC 326 WI	Language Arts Processes	3.0
EDUC 355	Social Studies Teaching Methods	3.0
EDUC 405	Senior Pedagogy Seminar	1.0
EDUC 416	Introduction to Math Teaching Methods (4-8)	3.0
EDUC 417	Advanced Math Teaching Methods (4-8)	3.0
EDUC 432	Algebraic Reasoning	3.0
EDUC 433	Functions in Middle School Math	3.0

Student teaching experience

EDUC 410	Student Teaching	9.0
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Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

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Drexel University

CATALOG 2011-2012

Recommended Plan Of Study

BS Elementary Education, Middle Level Science and Math

4 YR UG Co-op Concentration /Middle Level Science & Math

Term 1		Credits
BIO 161	General Biology I	3.0
EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 105	Freshman Pedagogy Seminar	1.0
EDUC 123	Adolescent Development	3.0
ENGL 101	Expository Writing and Reading	3.0
MATH 181	Mathematical Analysis I	3.0
<i>Term Credits</i>		16.0

Term 2		Credits
COM 111	Principles of Communication	3.0
EDUC 105	Freshman Pedagogy Seminar	1.0
ENGL 102	Persuasive Writing and Reading	3.0
MATH 182	Mathematical Analysis II	3.0
MUSC 130	Introduction to Music	3.0
UNIV 101	The Drexel Experience	2.0
<i>Term Credits</i>		15.0

Term 3		Credits
EDUC 105	Freshman Pedagogy Seminar	1.0
EDUC 114	Science Teaching Methods	3.0
EDUC 115	Reasoning about Numbers/Quantity (4-8)	3.0
EDUC 142	Special Education Foundations: Referral and Assessment	4.5
ENGL 103	Analytical Writing and Reading	3.0
MATH 183	Mathematical Analysis III	3.0
<i>Term Credits</i>		17.5

Term 4		Credits
BIO 162	General Biology II	3.0
EDUC 205	Sophomore Pedagogy Seminar	1.0
EDUC 223	Teaching the Middle School Child	3.0
EDUC 244	Inclusionary Practices for Exceptional Students	4.5
HIST 276	The History of Philadelphia	3.0
<i>Term Credits</i>		14.5

Term 5		Credits
EDUC 240	Proportional Reasoning in Middle School	3.0
EDUC 265	Instructing English Language Learners	3.0
EDUC 284	Teaching Life Science in the Middle School	3.0
EDUC 285	Teaching Physical Science in the Middle School	3.0
PHYS 151	Applied Physics	3.0
<i>Term Credits</i>		15.0

Term 6		Credits
ECON 201		

	Principles of Microeconomics	4.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 246	Literacy and Content Skill Development	4.5
PSY 101	General Psychology I	3.0
	Free elective	3.0
	Term Credits	17.5

Term 7		Credits
CHEM 111	General Chemistry I	4.0
EDUC 305	Junior Pedagogy Seminar	1.0
EDUC 324	Current Research in Curriculum & Instruction	3.0
EDUC 325	Multimedia in Instructional Design	3.0
PSY 320	Educational Psychology	3.0
SOC 335	Sociology of Education I	3.0
	Term Credits	17.0

Term 8		Credits
EDUC 218	Math: Methods & Content	3.0
EDUC 306	Assessment of Young Children I	3.0
EDUC 327	Learning Disabilities	3.0
EDUC 355	Social Studies Teaching Methods	3.0
ENVS 260	Environmental Science and Society I	3.0
	Term Credits	15.0

Term 9		Credits
EDUC 286	Teaching Earth & Space Science for Middle School	3.0
EDUC 307	Assessment of Young Children II	4.0
EDUC 310	Computer Applications in Teaching	3.0
EDUC 416	Introduction to Math Teaching Methods (4-8)	3.0
EDUC 432	Algebraic Reasoning	3.0
	Term Credits	16.0

Term 10		Credits
EDUC 292	Science Methods for Middle School	3.0
EDUC 405	Senior Pedagogy Seminar	1.0
EDUC 417	Advanced Math Teaching Methods (4-8)	3.0
EDUC 433	Functions in Middle School Math	3.0
PSY 330	Cognitive Psychology	3.0
	Term Credits	13.0

Term 11		Credits
EDUC 410	Student Teaching	9.0
	Free elective	3.0
	Term Credits	12.0

Term 12		Credits
ARTH 101	History of Art I: Ancient to Medieval	3.0
NFS 101	Introduction to Nutrition & Food	3.0
HIST 201	US History to 1815	3.0
or		
HIST 203	US History since 1900	3.0
or		
HIST 202	US History, 1815-1900	3.0
	Free elective	3.0
	Term Credits	12.0

Total Credits (minimum) 180.5

Drexel University CATALOG 2011-2012

COLLEGES & SCHOOLS MAJORS MINORS GRADUATE PROGRAMS CERTIFICATE PROGRAMS ARCHIVE

BS in Elementary Education: Middle Level Science and English

Bachelor of Science Degree: 180.5 quarter credits

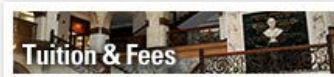
Degree Requirements

Incoming students, 2011/2012

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General education/Content requirements		88.0 Credits
ARTH 101	History of Art	3.0
BIO 161	General Biology I	3.0
BIO 162	General Biology I	3.0
CHEM 111	General Chemistry I	4.0
COM 111	Techniques of Speaking	3.0
ECON 201	Principles of Microeconomics	4.0
ENGL 101	Expository Writing and Reading	3.0
ENGL 102	Persuasive Writing and Reading	3.0
ENGL 103	Analytical Writing and Reading	3.0
ENGL 304	Young Adult Fiction	3.0
ENVS 260	Environmental Science and Society	3.0
HIST 276	History of Philadelphia	3.0
LING 101	Linguistic Analysis	3.0
MATH 181	Mathematical Analysis I	3.0
MATH 182	Mathematical Analysis II	3.0
MATH 183	Mathematical Analysis III	3.0
MUSC 130	Introduction to Music	4.0
PHYS 151	Applied Physics	3.0
PSY 101	General Psychology	3.0
PSY 320 WI	Educational Psychology	3.0
PSY 330	Cognitive Psychology	3.0
SOC 335	Sociology of Education	3.0



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- [Accreditation](#)
- [Academic Policies](#)

One of the following American History courses:

HIST 201	US History to 1815	3.0
HIST 202	US History, 1815-1900	3.0
HIST 203	US History since 1900	3.0

Nutrition elective*	3.0
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Free electives**	9.0
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*NFS 101 is the recommended Nutrition elective.

**Students wishing to receive PA Teacher Certification upon graduation in the area of Elementary Education should take [EDUC 475](#) Conflict Resolution and Prevention School Violence as an elective.

Pedagogy requirements	92.5 Credits
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EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 105	Freshman Seminar	3.0
EDUC 115	Reasoning about Numbers/Quantity (4-8)	3.0
EDUC 123	Adolescent Development	3.0
EDUC 142	Special Education Foundations	4.5
EDUC 205	Sophomore Pedagogy Seminar	1.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 223	Teaching the Middle School Child	3.0
EDUC 240	Proportional Reasoning in Middle School	3.0
EDUC 244	Inclusionary Practices for Exceptional Students	4.5
EDUC 246	Literacy Development	4.5
EDUC 265	Instructing English Language Learners	3.0
EDUC 305	Junior Pedagogy Seminar	1.0
EDUC 306	Assessment of Young Children I	3.0
EDUC 307	Assessment of Young Children II	4.0
EDUC 310	Computer Applications in Teaching	3.0
EDUC 314	Elementary Science Teaching Methods	3.0
EDUC 315	Secondary Science Teaching Methods	3.0
EDUC 318	Math: Methods and Content	3.0
EDUC 324	Current Research in Curriculum and Instruction	3.0
EDUC 325	Multimedia in Instructional Design	3.0
EDUC 326 WI	Language Arts Processes	3.0
EDUC 328	Language Arts Processes 4-8	3.0
EDUC 355	Social Studies Teaching Methods	3.0

EDUC 405	Senior Pedagogy Seminar	1.0
EDUC 416	Introduction to Math Teaching Methods (4-8)	3.0
EDUC 417	Advanced Math Teaching Methods (4-8)	3.0
EDUC 432	Algebraic Reasoning	3.0
EDUC 433	Functions in Middle School Math	3.0

Student teaching experience

EDUC 410	Student Teaching	9.0
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Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

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Drexel University

CATALOG 2011-2012

Recommended Plan Of Study

BS Elementary Education, Middle Level Science and English
4 YR UG Co-op Concentration /Middle Level Science & English

Term 1		Credits
BIO 161	General Biology I	3.0
EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 105	Freshman Pedagogy Seminar	1.0
EDUC 123	Adolescent Development	3.0
ENGL 101	Expository Writing and Reading	3.0
MATH 181	Mathematical Analysis I	3.0
<i>Term Credits</i>		16.0

Term 2		Credits
COM 111	Principles of Communication	3.0
EDUC 105	Freshman Pedagogy Seminar	1.0
ENGL 102	Persuasive Writing and Reading	3.0
MATH 182	Mathematical Analysis II	3.0
MUSC 130	Introduction to Music	3.0
UNIV 101	The Drexel Experience	2.0
<i>Term Credits</i>		15.0

Term 3		Credits
EDUC 105	Freshman Pedagogy Seminar	1.0
EDUC 114	Science Teaching Methods	3.0
EDUC 142	Special Education Foundations: Referral and Assessment	4.5
ENGL 103	Analytical Writing and Reading	3.0
LING 101	Introduction to Linguistics	3.0
MATH 183	Mathematical Analysis III	3.0
<i>Term Credits</i>		17.5

Term 4		Credits
BIO 162	General Biology II	3.0
EDUC 205	Sophomore Pedagogy Seminar	1.0
EDUC 223	Teaching the Middle School Child	3.0
EDUC 244	Inclusionary Practices for Exceptional Students	4.5
HIST 276	The History of Philadelphia	3.0
PSY 101	General Psychology I	3.0
<i>Term Credits</i>		17.5

Term 5		Credits
EDUC 265	Instructing English Lang. Learners	3.0
EDUC 284	Teaching Life Science in the Middle School	3.0
EDUC 285	Teaching Physical Science in the MS	3.0
EDUC 328	Language Arts Processes 4-8	3.0
PHYS 151	Applied Physics	3.0
<i>Term Credits</i>		15.0

Term 6	Credits
EDUC 216 Diversity and Today's Teacher	3.0
EDUC 246 Literacy and Content Skill Development	4.5
EDUC 257 Content Area Reading (Grades 4-8)	3.0
ENGL 304 Young Adult Fiction	3.0
Term Credits	13.5

Term 7	Credits
CHEM 111 General Chemistry I	4.0
EDUC 305 Junior Pedagogy Seminar	1.0
EDUC 324 Current Research in Curriculum & Instruction	3.0
EDUC 325 Multimedia in Instructional Design	3.0
PSY 320 Educational Psychology	3.0
SOC 335 Sociology of Education I	3.0
Term Credits	17.0

Term 8	Credits
EDUC 218 Math: Methods & Content	3.0
EDUC 256 Teaching Writing Grades 4-8	3.0
EDUC 306 Assessment of Young Children I	3.0
EDUC 355 Social Studies Teaching Methods	3.0
ENVS 260 Environmental Science and Society I	3.0
Term Credits	15.0

Term 9	Credits
EDUC 286 Teaching Earth & Space Science for Middle School	3.0
EDUC 307 Assessment of Young Children II	4.0
EDUC 310 Computer Applications in Teaching	3.0
EDUC 328 Language Arts Processes 4-8	3.0
Free elective	3.0
Term Credits	16.0

Term 10	Credits
ECON 201 Principles of Microeconomics	4.0
EDUC 292 Science Methods for Middle School	3.0
EDUC 405 Senior Pedagogy Seminar	1.0
PSY 330 Cognitive Psychology	3.0
Free elective	3.0
Term Credits	14.0

Term 11	Credits
EDUC 410 Student Teaching	9.0
Free elective	3.0
Term Credits	12.0

Term 12	Credits
ARTH 101 History of Art I: Ancient to Medieval	3.0
NFS 101 Introduction to Nutrition & Food	3.0
HIST 201 US History to 1815	3.0
or	
HIST 203 US History since 1900	3.0
or	
HIST 202 US History, 1815-1900	3.0
Free elective	3.0
Term Credits	12.0

Total Credits (minimum) 180.5

Drexel University CATALOG 2011-2012

COLLEGES & SCHOOLS MAJORS MINORS GRADUATE PROGRAMS CERTIFICATE PROGRAMS ARCHIVE

BS in Teacher Education

About the Major

The BS in Teacher Education, is focused on secondary education, and provides graduates with the background to work with students in grades 7-12* in a specific subject area. Students may work with their academic advisor to satisfy teacher certification requirements for multiple areas if desired. Available certification areas include:

- Biology
- Chemistry
- Earth & Space Science
- Environmental Education*
- English
- General Science
- Mathematics
- Physics
- Social Studies

*Environmental Education is a grades K-12 certification area.

The program requires that students have a B average (3.0 GPA) in content courses needed for teacher certification in addition to the grade of B or better in each EDUC course throughout their time in the program. These requirements must be satisfied in order for Drexel to recommend the student for teacher certification upon graduation and/or be considered to have completed the program.

A benchmark to assist students in meeting the GPA and B grade requirements is the formal review of each student's content and pedagogy coursework at the end of the sophomore year. Students who meet these requirements, as well as pass the *Pre-Professional Skills Test* (PPST Reading, PPST Writing, PPST Mathematics) of the *ETS Praxis Exams* according to Pennsylvania standards at that time, are officially accepted into Drexel's Teacher Preparation Program. Students who do not meet the requirements work with their academic advisor to develop a plan of action to work toward meeting the requirements, continue in the program to work toward the BS degree without being recommended for a teaching certificate, or explore another major.

Students participate in classroom observations and limited direct teaching experiences as a component of many of their pedagogy courses beginning in their freshman year.

In the senior year, students who are officially accepted into the Teacher Preparation Program and maintain the GPA and grade requirements, enroll and complete the 12-week, full-time, student-teaching experience (EDUC 410 WI) in their primary area of certification. Students must receive a grade of at least B in EDUC 410 (and EDUC 414 if applicable) and in all pedagogy (EDUC) coursework, as well as maintain an overall 3.0 GPA to be recommended for teacher certification.

Students who were not officially accepted into the Teacher Preparation Program and/or do not maintain the GPA and grade requirements but who are working towards the BS degree without being recommended for teacher certification take other courses as assigned by the Teacher Education Program Director and/or academic advisor to fulfill needed credits for the degree in lieu of student teaching.

Students pursuing the appropriate majors in the College of Arts and Sciences may also complete the requirements for certification within their area of study. For more information, contact the Program Coordinator for the School of Education at .

Additional information is available at the [School of Education's](#) web site.



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COLLEGES & SCHOOLS MAJORS MINORS GRADUATE PROGRAMS CERTIFICATE PROGRAMS ARCHIVE

Biology Certification

Bachelor of Science: 181.0 quarter credits
Certification is for grades 7 - 12

Degree Requirements

Incoming students, 2011/2012

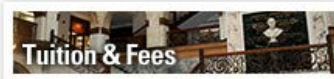
The certification area emphasizes coursework in the biological sciences, including genetics, morphology and physiology, biochemistry, microbiology, and ecology. Students may also choose to pursue a second certification in chemistry and/or environmental education. A [sample plan of study](#) is available.

General education requirements

ENGL 101	Expository Writing and Reading	3.0
ENGL 102	Persuasive Writing and Reading	3.0
ENGL 103	Analytical Writing and Reading	3.0
HIST 280	History of Science I	3.0
MATH 121	Calculus I	4.0
MATH 122	Calculus II	4.0
MATH 123	Calculus III	4.0
PHIL 251	Ethics	3.0
PSY 101	General Psychology	3.0
PSY 320 WI	Educational Psychology	3.0
UNIV 101	The Drexel Experience	2.0
	English elective course between 200-329	3.0

Science requirements

BIO 122	Cells and Genetics	4.5
BIO 124	Evolution and Organismal Diversity	4.5
BIO 126	Physiology and Ecology	4.5
BIO 201	Human Psychology I	4.0
BIO 214	Principles of Cell Biology	3.0
BIO 215 WI	Techniques of Cell Biology	2.5
BIO 217	Evolution	4.0
BIO 218	Principles of Molecular Biology	4.0
BIO 219 WI	Techniques of Molecular Biology	2.5
BIO 270	Developmental Biology	3.0



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BIO 271	Developmental Biology Laboratory	2.0
BIO 306	Biochemistry Laboratory	2.0
BIO 404	Structure and Function of Biomolecules	4.0
CHEM 101	General Chemistry I	3.5
CHEM 102	General Chemistry II	4.5
CHEM 241	Organic Chemistry I	4.0
CHEM 242	Organic Chemistry II	4.0
CHEM 244	Organic Chemistry I Laboratory	3.0
CHEM 245	Organic Chemistry Laboratory II	3.0
ENVS 230	General Ecology	3.0
ENVS 284 WI	Physiological and Population Ecology	3.0
PHYS 152	Introductory Physics I	4.0
PHYS 153	Introductory Physics II	4.0

Pedagogy requirements **64.5 Credits**

EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 105	Freshman Seminar	3.0
EDUC 113	The Organization Structure of Secondary Schools	3.0
EDUC 123	Adolescent Development	3.0
EDUC 142	Special Education Foundations	4.5
EDUC 205	Sophomore Seminar	1.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 223	Teaching the Middle School Child	3.0
EDUC 244	Inclusionary Practices for Exceptional Students	4.5
EDUC 246	Literacy Development	4.5
EDUC 258	Reading in the Content Areas (7-12)	3.0
EDUC 265	Foundations for Instructing ELLs	3.0
EDUC 305	Junior Seminar	1.0
EDUC 310	Computer Applications in Teaching	3.0
EDUC 315	Secondary Science Teaching Methods	3.0
EDUC 322	Evaluation of Instruction	3.0
EDUC 324	Current Research in Curriculum and Instruction	3.0
EDUC 325	Multimedia in Instructional Design	3.0
EDUC 405	Senior Seminar	1.0

Student teaching experience

EDUC 410 WI	Student Teaching (Biology)	9.0
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Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

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Drexel University

CATALOG 2011-2012

Recommended Plan Of Study

BS Teacher Education, Biological Sciences
4 YR UG Co-op Concentration /Biological Sciences

Term 1		Credits
BIO 124	Evolution & Organismal Diversity	4.5
EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 105	Freshman Pedagogy Seminar	1.0
ENGL 101	Expository Writing and Reading	3.0
MATH 121	Calculus I	4.0
UNIV 101	The Drexel Experience	1.0
<i>Term Credits</i>		16.5
Term 2		Credits
UNIV 101	The Drexel Experience	1.0
BIO 122	Cells and Genetics	4.5
EDUC 105	Freshman Pedagogy Seminar	1.0
EDUC 113	Org Struct of Secondary School	3.0
ENGL 102	Persuasive Writing and Reading	3.0
MATH 122	Calculus II	4.0
<i>Term Credits</i>		16.5
Term 3		Credits
BIO 126	Physiology and Ecology	4.5
EDUC 105	Freshman Pedagogy Seminar	1.0
EDUC 123	Adolescent Development	3.0
EDUC 142	Special Education Foundations: Referral and Assessment	4.5
ENGL 103	Analytical Writing and Reading	3.0
<i>Term Credits</i>		16.0
Term 4		Credits
BIO 201	Human Physiology I	4.0
BIO 219	Techniques in Molecular Biology	2.5
CHEM 101	General Chemistry I	3.5
EDUC 205	Sophomore Pedagogy Seminar	1.0
EDUC 244	Inclusionary Practices for Exceptional Students	4.5
<i>Term Credits</i>		15.5
Term 5		Credits
BIO 214	Principles of Cell Biology	3.0
BIO 215	Techniques in Cell Biology	2.5
BIO 218	Principles of Molecular Biology	4.0
CHEM 102	General Chemistry II	4.5
COOP 101	Career Management/Professional Development	0.0
EDUC 223	Teaching the Middle School Child	3.0
EDUC 265	Instructing English Language Learners	3.0
<i>Term Credits</i>		20.0

Term 6	Credits
BIO 270 Development Biology	3.0
BIO 271 Developmental Biology Laboratory	2.0
CHEM 241 Organic Chemistry I	4.0
EDUC 258 Reading in the Content Areas	3.0
EDUC 305 Junior Pedagogy Seminar	1.0
MATH 123 Calculus III	4.0
Term Credits	17.0

Term 7	Credits
CHEM 242 Organic Chemistry II	4.0
CHEM 244 Organic Chemistry Laboratory I	3.0
EDUC 322 Evaluation of Instruction	3.0
PHYS 152 Introductory Physics I	4.0
Term Credits	14.0

Term 8	Credits
BIO 217 Evolution	4.0
CHEM 245 Organic Chemistry Laboratory II	3.0
EDUC 310 Computer Applications in Teaching	3.0
EDUC 315 Secondary Science Teaching Methods	3.0
PHYS 153 Introductory Physics II	4.0
Term Credits	17.0

Term 9	Credits
EDUC 246 Literacy and Content Skill Development	4.5
EDUC 324 Current Research in Curriculum & Instruction	3.0
PSY 101 General Psychology I	3.0
English (ENGL) course between 200-329	3.0
Term Credits	13.5

Term 10	Credits
BIO 306 Biochemistry Laboratory	2.0
BIO 404 Structure and Function of Biomolecules	4.0
EDUC 216 Diversity and Today's Teacher	3.0
ENVS 230 General Ecology	3.0
Term Credits	12.0

Term 11	Credits
EDUC 325 Multimedia in Instructional Design	3.0
EDUC 405 Senior Pedagogy Seminar	1.0
EDUC 410 Student Teaching	9.0
Term Credits	13.0

Term 12	Credits
ENVS 284 Physiological and Population Ecology	3.0
HIST 280 History of Science I	3.0
PHIL 251 Ethics	3.0
PSY 320 Educational Psychology	3.0
Term Credits	12.0

Total Credits (minimum) 183.0

Drexel University

CATALOG 2011-2012

COLLEGES & SCHOOLS MAJORS MINORS GRADUATE PROGRAMS CERTIFICATE PROGRAMS ARCHIVE

Chemistry Certification

Bachelor of Science: 185.0 quarter credits

Certification is for grades 7 - 12

Degree Requirements

Incoming students, 2011/2012

The certification area emphasizes coursework in such areas as organic chemistry, physical chemistry, biochemistry, analytical chemistry, and inorganic chemistry. Students may also choose to pursue a second certification in biology. A [sample plan of study](#) is available.

General education requirements

HIST 280	History of Science I	3.0
ENGL 101	Expository Writing and Reading	3.0
ENGL 102	Persuasive Writing and Reading	3.0
ENGL 103	Analytical Writing and Reading	3.0
MATH 121	Calculus I	4.0
MATH 122	Calculus II	4.0
MATH 123	Calculus III	4.0
PHIL 251	Ethics	3.0
PSY 101	General Psychology	3.0
PSY 320 WI	Educational Psychology	3.0
UNIV 101	The Drexel Experience	2.0
	English elective course between 200-329	3.0

Science requirements

BIO 107	Cells, Genetics and Physiology	3.0
BIO 108	Cells, Genetics and Physiology Lab	1.0
BIO 109	Biological Diversity, Ecology and Evolution	3.0
BIO 110	Biological Diversity, Ecology and Evolution Lab	1.0
BIO 306	Biochemistry Laboratory	2.0
CHEC 352	Physical Chemistry and Applications	4.0
CHEM 101	General Chemistry I	3.5
CHEM 102	General Chemistry II	4.5
CHEM 103	General Chemistry III	5.0
CHEM 110	Environmental Chemistry	2.0



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CHEM 230	Quantitative Analysis	3.0
CHEM 231 WI	Quantitative Analysis Laboratory	2.0
CHEM 241	Organic Chemistry	4.0
CHEM 242	Organic Chemistry II	4.0
CHEM 243	Organic Chemistry III	3.0
CHEM 244	Organic Chemistry Laboratory I	3.0
CHEM 245	Organic Chemistry Laboratory II	3.0
CHEM 252	Physical Chemistry I	3.0
CHEM 357 WI	Physical Chemistry I Laboratory	2.5
CHEM 420	Molecular Symmetry and Group Theory Chemistry	3.0
CHEM 421	Inorganic Chemistry I	3.0
CHEM 430	Analytical Chemistry I	3.0
ENVS 401	Chemistry of the Environment	3.0
PHEV 145	Weather 1: Climate and Global Change	4.0
PHYS 101	Fundamentals of Physics I	4.0
PHYS 102	Fundamentals of Physics II	4.0
PHYS 201	Fundamentals of Physics III	4.0

Pedagogy requirements

64.5 Credits

EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 105	Freshman Seminar	3.0
EDUC 113	The Organization Structure of Secondary Schools	3.0
EDUC 123	Adolescent Development	3.0
EDUC 142	Special Education Foundations	4.5
EDUC 205	Sophomore Seminar	1.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 223	Teaching the Middle School Child	3.0
EDUC 244	Inclusionary Practices for Exceptional Students	4.5
EDUC 246	Literacy Development	4.5
EDUC 258	Reading in the Content Areas (7-12)	3.0
EDUC 265	Foundations for Instructing ELLs	3.0
EDUC 305	Junior Seminar	1.0
EDUC 310	Computer Applications in Teaching	3.0
EDUC 315	Secondary Science Teaching Methods	3.0
EDUC 322	Evaluation of Instruction	3.0

EDUC 324	Current Research in Curriculum and Instruction	3.0
EDUC 325	Multimedia in Instructional Design	3.0
EDUC 405	Senior Seminar	1.0

Student teaching experience

EDUC 410 WI	Student Teaching (Chemistry)	9.0
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Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

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Drexel University

CATALOG 2011-2012

Recommended Plan Of Study

BS Teacher Education, Chemistry
4 YR UG Co-op Concentration /Chemistry

Term 1	Credits
CHEM 101 General Chemistry I	3.5
EDUC 101 Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 105 Freshman Pedagogy Seminar	1.0
ENGL 101 Expository Writing and Reading	3.0
MATH 121 Calculus I	4.0
UNIV 101 The Drexel Experience	1.0
Term Credits	15.5

Term 2	Credits
CHEM 102 General Chemistry II	4.5
EDUC 105 Freshman Pedagogy Seminar	1.0
EDUC 113 Organizational Structure of Secondary School	3.0
ENGL 102 Persuasive Writing and Reading	3.0
MATH 122 Calculus II	4.0
UNIV 101 The Drexel Experience	1.0
Term Credits	16.5

Term 3	Credits
CHEM 103 General Chemistry III	5.0
CHEM 110 Environmental Chemistry	2.0
EDUC 105 Freshman Pedagogy Seminar	1.0
EDUC 123 Adolescent Development	3.0
EDUC 142 Special Education Foundations: Referral and Assessment	4.5
ENGL 103 Analytical Writing and Reading	3.0
Term Credits	18.5

Term 4	Credits
BIO 107 Cells, Genetics & Physiology	3.0
BIO 108 Cells, Genetics & Physiology Lab	1.0
CHEM 230 Quantitative Analysis	3.0
CHEM 231 Quantitative Analysis Laboratory	2.0
CHEM 241 Organic Chemistry I	4.0
EDUC 205 Sophomore Pedagogy Seminar	1.0
MATH 123 Calculus III	4.0
Term Credits	18.0

Term 5	Credits
BIO 109 Biological Diversity, Ecology & Evolution	3.0
BIO 110 Biological Diversity, Ecology & Evolution Lab	1.0
CHEM 242 Organic Chemistry II	4.0
CHEM 244 Organic Chemistry Laboratory I	3.0
COOP 101 Career Management/Professional Development	0.0
EDUC 223 Teaching the Middle School Child	3.0
EDUC 265 Instructing English Lang. Learners	3.0

Term Credits	17.0
Term 6	Credits
CHEM 243 Organic Chemistry III	3.0
CHEM 245 Organic Chem Lab II	3.0
EDUC 244 Inclusionary Practices for Exceptional Students	4.5
EDUC 258 Reading in the Content Areas	3.0
EDUC 305 Junior Pedagogy Seminar	1.0
PHYS 101 Fundamentals of Physics I	4.0
Term Credits	18.5
Term 7	Credits
CHEM 420 Molecular Symmetry and Group Theory-Chemistry	3.0
CHEM 421 Inorganic Chemistry I	3.0
EDUC 322 Evaluation of Instruction	3.0
PHYS 102 Fundamentals of Physics II	4.0
Term Credits	13.0
Term 8	Credits
EDUC 310 Computer Applications in Teaching	3.0
EDUC 315 Secondary Science Teaching Methods	3.0
PHEV 145 Weather I: Climate and Global Change	4.0
PHYS 201 Fundamentals of Physics III	4.0
Term Credits	14.0
Term 9	Credits
EDUC 246 Literacy and Content Skill Development	4.5
EDUC 324 Current Research in Curriculum & Instruction	3.0
PSY 101 General Psychology I	3.0
English (ENGL) course between 200-329	3.0
Term Credits	13.5
Term 10	Credits
CHEC 352 Physical Chemistry and Applications II	4.0
CHEM 252 Physical Chemistry I	3.0
CHEM 357 Physical Chemistry Lab I	2.5
EDUC 216 Diversity and Today's Teacher	3.0
ENVS 401 Chemistry of the Environment	3.0
Term Credits	15.5
Term 11	Credits
EDUC 325 Multimedia in Instructional Design	3.0
EDUC 405 Senior Pedagogy Seminar	1.0
EDUC 410 Student Teaching	9.0
Term Credits	13.0
Term 12	Credits
CHEM 430 Analytical Chemistry I	3.0
HIST 280 History of Science I	3.0
PHIL 251 Ethics	3.0
PSY 320 Educational Psychology	3.0
Term Credits	12.0
Total Credits (minimum)	185.0

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COLLEGES & SCHOOLS MAJORS MINORS GRADUATE PROGRAMS CERTIFICATE PROGRAMS ARCHIVE

Earth and Space Science Certification

*Bachelor of Science: 182.0 quarter credits
(Certification is for grades 7 - 12)*

Degree Requirements

Incoming students, 2011/2012

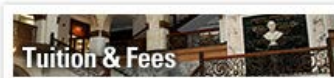
The certification area emphasizes interdisciplinary study, involving coursework in biology, chemistry, geology, physics and atmospheric science. Students may also choose to pursue a second certification in chemistry or physics. A [sample plan of study](#) is available.

General education requirements 115.5 Credits

ECON 201	Principles of Microeconomics	4.0
ENGL 101	Expository Writing and Reading	3.0
ENGL 102	Persuasive Writing and Reading	3.0
ENGL 103	Analytical Writing and Reading	3.0
HIST 280	History of Science I	3.0
HIST 285	Technology in Historical Perspective	3.0
MATH 121	Calculus I	4.0
MATH 122	Calculus II	4.0
MATH 123	Calculus III	4.0
PHIL 251	Ethics	3.0
PSY 101	General Psychology	3.0
PSY 320 WI	Educational Psychology	3.0
UNIV 101	The Drexel Experience	2.0
	English elective course between 200-329	3.0

Science requirements

BIO 122	Cells and Genetics	4.5
BIO 124	Evolution and Organismal Diversity	4.5
BIO 126	Physiology and Ecology	4.5
CHEM 101	General Chemistry I	3.5
CHEM 102	General Chemistry II	4.5
ENVS 230	General Ecology	3.0
ENVS 260	Environmental Science and Society	3.0
ENVS 270	History of Life on Earth	4.0



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ENVS 272	Physical Geology	4.0
ENVS 284 WI	Physiological and Population Ecology	3.0
ENVS 285	Population Ecology Laboratory	2.0
ENVS 286	Community and Ecosystem Ecology	3.0
ENVS 287	Community and Ecosystem Ecology Laboratory	2.0
ENVS 330	Aquatic Ecology	3.0
ENVS 390	Marine Ecology	3.0
ENVS 441 WI	Issues in Global Change I	2.0
PHEV 145	Weather 1: Climate and Global Change	4.0
PHEV 146	Weather 2: Analysis and Forecasting	4.0
PHYS 101	Fundamentals of Physics I	4.0
PHYS 102	Fundamentals of Physics II	4.0
PHYS 131 WI	Survey of the Universe	3.0

Pedagogy requirements 64.5 Credits

EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 105	Freshman Seminar	3.0
EDUC 113	The Organizational Structure of Secondary Schools	3.0
EDUC 123	Adolescent Development	4.5
EDUC 142	Special Education Foundations	4.5
EDUC 205	Sophomore Seminar	1.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 223	Teaching the Middle School Child	3.0
EDUC 244	Inclusionary Practices for Exceptional Students	4.5
EDUC 246	Literacy Development	4.5
EDUC 258	Reading in the Content Areas (7-12)	4.5
EDUC 265	Foundations for Instructing ELLs	3.0
EDUC 305	Junior Seminar	1.0
EDUC 310	Computer Applications in Teaching	3.0
EDUC 315	Secondary Science Teaching Methods	3.0
EDUC 322	Evaluation of Instruction	4.0
EDUC 324	Current Research in Curriculum and Instruction	3.0
EDUC 325	Multimedia in Instructional Design	3.0
EDUC 405	Senior Seminar	1.0

Student teaching experience

EDUC 410 WI	Student Teaching	9.0
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Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

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Recommended Plan Of Study

BS Teacher Education, Earth and Space
4 YR UG Co-op Concentration /Earth & Space Science

Term 1	Credits
BIO 122 Cells and Genetics	4.5
EDUC 101 Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 105 Freshman Pedagogy Seminar	1.0
ENGL 101 Expository Writing and Reading	3.0
MATH 121 Calculus I	4.0
UNIV 101 The Drexel Experience	1.0
Term Credits	16.5

Term 2	Credits
BIO 124 Evolution & Organismal Diversity	4.5
EDUC 105 Freshman Pedagogy Seminar	1.0
EDUC 113 Org Struct of Secondary School	3.0
ENGL 102 Persuasive Writing and Reading	3.0
MATH 122 Calculus II	4.0
UNIV 101 The Drexel Experience	1.0
Term Credits	16.5

Term 3	Credits
BIO 126 Physiology and Ecology	4.5
EDUC 105 Freshman Pedagogy Seminar	1.0
EDUC 123 Adolescent Development	3.0
EDUC 142 Special Education Foundations: Referral and Assessment	4.5
ENGL 103 Analytical Writing and Reading	3.0
Term Credits	16.0

Term 4	Credits
EDUC 205 Sophomore Pedagogy Seminar	1.0
EDUC 244 Inclusionary Practices for Exceptional Students	4.5
ENVS 230 General Ecology	3.0
MATH 123 Calculus III	4.0
PHYS 101 Fundamentals of Physics I	4.0
Term Credits	16.5

Term 5	Credits
COOP 101 Career Management/Professional Development	0.0
EDUC 223 Teaching the Middle School Child	3.0
EDUC 265 Instructing English Lang. Learners	3.0
ENVS 270 History of Life on Earth	4.0
PHYS 102 Fundamentals of Physics II	4.0
PSY 101 General Psychology I	3.0
Term Credits	17.0

Term 6	Credits
CHEM 101	

General Chemistry I	3.5
EDUC 258 Reading in the Content Areas	3.0
EDUC 305 Junior Pedagogy Seminar	1.0
ENVS 284 Physiological and Population Ecology	3.0
ENVS 286 Community and Ecosystem Ecology	3.0
Term Credits	13.5

Term 7	Credits
CHEM 102 General Chemistry II	4.5
EDUC 322 Evaluation of Instruction	3.0
ENVS 272 Physical Geology	4.0
ENVS 285 Population Ecology Lab	2.0
ENVS 441 Issues in Global Change I: Seminar	2.0
Term Credits	15.5

Term 8	Credits
EDUC 310 Computer Applications in Teaching	3.0
EDUC 315 Secondary Science Teaching Methods	3.0
HIST 285 Technology in Historical Perspective	3.0
PHEV 145 Weather I: Climate and Global Change	4.0
Term Credits	13.0

Term 9	Credits
ECON 201 Principles of Microeconomics	4.0
EDUC 246 Literacy and Content Skill Development	4.5
EDUC 324 Current Research in Curriculum & Instruction	3.0
ENVS 287 Community Ecology Lab	2.0
Term Credits	13.5

Term 10	Credits
EDUC 216 Diversity and Today's Teacher	3.0
ENVS 260 Environmental Science and Society I	3.0
ENVS 390 Marine Ecology	3.0
PHEV 146 Weather II: Analysis and Forecasting	4.0
PSY 320 Educational Psychology	3.0
Term Credits	16.0

Term 11	Credits
EDUC 325 Multimedia in Instructional Design	3.0
EDUC 405 Senior Pedagogy Seminar	1.0
EDUC 410 Student Teaching	9.0
Term Credits	13.0

Term 12	Credits
ENVS 330 Aquatic Ecology	3.0
HIST 280 History of Science I	3.0
PHIL 251 Ethics	3.0
PHYS 131 Survey of the Universe	3.0
English (ENGL) course between 200-329	3.0
Term Credits	15.0

Total Credits (minimum) 182.0

Drexel University CATALOG 2011-2012

COLLEGES & SCHOOLS MAJORS MINORS GRADUATE PROGRAMS CERTIFICATE PROGRAMS ARCHIVE

English Certification

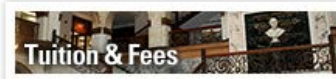
*Bachelor of Science: 180.5 quarter credits
Certification is for grades 7 - 12)*

Degree requirements

Incoming students, 2011/2012

Students may also choose to pursue a second certification in any of the other certification areas. A [sample plan of study](#) is available.

General education requirements		72.0 Credits
ARTH 101	History of Art I: Ancient to Medieval	3.0
COM 230	Techniques of Speaking	3.0
ECON 201	Principles of Microeconomics	4.0
ENGL 101	Expository Writing and Reading	3.0
ENGL 102	Persuasive Writing and Reading	3.0
ENGL 103	Analytical Writing and Reading	3.0
ENVS 260	Environmental Science and Society	3.0
INFO 101	Introduction to Information Technology	3.0
LING 101	Introduction to Linguistics	3.0
MATH 181	Mathematical Analysis I	3.0
MATH 182	Mathematical Analysis I	3.0
MATH 183	Mathematical Analysis I	3.0
MUSC 130	Introduction to Music	3.0
NFS 101	Introduction to Nutrition & Food	3.0
PSY 101	General Psychology	3.0
PSY 320 WI	Educational Psychology	3.0
SOC 335	Sociology of Education I	3.0
PHYS 181	Astronomy	4.0
WRIT 225 WI	Creative Writing	3.0
WRIT 301 WI	Writing Poetry	3.0
UNIV 101	The Drexel Experience	2.0
	American History (HIST) course between 200-203	3.0
	Elective	3.0



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One of the following science sequences:

CHEM 111	General Chemistry I	4.0
CHEM 112	General Chemistry II	4.0

or

PHYS 103	General Physics I	4.0
PHYS 104	General Physics II	4.0

Electives/Minor in English **33.0 Credits**

ENGL 200 WI	Classical to Medieval Literature	3.0
ENGL 201	Renaissance to the Enlightenment	3.0
ENGL 204	Post-Colonial Literature II	3.0
ENGL 205 WI	American Literature I	3.0
ENGL 206 WI	American Literature II	3.0
ENGL 211 WI	British Literature I	3.0
ENGL 212	British Literature II	3.0
ENGL 304	Young Adult Fiction	3.0
ENGL 325	Topics in World Literature	3.0
	Literature (ENGL) elective*	3.0
	Diversity in Literature (ENGL) elective**	3.0

*ENGL 335 Mythology is the recommended elective.

**ENGL 355 Women in Literature is the recommended elective.

Pedagogy requirements **71.5 Credits**

EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 105	Freshman Seminar	3.0
EDUC 113	The Organization Structure of Secondary Schools	3.0
EDUC 123	Adolescent Development	3.0
EDUC 142	Special Education Foundations	4.5
EDUC 205	Sophomore Seminar	1.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 223	Teaching the Middle School Child	3.0
EDUC 244	Inclusionary Practices for Exceptional Students	4.5
EDUC 258	Reading in the Content Areas (7-12)	3.0
EDUC 265	Foundations for Instructing ELLs	3.0
EDUC 246	Literacy Development	4.5
EDUC 305	Junior Seminar	1.0
EDUC 310	Computer Applications in Teaching	3.0
EDUC 322	Evaluation of Instruction	4.0

EDUC 324	Current Research in Curriculum and Instruction	3.0
EDUC 325	Multimedia in Instructional Design	3.0
EDUC 405	Senior Pedagogy Seminar	1.0

Student teaching experience

EDUC 410 WI	Student Teaching	9.0
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Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

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Drexel University

CATALOG 2011-2012

Recommended Plan Of Study

BS Teacher Education, English
4 YR UG Co-op Concentration /English

Term 1	Credits
EDUC 101 Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 105 Freshman Pedagogy Seminar	1.0
ENGL 101 Expository Writing and Reading	3.0
MATH 181 Mathematical Analysis I	3.0
UNIV 101 The Drexel Experience	1.0
PHYS 103 General Physics I	4.0
or	
CHEM 111 General Chemistry I	4.0
Term Credits	15.0
Term 2	Credits
EDUC 105 Freshman Pedagogy Seminar	1.0
EDUC 113 Org Struct of Secondary School	3.0
ENGL 102 Persuasive Writing and Reading	3.0
MATH 182 Mathematical Analysis II	3.0
UNIV 101 The Drexel Experience	1.0
PHYS 104 General Physics II	4.0
or	
CHEM 112 General Chemistry II	4.0
Term Credits	15.0
Term 3	Credits
EDUC 105 Freshman Pedagogy Seminar	1.0
EDUC 123 Adolescent Development	3.0
EDUC 142 Special Education Foundations: Referral and Assessment	4.5
ENGL 103 Analytical Writing and Reading	3.0
MATH 183 Mathematical Analysis III	3.0
PSY 101 General Psychology I	3.0
Term Credits	17.5
Term 4	Credits
COM 230 Techniques of Speaking	3.0
EDUC 205 Sophomore Pedagogy Seminar	1.0
EDUC 244 Inclusionary Practices for Exceptional Students	4.5
INFO 101 Introduction to Information Technology	3.0
LING 101 Introduction to Linguistics	3.0
HIST 201 US History to 1815	3.0
or	
HIST 203 US History since 1900	3.0
or	
HIST 202 US History, 1815-1900	3.0
Term Credits	17.5
Term 5	Credits

COOP 101	Career Management/Professional Development	0.0
EDUC 223	Teaching the Middle School Child	3.0
EDUC 265	Instructing English Lang. Learners	3.0
ENGL 201	Renaissance to the Enlightenment	3.0
NFS 101	Introduction to Nutrition & Food	3.0
WRIT 301	Writing Poetry	3.0
<i>Term Credits</i>		15.0

Term 6		Credits
EDUC 258	Reading in the Content Areas	3.0
EDUC 305	Junior Pedagogy Seminar	1.0
ENGL 200	Classical to Medieval Literature	3.0
ENGL 204	Post-Colonial Lit II	3.0
WRIT 225	Creative Writing	3.0
<i>Term Credits</i>		13.0

Term 7		Credits
EDUC 322	Evaluation of Instruction	3.0
ENGL 304	Young Adult Fiction	3.0
MUSC 130	Introduction to Music	3.0
PHYS 181	Astronomy	3.0
<i>Term Credits</i>		12.0

Term 8		Credits
ECON 201	Principles of Microeconomics	4.0
EDUC 310	Computer Applications in Teaching	3.0
EDUC 324	Current Research in Curriculum & Instruction	3.0
EDUC 338	Expressive Arts for PK-4	3.0
ENGL 335	Mythology	3.0
	Literature (ENGL) elective	3.0
<i>Term Credits</i>		19.0

Term 9		Credits
EDUC 246	Literacy and Content Skill Development	4.5
EDUC 325	Multimedia in Instructional Design	3.0
ENGL 205	American Literature I	3.0
ENGL 212	British Literature II	3.0
<i>Term Credits</i>		13.5

Term 10		Credits
ARTH 101	History of Art I: Ancient to Medieval	3.0
EDUC 216	Diversity and Today's Teacher	3.0
ENGL 211	British Literature I	3.0
ENGL 355	Women and Literature	3.0
PSY 320	Educational Psychology	3.0
<i>Term Credits</i>		15.0

Term 11		Credits
EDUC 405	Senior Pedagogy Seminar	1.0
EDUC 410	Student Teaching	9.0
ENGL 325	Topics in World Literature	3.0
<i>Term Credits</i>		13.0

Term 12		Credits
ENGL 206	American Literature II	3.0
ENVS 260	Environmental Science and Society I	3.0
SOC 335	Sociology of Education I	3.0
	Diversity in Literature (ENGL) elective	3.0

Free elective	3.0
<i>Term Credits</i>	15.0
Total Credits (minimum)	180.5

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COLLEGES & SCHOOLS MAJORS MINORS GRADUATE PROGRAMS CERTIFICATE PROGRAMS ARCHIVE

Environmental Education Certification

*Bachelor of Science: 182.0 quarter credits
(Certification is for grades K - 12)*

Degree Requirements

Incoming students, 2011/2012

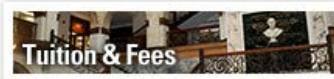
The certification area emphasizes coursework in such areas of environmental issues as biology and chemistry. Students may also choose to pursue a second certification in biology. A [sample plan of study](#) is available.

General education requirements

ECON 201	Principles of Microeconomics	4.0
ENGL 101	Expository Writing and Reading	3.0
ENGL 102	Persuasive Writing and Reading	3.0
ENGL 103	Analytical Writing and Reading	3.0
HIST 280	History of Science I	3.0
HIST 285	Technology in Historical Perspective	3.0
MATH 121	Calculus I	4.0
MATH 122	Calculus II	4.0
MATH 123	Calculus III	4.0
PHIL 251	Ethics	3.0
PSY 101	General Psychology	3.0
PSY 320 WI	Educational Psychology	3.0
UNIV 101	The Drexel Experience	2.0
	English elective course between 200-329	3.0

Science requirements

BIO 122	Cells and Genetics	4.5
BIO 124	Evolution and Organismal Diversity	4.5
BIO 126	Physiology and Ecology	4.5
CHEM 101	General Chemistry I	3.5
CHEM 102	General Chemistry II	4.5
ENVS 230	General Ecology	3.0
ENVS 260	Environmental Science and Society	3.0
ENVS 270	History of Life on Earth	4.0



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ENVS 272	Physical Geology	4.0
ENVS 284 WI	Physiological and Population Ecology	3.0
ENVS 285	Population Ecology Laboratory	2.0
ENVS 286	Community and Ecosystem Ecology	3.0
ENVS 287	Community and Ecosystem Ecology Laboratory	2.0
ENVS 330	Aquatic Ecology	3.0
ENVS 390	Marine Ecology	3.0
ENVS 441 WI	Issues in Global Change I	2.0
PHEV 145	Weather 1: Climate and Global Change	4.0
PHEV 146	Weather 2: Analysis and Forecasting	4.0
PHYS 101	Fundamentals of Physics I	4.0
PHYS 102	Fundamentals of Physics II	4.0
PHYS 131 WI	Survey of the Universe	3.0

Pedagogy requirements 71.5 Credits

EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 105	Freshman Seminar	3.0
EDUC 113	The Organization Structure of Secondary Schools	3.0
EDUC 123	Adolescent Development	3.0
EDUC 142	Special Education Foundations	4.5
EDUC 205	Sophomore Seminar	1.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 223	Teaching the Middle School Child	3.0
EDUC 244	Inclusionary Practices for Exceptional Students	4.5
EDUC 246	Literacy Development	4.5
EDUC 258	Reading in the Content Areas (7-12)	3.0
EDUC 265	Foundations for Instructing ELLs	3.0
EDUC 305	Junior Seminar	1.0
EDUC 310	Computer Applications in Teaching	3.0
EDUC 315	Secondary Science Teaching Methods	3.0
EDUC 322	Evaluation of Instruction	3.0
EDUC 324	Current Research in Curriculum and Instruction	3.0
EDUC 325	Multimedia in Instructional Design	3.0
EDUC 405	Senior Seminar	1.0

Student teaching experience

EDUC 410 WI	Student Teaching	9.0
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Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the [Writing Intensive Course List](#) on the [Drexel University Writing Center](#) page. Students scheduling their courses in Banner/DrexelOne can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.



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Recommended Plan Of Study

BS Teacher Education, Environmental Education
4 YR UG Co-op Concentration /Environmental Education

Term 1		Credits
BIO 122	Cells and Genetics	4.5
EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 105	Freshman Pedagogy Seminar	1.0
ENGL 101	Expository Writing and Reading	3.0
MATH 121	Calculus I	4.0
UNIV 101	The Drexel Experience	1.0
<i>Term Credits</i>		16.5

Term 2		Credits
BIO 124	Evolution & Organismal Diversity	4.5
EDUC 105	Freshman Pedagogy Seminar	1.0
EDUC 113	Org Struct of Secondary School	3.0
ENGL 102	Persuasive Writing and Reading	3.0
MATH 122	Calculus II	4.0
UNIV 101	The Drexel Experience	1.0
<i>Term Credits</i>		16.5

Term 3		Credits
BIO 126	Physiology and Ecology	4.5
EDUC 105	Freshman Pedagogy Seminar	1.0
EDUC 123	Adolescent Development	3.0
EDUC 142	Special Education Foundations: Referral and Assessment	4.5
ENGL 103	Analytical Writing and Reading	3.0
<i>Term Credits</i>		16.0

Term 4		Credits
EDUC 205	Sophomore Pedagogy Seminar	1.0
EDUC 244	Inclusionary Practices for Exceptional Students	4.5
ENVS 230	General Ecology	3.0
MATH 123	Calculus III	4.0
PHYS 101	Fundamentals of Physics I	4.0
<i>Term Credits</i>		16.5

Term 5		Credits
COOP 101	Career Management/Professional Development	0.0
EDUC 223	Teaching the Middle School Child	3.0
EDUC 265	Instructing English Lang. Learners	3.0
ENVS 270	History of Life on Earth	4.0
PHYS 102	Fundamentals of Physics II	4.0
PSY 101	General Psychology I	3.0
<i>Term Credits</i>		17.0

Term 6		Credits
CHEM 101		

General Chemistry I	3.5
EDUC 258 Reading in the Content Areas	3.0
EDUC 305 Junior Pedagogy Seminar	1.0
ENVS 284 Physiological and Population Ecology	3.0
ENVS 286 Community and Ecosystem Ecology	3.0
Term Credits	13.5

Term 7	Credits
CHEM 102 General Chemistry II	4.5
EDUC 322 Evaluation of Instruction	3.0
ENVS 272 Physical Geology	4.0
ENVS 285 Population Ecology Lab	2.0
ENVS 441 Issues in Global Change I: Seminar	2.0
Term Credits	15.5

Term 8	Credits
EDUC 310 Computer Applications in Teaching	3.0
EDUC 315 Secondary Science Teaching Methods	3.0
HIST 285 Technology in Historical Perspective	3.0
PHEV 145 Weather I: Climate and Global Change	4.0
Term Credits	13.0

Term 9	Credits
ECON 201 Principles of Microeconomics	4.0
EDUC 246 Literacy and Content Skill Development	4.5
EDUC 324 Current Research in Curriculum & Instruction	3.0
ENVS 287 Community Ecology Lab	2.0
Term Credits	13.5

Term 10	Credits
EDUC 216 Diversity and Today's Teacher	3.0
ENVS 260 Environmental Science and Society I	3.0
ENVS 390 Marine Ecology	3.0
PHEV 146 Weather II: Analysis and Forecasting	4.0
PSY 320 Educational Psychology	3.0
Term Credits	16.0

Term 11	Credits
EDUC 325 Multimedia in Instructional Design	3.0
EDUC 405 Senior Pedagogy Seminar	1.0
EDUC 410 Student Teaching	9.0
Term Credits	13.0

Term 12	Credits
ENVS 330 Aquatic Ecology	3.0
HIST 280 History of Science I	3.0
PHIL 251 Ethics	3.0
PHYS 131 Survey of the Universe	3.0
English (ENGL) course between 200-329	3.0
Term Credits	15.0

Total Credits (minimum) 182.0

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COLLEGES & SCHOOLS MAJORS MINORS GRADUATE PROGRAMS CERTIFICATE PROGRAMS ARCHIVE

General Science Certification

*Bachelor of Science: 181.5 quarter credits
(Certification is for grades K - 12)*

Degree Requirements

Incoming students, 2011/2012

The certification area is a well-rounded program incorporating biology, chemistry, mathematics, and physics. Students may also choose to pursue a second certification in any of the other certification areas. A [sample plan of study](#) is available.

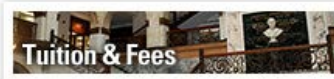
General education requirements

ENGL 101	Expository Writing and Reading	3.0
ENGL 102	Persuasive Writing and Reading	3.0
ENGL 103	Analytical Writing and Reading	3.0
MATH 121	Calculus I	4.0
MATH 122	Calculus II	4.0
MATH 123	Calculus III	4.0
PHIL 251	Ethics	3.0
PSY 101	General Psychology	3.0
PSY 320 WI	Educational Psychology	3.0
UNIV 101	The Drexel Experience	2.0
HIST 280	History of Science I	3.0
	English elective course between 200-329	3.0
	Science, Technology, Human Affairs electives *	6.0
	Electives	18.0

*Any History (HIST) course from 281-294.

Science requirements

BIO 107	Cells, Genetics and Physiology	3.0
BIO 108	Cells, Genetics and Physiology Lab	1.0
BIO 109	Biological Diversity, Ecology and Evolution	3.0
BIO 110	Biological Diversity, Ecology and Evolution Lab	1.0
CHEM 101	General Chemistry I	3.5
CHEM 102	General Chemistry II	4.5
CHEM 103	General Chemistry III	5.0
ENVS 270	History of Life on Earth	4.0



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ENVS 272	Physical Geology	4.0
ENVS 284 WI	Physiological and Population Ecology	3.0
ENVS 285	Population Ecology Laboratory	2.0
ENVS 286	Community and Ecosystem Ecology	3.0
ENVS 390	Marine Ecology	3.0
PHEV 145	Weather 1: Climate and Global Change	4.0
PHYS 101	Fundamentals of Physics I	4.0
PHYS 102	Fundamentals of Physics II	4.0
PHYS 131 WI	Survey of the Universe	3.0

Pedagogy requirements **64.5 Credits**

EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 105	Freshman Seminar	3.0
EDUC 113	The Organization Structure of Secondary Schools	3.0
EDUC 123	Adolescent Development	3.0
EDUC 142	Special Education Foundations	4.5
EDUC 205	Sophomore Seminar	1.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 223	Teaching the Middle School Child	3.0
EDUC 244	Inclusionary Practices for Exceptional Students	4.5
EDUC 246	Literacy Development	4.5
EDUC 258	Reading in the Content Areas (7-12)	3.0
EDUC 265	Foundations for Instructing ELLs	3.0
EDUC 305	Junior Seminar	1.0
EDUC 310	Computer Applications in Teaching	3.0
EDUC 315	Secondary Science Teaching Methods	3.0
EDUC 322	Evaluation of Instruction	3.0
EDUC 324	Current Research in Curriculum and Instruction	3.0
EDUC 325	Multimedia in Instructional Design	3.0
EDUC 405	Senior Seminar	1.0

Student teaching experience

EDUC 410 WI	Student Teaching (General Sciences)	9.0
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In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

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Drexel University

CATALOG 2011-2012

Recommended Plan Of Study

BS Teacher Education, General Science
4 YR UG Co-op Concentration /General Science

Term 1	Credits
CHEM 101 General Chemistry I	3.5
EDUC 101 Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 105 Freshman Pedagogy Seminar	1.0
ENGL 101 Expository Writing and Reading	3.0
MATH 121 Calculus I	4.0
UNIV 101 The Drexel Experience	1.0
Term Credits	15.5
Term 2	Credits
CHEM 102 General Chemistry II	4.5
EDUC 105 Freshman Pedagogy Seminar	1.0
EDUC 113 Org Struct of Secondary School	3.0
ENGL 102 Persuasive Writing and Reading	3.0
MATH 122 Calculus II	4.0
UNIV 101 The Drexel Experience	1.0
Term Credits	16.5
Term 3	Credits
CHEM 103 General Chemistry III	5.0
EDUC 105 Freshman Pedagogy Seminar	1.0
EDUC 123 Adolescent Development	3.0
EDUC 142 Special Education Foundations: Referral and Assessment	4.5
ENGL 103 Analytical Writing and Reading	3.0
Term Credits	16.5
Term 4	Credits
BIO 107 Cells, Genetics & Physiology	3.0
BIO 108 Cells, Genetics & Physiology Lab	1.0
EDUC 205 Sophomore Pedagogy Seminar	1.0
EDUC 244 Inclusionary Practices for Exceptional Students	4.5
MATH 123 Calculus III	4.0
Term Credits	13.5
Term 5	Credits
BIO 109 Biological Diversity, Ecology & Evolution	3.0
BIO 110 Biological Diversity, Ecology & Evolution Lab	1.0
COOP 101 Career Management/Professional Development	0.0
EDUC 223 Teaching the Middle School Child	3.0
EDUC 265 Instructing English Lang. Learners	3.0
ENVS 270 History of Life on Earth	4.0
PHYS 101 Fundamentals of Physics I	4.0
Term Credits	18.0

Term 6	Credits
EDUC 258 Reading in the Content Areas	3.0
EDUC 305 Junior Pedagogy Seminar	1.0
ENVS 284 Physiological and Population Ecology	3.0
PHYS 102 Fundamentals of Physics II	4.0
PSY 101 General Psychology I	3.0
Term Credits	14.0

Term 7	Credits
EDUC 322 Evaluation of Instruction	3.0
ENVS 272 Physical Geology	4.0
ENVS 285 Population Ecology Lab	2.0
PHYS 131 Survey of the Universe	3.0
Free elective	3.0
Term Credits	15.0

Term 8	Credits
EDUC 310 Computer Applications in Teaching	3.0
EDUC 315 Secondary Science Teaching Methods	3.0
ENVS 286 Community and Ecosystem Ecology	3.0
PHEV 145 Weather I: Climate and Global Change	4.0
Free elective	3.0
Term Credits	16.0

Term 9	Credits
EDUC 246 Literacy and Content Skill Development	4.5
EDUC 324 Current Research in Curriculum & Instruction	3.0
HIST 280 History of Science I	3.0
Free elective	3.0
Term Credits	13.5

Term 10	Credits
EDUC 216 Diversity and Today's Teacher	3.0
ENVS 390 Marine Ecology	3.0
PSY 320 Educational Psychology	3.0
Science, Technology and Human Affairs elective (See degrees requirements list)	3.0
Free elective	3.0
Term Credits	15.0

Term 11	Credits
EDUC 325 Multimedia in Instructional Design	3.0
EDUC 405 Senior Pedagogy Seminar	1.0
EDUC 410 Student Teaching	9.0
Term Credits	13.0

Term 12	Credits
PHIL 251 Ethics	3.0
English (ENGL) course between 200-329	3.0
Science, Technology and Human Affairs elective (See degrees requirements list)	3.0
Free electives	6.0
Term Credits	15.0

Total Credits (minimum) 181.5

Drexel University

CATALOG 2011-2012

COLLEGES & SCHOOLS MAJORS MINORS GRADUATE PROGRAMS CERTIFICATE PROGRAMS ARCHIVE

Mathematics Certification

Bachelor of Science: 180.5 quarter credits
(Certification is for grades 7 - 12)

Degree Requirements

Incoming students, 2011/2012

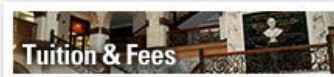
The certification area emphasizes coursework in such areas of mathematics as calculus, linear algebra, differential equations, probability and statistics, techniques of mathematical proof, and discrete mathematics. Students may also choose to pursue a second certification in physics or one of the other sciences. A [sample plan of study](#) is available.

General education requirements

ECON 201	Principles of Economics	4.0
ENGL 101	Expository Writing and Reading	3.0
ENGL 102	Persuasive Writing and Reading	3.0
ENGL 103	Analytical Writing and Reading	3.0
HIST 280	History of Science I	3.0
INFO 108	Foundations of Software	3.0
PHIL 251	Ethics	3.0
PSY 101	General Psychology I	3.0
PSY 320 WI	Educational Psychology	3.0
UNIV 101	The Drexel Experience	2.0
	English elective course between 200-329	3.0
	Electives	9.0

Mathematics requirements

EDUC 428	Cultural and Historical Significance of Math	3.0
MATH 121	Calculus I	4.0
MATH 122	Calculus II	4.0
MATH 123	Calculus III	4.0
MATH 200	Multivariate Calculus	4.0
MATH 201	Linear Algebra	4.0
MATH 205	Survey of Geometry	3.0
MATH 210	Differential Equations	4.0
MATH 220	Introduction to Mathematical Reasoning	3.0



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MATH 221	Discrete Mathematics	3.0
MATH 311	Probability and Statistics I	4.0
MATH 312	Probability and Statistics II	4.0
MATH 331	Abstract Algebra I	4.0

Science requirements

BIO 107	Cells, Genetics and Physiology	3.0
BIO 108	Cells, Genetics and Physiology Laboratory	1.0
BIO 109	Biological Diversity, Ecology and Evolution	3.0
CHEM 101	General Chemistry I	3.5
CHEM 102	General Chemistry II	4.5
ENVS 260	Environmental Science and Society	3.0
PHYS 101	Fundamentals of Physics I	4.0
PHYS 102	Fundamentals of Physics II	4.0

Pedagogy requirements

71.5 Credits

EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 105	Freshman Seminar	3.0
EDUC 113	The Organization Structure of Secondary Schools	3.0
EDUC 123	Adolescent Development	3.0
EDUC 142	Special Education Foundations	4.5
EDUC 205	Sophomore Seminar	1.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 223	Teaching the Middle School Child	3.0
EDUC 244	Inclusionary Practices for Exceptional Students	4.5
EDUC 246	Literacy Development	4.5
EDUC 258	Reading in the Content Areas (7-12)	3.0
EDUC 265	Foundations for Instructing ELLs	3.0
EDUC 305	Junior Seminar	1.0
EDUC 310	Computer Applications in Teaching	3.0
EDUC 319	Secondary Math Teaching Methods	3.0
EDUC 322	Evaluation of Instruction	4.0
EDUC 324	Current Research in Curriculum and Instruction	3.0
EDUC 325	Multimedia in Instructional Design	3.0

Student teaching experience

EDUC 410 WI

Student Teaching (Mathematics)

9.0

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

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Drexel University

CATALOG 2011-2012

Recommended Plan Of Study

BS Teacher Education, Mathematics

4 YR UG Co-op Concentration /Mathematics

Term 1	Credits
EDUC 101 Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 105 Freshman Pedagogy Seminar	1.0
ENGL 101 Expository Writing and Reading	3.0
MATH 121 Calculus I	4.0
PSY 101 General Psychology I	3.0
UNIV 101 The Drexel Experience	1.0
Term Credits	15.0

Term 2	Credits
EDUC 105 Freshman Pedagogy Seminar	1.0
EDUC 113 Org Struct of Secondary School	3.0
ENGL 102 Persuasive Writing and Reading	3.0
INFO 108 Foundations of Software	3.0
MATH 122 Calculus II	4.0
UNIV 101 The Drexel Experience	1.0
Term Credits	15.0

Term 3	Credits
EDUC 105 Freshman Pedagogy Seminar	1.0
EDUC 123 Adolescent Development	3.0
EDUC 142 Special Education Foundations: Referral and Assessment	4.5
ENGL 103 Analytical Writing and Reading	3.0
MATH 123 Calculus III	4.0
Term Credits	15.5

Term 4	Credits
BIO 107 Cells, Genetics & Physiology	3.0
BIO 108 Cells, Genetics & Physiology Lab	1.0
EDUC 205 Sophomore Pedagogy Seminar	1.0
EDUC 244 Inclusionary Practices for Exceptional Students	4.5
MATH 200 Multivariate Calculus	4.0
Term Credits	13.5

Term 5	Credits
BIO 109 Biological Diversity, Ecology & Evolution	3.0
CHEM 101 General Chemistry I	3.5
COOP 101 Career Management/Professional Development	0.0
EDUC 223 Teaching the Middle School Child	3.0
EDUC 265 Instructing English Lang. Learners	3.0
MATH 221 Discrete Mathematics	3.0
Term Credits	15.5

Term 6	Credits
EDUC 258	

Reading in the Content Areas	3.0
EDUC 305 Junior Pedagogy Seminar	1.0
MATH 210 Differential Equations	4.0
MATH 311 Probability and Statistics I	4.0
PHYS 101 Fundamentals of Physics I	4.0
Term Credits	16.0

Term 7	Credits
EDUC 322 Evaluation of Instruction	3.0
EDUC 428 Cultural and Historical Significance of Mathematics	3.0
MATH 220 Introduction to Mathematical Reasoning	3.0
MATH 312 Probability and Statistics II	4.0
PHYS 102 Fundamentals of Physics II	4.0
Term Credits	17.0

Term 8	Credits
CHEM 102 General Chemistry II	4.5
EDUC 310 Computer Applications in Teaching	3.0
EDUC 319 Teaching Secondary Mathematics	3.0
HIST 280 History of Science I	3.0
Free elective	3.0
Term Credits	16.5

Term 9	Credits
ECON 201 Principles of Microeconomics	4.0
EDUC 246 Literacy and Content Skill Development	4.5
MATH 201 Linear Algebra	4.0
MATH 205 Survey of Geometry	3.0
Term Credits	15.5

Term 10	Credits
EDUC 216 Diversity and Today's Teacher	3.0
EDUC 324 Current Research in Curriculum & Instruction	3.0
MATH 331 Abstract Algebra I	4.0
PSY 320 Educational Psychology	3.0
Free elective	3.0
Term Credits	16.0

Term 11	Credits
EDUC 325 Multimedia in Instructional Design	3.0
EDUC 405 Senior Pedagogy Seminar	1.0
EDUC 410 Student Teaching	9.0
Term Credits	13.0

Term 12	Credits
ENVS 260 Environmental Science and Society I	3.0
PHIL 251 Ethics	3.0
English (ENGL) course between 200-329	3.0
Free elective	3.0
Term Credits	12.0

Total Credits (minimum) 180.5

Drexel University CATALOG 2011-2012

COLLEGES & SCHOOLS MAJORS MINORS GRADUATE PROGRAMS CERTIFICATE PROGRAMS ARCHIVE

Physics Certification

*Bachelor of Science: 180.5 quarter credits
(Certification is for grades 7 - 12)*

Degree Requirements

Incoming students, 2011/2012

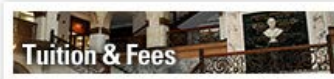
The certification area emphasizes coursework in physics and atmospheric science, including such topics as classical mechanics, electromagnetic fields, quantum mechanics, and physics of high fidelity, and survey of the universe. Students may also choose to pursue a second certification in mathematics. A [sample plan of study](#) is available.

General education requirements

ENGL 101	Expository Writing and Reading	3.0
ENGL 102	Persuasive Writing and Reading	3.0
ENGL 103	Analytical Writing and Reading	3.0
HIST 280	History of Science I	3.0
MATH 121	Calculus I	4.0
MATH 122	Calculus II	4.0
MATH 123	Calculus III	4.0
MATH 200	Multivariate Calculus	4.0
MATH 201	Linear Algebra	4.0
MATH 210	Differential Equations	4.0
PHIL 251	Ethics	3.0
PSY 101	General Psychology	3.0
PSY 320 WI	Educational Psychology	3.0
UNIV 101	The Drexel Experience	2.0
	English elective course between 200-329	3.0
	Free elective	2.0

Science requirements

BIO 107	Cells, Genetics and Physiology	3.0
BIO 108	Cells, Genetics and Physiology Lab	1.0
BIO 109	Biological Diversity, Ecology and Evolution	3.0
CHEM 101	General Chemistry I	3.5
CHEM 102	General Chemistry II	4.5



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ENVS 260	Environmental Science and Society	3.0
PHEV 141 WI	Atmospheric Science I: Climate and Global Change	3.0
PHYS 113	Contemporary Physics I	5.0
PHYS 114	Contemporary Physics II	5.0
PHYS 115	Contemporary Physics III	5.0
PHYS 131 WI	Survey of the Universe	3.0
PHYS 201	Fundamentals of Physics III	4.0
PHYS 217	Thermodynamics	4.0
PHYS 311	Classical Mechanics I	4.0
PHYS 312	Classical Mechanics II	4.0
PHYS 321	Electromagnetic Fields I	4.0
PHYS 326	Quantum Mechanics I	4.0

Pedagogy requirements 64.5 Credits

EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 105	Freshman Seminar	3.0
EDUC 113	The Organization Structure of Secondary Schools	3.0
EDUC 123	Adolescent Development	3.0
EDUC 142	Special Education Foundations	4.5
EDUC 205	Sophomore Seminar	1.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 223	Teaching the Middle School Child	3.0
EDUC 244	Inclusionary Practices for Exceptional Students	4.5
EDUC 246	Literacy Development	4.5
EDUC 258	Reading in the Content Areas (7-12)	3.0
EDUC 265	Foundations for Instructing ELLs	3.0
EDUC 305	Junior Seminar	1.0
EDUC 310	Computer Applications in Teaching	3.0
EDUC 315	Secondary Science Teaching Methods	3.0
EDUC 322	Evaluation of Instruction	3.0
EDUC 324	Current Research in Curriculum and Instruction	3.0
EDUC 325	Multimedia in Instructional Design	3.0
EDUC 405	Senior Seminar	1.0

Student teaching experience

Writing-Intensive Course Requirements

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COLLEGES & SCHOOLS MAJORS MINORS GRADUATE PROGRAMS CERTIFICATE PROGRAMS ARCHIVE

Social Studies Certification

*Bachelor of Science: 185.0 quarter credits
(Certification is for grades 7 - 12)*

Degree Requirements

Incoming students, 2011/2012

General education and Concentration Content requirements

ANTH 101	Cultural Diversity: Introduction to Cultural Anthropology	3.0
ANTH 110	The Human Past: An Introduction to Physical Anthropology and Prehistoric Archaeology	3.0
ECON 201	Principles of Microeconomics	4.0
ECON 202	Principles of Macroeconomics	4.0
ENGL 101	Expository Writing and Reading	3.0
ENGL 102	Persuasive Writing and Reading	3.0
ENGL 103	Analytical Writing and Reading	3.0
ENGL 205	American Literature I	3.0
HIST 161	Themes in World Civilization I	3.0
HIST 162	Themes in World Civilization II	3.0
HIST 163	Themes in World Civilization III	3.0
HIST 201	US History to 1815	3.0
HIST 202	US History, 1815-1900	3.0
HIST 203	US History since 1900	3.0
HIST 212	Themes in African-American History	3.0
HIST 216	Freedom in America	3.0
HIST 222	History of Work & Workers in America	3.0
HIST 224	Women in American History	3.0
HIST 276	The History of Philadelphia	3.0
HIST 285	Technology in Historical Perspective	3.0
MATH 181	Mathematical Analysis I	3.0
MATH 182	Mathematical Analysis I	3.0
MATH 183	Mathematical Analysis I	3.0
PSCI 110	American Government I	4.0



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PSCI 140	Introduction to Comparative Political Analysis	4.0
PSCI 150	International Politics	4.0
PSCI 220	Constitutional Law I: Separation of Powers	3.0
PSCI 363	Constitutional Law II	3.0
PSCI 364	Constitutional Law III	3.0
PSCI 375	Politics of Immigration	3.0
PSY 101	General Psychology	3.0
PSY 320 WI	Educational Psychology	3.0
SOC 101	Introduction to Sociology	3.0
SOC 210	Race and Ethnic Relations	3.0
SOC 335	Sociology of Education I	3.0
UNIV 101	The Drexel Experience	2.0

Pedagogy requirements 70.0 Credits

EDGE 210	Geography Education	3.0
EDGE 211	Geography Education: Teacher Lab	1.5
EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 105	Freshman Seminar	3.0
EDUC 112	Integrative Instruction: World Geography	3.0
EDUC 113	The Organization of Secondary Schools	3.0
EDUC 123	Adolescent Development	3.0
EDUC 142	Special Education Foundations	4.5
EDUC 205	Sophomore Seminar	1.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 223	Teaching the Middle School Child	3.0
EDUC 244	Inclusionary Practices for Exceptional Students	4.5
EDUC 246	Literacy Development	4.5
EDUC 258	Content Area Reading (7-12)	3.0
EDUC 305	Junior Seminar	1.0
EDUC 310	Computer Applications in Teaching	3.0
EDUC 314	Elementary Science Teaching Methods	3.0
EDUC 315	Secondary Science Teaching Methods	3.0
EDUC 320 WI	Professional Studies in Instruction	6.0
EDUC 322	Evaluation of Instruction	4.0
	Current Research in Curriculum and	

EDUC 324	Instruction	3.0
EDUC 325	Multimedia in Instructional Design	3.0
EDUC 356	Secondary Social Studies Teaching Methods	3.0
EDUC 405	Senior Pedagogy Seminar	1.0

Free elective

	Elective	3.0
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Student teaching experience

EDUC 410	Student Teaching	9.0
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Writing-Intensive Course Requirements

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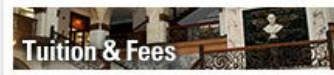
Minor in Education

27.0 quarter credits

The minor in Education provides a structured academic opportunity for students who wish to add a fundamental understanding of the field of education as well as practical knowledge in the art and science of teaching and learning to their undergraduate experience.

Designed for students with a strong interest in education and training, the minor will not necessarily lead to the student being recommended for a state teaching certificate. However, should a student decide to also pursue a teaching certificate as a component of his or her major—or in post-baccalaureate work—the courses required for the minor are applicable to Pennsylvania State certification.

Required courses		27.0 Credits
EDUC 101	Foundations in Education	3.0
EDUC 142	Special Education Foundations	4.5
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 246	Literacy Development	4.5
EDUC 321	Professional Studies in Instruction	3.0
EDUC 322	Evaluation of Instruction	3.0
EDUC 324	Current Research in Curriculum and Instruction	3.0
EDUC 325	Multimedia in Instructional Design	3.0



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