## **Drexel University**

### Catalog 2005 / 2006

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#### The School of Education

#### **About the School**

The School of Education is the umbrella for:

- Teacher education and its undergraduate and graduate programs, which lead to B.S. and M.S. degrees and Pennsylvania State Teacher Certification for grades kindergarten through grade 12, and graduate Instructional Technology Specialist and school principal certification programs.
- The Drexel Center for the Prevention of School Violence, which is committed to reducing violence in schools by assisting schools in designing, implementing, and evaluating a creative school violence prevention model of pedagogy based on current research in creativity as opposed to the prevalent punitive focus on discipline.
- Ph.D. degree program in Educational Leadership Development and Learning Technologies, and School Superintendant certification.

#### 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.



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#### The School of Education

#### **About the Curriculum**

Certification for classroom instruction is available in:

- <u>Elementary education</u> (emphasis on mathematics, science, and technology)
- Secondary education (grades 7-12)
  - Biology
  - Chemistry
  - Earth and Space Science
  - o General Science
  - Mathematics
  - Physics
  - Library Science
- Secondary education (grades K-12)
  - Environmental Education

Students may acquire certification in more than one subject area.

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 215-895-6770.

#### Writing-Intensive Course Requirements

In order to graduate, all students beginning with the entering class of 2002/01 (fall, 2002) 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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### **Elementary Education Certification**

Bachelor of Science Degree: 180.0 Credits

#### **Degree Requirements**

**HIST 203** 

General edu	ucation requirements	Credits
COM 111	Techniques of Speaking	3.0
SOC 335	Sociology of Education	3.0
ECON 201	Economics I	4.0
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 101	Introduction to Analysis I	4.0
MATH 102	Introduction to Analysis II	4.0
EDUC 475	Special Studies in Teacher Education: Analysis	3.0
PSY 101	General Psychology	3.0
PSY 320	Educational Psychology	3.0
<u>UNIV 101</u>	The Drexel Experience	2.0
	English elective course between 200-329	3.0
	Art or music elective	3.0
	Nutrition elective*	3.0
	Professional or free electives	36.0
****		

<sup>\*</sup>NFS 101 is the recommended Nutrition elective.

#### One of the following courses 3.0 **HIST 201** U.S. History to 1815 **HIST 202** U.S. History 1815 -1900 The United States Since 1900

Science requirements		Credits
BIO 102	Bioscience I	4.0
BIO 104	Bioscience II	4.0
CHEM 111	General Chemistry I	
or		
PHYS 103	General Physics I	4.0

or		
PHYS 104	General Physics II	4.0
NVR 260	Environmental Science and Society	3.0
PHYS 131 V	VI Survey of the Universe	3.0
NFS 101	Introduction to Nutrition and Foods	3.0
Education r	equirements	Credits
EDUC 105	Freshman Seminar	3.0
DUC 112	Integrative Instruction	3.0
EDUC 114	Science Teaching Methods	3.0
EDUC 205	Sophomore Seminar	3.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 218	Math: Methods and Content	3.0
EDUC 301	Introduction to Personalized System of Instruction	3.0
EDUC 305	Junior Seminar	2.0
EDUC 310	Computer Applications in Teaching	3.0
EDUC 320 NI_	Professional Studies in Instruction	9.0
EDUC 322	Evaluation of Instruction	4.0
EDUC 323 V	<u>VI</u> Diagnostic Teaching	4.0
EDUC 324	Current Research in Curriculum and Instruction	3.0
EDUC 325	Multimedia in Instructional Design	3.0
EDUC 326 V	<u>VI</u> Language Arts Processes	3.0
EDUC 327	Learning Disabilities	3.0
EDUC 405	Senior Seminar	2.0
Student tea	ching experience	
	VI Student Teaching	12.0

#### **Suggested Professional Electives**

<u>CHEM 112</u>

**General Chemistry II** 

Bioscience		Credits
BIO 201	Human Physiology I	4.0
BIO 203	Human Physiology II	4.0
BIO 221	Microbiology	5.0
BIO 244	Genetics I	3.0
BIO 254	Invertebrate Morphology and Physiology	5.0
BIO 256	Vertebrate Morphology and Physiology	5.0
BIO 260	Plant Biology I: Evolution and Diversity	4.0
BIO 262	Plant Biology II: Morphology and Physiology	4.0
BIO 235	Terrestrial Ecology	5.0

Chemistry		Credits
CHEM 103	General Chemistry III	5.0

<u>CHEM 230</u>	Quantitative Analysis	3.0
CHEM 231 WI	Quantitative Analysis Laboratory	2.0
CHEM 241	Organic Chemistry I	4.0
CHEM 242	Organic Chemistry II	4.0

Nutrition and	d foods	Credits
NFS 200 WI	Nutrition I: Principles of Nutrition	4.0

Physics	Credits
PHEV 141 WI Atmospheric Science I: Climate and Global Change	3.0
PHEV 143 Atmospheric Science II: Weather and Forecasting	3.0
PHYS 106 WI The Physics of High Fidelity	3.0

#### Writing-Intensive Course Requirements

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4-yr non-co-op

#### **Recommended Plan of Study**

#### **BS Education**

#### **Elementary Education Certification**

Bachelor of Science Degree

Dacrieioi oi Sc	ilerice Degree	4-yi 11011-cu-up
Term 1		Credits
EDUC 105	Freshman Seminar	1.0
EDUC 310	Computer Applications in Teaching	3.0
ENGL 101	Expository Writing and Reading	3.0
MATH 101	Introduction to Math Analysis I	4.0
PSY 101	General Psychology I	3.0
<u>UNIV 101</u>	The Drexel Experience	1.0
	Term credits	15.0
Term 2		Credits
EDUC 105	Freshman Seminar	1.0
EDUC 301	Introduction to Personalized System of Instruction	3.0
ENGL 102	Persuasive Writing and Reading	3.0
MATH 102	Introduction to Math Analysis II	4.0
<u>UNIV 101</u>	The Drexel Experience	1.0
HIST 201	US History to 1815	3.0
Or	HC History 4045 4000	2.0
HIST 202 or	US History, 1815-1900	3.0
HIST 203	US History Since 1900	3.0
	Term credits	15.0
Term 3		Credits
EDUC 105	Freshman Seminar	1.0
EDUC 112	Integrative Instruction	3.0
EDUC 324	Current Research in Curriculum and Instruction	3.0
EDUC 475	Special Studies in Teacher Education: Analysis	3.0
ENGL 103	Analytical Writing and Reading	3.0
	Art or Music elective	3.0
	Term credits	16.0
Term 4		Credits
BIO 102	Biology I: Cells and Tissues	4.0
EDUC 205	Sophomore Seminar	1.0
EDUC 326 WI	Language Arts Processes	3.0
HIST 280	History of Science I	3.0
NFS 101	Introduction to Nutrition and Foods	3.0
	Elective	3.0
T F	Term credits	17.0
Term 5	Dialogue II. Organish and Honodite.	Credits
BIO 104	Biology II: Growth and Heredity	4.0
EDUC 205	Sophomore Seminar	1.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 218	Math: Methods and Content	3.0
	English course between 200-329	3.0
Torm 6	Term credits	14.0
Term 6	Introduction to Cornerate Communication	Credits
<u>COM 111</u>	Introduction to Corporate Communication	3.0
		0 of 27

ECON 201	Economics I	4.0
EDUC 205	Sophomore Seminar	1.0
PSY 320	Educational Psychology	3.0
1	Two electives	6.0
	Term credits	17.0
Term 7		Credits
EDUC 305	Junior Seminar	1.0
EDUC 327	Learning Disabilities	3.0
PHYS 131 WI	Survey of the Universe	3.0
	Elective	3.0
CHEM 111	General Chemistry I	4.0
or		
PHYS 103	General Physics I	4.0
	Term credits	14.0
Term 8		Credits
EDUC 305	Junior Seminar	1.0
EDUC 322	Evaluation of Instruction	4.0
ENVR 260	Environmental Science and Society I	3.0
SOC 335	Sociology of Education	3.0
CHEM 112	General Chemistry II	4.0
or		
PHYS 104	General Physics II	4.0
	Term credits	15.0
Term 9		Credits
EDUC 114	Science Teaching Methods	3.0
EDUC 320 WI	Professional Studies in Instruction	9.0
EDUC 325	Multimedia in Instructional Design	3.0
	Term credits	15.0
Term 10		Credits
EDUC 323 WI	Diagnostic Teaching	4.0
EDUC 405	Senior Seminar	1.0
*	Three electives	9.0
	Term credits	14.0
Term 11		Credits
EDUC 412 WI	Student Teaching	12.0
	Term credits	12.0
Term 12		Credits
EDUC 405	Senior Seminar	1.0
	Electives	15.0
	Term credits	16.0

Total credits (minimum) 180.0



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#### **Biology Certification**

Bachelor of Science: 185.5 credits Certification is for grades 7 - 12

#### **Degree Requirements**

General education requirements		Credits
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	Educational Psychology	3.0
<u>UNIV 101</u>	The Drexel Experience	2.0
	English elective course between 200-329	3.0

Science requirements		Credits
BIO 121	Physiology and Nutrition	4.5
BIO 122	Cells and Genetics	4.5
BIO 123	Organismal Diversity and Ecology	4.5
BIO 201	Human Psychology I	4.0
BIO 214	Principles of Cell Biology	3.0
BIO 215	Techniques of Cell Biology	2.5
BIO 218	Principles of Molecular Biology	3.0
BIO 219	Techniques of Molecular Biology	2.5
BIO 270	Developmental Biology	3.0
BIO 271	Developmental Biology Laboratory	2.0
BIO 404	Structure and Function of Biomolecules	4.0
BIO 306	Biochemistry Laboratory	2.0
CHEM 101	General Chemistry I	4.0
CHEM 102	General Chemistry II	4.0

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
ENVR 284 WI	Ecology I: Physiological and Population Ecology	5.0
ENVR 460	Evolution	3.0
PHYS 152	Physics for Life Sciences I	4.5
PHYS 153	Physics for Life Sciences II	4.5

Education requirements		Credits
EDUC 105	Freshman Seminar	3.0
EDUC 112	Integrative Instruction	3.0
EDUC 114	Science Teaching Methods	3.0
EDUC 205	Sophomore Seminar	1.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 218	Math: Methods and Content	3.0
EDUC 301	Introduction to Personalized System of Instruction	3.0
EDUC 305	Junior Seminar	1.0
EDUC 310	Computer Applications in Teaching	3.0
EDUC 320 WI	Professional Studies in Instruction	9.0
EDUC 322	Evaluation of Instruction	4.0
EDUC 323 WI	Diagnostic Teaching	4.0
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 327	Learning Disabilities	3.0
EDUC 405	Senior Seminar	1.0
Student teachi	ng experience	
EDUC 412 WI	Student Teaching	12.0

#### Writing-Intensive Course Requirements

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#### **Recommended Plan of Study**

#### **BS** Education

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#### **Biology Certification**

Bachelor of Science Degree		4-yr non-co-op
Term 1		Credits
EDUC 105	Freshman Seminar	1.0
EDUC 310	Computer Applications in Teaching	3.0
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
<u>CHEM 101</u>	General Chemistry I	4.0
EDUC 105	Freshman Seminar	1.0
EDUC 301	Introduction to Personalized System of Instruction	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	16.0
Term 3		Credits
CHEM 102	General Chemistry II	4.0
EDUC 105	Freshman Seminar	1.0
EDUC 112	Integrative Instruction	3.0
ENGL 103	Analytical Writing and Reading	3.0
MATH 123	Calculus III	4.0
	Term credits	15.0
Term 4		Credits
CHEM 241	Organic Chemistry I	4.0
EDUC 205	Sophomore Seminar	1.0
EDUC 326 WI	Language Arts Processes	3.0
HIST 280	History of Science I	3.0
BIO 121	Physiology of Nutrition	4.5
Term 5	Term credits	15.5 Credits
CHEM 242	Organic Chemistry II	4.0
CHEM 244	Organic Chemistry Lab I	3.0
EDUC 205	Sophomore Seminar	1.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 218	Math: Methods and Content	3.0
BIO 122	Cells and Genetics	4.5
<u> </u>	Term credits	18.5
Term 6	Term oreans	Credits
CHEM 245	Organic Chemistry Lab II	3.0
EDUC 205	Sophomore Seminar	1.0
PHIL 251	Ethics	3.0
PSY 320	Educational Psychology	3.0
BIO 123	Organismal Diversity and Ecology	4.5
	J. gamoina Divoloity and Loology	7.0

Term 7	Term credits	14.5 Credits
EDUC 305	Junior Seminar	1.0
EDUC 327	Learning Disabilities	3.0
BIO 218		
BIO 219	Principles of Molecular Biology	3.0
	Techniques in Molecular Biology	2.5
PHYS 152	Physics for Life Science I	4.5
Term 8	Term credits	14.0 Credits
EDUC 305	Junior Seminar	1.0
EDUC 322	Evaluation of Instruction	4.0
PHYS 153		
BIO 214	Physics for Life Science II	4.5
	Principles of Cell Biology	3.0
BIO 215	Techniques in Cell Biology	2.5
	English course between 200-329	3.0
Term 9	Term credits	18.0 Credits
BIO 201	Human Physiology I	4.0
EDUC 320 WI	Professional Studies in Instruction	9.0
BIO 270		
	Developmental Biology	3.0
BIO 271	Developmental Biology Laboratory	2.0
Term 10	Term credits	18.0 Credits
EDUC 323 WI	Diagnostic Teaching	4.0
EDUC 324	Current Research in Curriculum and Instruction	3.0
EDUC 405		
BIO 306	Senior Seminar	1.0
	Biochemistry Laboratory	2.0
BIO 404	Structure and Function of Biomolecules	4.0
Term 11	Term credits	14.0 Credits
EDUC 412 WI	Student Teaching	12.0
EBOO 112 WI	Term credits	12.0
Term 12	Term Greatis	Credits
BIO 460	Evolution	3.0
EDUC 114	Science Teaching Methods	3.0
EDUC 325	Multimedia in Instructional Design	3.0
EDUC 405	Senior Seminar	1.0
ENVR 284 WI	Ecology I: Physiological and Population Ecology	5.0
	Term credits	15.0
	Tomi ordato	10.0

Total credits (minimum) 185.5



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### **Chemistry Certification**

Bachelor of Science: 186.5 credits (Certification is for grades 7 - 12)

#### **Degree Requirements**

General education requirements		Credits
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	Educational Psychology	3.0
<u>UNIV 101</u>	The Drexel Experience	2.0
	English elective course between 200-329	3.0
Science req	uirements Bioscience I	4.0
BIO 104	Bioscience II	4.0
BIO 404	Structure and Function of Biomolecules	4.0
BIO 306	Biochemistry Laboratory	2.0
CHEM 101	General Chemistry I	4.0
CHEM 102	General Chemistry II	4.0
CHEM 103	General Chemistry III	5.0
CHEM 230	Quantitative Analysis	3.0
<u>CHEM 231</u> <u>WI</u>	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	3.0
CHEM 251	Physical Chemistry I	3.0

CHEC 352	Physical Chemistry and Applications II	4.0
CHEM 357	Physical Chemistry II Laboratory	2.5
CHEM 421	Inorganic Chemistry I	3.0
CHEM 430	Analytical Chemistry I	4.0
ENVR 401	Chemistry of the Environmental	3.0
PHYS 111	Physics I	4.5
PHYS 112	Physics II	4.5
PHYS 131 W	Survey of the Universe	
or		
PHEV 141 W	1 Atmospheric Science I: Climate and Global Change	3.0

Education requirements		Credits
EDUC 105	Freshman Seminar	3.0
EDUC 112	Integrative Instruction	3.0
EDUC 114	Science Teaching Methods	3.0
EDUC 205	Sophomore Seminar	3.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 218	Math: Methods and Content	3.0
EDUC 301	Introduction to Personalized System of Instruction	3.0
EDUC 305	Junior Seminar	2.0
EDUC 310	Computer Applications in Teaching	3.0
EDUC 320 WI	Professional Studies in Instruction	9.0
EDUC 322	Evaluation of Instruction	4.0
EDUC 323 V	<u>VI</u> Diagnostic Teaching	4.0
<b>EDUC 324</b>	Current Research in Curriculum and Instruction	3.0
EDUC 325	Multimedia in Instructional Design	3.0
EDUC 326 V	<u>VI</u> Language Arts Processes	3.0
EDUC 327	Learning Disabilities	3.0
EDUC 405	Senior Seminar	2.0
Student tea	ching experience	
EDUC 412 V	VI Student Teaching	12.0

#### Writing-Intensive Course Requirements

In order to graduate, all students beginning with the entering class of 2002/01 (fall, 2002) 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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- All majors
- All minors
- Arts and Sciences
- Business
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- Information Science and Technology
- Media Arts & Design
- Nursing and Health
- Biomedical Engineering
- Goodwin Professional
- ROTC

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- Nursing and Health
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#### **Prospective Students**

#### **Apply Online**

# **Drexel University**

Catalog 2005 / 2006

About Drexel Admissions Tuition/Fees Financial Aid Drexel Co-op Programs Policies

#### **Recommended Plan of Study**

#### **BS** Education

#### **Chemistry Certification**

Bachelor of Sc	ience Degree	4-yr non-co-op
Term 1		Credits
EDUC 105	Freshman Seminar	1.0
EDUC 310	Computer Applications in Teaching	3.0
ENGL 101	Expository Writing and Reading	3.0
MATH 121	Calculus I	4.0
PSY 101	General Psychology I	3.0
<u>UNIV 101</u>	The Drexel Experience	1.0
	Term credits	15.0
Term 2		Credits
CHEM 101	General Chemistry I	4.0
EDUC 105	Freshman Seminar	1.0
ENGL 102	Persuasive Writing and Reading	3.0
MATH 122	Calculus II	4.0
PHYS 111	Physics I	4.5
<u>UNIV 101</u>	The Drexel Experience	1.0
	Term credits	17.5
Term 3		Credits
CHEM 102	General Chemistry II	4.0
EDUC 105	Freshman Seminar	1.0
EDUC 112	Integrative Instruction	3.0
ENGL 103	Analytical Writing and Reading	3.0
MATH 123	Calculus III	4.0
PHYS 112	Physics II	4.5
	Term credits	19.5
Term 4		Credits
BIO 102	Biology I: Cells and Tissues	4.0
CHEM 103	General Chemistry III	5.0
EDUC 205	Sophomore Seminar	1.0
EDUC 326 WI	Language Arts Processes	3.0
HIST 280	History of Science I	3.0
Town E	Term credits	16.0
Term 5 BIO 104	Piology II. Crowth and Haradity	Credits 4.0
EDUC 205	Biology II: Growth and Heredity  Sophomore Seminar	
EDUC 216	•	1.0
EDUC 218	Diversity and Today's Teacher	3.0
	Math: Methods and Content	3.0
EDUC 301	Introduction to Personalized System of Instruction	3.0
Term 6	Term credits	14.0 Credits
EDUC 114	Science Teaching Methods	3.0
EDUC 205	Sophomore Seminar	1.0
MATH 200	Calculus IV	4.0
PHIL 251	Ethics	3.0
PSY 320	Educational Psychology	3.0
	Educational i Sychology	3.0

BIO 306	Biochemistry Laboratory	2.0
BIO 404	Structure and Function of Biomolecules	4.0
	Term credits	20.0
Term 7		Credits
CHEM 230	Quantitative Analysis	3.0
CHEM 231 WI	Quantitative Analysis Lab	2.0
CHEM 241	Organic Chemistry I	4.0
EDUC 305	Junior Seminar	1.0
EDUC 327	Learning Disabilities	3.0
PHYS 131 WI	Survey of the Universe	3.0
or PHEV 141 WI	Atmospheric Science I: Climate and Global Change	3.0
	Term credits	16.0
Term 8	Term credits	Credits
CHEM 242	Organic Chemistry II	4.0
CHEM 244	Organic Chemistry Lab I	3.0
CHEM 356	Physical Chemistry Lab	2.0
EDUC 305	Junior Seminar	1.0
EDUC 322	Evaluation of Instruction	4.0
	Term credits	14.0
Term 9		Credits
CHEC 352	Physical Chemistry and Applications II	4.0
CHEM 245	Organic Chemistry Lab II	3.0
EDUC 320 WI	Professional Studies in Instruction	9.0
	Term credits	16.0
Term 10		Credits
CHEM 421	Inorganic Chemistry I	3.0
<u>CHEM 430</u>	Analytical Chemistry I	3.0
EDUC 323 WI	Diagnostic Teaching	4.0
EDUC 405	Senior Seminar	1.0
	English course between 200-329	3.0
_	Term credits	14.0
Term 11		Credits
EDUC 412 WI	Student Teaching	12.0
Term 12	Term credits	12.0 Credits
CHEM 243	Organic Chemistry III	3.0
CHEM 357 WI		
EDUC 324	Physical Chemistry Lab I  Current Research in Curriculum and Instruction	2.5
EDUC 325		3.0
	Multimedia in Instructional Design	3.0
EDUC 405	Senior Seminar	1.0
	Term credits	12.5

Total credits (minimum)



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#### **Prospective Students**

#### **Apply Online**

## **Drexel University**

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#### **Earth and Space Science Certification**

Bachelor of Science: 186.0 credits (Certification is for grades 7 - 12)

#### **Degree Requirements**

General education requirements	
Economics I	4.0
Technology in Historical Perspective	3.0
History of Science I	3.0
Expository Writing and Reading	3.0
Persuasive Writing and Reading	3.0
Analytical Writing and Reading	3.0
Calculus I	4.0
Calculus II	4.0
Calculus III	
Ethics	3.0
General Psychology	3.0
Educational Psychology	3.0
The Drexel Experience	2.0
English elective course between 200-329	3.0
Elective	3.0
	Economics I Technology in Historical Perspective History of Science I Expository Writing and Reading Persuasive Writing and Reading Analytical Writing and Reading Calculus I Calculus II Calculus III Ethics General Psychology Educational Psychology The Drexel Experience English elective course between 200-329

Science requirements		Credits	
BIO 102	Bioscience I	4.0	
BIO 104	Bioscience II	4.0	
CHEM 101	General Chemistry I	4.0	
CHEM 102	General Chemisty II	4.0	
<b>ENVR 272</b>	Physical Geology	4.0	
ENVR 270	History of Life on Earth	4.0	
ENVR 284 V	VI Ecology I: Physiological and Population Ecology	5.0	
ENVR 286 WI	Ecology II: Communities and Ecosystems	5.0	
<b>ENVR 260</b>	Environmental Science and Society	3.0	
ENVR 261	Environmental Science and Society Laboratory	1.0	
ENVR 310	Environmental Data Analysis	3.0	

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ENVR 330	Aquatic Ecology	3.0
ENVR 390	Marine Ecology	3.0
PHEV 141 WI	Atmospheric Science I: Climate and Global Change	3.0
PHEV 142 WI	Atmospheric Science I Laboratory	1.0
PHEV 143	Atmospheric Science II	3.0
PHEV 144 WI	Atmospheric Science II Laboratory	1.0
PHEV 441	ssues in Global Change I: Seminar	2.0
PHYS 111	Physics I	4.5
PHYS 112	Physics II	4.5
PHYS 131 WI	Survey of the Universe	3.0

Education r	Credits	
EDUC 105	Freshman Seminar	3.0
EDUC 112	Integrative Instruction	3.0
EDUC 114	Science Teaching Methods	3.0
EDUC 205	Sophomore Seminar	3.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 218	Math: Methods and Content	3.0
EDUC 301	Introduction to Personalized System of Instruction	3.0
EDUC 305	Junior Seminar	2.0
EDUC 310	Computer Applications in Teaching	3.0
EDUC 320 WI	Professional Studies in Instruction	9.0
EDUC 322	Evaluation of Instruction	4.0
<b>EDUC 323 V</b>	<u> </u>	4.0
EDUC 324	Current Research in Curriculum and Instruction	3.0
EDUC 325	Multimedia in Instructional Design	3.0
<b>EDUC 326 V</b>	<u> </u>	3.0
EDUC 327	Learning Disabilities	3.0
EDUC 405	Senior Seminar	2.0
Student tea	ching experience	
<b>EDUC 412 V</b>	<u>VI</u> Student Teaching	12.0

#### Writing-Intensive Course Requirements

In order to graduate, all students beginning with the entering class of 2002/01 (fall, 2002) 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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About Drexel Admissions Tuition/Fees Financial Aid Drexel Co-op Programs Policies

#### **Recommended Plan of Study**

#### **BS Education**

#### **Earth and Space Science Certification**

Bachelor of Sci	4-yr non-co-op		
Term 1		Credits	
EDUC 105	Freshman Seminar	1.0	
EDUC 310	Computer Applications in Teaching	3.0	
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	
CHEM 101	General Chemistry I	4.0	
EDUC 105	Freshman Seminar	1.0	
EDUC 301	Introduction to Personalized System of Instruction	3.0	
ENGL 102	Persuasive Writing and Reading	3.0	
MATH 122	Calculus II	4.0	
<u>UNIV 101</u>	The Drexel Experience	1.0	
	Term credits	16.0	
Term 3		Credits	
CHEM 102	General Chemistry II	4.0	
EDUC 105	Freshman Seminar	1.0	
EDUC 112	Integrative Instruction	3.0	
EDUC 324	Current Research in Curriculum and Instruction	3.0	
ENGL 103	Analytical Writing and Reading	3.0	
MATH 123	Calculus III	4.0	
	Term credits	18.0	
Term 4		Credits	
BIO 102	Biology I: Cells and Tissues	4.0	
EDUC 205	Sophomore Seminar	1.0	
EDUC 326 WI	Language Arts Processes	3.0	
HIST 280	History of Science I	3.0	
PHYS 111	Physics I	4.5	
	Term credits	15.5	
Term 5		Credits	
BIO 104	Biology II: Growth and Heredity	4.0	
EDUC 205	Sophomore Seminar	1.0	
EDUC 218	Math: Methods and Content	3.0	
ENVR 260	Environmental Science and Society I	3.0	
PHYS 112	Physics II	4.5	
ENVR 261	Environmental Science and Society I Lab	1.0	
	Term credits	16.5	
Term 6		Credits	
ECON 201	Economics I	4.0	
EDUC 205	Sophomore Seminar	1.0	
EDUC 216	Diversity and Today's Teacher	3.0	
PSY 320	Educational Psychology	3.0	

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#### **Apply Online**

	English course between 200-329	3.0
	Term credits	14.0
Term 7		Credits
EDUC 305	Junior Seminar	1.0
EDUC 327	Learning Disabilities	3.0
ENVR 284 WI	Ecology I: Physiological and Population Ecology	5.0
PHEV 142 WI	Atmospheric Science I Laboratory	1.0
PHIL 251	Ethics	3.0
PHYS 131 WI	Survey of the Universe	3.0
PHEV 141 WI	Atmospheric Science I: Climate and Global Change	3.0
	Term credits	19.0
Term 8		Credits
EDUC 305	Junior Seminar	1.0
EDUC 322	Evaluation of Instruction	4.0
ENVR 286 WI	Ecology II: Communities and Ecosystems	5.0
PHEV 143	Atmospheric Science II	3.0
PHEV 144 WI	Atmospheric Science II Laboratory	1.0
ENVR 272	Physical Geology	4.0
	Term credits	18.0
Term 9		Credits
EDUC 114	Science Teaching Methods	3.0
EDUC 320 WI	Professional Studies in Instruction	9.0
EDUC 325	Multimedia in Instructional Design	3.0
	Term credits	15.0
Term 10		Credits
EDUC 323 WI	Diagnostic Teaching	4.0
EDUC 405	Senior Seminar	1.0
ENVR 330	Aquatic Ecology	3.0
PHEV 441	Issues in Global Change I: Seminar	2.0
ENVR 310	Environmental Data Analysis	3.0
	Term credits	13.0
Term 11		Credits
EDUC 412 WI	Student Teaching	12.0
	Term credits	12.0
Term 12	Osalisa Osasia sa	Credits
EDUC 405	Senior Seminar	1.0
ENVR 390	Marine Ecology	3.0
HIST 285	Technology in Historical Perspective	3.0
ENVR 270	History of Life on Earth	4.0
	Elective	3.0
	Term credits	14.0

Total credits (minimum)



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#### **Prospective Students**

#### **Apply Online**

## **Drexel University**

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About Drexel Admissions Tuition/Fees Financial Aid Drexel Co-op Programs Policies

#### **Environmental Education Certification**

Bachelor of Science: 186.0 credits (Certification is for grades K - 12)

#### **Degree Requirements**

General edu	Credit		
ECON 201	Economics I	4.0	
HIST 285	Technology in Historical Perspective	3.0	
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		
PHIL 251	Ethics	3.0	
PSY 101	General Psychology	3.0	
PSY 320	Educational Psychology	3.0	
<u>UNIV 101</u>	The Drexel Experience	2.0	
	English elective course between 200-329	3.0	
	Elective	3.0	

Science req	Science requirements		
BIO 102	Bioscience I	4.0	
BIO 104	Bioscience II	4.0	
CHEM 101	General Chemistry I	4.0	
CHEM 102	General Chemisty II	4.0	
ENVR 272	Physical Geology	4.0	
ENVR 270	History of Life on Earth	4.0	
ENVR 284 V	VI Ecology I: Physiological and Population Ecology	5.0	
ENVR 286 WI	Ecology II: Communities and Ecosystems	5.0	
ENVR 260	Environmental Science and Society	3.0	
ENVR 261	Environmental Science and Society Laboratory	1.0	

<b>ENVR 310</b>	Environmental Data Analysis	3.0
ENVR 330	Aquatic Ecology	3.0
ENVR 390	Marine Ecology	3.0
PHEV 141 W	Atmospheric Science I: Climate and Global Change	3.0
PHEV 142 W	Atmospheric Science I Laboratory	1.0
PHEV 143	Atmospheric Science II	3.0
PHEV 144 W	Atmospheric Science II Laboratory	1.0
PHEV 441	Issues in Global Change I: Seminar	2.0
PHYS 111	Physics I	4.5
PHYS 112	Physics II	4.5
PHYS 131 W	Survey of the Universe	3.0

Education re	Credits	
EDUC 105	Freshman Seminar	3.0
EDUC 112	Integrative Instruction	3.0
EDUC 114	Science Teaching Methods	3.0
EDUC 205	Sophomore Seminar	3.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 218	Math: Methods and Content	3.0
EDUC 301	Introduction to Personalized System of Instruction	3.0
EDUC 305	Junior Seminar	2.0
EDUC 310	Computer Applications in Teaching	3.0
EDUC 320 WI	Professional Studies in Instruction	9.0
EDUC 322	Evaluation of Instruction	4.0
<b>EDUC 323 W</b>	Uniagnostic Teaching	4.0
EDUC 324	Current Research in Curriculum and Instruction	3.0
EDUC 325	Multimedia in Instructional Design	3.0
<b>EDUC 326 W</b>	Language Arts Processes	3.0
EDUC 327	Learning Disabilities	3.0
EDUC 405	Senior Seminar	2.0
Student tead	hing experience	

#### FDUC 412 WI Student Teaching

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Writing-Intensive Course Requirements

In order to graduate, all students beginning with the entering class of 2002/01 (fall, 2002) 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**

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#### **Recommended Plan of Study**

#### **BS** Education

**PSY 320** 

**Educational Psychology** 

#### **Environmental Education Certification**

Bachelor of Sc	4-yr non-co-op		
Term 1		Credits	
EDUC 105	Freshman Seminar	1.0	
EDUC 310	Computer Applications in Teaching	3.0	
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	
CHEM 101	General Chemistry I	4.0	
EDUC 105	Freshman Seminar	1.0	
EDUC 301	Introduction to Personalized System of Instruction	3.0	
ENGL 102	Persuasive Writing and Reading	3.0	
MATH 122	Calculus II	4.0	
<u>UNIV 101</u>	The Drexel Experience	1.0	
	Term credits	16.0	
Term 3		Credits	
CHEM 102	General Chemistry II	4.0	
EDUC 105	Freshman Seminar	1.0	
EDUC 112	Integrative Instruction	3.0	
EDUC 324	Current Research in Curriculum and Instruction	3.0	
ENGL 103	Analytical Writing and Reading	3.0	
MATH 123	Calculus III	4.0	
T 4	Term credits	18.0	
Term 4 BIO 102	Piology I. Calle and Ticques	Credits	
EDUC 205	Biology I: Cells and Tissues	4.0 1.0	
EDUC 326 WI	Sophomore Seminar  Language Arts Processes	3.0	
HIST 280	History of Science I	3.0	
PHYS 111	Physics I	4.5	
	Term credits	15.5	
Term 5	rom ordato	Credits	
BIO 104	Biology II: Growth and Heredity	4.0	
EDUC 205	Sophomore Seminar	1.0	
EDUC 218	Math: Methods and Content	3.0	
ENVR 260	Environmental Science and Society I	3.0	
PHYS 112	Physics II	4.5	
ENVR 261	Environmental Science and Society I Lab	1.0	
	Term credits	16.5	
Term 6		Credits	
ECON 201	Economics I	4.0	
EDUC 205	Sophomore Seminar	1.0	
EDUC 216	Diversity and Today's Teacher	3.0	

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#### **Apply Online**

Term 7		English course between 200-329	3.0
EDUC 305		Term credits	14.0
EDUC 327         Learning Disabilities         3.1           ENVR 284 WI         Ecology I: Physiological and Population Ecology         5.5           PHEV 142 WI         Atmospheric Science I Laboratory         1.1           PHIL 251         Ethics         3.1           PHYS 131 WI         Survey of the Universe         3.1           PHEV 141 WI         Atmospheric Science I: Climate and Global Change         3.1           Term 8         Credit           EDUC 305         Junior Seminar         1.1           EDUC 305         Junior Seminar         1.1           EDUC 302         Evaluation of Instruction         4.1           ENVR 286 WI         Ecology II: Communities and Ecosystems         5.1           PHEV 143         Atmospheric Science II         3.3           PHEV 144 WI         Atmospheric Science II Laboratory         1.1           ENVR 272         Physical Geology         4.1           Term 9         Credit           EDUC 114         Science Teaching Methods         3.1           EDUC 320 WI         Professional Studies in Instruction         9.1           EDUC 325         Multimedia in Instructional Design         3.1           Term 10         Credit           EDUC 323 WI	Term 7		Credits
ENVR 284 WI         Ecology I: Physiological and Population Ecology         5.           PHEV 142 WI         Atmospheric Science I Laboratory         1.           PHIL 251         Ethics         3.           PHSV 131 WI         Survey of the Universe         3.           PHEV 141 WI         Atmospheric Science I: Climate and Global Change         3.           Term 8         Credit           EDUC 305         Junior Seminar         1.           EDUC 302         Evaluation of Instruction         4.           ENVR 286 WI         Ecology II: Communities and Ecosystems         5.           PHEV 143         Atmospheric Science II Laboratory         1.           ENVR 272         Physical Geology         4.           ENVR 272         Physical Geology         4.           EDUC 114         Science Teaching Methods         3.           EDUC 320 WI         Professional Studies in Instruction         9.           EDUC 325         Multimedia in Instructional Design         3.           Term 10         Credit           EDUC 323 WI         Diagnostic Teaching         4.           EDUC 405         Senior Seminar         1.           ENVR 310         Environmental Data Analysis         3.           Term 1	EDUC 305	Junior Seminar	1.0
PHEV 142 W  Atmospheric Science I Laboratory		Learning Disabilities	3.0
PHIL 251         Ethics         3.3           PHYS 131 WI         Survey of the Universe         3.9           PHEV 141 WI         Atmospheric Science I: Climate and Global Change         3.9           Term 8         Credit           EDUC 305         Junior Seminar         1.1           EDUC 322         Evaluation of Instruction         4.1           ENVR 286 WI         Ecology II: Communities and Ecosystems         5.1           PHEV 143         Atmospheric Science II         3.1           PHEV 144 WI         Atmospheric Science II Laboratory         1.1           ENVR 272         Physical Geology         4.1           EDUC 114         Science Teaching Methods         3.1           EDUC 114         Science Teaching Methods         3.1           EDUC 320 WI         Professional Studies in Instruction         9.2           EDUC 325         Multimedia in Instructional Design         3.5           Term 10         Credit           EDUC 323 WI         Diagnostic Teaching         4.1           EDUC 405         Senior Seminar         1.1           ENVR 330         Aquatic Ecology         3.3           PHEV 441         Issues in Global Change I: Seminar         2.1           ENVR 310	ENVR 284 WI	Ecology I: Physiological and Population Ecology	5.0
PHYS 131 W  Survey of the Universe   3.3	PHEV 142 WI	Atmospheric Science I Laboratory	1.0
PHEV 141 WI	PHIL 251	Ethics	3.0
Term credits         19.           Term 8         Credit           EDUC 305         Junior Seminar         1.           EDUC 322         Evaluation of Instruction         4.           ENVR 286 WI         Ecology II: Communities and Ecosystems         5.           PHEV 143         Atmospheric Science II         3.           PHEV 144 WI         Atmospheric Science II Laboratory         1.           ENVR 272         Physical Geology         4.           Term 2         Credit           EDUC 114         Science Teaching Methods         3.           EDUC 320 WI         Professional Studies in Instruction         9.           EDUC 325         Multimedia in Instructional Design         3.           Term credits         15.           Term 10         Credit           EDUC 323 WI         Diagnostic Teaching         4.           EDUC 405         Senior Seminar         1.           ENVR 330         Aquatic Ecology         3.           PHEV 441         Issues in Global Change I: Seminar         2.           ENVR 310         Environmental Data Analysis         3.           Term 12         Term credits         13.           Term 12	PHYS 131 WI	Survey of the Universe	3.0
Term 8         Credit           EDUC 305         Junior Seminar         1.1           EDUC 322         Evaluation of Instruction         4.4           ENVR 286 WI         Ecology II: Communities and Ecosystems         5.5           PHEV 143         Atmospheric Science II         3.4           PHEV 144 WI         Atmospheric Science II Laboratory         1.1           ENVR 272         Physical Geology         4.1           Term 2         Term credits         18.           Term 9         Credit           EDUC 114         Science Teaching Methods         3.           EDUC 320 WI         Professional Studies in Instruction         9.           EDUC 325         Multimedia in Instructional Design         3.           Term credits         15.           Term 10         Credit           EDUC 323 WI         Diagnostic Teaching         4.           EDUC 405         Senior Seminar         1.           ENVR 330         Aquatic Ecology         3.           PHEV 441         Issues in Global Change I: Seminar         2.           ENVR 310         Environmental Data Analysis         3.           Term 12         Term credits         13.           Term 12         Term cr	PHEV 141 WI	Atmospheric Science I: Climate and Global Change	3.0
EDUC 305		Term credits	19.0
EDUC 322         Evaluation of Instruction         4.9           ENVR 286 WI         Ecology II: Communities and Ecosystems         5.0           PHEV 143         Atmospheric Science II         3.0           PHEV 144 WI         Atmospheric Science II Laboratory         1.1           ENVR 272         Physical Geology         4.1           Term 9         Credit           EDUC 114         Science Teaching Methods         3.1           EDUC 320 WI         Professional Studies in Instruction         9.1           EDUC 325         Multimedia in Instructional Design         3.1           Term credits         15.           Term 10         Credit           EDUC 323 WI         Diagnostic Teaching         4.1           EDUC 405         Senior Seminar         1.           ENVR 330         Aquatic Ecology         3.1           PHEV 441         Issues in Global Change I: Seminar         2.1           ENVR 310         Environmental Data Analysis         3.3           Term credits         13.           Term 1         Credit           EDUC 412 WI         Student Teaching         12.           Term 12         Credit           EDUC 405         Senior Seminar         1.     <			Credits
ENVR 286 WI         Ecology II: Communities and Ecosystems         5.5           PHEV 143         Atmospheric Science II         3.3           PHEV 144 WI         Atmospheric Science II Laboratory         1.5           ENVR 272         Physical Geology         4.5           Term 9         Credit           EDUC 114         Science Teaching Methods         3.3           EDUC 320 WI         Professional Studies in Instruction         9.1           EDUC 325         Multimedia in Instructional Design         3.3           Term credits         15.           Term 10         Credit           EDUC 323 WI         Diagnostic Teaching         4.1           EDUC 405         Senior Seminar         1.1           ENVR 330         Aquatic Ecology         3.1           PHEV 441         Issues in Global Change I: Seminar         2.1           ENVR 310         Environmental Data Analysis         3.1           Term credits         13.           Term 11         Credit           EDUC 412 WI         Student Teaching         12.           Term 12         Credit           EDUC 405         Senior Seminar         1.           EDUC 405         Senior Seminar         1.      <	EDUC 305	Junior Seminar	1.0
PHEV 143	EDUC 322	Evaluation of Instruction	4.0
PHEV 144 W  Atmospheric Science II Laboratory	ENVR 286 WI	Ecology II: Communities and Ecosystems	5.0
ENVR 272	PHEV 143	Atmospheric Science II	3.0
Term credits         18.           Term 9         Credit           EDUC 114         Science Teaching Methods         3.           EDUC 320 WI         Professional Studies in Instruction         9.           EDUC 325         Multimedia in Instructional Design         3.           Term credits         15.         Credit           EDUC 323 WI         Diagnostic Teaching         4.           EDUC 405         Senior Seminar         1.           ENVR 330         Aquatic Ecology         3.           PHEV 441         Issues in Global Change I: Seminar         2.           ENVR 310         Environmental Data Analysis         3.           Term credits         13.           Term 11         Credit           EDUC 412 WI         Student Teaching         12.           Term 12         Credit           EDUC 405         Senior Seminar         1.           EDUC 405         Senior Seminar         1.           EDUC 405         Senior Seminar         1.           EDUC 405         Senior Seminar         3.           EDUC 405         Senior Seminar         1.           EDUC 405         Senior Seminar         3.           EDUC	PHEV 144 WI	Atmospheric Science II Laboratory	1.0
Term 9         Credit           EDUC 114         Science Teaching Methods         3.9           EDUC 320 WI         Professional Studies in Instruction         9.9           EDUC 325         Multimedia in Instructional Design         3.9           Term credits         15.           Term 10         Credit           EDUC 323 WI         Diagnostic Teaching         4.9           EDUC 405         Senior Seminar         1.0           ENVR 330         Aquatic Ecology         3.9           PHEV 441         Issues in Global Change I: Seminar         2.0           ENVR 310         Environmental Data Analysis         3.0           Term credits         13.           Term 11         Credit           EDUC 412 WI         Student Teaching         12.0           Term 12         Credit           EDUC 405         Senior Seminar         1.0           EDUC 405         Senior Seminar         1.0           ENVR 390         Marine Ecology         3.0           HIST 285         Technology in Historical Perspective         3.0	ENVR 272	Physical Geology	4.0
EDUC 114         Science Teaching Methods         3.           EDUC 320 WI         Professional Studies in Instruction         9.           EDUC 325         Multimedia in Instructional Design         3.           Term credits         15.           Term 10         Credit           EDUC 323 WI         Diagnostic Teaching         4.           EDUC 405         Senior Seminar         1.           ENVR 330         Aquatic Ecology         3.           PHEV 441         Issues in Global Change I: Seminar         2.           ENVR 310         Environmental Data Analysis         3.           Term credits         13.           Term 11         Credit           EDUC 412 WI         Student Teaching         12.           Term 12         Credit           EDUC 405         Senior Seminar         1.           ENVR 390         Marine Ecology         3.           HIST 285         Technology in Historical Perspective         3.		Term credits	18.0
Professional Studies in Instruction   9.0			Credits
Term credits   15.		Science Teaching Methods	3.0
Term credits         15.           Term 10         Credit           EDUC 323 WI         Diagnostic Teaching         4.           EDUC 405         Senior Seminar         1.           ENVR 330         Aquatic Ecology         3.           PHEV 441         Issues in Global Change I: Seminar         2.           ENVR 310         Environmental Data Analysis         3.           Term credits         13.           Term 11         Credit           EDUC 412 WI         Student Teaching         12.           Term 22         Credit           EDUC 405         Senior Seminar         1.           EDUC 405         Senior Seminar         1.           ENVR 390         Marine Ecology         3.           HIST 285         Technology in Historical Perspective         3.	EDUC 320 WI	Professional Studies in Instruction	9.0
Term 10         Credit           EDUC 323 WI         Diagnostic Teaching         4.0           EDUC 405         Senior Seminar         1.0           ENVR 330         Aquatic Ecology         3.0           PHEV 441         Issues in Global Change I: Seminar         2.0           ENVR 310         Environmental Data Analysis         3.0           Term credits         13.           Term 11         Credit           EDUC 412 WI         Student Teaching         12.0           Term 12         Credit           EDUC 405         Senior Seminar         1.0           ENVR 390         Marine Ecology         3.0           HIST 285         Technology in Historical Perspective         3.0	EDUC 325	Multimedia in Instructional Design	3.0
EDUC 323 WI         Diagnostic Teaching         4.           EDUC 405         Senior Seminar         1.           ENVR 330         Aquatic Ecology         3.           PHEV 441         Issues in Global Change I: Seminar         2.           ENVR 310         Environmental Data Analysis         3.           Term credits         13.           Term 11         Credit           EDUC 412 WI         Student Teaching         12.           Term 2         Credit           EDUC 405         Senior Seminar         1.           ENVR 390         Marine Ecology         3.           HIST 285         Technology in Historical Perspective         3.		Term credits	15.0
EDUC 405         Senior Seminar         1.0           ENVR 330         Aquatic Ecology         3.0           PHEV 441         Issues in Global Change I: Seminar         2.0           ENVR 310         Environmental Data Analysis         3.0           Term credits         13.           Term 11         Credit           EDUC 412 WI         Student Teaching         12.0           Term 12         Credit           EDUC 405         Senior Seminar         1.0           ENVR 390         Marine Ecology         3.0           HIST 285         Technology in Historical Perspective         3.0			Credits
ENVR 330         Aquatic Ecology         3.           PHEV 441         Issues in Global Change I: Seminar         2.           ENVR 310         Environmental Data Analysis         3.           Term credits         13.           Term 11         Credits           EDUC 412 WI         Student Teaching         12.           Term credits         12.           Term 12         Credits           EDUC 405         Senior Seminar         1.           ENVR 390         Marine Ecology         3.           HIST 285         Technology in Historical Perspective         3.			4.0
PHEV 441         Issues in Global Change I: Seminar         2.0           ENVR 310         Environmental Data Analysis         3.1           Term credits         13.           Term 11         Credit           EDUC 412 WI         Student Teaching         12.           Term 12         Credit           EDUC 405         Senior Seminar         1.           ENVR 390         Marine Ecology         3.           HIST 285         Technology in Historical Perspective         3.	EDUC 405	Senior Seminar	1.0
ENVR 310         Environmental Data Analysis         3.0           Term credits         13.           Term 11         Credit           EDUC 412 WI         Student Teaching         12.           Term credits         12.           Term 12         Credit           EDUC 405         Senior Seminar         1.0           ENVR 390         Marine Ecology         3.0           HIST 285         Technology in Historical Perspective         3.0	ENVR 330	Aquatic Ecology	3.0
Term credits         13.           Term 11         Credit           EDUC 412 WI         Student Teaching         12.           Term credits         12.           Term 12         Credit           EDUC 405         Senior Seminar         1.           ENVR 390         Marine Ecology         3.           HIST 285         Technology in Historical Perspective         3.	PHEV 441	Issues in Global Change I: Seminar	2.0
Term 11         Credit           EDUC 412 WI         Student Teaching         12.           Term credits         12.           Term 12         Credit           EDUC 405         Senior Seminar         1.           ENVR 390         Marine Ecology         3.           HIST 285         Technology in Historical Perspective         3.	ENVR 310	Environmental Data Analysis	3.0
EDUC 412 WI         Student Teaching         12.           Term credits         12.           Term 12         Credit           EDUC 405         Senior Seminar         1.           ENVR 390         Marine Ecology         3.           HIST 285         Technology in Historical Perspective         3.		Term credits	13.0
Term credits         12.           Term 12         Credit           EDUC 405         Senior Seminar         1.1           ENVR 390         Marine Ecology         3.1           HIST 285         Technology in Historical Perspective         3.1			Credits
Term 12         Credit           EDUC 405         Senior Seminar         1.0           ENVR 390         Marine Ecology         3.0           HIST 285         Technology in Historical Perspective         3.0	EDUC 412 WI		12.0
EDUC 405         Senior Seminar         1.0           ENVR 390         Marine Ecology         3.0           HIST 285         Technology in Historical Perspective         3.0	_	Term credits	12.0
ENVR 390 Marine Ecology 3.0 HIST 285 Technology in Historical Perspective 3.0			
HIST 285 Technology in Historical Perspective 3.4			1.0
			3.0
ENVR 270 History of Life on Earth 4.			3.0
	ENVR 270		4.0
			3.0
Term credits 14.		Term credits	14.0

Total credits (minimum)



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- Media Arts & Design
- Nursing and Health
- Biomedical Engineering
- Goodwin Professional
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#### **General Science Certification**

Bachelor of Science: 188.0 credits (Certification is for grades 7 - 12)

#### **Degree Requirements**

General ed	Credits		
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	Educational Psychology	3.0	
<u>UNIV 101</u>	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	

<sup>\*</sup>HIST 281-294.

#### Science requirements

BIO 102	Bioscience I	4.0
BIO 104	Bioscience II	4.0
<u>CHEM 101</u>	General Chemistry I	4.0
CHEM 102	General Chemistry II	4.0
CHEM 103	General Chemistry III	5.0
ENVR 272	Physical Geology	4.0
ENVR 270	History of Life on Earth	4.0
ENVR 284 W	Ecology I: Physiological and Population Ecology	5.0
ENVR 286 WI	Ecology II: Communities and Ecosystems	5.0
ENVR 390	Marine Ecology	3.0
PHEV 141 W	/ Atmospheric Science I: Climate and Global Change	3.0
PHYS 111	Physics I	4.5
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PHYS 112	Physics II	4.5
PHYS 131 V	VI Survey of the Universe	3.0
Education	requirements	
EDUC 105	Freshman Seminar	3.0
EDUC 112	Integrative Instruction	3.0
EDUC 114	Science Teaching Methods	3.0
EDUC 205	Sophomore Seminar	3.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 218	Math: Methods and Content	3.0
EDUC 301	Introduction to Personalized System of Instruction	3.0
EDUC 305	Junior Seminar	2.0
EDUC 310	Computer Applications in Teaching	3.0
EDUC 320 WI	Professional Studies in Instruction	9.0
EDUC 322	Evaluation of Instruction	4.0
EDUC 323 \	<u>VI</u> Diagnostic Teaching	4.0
EDUC 324	Current Research in Curriculum and Instruction	3.0
EDUC 325	Multimedia in Instructional Design	3.0
EDUC 326 \	<u> </u>	3.0
EDUC 327	Learning Disabilities	3.0
EDUC 405	Senior Seminar	2.0
Student tea	nching experience	
EDUC 412 \	VI Student Teaching	12.0

#### Writing-Intensive Course Requirements

In order to graduate, all students beginning with the entering class of 2002/01 (fall, 2002) 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 indicates that this course can fulfill a writing-intensive requirement. Departments will designate specific sections of such courses as writing-intensive. Sections of writing-intensive courses are not indicated in this catalog. Students should check the section comments in Banner when registering. Students scheduling their courses in Banner can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term. For more information on writing-intensive courses, see the Drexel University Writing Program's Writing-Intensive Course page.



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### Recommended Plan of Study

#### **BS Education**

#### **General Science Certification**

noc oci inication	
ience Degree	4-yr non-co-op
	Credits
Freshman Seminar	1.0
Computer Applications in Teaching	3.0
Expository Writing and Reading	3.0
Calculus I	4.0
General Psychology I	3.0
The Drexel Experience	1.0
Term credits	15.0
	Credits
General Chemistry I	4.0
Freshman Seminar	1.0
Introduction to Personalized System of Instruction	3.0
Persuasive Writing and Reading	3.0
Calculus II	4.0
The Drexel Experience	1.0
Term credits	16.0
	Credits
General Chemistry II	4.0
Freshman Seminar	1.0
Integrative Instruction	3.0
Current Research in Curriculum and Instruction	3.0
Analytical Writing and Reading	3.0
Calculus III	4.0
Term credits	18.0
	Credits
Biology I: Cells and Tissues	4.0
Sophomore Seminar	1.0
Language Arts Processes	3.0
History of Science I	3.0
Physics I	4.5
Term credits	15.5
	Credits
Biology II: Growth and Heredity	4.0
Sophomore Seminar	1.0
Diversity and Today's Teacher	3.0
Math: Methods and Content	3.0
Physics II	4.5
Term credits	15.5
	Credits
-	5.0
Sophomore Seminar	1.0
	3.0
	3.0
	3.0
I erm credits	15.0
	Freshman Seminar Computer Applications in Teaching Expository Writing and Reading Calculus I General Psychology I The Drexel Experience Term credits  General Chemistry I Freshman Seminar Introduction to Personalized System of Instruction Persuasive Writing and Reading Calculus II The Drexel Experience Term credits  General Chemistry II Freshman Seminar Integrative Instruction Current Research in Curriculum and Instruction Analytical Writing and Reading Calculus III Term credits  Biology I: Cells and Tissues Sophomore Seminar Language Arts Processes History of Science I Physics I Term credits  Biology II: Growth and Heredity Sophomore Seminar Diversity and Today's Teacher Math: Methods and Content Physics II Term credits  General Chemistry III

1	HIST 281-HIST 294.	
Term 7		Credits
EDUC 305	Junior Seminar	1.0
EDUC 327	Learning Disabilities	3.0
ENVR 284 WI	Ecology I: Physiological and Population Ecology	5.0
PHIL 251	Ethics	3.0
PHYS 131 WI	Survey of the Universe	3.0
	Science, Technology, and Human Affairs elective <sup>1</sup>	3.0
	Term credits	18.0
1	HIST 281-HIST 294.	
Term 8		Credits
EDUC 305	Junior Seminar	1.0
EDUC 322	Evaluation of Instruction	4.0
ENVR 286 WI	Ecology II: Communities and Ecosystems	5.0
ENVR 272	Physical Geology	4.0
	Elective	3.0
	Term credits	17.0
Term 9		Credits
EDUC 114	Science Teaching Methods	3.0
EDUC 320 WI	Professional Studies in Instruction	9.0
EDUC 325	Multimedia in Instructional Design	3.0
	Term credits	15.0
Term 10		Credits
EDUC 323 WI	Diagnostic Teaching	4.0
EDUC 405	Senior Seminar	1.0
PSY 320_	Educational Psychology	3.0
PHEV 141 WI	Atmospheric Science I: Climate and Global Change	3.0
	Two electives	6.0
	Term credits	17.0
Term 11		Credits
EDUC 412 WI	Student Teaching	12.0
	Term credits	12.0
Term 12		Credits
EDUC 405	Senior Seminar	1.0
ENVR 390	Marine Ecology	3.0
ENVR 270_	History of Life on Earth	4.0
	Two electives	6.0
	Term credits	14.0

Total credits (minimum)



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#### **Mathematics Certification**

Bachelor of Science: 183.0 credits (Certification is for grades 7 - 12)

#### **Degree Requirements**

General edu	General education requirements	
ECON 201	Principles of Economics I	4.0
HIST 280	History of Science I	3.0
INFO 108	Foundations of Software	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
PHIL 251	Ethics	3.0
PSY 101	General Psychology I	3.0
PSY 320	Educational Psychology	3.0
<u>UNIV 101</u>	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	Calculus IV	4.0
MATH 201	Linear Algebra	4.0
MATH 210	Differential Equations	4.0
MATH 220	Techniques of Mathematical Proof	3.0
MATH 221	Discrete Mathematics	3.0
MATH 311	Probability and Statistics I	4.0

#### Science requirements

BIO 102	Bioscience I	4.0
BIO 104	Bioscience II	4.0
CHEM 101	General Chemistry I	4.0

Conordi Chemeny II	
Environmental Science and Society	3.0
Physics I	4.5
Physics II	4.5
equirements	
Freshman Seminar	3.0
Integrative Instruction	3.0
Science Teaching Methods	3.0
Sophomore Seminar	3.0
Diversity and Today's Teacher	3.0
Math: Methods and Content	3.0
Introduction to Personalized System of Instruction	3.0
Junior Seminar	2.0
Computer Applications in Teaching	3.0
Professional Studies in Instruction	9.0
Evaluation of Instruction	4.0
<u>√</u> Diagnostic Teaching	4.0
Current Research in Curriculum and Instruction	3.0
Multimedia in Instructional Design	3.0
<u>√</u> Language Arts Processes	3.0
Learning Disabilities	3.0
Senior Seminar	2.0
ching experience	
VI Student Teaching	12.0
	Physics I Physics II  equirements  Freshman Seminar Integrative Instruction Science Teaching Methods Sophomore Seminar Diversity and Today's Teacher Math: Methods and Content Introduction to Personalized System of Instruction Junior Seminar Computer Applications in Teaching Professional Studies in Instruction Evaluation of Instruction Diagnostic Teaching Current Research in Curriculum and Instruction Multimedia in Instructional Design Language Arts Processes Learning Disabilities Senior Seminar

#### Writing-Intensive Course Requirements

**CHEM 102** 

**General Chemistry II** 

In order to graduate, all students beginning with the entering class of 2002/01 (fall, 2002) 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 Education**

#### **Mathematics Certification**

Bachelor of Science Degree		4-yr non-co-op
Term 1		Credits
EDUC 105	Freshman Seminar	1.0
EDUC 310	Computer Applications in Teaching	3.0
ENGL 101	Expository Writing and Reading	3.0
MATH 121	Calculus I	4.0
PSY 101	General Psychology I	3.0
<u>UNIV 101</u>	The Drexel Experience	1.0
	Term credits	15.0
Term 2		Credits
EDUC 105	Freshman Seminar	1.0
EDUC 301	Introduction to Personalized System of Instruction	3.0
ENGL 102	Persuasive Writing and Reading	3.0
MATH 122	Calculus II	4.0
INFO 108	Foundations of Software	4.0
UNIV 101	The Drexel Experience	1.0
	Term credits	16.0
Term 3		Credits
EDUC 105	Freshman Seminar	1.0
EDUC 112	Integrative Instruction	3.0
EDUC 324	Current Research in Curriculum and Instruction	3.0
ENGL 103	Analytical Writing and Reading	3.0
MATH 123	Calculus III	4.0
	Elective	3.0
_	Term credits	17.0
Term 4	B: 1	Credits
BIO 102	Biology I: Cells and Tissues	4.0
EDUC 205	Sophomore Seminar	1.0
EDUC 326 WI	Language Arts Processes	3.0
HIST 280	History of Science I	3.0
MATH 200	Calculus IV	4.0
Term 5	Term credits	15.0 Credits
BIO 104	Biology II: Growth and Heredity	4.0
EDUC 205	Sophomore Seminar	1.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 218	Math: Methods and Content	3.0
MATH 201	Linear Algebra	4.0
WATTI ZOT	Term credits	15.0
Term 6	Term creaks	Credits
ECON 201	Economics I	4.0
EDUC 205	Sophomore Seminar	1.0
EDUC 428	Cultural and Historical Significance of Math	3.0
PSY 320	Educational Psychology	3.0
	English course between 200-329	3.0
	Term credits	14.0
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Term 7		Credits
CHEM 101	General Chemistry I	4.0
EDUC 305	Junior Seminar	1.0
EDUC 327	Learning Disabilities	3.0
MATH 220	Techniques of Proof	3.0
PHYS 111	Physics I	4.5
	Term credits	15.5
Term 8		Credits
CHEM 102	General Chemistry II	4.0
EDUC 305	Junior Seminar	1.0
EDUC 322	Evaluation of Instruction	4.0
MATH 210	Differential Equations	4.0
PHYS 112	Physics II	4.5
	Term credits	17.5
Term 9		Credits
EDUC 114	Science Teaching Methods	3.0
EDUC 320 WI	Professional Studies in Instruction	9.0
EDUC 325	Multimedia in Instructional Design	3.0
MATH 221	Discrete Mathematics	3.0
	Term credits	18.0
Term 10		Credits
EDUC 323 WI	Diagnostic Teaching	4.0
EDUC 405	Senior Seminar	1.0
ENVR 260	Environmental Science and Society I	3.0
MATH 311	Probability and Statistics I	4.0
PHIL 251	Ethics	3.0
	Term credits	15.0
Term 11		Credits
EDUC 412 WI	Student Teaching	12.0
	Term credits	12.0
Term 12		Credits
EDUC 405	Senior Seminar	1.0
	Four electives	12.0
	Term credits	13.0
	Total credits (minimum)	183.0



- All majors
- All minors
- Arts and Sciences
- Business
- Education
- Engineering
- Information Science and Technology
- Media Arts & Design
- Nursing and Health
- Biomedical Engineering
- Goodwin Professional
- ROTC

#### **Graduate Catalog**

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- Nursing and Health
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- Biomedical Engineering
- Public Health

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#### **Prospective Students**

#### **Apply Online**

## **Drexel University**

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### **Physics Certification**

Bachelor of Science: 181.5 credits (Certification is for grades 7 - 12)

#### **Degree Requirements**

General education requirements		Credit
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
MATH 200	Calculus IV	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	Educational Psychology	3.0
<u>UNIV 101</u>	The Drexel Experience	2.0
	English elective course between 200-329	3.0

#### Science requirements

BIO 102	Bioscience I	4.0
BIO 104	Bioscience II	4.0
CHEM 101	General Chemistry I	4.0
CHEM 102	General Chemistry II	4.0
ENVR 260	Environmental Science and Society	3.0
PHEV 141 WI	Atmospheric Science I: Climate and Global Change	3.0
PHYS 111	Physics I	4.5
PHYS 112	Physics II	4.5
PHYS 131 WI	Survey of the Universe	3.0
PHYS 211	Physics III	4.5
PHYS 222	Modern Physics	4.0
PHYS 311	Classical Mechanics I	4.0

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PHYS 316	Thermodynamics	4.0
PHYS 321	Electromagnetic Fields I	4.0
PHYS 326	Quantum Mechanics I	4.0
Education requ	uirements	
EDUC 112	Integrative Instruction	3.0
EDUC 114	Science Teaching Methods	3.0
EDUC 205	Sophomore Seminar	3.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 218	Math: Methods and Content	3.0
EDUC 301	Introduction to Personalized System of Instruction	3.0
EDUC 305	Junior Seminar	2.0
EDUC 310	Computer Applications in Teaching	3.0
EDUC 320 WI	Professional Studies in Instruction	9.0
EDUC 322	Evaluation of Instruction	4.0
EDUC 323 WI	Diagnostic Teaching	4.0
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 327	Learning Disabilities	3.0
EDUC 405	Senior Seminar	2.0
Student teachi	ng experience	
EDUC 412 WI	Student Teaching	12.0

#### Writing-Intensive Course Requirements

**PHYS 312** 

Classical Mechanics II

In order to graduate, all students beginning with the entering class of 2002/01 (fall, 2002) 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 indicates that this course can fulfill a writing-intensive requirement. Departments will designate specific sections of such courses as writing-intensive. Sections of writing-intensive courses are not indicated in this catalog. Students should check the section comments in Banner when registering. Students scheduling their courses in Banner can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term. For more information on writing-intensive courses, see the Drexel University Writing Program's Writing-Intensive Course page.



## **Drexel University**

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#### **Recommended Plan of Study**

#### **BS** Education

**PHIL 251** 

**Ethics** 

#### **Physics Certification**

5 / / 60		
Bachelor of Sc	eience Degree	4-yr non-co-op
Term 1		Credits
EDUC 105	Freshman Seminar	1.0
EDUC 310	Computer Applications in Teaching	3.0
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 Seminar	1.0
EDUC 301	Introduction to Personalized System of Instruction	3.0
ENGL 102	Persuasive Writing and Reading	3.0
MATH 122	Calculus II	4.0
PHYS 111	Physics I	4.5
UNIV 101	The Drexel Experience	1.0
	Term credits	16.5
Term 3		Credits
EDUC 105	Freshman Seminar	1.0
EDUC 112	Integrative Instruction	3.0
EDUC 324	Current Research in Curriculum and Instruction	3.0
ENGL 103	Analytical Writing and Reading	3.0
MATH 123	Calculus III	4.0
PHYS 112	Physics II	4.5
	Term credits	18.5
Term 4		Credits
BIO 102	Biology I: Cells and Tissues	4.0
EDUC 205	Sophomore Seminar	1.0
EDUC 326 WI	Language Arts Processes	3.0
HIST 280	History of Science I	3.0
MATH 200	Calculus IV	4.0
PHEV 141 WI	Atmospheric Science I: Climate and Global Change	3.0
	Term credits	18.0
Term 5		Credits
BIO 104	Biology II: Growth and Heredity	4.0
EDUC 205	Sophomore Seminar	1.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 218	Math: Methods and Content	3.0
PHYS 211	Physics III	4.5
MATH 201	Linear Algebra	4.0
	Term credits	19.5
Term 6		Credits
EDUC 205	Sophomore Seminar	1.0
MATH 210	Differential Equations	4.0
DUIL 251	Fabine	0.0

#### **Undergraduate Catalog**

- All majors
- All minors
- Arts and Sciences
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- Information Science and Technology
- Media Arts & Design
- Nursing and Health
- Biomedical Engineering
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#### **Graduate Catalog**

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#### **Prospective Students**

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PHYS 222	Modern Physics	4.0
PSY 330	Cognitive Psychology	3.0
	Term credits	15.0
Term 7		Credits
CHEM 101	General Chemistry I	4.0
EDUC 305	Junior Seminar	1.0
EDUC 327	Learning Disabilities	3.0
PHYS 131 WI	Survey of the Universe	3.0
	English course between 200-329	3.0
	Term credits	14.0
Term 8		Credits
CHEM 102	General Chemistry II	4.0
EDUC 305	Junior Seminar	1.0
EDUC 322	Evaluation of Instruction	4.0
PHYS 321_	Electromagnetic Fields I	4.0
	Term credits	13.0
Term 9		Credits
EDUC 320 WI	Professional Studies in Instruction	9.0
EDUC 325	Multimedia in Instructional Design	3.0
PHYS 312	Classical Mechanics II	4.0
	Term credits	16.0
Term 10		Credits
EDUC 323 WI	Diagnostic Teaching	4.0
EDUC 405	Senior Seminar	1.0
ENVR 260	Environmental Science and Society I	3.0
PHYS 217	Thermodynamics	4.0
	Term credits	12.0
Term 11		Credits
EDUC 412 WI	Student Teaching	12.0
	Term credits	12.0
Term 12		Credits
EDUC 114_	Science Teaching Methods	3.0
EDUC 405	Senior Seminar	1.0
PHYS 321	Electromagnetic Fields I	4.0
PHYS 326	Quantum Mechanics I	4.0
	Term credits	12.0

Total credits (minimum)