



Pittsburg State University  
**College of Arts and Sciences Program Guide**

Degree: Bachelor of Science  
 Major: Biology  
 Emphasis/Option: Cellular and Molecular Biology  
 Minor (if required):

As of Fall 2017

**Biology Core (30 hours)**

BIOL 211: Principles of Biology I .....	4
BIOL 212: Principles of Biology II .....	4
BIOL 311: Cell Biology .....	3
BIOL 322: Genetics .....	3
and BIOL 323: Genetics Laboratory .....	2
BIOL 330: Principles of Ecology .....	3
BIOL 371: General Microbiology .....	3
and BIOL 372: General Microbiology Laboratory .....	2
BIOL 699: Senior Seminar and Assessment. ....	1

**Upper Division Physiology (choose one)**

BIOL 656: Human Physiology .....	3
and BIOL 657: Human Physiology Laboratory .....	2
BIOL 675: Microbial Physiology .....	3
and BIOL 676: Microbial Physiology Laboratory .....	2
BIOL 685: Plant Physiology .....	3
and BIOL 686: Plant Physiology Laboratory .....	2

**Other Required Biology (7-9 hours)**

BIOL 550: Advanced Cellular and Molecular Biology .....	3
BIOL 551: Introduction to Recombinant DNA Techniques Laboratory .....	3
BIOL 602: Topics in Biology (____) .....	1-3

\* At least one credit hour is required for BIOL 602 and research must be done with faculty member.

**Other Biology Electives chosen from (11 hours)**

BIOL 570: Pathogenic Bacteriology .....	3
and BIOL 571: Pathogenic Bacteriology Laboratory .....	2
BIOL 572: General Virology .....	3
BIOL 650: Developmental Biology .....	3
BIOL 671: Immunology .....	3
and BIOL 672: Immunology Laboratory .....	2
BIOL 730: Evolution .....	3

**Required From Other Departments (33 hours)**

CHEM 215: General Chemistry I .....	3
and CHEM 216: General Chemistry I Laboratory .....	2
CHEM 225: General Chemistry II. ....	3
and CHEM 226: General Chemistry II Laboratory .....	2
CHEM 325: Organic Chemistry I. ....	3
and CHEM 326: Organic Chemistry Laboratory .....	2
CHEM 335: Organic Chemistry II. ....	3
and CHEM 336: Organic Chemistry II Laboratory .....	2
CHEM 575: Biochemistry I .....	3

**Choose from (10 hours)**

Choose from College Physics I and II or Engineering Physics I and II

PHYS 100: College Physics I .....	4
and PHYS 130: Elementary Physics Laboratory I .....	1
PHYS 101: College Physics II .....	4
and PHYS 131: Elementary Physics Laboratory II .....	1
PHYS 104: Engineering Physics I .....	4
and PHYS 130: Elementary Physics Laboratory I .....	1
PHYS 105: Engineering Physics II .....	4
or PHYS 131: Elementary Physics Laboratory II .....	1

Unrestricted electives (0-2 hours)  
 (to meet 124 hour minimum)

## GENERAL EDUCATION REQUIREMENTS

(38-42 hrs.)

### Basic Skills

12-13 hours

COMM	207	Speech Communication.....	3
ENGL	101	English Composition.....	3
ENGL	190	Honors English Composition.....	3
OR ENGL	299	Introduction to Research Writing.....	3

### Mathematics (Select one)

MATH	110	College Algebra with Review .....	5
MATH	113	College Algebra.....	3
MATH	126	Pre-Calculus.....	4
MATH	133	Quantitative Reasoning .....	3
MATH	143	Elementary Statistics .....	3

### Social Studies

3 hours

SOC	100	Introduction to Sociology .....	3
WGS	200	Introduction to Women's Studies .....	3

### Political Studies (Select one)

3 hours

POLS	101	U.S. Politics.....	3
POLS	103	Comparative Political Institutions .....	3

### Producing and Consuming

5-6 hours

(Select one from two of the following three categories)

#### Economy

ECON	191	Issues in Today's Economy .....	3
FCS	230	Consumer Ed. and Personal Finance .....	3

#### Technology

EET	247	Computer Programming for Electronic Sys. ....	3
GT	190	Introduction to Technological Systems.....	2
GT	350	Technology and Civilization. ....	3
EDTH	330	Technology for the Classroom .....	3
TE	551	Integrated Technology for Educators. ....	3
TM	350	Societal Influence of Technology .....	3

#### Business

ACCTG	201	Financial Accounting .....	3
CIS	130	Computer Information Systems .....	3
MGT	101	Introduction to Business .....	3
MGT	105	Introduction to Entrepreneurship.....	3

### Fine Arts and Aesthetic Studies (Select one)..... 2-3 hours

ART	155	Printmaking and Paper Arts .....	3
ART	178	Introduction to the Visual Arts.....	3
ART	188	The Designed World.....	3
ART	217	Crafts I.....	3
ART	222	Jewelry Design I .....	3
ART	233	Drawing I .....	3
ART	244	Ceramics I .....	3
ART	266	Sculpture I .....	3
ART	277	Painting I .....	3
ART	288	Introduction to Art History I .....	3
ART	289	Introduction to Art History II .....	3
ART	311	Art Education.....	3
ART	351	Printmaking, Papermaking, Bookarts and the Letterpress.....	3
ART	430	Automotive: Art and Design.....	3
COMM	105	Performance Appreciation .....	3
COMM	205	Performance Studies .....	3
COMM	295	Theatre History.....	3
ENGL	250	Introduction to Creative Writing.....	3

HHP	151	Dance Appreciation.....	3
MUSIC	120	Music Appreciation .....	3
MUSIC	121	Introduction to Music Literature .....	2

### Cultural Studies (Select one)

3 hours

ANTH	101	Introduction to Cultural Anthropology.....	3
MLL	114	Chinese Language and Culture I .....	3
MLL	124	French Language and Culture I .....	3
MLL	154	Spanish Language and Culture I .....	3
MLL	184	Russian Language and Culture I .....	3
MLL	194	Korean Language and Culture I.....	3
GEOG	106	World Regional Geography .....	3
GEOG	300	Elements of Geography .....	3
GEOG	304	Human Geography .....	3
WGS	399	Global Women's Issues.....	3

### Health and Well Being

4-6 hours

#### Psychological

PSYCH	155	General Psychology .....	3
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#### Physical (Select one)

FCS	203	Nutrition and Health.....	3
FCS	301	Nutrition.....	3
HHP	150	Lifetime Fitness Concepts. ....	1
NURS	303	Introduction to Public Health.....	3

### Human Heritage

6 hours

(Select one from two of the following three categories)

#### History

HIST	101	World History to 1500.....	3
HIST	102	World History from 1500.....	3
HIST	201	American History to 1865. ....	3
HIST	202	American History from 1865 .....	3

#### Literature

ENGL	113	General Literature. ....	3
ENGL	114	General Literature(Genre) .....	3
ENGL	116	General Literature(Theme).....	3
ENGL	120	Literature and Film .....	3
ENGL	315	Mythology.....	3
ENGL	320	Literature and Film .....	3

#### Philosophy

PHIL	103	Introduction to Philosophy. ....	3
PHIL	105	Ethics .....	3
PHIL	112	Biomedical Ethics.....	3
PHIL	113	Business Ethics.....	3
PHIL	114	Environmental Ethics.....	3
PHIL	207	Critical Thinking.....	3
PHIL	208	Logic .....	3
PHIL	231	World Religions.....	3

Notes \*\* General education sciences are satisfied by course requirements in biology (BIOL 211) and chemistry (CHEM 215/216)

\*\* Use MATH 150 Calculus I (Suggested) – General Education: Basic Skills

NOTE: The information contained herein is intended to be used for the planning of a student's academic program and does not constitute a contract. While this guide was prepared with the latest information, courses, graduation requirements, and curricula are subject to change.

When a student attains 85 semester hours of credit (including current enrollment) the student must apply for a degree check in the Office of the Registrar (Degree Checking Section), Room 102 Russ Hall.

**MINIMUM GENERAL REQUIREMENTS:** The minimum requirements for graduation include 124 semester hours of which 60 hours must be from a four year university. In addition, 45 semester hours must be upper division and 30 hours in residence at PSU (including 24 of the last 30). Minimum GPA for non-education degree is 2.0 overall [2.0 in major], secondary education degree is 2.5 overall [2.75 in major], and early/late childhood/unified degree is 2.80 overall [3.0 in major]. A minimum GPA of 2.0 in any minor and in residence coursework is required. General Education and all degree requirements are provided in the online catalog. Refer to individual departments for specific requirements.