

SPRINGFIELD COLLEGE

UNDERGRADUATE PROGRAM CHECKSHEET & SEQUENCING GUIDELINES

Biology Major (non-teaching)

2009-2010 Cohort

Name: _____	ID: _____	Date filled out: _____
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- First two pages of this document -- requirements for the undergraduate General Education Program.
- Subsequent pages -- requirements and course-sequencing guidelines for the Biology major, for students who matriculate to SC during the 2009-2010 academic year.
- Use this as a guide in selecting courses and fill in completely to track your progress toward graduation.
- Note that requirements are subject to change, and may not be offered when listed. Always confirm your plans with your advisor or chairperson.

General Education Program Requirements (customized for the BIOL major):

Course code Title Cr Sem/Yr * Grade Note

I. Competencies

1. College Writing (6 credits)

ENGL 113	College Writing I	3			<i>Required for all students</i>
ENGL 114	College Writing II	3			<i>Required for all students</i>

2. Writing Across the Curriculum (6 credits; one or both courses embedded in major requirements)

BIOL 280	Genetics	NA			<i>Record credits on major requirement line</i>
BIOL 315	General Microbiology	NA			

3. Computer Applications (3 credits)

		3			
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4. Information Literacy (3 credits -- this is embedded in major requirements)

II. Domains of Knowledge and Understanding

1. Arts and Humanities

A. Literary Studies (3 credits)

		3			
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B. Visual/Performing Arts (must total 3 credits)

C. Spiritual and Ethical Dimensions (3 credits)

		3			
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2. Analytical and Natural Sciences

A. Quantitative Reasoning (3 credits)

		3			<i>Two of the following are required for this major: MATH 125, 131, 140, 142 or 215</i>
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B. Natural Sciences (4 credits; lecture and lab)

BIOL 121	Bioscience I	3			<i>Required for major</i>
BIOL 123	Bioscience I Laboratory	1			

* e.g., F 09, S 10, or TR for transferred courses

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Note: Major requirements are broken down by the year typically taken, with a section for those that have flexible timing. Depending on which selectives you complete, major requirements for BIOL total **66 - 69 credits** (56 - 59 credits strictly for the major, plus 10 credits that overlap with GenEds).

Major Requirements -- typically taken during the FIRST YEAR:

Course code	Title	Cr	Sem/Yr	Grade	Note
BIOL 121	Bioscience I	NA			Record credits on GenEd page Fall only
BIOL 123	Bioscience I Laboratory	NA			
BIOL 122	Bioscience II	3			Prerequisite: BIOL 121 and 123 Spring only
BIOL 124	Bioscience II Laboratory	1			
CHEM 121	General Chemistry I	3			Fall only Students who are weak in math may wish to take CHEM 121-124 during their 2nd year
CHEM 123	General Chemistry I Laboratory	1			
CHEM 122	General Chemistry II	3			Prerequisite: CHEM 121 and 123 Spring only
CHEM 124	General Chemistry II Laboratory	1			
MATH ____		NA			Select from MATH 125, 131, 140, 142, or 215 (two of these are required for this major) Record credits for first course on GenEd page
MATH ____		3			

In addition, you should take the following **General Education requirements** your first year:

ENGL 113	College Writing I (Fall only)	GenEd requirements -- record on GenEd page
ENGL 114	College Writing II (Spring only)	

You may also wish to consider taking any of these (or other) **General Education requirements** your first year:

CISC ____	Computer Applications Competency	GenEd requirements -- record on GenEd page
HLTH 100	Wellness: A Way of Life	
.5 to 2 credits of PEAC courses (or PEAL credit)		

Major Requirements -- typically taken during the SECOND YEAR:

There are no major requirements specifically recommended for your second year. Select major requirements listed in the "flexible timing" section (page 4), General Education requirements (page 1), or allowable electives (page 6) to **total 30 credits for the year.**

Major Requirements -- typically taken during the THIRD YEAR:

There are no major requirements specifically recommended for your third year. Select major requirements listed in the "flexible timing" section, General Education requirements, or allowable electives to **total 30 credits for the year.**

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Major Requirements -- typically taken during the FOURTH YEAR:

Take any outstanding major requirements from the "flexible timing" section, outstanding General Education requirements, or necessary electives to **total a minimum of 120 credits earned for your career.**

Major Requirements -- flexible timing (note prerequisites):

Course code	Title	Cr	Sem/Yr	Grade	Note
BIOL 260	General Ecology	NA			Prerequisite: BIOL 121 - 124 and CHEM 121 - 124 <i>Can be taken any time after meeting prerequisites</i>
BIOL 261	General Ecology Laboratory	1			<i>Record credits for lecture on GenEd page</i>
BIOL 270	Plant Biology	3			Prerequisite: BIOL 121 - 124
BIOL 271	Plant Biology Laboratory	1			<i>Can be taken any time after meeting prerequisites</i>
BIOL 280	Genetics	3			Prerequisite: BIOL 121 - 124 and CHEM 121 - 124
BIOL 281	Genetics Laboratory	1			<i>Can be taken any time after meeting prerequisites</i>
BIOL 315	General Microbiology	3			Prerequisite: BIOL 121 - 124 and CHEM 121 - 124
BIOL 317	General Microbiology Laboratory	1			<i>Can be taken any time after meeting prerequisites</i>
BIOL 482	Seminar in Biology	3			Prerequisite: BIOL 121 - 124 and CHEM 121 - 124 <i>Can be taken 3rd or 4th year</i>
CHEM 221	Organic Chemistry I	3			Prerequisite: CHEM 121-124
CHEM 223	Organic Chemistry I Laboratory	1			<i>Typically taken 2nd or 3rd year, fall only (or 4th year, if necessary)</i>
CHEM 222	Organic Chemistry II	3			Prerequisite: CHEM 221 and 223
CHEM 224	Organic Chemistry II Laboratory	1			<i>Typically taken 2nd or 3rd year, spring only (or 4th year, if necessary)</i>
PHYS 210	General Physics I	4			Prerequisite: MATH 125, 131, 140, or 142
PHYS 212	General Physics I Laboratory	1			<i>Typically taken 2nd or 3rd year, fall only (or 4th year, if necessary)</i>
PHYS 211	General Physics II	4			Prerequisite: PHYS 210
PHYS 213	General Physics II Laboratory	1			<i>Typically taken 2nd or 3rd year, spring only (or 4th year, if necessary)</i>

*In addition, you must complete **three** of the following selectives, with labs, if applicable (total 9 - 12 credits):*

BIOL 230	Animal Biology (3 cr)				Prerequisite: BIOL 121 - 124 <i>Can be taken any time after meeting prerequisites</i>
BIOL 241	Developmental Biology (3 cr)				Prerequisite: BIOL 121-124, CHEM 121-124, CHEM 221-224
BIOL 242	Developmental Biology Laboratory (1 cr)				<i>Can be taken any time after meeting prerequisites</i>
BIOL 250	Human Anatomy and Physiology I (3 cr)				Prerequisite: BIOL 121 - 124 and CHEM 121 - 124
BIOL 252	Human Anatomy and Physiology I Laboratory (1 cr)				
BIOL 251	Human Anatomy and Physiology II (3 cr)				Prerequisite: BIOL 250 and 252
BIOL 253	Human Anatomy and Physiology II Laboratory (1 cr)				
BIOL 264	Flora of New England (3 cr)				Prerequisite: BIOL 121 - 124
BIOL 266	Flora of New England Laboratory (1 cr)				<i>Can be taken any time after meeting prerequisites</i>

Selectives continued on next page

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Selective options, continued

Course code	Title	Cr	Sem/Yr	Grade	Note
BIOL 265	Introductory Horticulture (3 cr)				
BIOL 267	Intro to Horticulture Laboratory (1 cr)				
BIOL 310	Evolution (3 cr)				Prerequisite: BIOL 121 - 124 Can be taken any time after meeting prerequisites
BIOL 311	Human Histology (3 cr)				Prerequisite: BIOL 121 - 124 and CHEM 121 - 124 Can be taken any time after meeting prerequisites
BIOL 312	Human Histology Laboratory (1 cr)				
BIOL 316	Applied Microbiology, Virology, and Immunology (3 cr)				Prerequisite: BIOL 121 - 124 and CHEM 121 - 124 Can be taken any time after meeting prerequisites
BIOL 318	Applied Microbiology, Virology, and Immunology Laboratory (1 cr)				
BIOL 408	Research Methods in Cell Biology (3 cr)				Prerequisite: BIOL 121 - 124 and CHEM 121 - 124 Can be taken 3rd or 4th year
BIOL 409	Research Methods in Cell Biology Laboratory (1 cr)				
BIOL 420	Cellular Physiology (3 cr)				Prerequisite: BIOL 121 - 124 and CHEM 121 - 124 Can be taken 3rd or 4th year
BIOL 421	Cellular Physiology Laboratory (1 cr)				
CHEM 331	Biological Chemistry (3 cr)				Prerequisite: CHEM 221 - 224 Can be taken any time after meeting prerequisites
CHEM 341	Analytical Chemistry (2 cr)				Prerequisite: CHEM 121 - 124 Can be taken any time after meeting prerequisites
CHEM 342	Analytical Chemistry Laboratory (2 cr)				
CHEM 351	Physical Chemistry with Biological Applications (3 cr)				Prerequisite: CHEM 121 - 124 Can be taken any time after meeting prerequisites
CHEM 352	Physical Chemistry with Biological Applications Laboratory (1 cr)				

APPROVED MAJOR REQUIREMENT MODIFICATIONS (if applicable):

Any substitution or waiver of the requirements listed above must be approved by the department chairperson. Documentation of that approval should also be kept in the student's departmental file.

Requirement	Modification	Date	Dept. chair signature

BIOL Major Standards:

As a Biology major, I understand that I must:

Earn a grade of C- or better in all courses required for the major, including selectives.

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Electives, to total a minimum of 120 credits:

You must earn a minimum of 120 credits to complete your degree. Depending on the GenEd courses and selectives chosen, you will need as many as **15 - 18 credits or more** to reach 120 credits. List those electives below (including courses for a minor, if you choose to complete one).

Course code	Title	Cr	Sem/Yr	Grade	Note

TOTAL CREDITS EARNED: _____ credits as of ____/____/____ (see transcript or course history to verify)

Undergraduate Degree Requirements:
 (Minimum standards for the College -- major standards may be higher)

- I have completed all General Education domains and competencies.
- I have completed a minimum of 40 credits of General Education coursework, without exceeding the overlap limit.
- I have completed a minimum of 120 credits (see transcript or course history to verify).
- I have a cumulative GPA of 2.000 or better (some majors may require a higher GPA).
- I have completed all required coursework for my major (see recommended year and flexible timing sections above).
- I have satisfied all program standards for this major (listed above and/or referenced in department publications).