

**Biotechnology Major (Bachelor of Science)****81 credits for major/128 credits for degree**

Requirements for students entering 2017-2018

NAME: \_\_\_\_\_

ADVISOR: \_\_\_\_\_

**Discovery Foundation Courses**

Description	Course	Source	Credits/Grade	Notes
First Year Writing (WS)	ENGL 401			Must be taken within first 32 credits
Quantitative Reasoning (QR)				Must be taken within first 32 credits; PSYC 402 is required for the major
Inquiry Requirement (INQ)				Must be INQ 444 or INQ Attribute Must be taken within first 25 credits

**Discovery Courses**

Description	Course	Source	Credits/Grade	Notes
Biological Science (BS)				BIOL 413 is required for the major
Physical Science (PS)				CHEM 402 is required for the major
Environment, Technology & Society (ETS)				
Historical Perspectives (HP)				
World Culture (WC)				
Fine & Performing Arts (FPA)				
Social Science (SS)				
Humanities (HUMA)				

**Writing Intensive Requirements**

Description	Course	Source	Credits/Grade	Notes
ENGL 401: First Year Writing	ENGL 401			All undergraduates are required to complete 4 writing intensive (WI) courses, which must include ENGL 401 and three additional WI courses.
WI course in major				
600/700 WI course				
Other WI course				All students must have a total of 4 WI courses!

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<b>Core Courses (56 credits)</b>			
Description	Source	Credits/Grade	Notes
BIOL 413: Principles of Biology I			May be used to satisfy BS Discovery requirement
BIOL 414: Principles of Biology II			
BMS 503: General Microbiology AND BMS 504: General Microbiology Laboratory			
GEN 604: Principles of Genetics			
BSCI 501: Ethical Issues in Biology (WI)			
CHEM 403: General Chemistry I			May be used to satisfy PS Discovery requirement
CHEM 404: General Chemistry II			
CHEM 651: Organic Chemistry I AND CHEM 653: Organic Chemistry I Lab			
CHEM 652: Organic Chemistry II AND CHEM 654: Organic Chemistry II Lab			
BMCB 658: General Biochemistry AND BMCB 659: General Biochemistry Lab			
<b>Select 1 of the following courses:</b> PHYS 401: Introduction to Physics I PHYS 407: General Physics I			
PSYC 402: Statistics in Psychology			May be used to satisfy QR Discovery requirement
<b>Select 1 of the following courses:</b> MATH 424B: Calculus for Life Sciences MATH 425: Calculus I			Based on the math assessment, students may be required to take MATH 301/302 and/or MATH 418 before enrolling in this class.  May be used to satisfy QR Discovery requirement

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<b>Advanced Biology 600/700-Level Courses (20 credits required)</b>				
Description	Course	Source	Credits/Grade	Notes
<b>Advanced Biology: select at least one course</b> GEN 711W: Genomics and Bioinformatics GEN 714: Personal Genomics GEN 771: Molecular Genetics BMS 705/715: Immunology/Immunology Laboratory BSCI 620: Global Science Exploration BSCI 670: Clinical Pathology BSCI 680: Pharmacology (WI) BSCI 692: Evolutionary Medicine (WI) BSCI 695: Biology Teaching Practices BSCI 735: Cell Biology ZOOL 625: Principles of Animal Physiology ZOOL 626: Animal Physiology Laboratory <b>Laboratory Techniques: select at least one course</b> BMCB 753: Cell Culture BSCI 765: Nucleic Acid Techniques BSCI 766: Protein and Immunologic Techniques BSCI 777: Molecular Biology and Biotechnology CHE 651: (BTEC 220, GBCC) Biomanufacturing <b>Advanced Microbiology: select at least one course</b> BMS 601: Bacteriology of Food BMS 602/603: Pathogenic Microbiology/Pathogenic Microbiology Laboratory BSCI 737: Microbial Genomics BSCI 740: Aquatic Microbiology (WI) BMS 706/708: Virology/Virology Laboratory	<i>Advanced Biology</i>			ZOOL 625 is 3 credits and ZOOL 626 is 2 credits.  BMS 703 is 3 credits and BMS 715 is 2 credits. Students can take BMS 705 without 715 but will need to make up the missing credits for the major. Students can't take BMS 715 without 705.
	<i>Laboratory Techniques</i>			
	<i>Advanced Microbiology</i>			
	<i>Select another 600/700-level course from the list</i>			
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See capstone requirements and program notes on the following page.

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Capstone Experience (5 credits)				
Description	Selection	Source	Credits/Grade	Notes
BSCI 701: Senior Seminar I	Senior Seminar I			Can be taken during either semester of the senior year
<b>Select one of the following:</b> BSCI 792: Research BSCI 793: Internship BSCI 794: Clinical Microbiology Internship BSCI 795: Independent Study				

### Program Notes:

- All students must have at least a 2.0 cumulative GPA in order to graduate.
- Senior Residency: students must complete their last 32 credits of the degree at UNH.
- Students may take any undergraduate courses as electives in order to earn a minimum of 128 credits.
- Transfer students must complete 24 credits in major coursework at UNH.
- Courses applied to the major must be completed with a minimum grade of C-.