

DEPARTMENT OF BIOLOGY – APPLICATION FOR SPEAKWRITE PROGRAM CERTIFICATION

1. We have a communication-related programmatic learning goal:

Students will be able to communicate to fellow scientists and also non-scientists in both written and oral forms.

2. Students in the Biology BA must take 6 required courses and 4-5 upper division electives (including 1 lab). Students in the Biology BS must take the same 6 required courses and 7 upper-division electives (including 2 labs).

Four of the six required courses for both degrees are in the process of SpeakWrite approval:

- Biology 115 – Principles of Biology - approved
- Biology 117 – Introductory Physiology - approved
- Biology 219 – The Living Cell - approved
- Biology 221 – Ecology and Evolution - not SpeakWrite
- Biology 327 – Professional Development - not SpeakWrite
- Biology capstone (Biology 320, 321 or 486) – approved.

Because the above courses are required of all biology majors, students on the BA track will need an additional 2 SpeakWrite Courses (for a total of 6/11 courses in the major) and students on the BS track will need an additional 3 SpeakWrite Courses (for a total of 7/13).

Approximately 25/60 of the current biology department offerings have been submitted as SpeakWrite courses (see lists on subsequent pages). Probabilistically, students have a 61% chance of randomly choosing at least 3 SpeakWrite Courses from this list.

Many of our students are completing their Biology degree with an Area of Emphasis. Each of the Areas of Emphasis below are expected to have at least 50% of the possible courses designated as SpeakWrite (courses in Red below are SpeakWrite).

<i>Course List</i>	<i>Genomics</i>	<i>Neuroscience</i>	<i>Ecology/Env. Bio</i>
Req.	Biology 420	Biology 348	Biology 302
Req.	Biology 430	Biology 349	Biology 461
Elective	Biology 324/325	Biology 339	Biology 318
Elective	Biology 415	Biology 439	Biology 338
Elective	Biology 418	Biology 476	Biology 361
Elective	Biology 423	Biology 477	Biology 363
Elective	Biology 455	Biology 478	Biology 365
Elective	Biology 456	Biology 479	Biology 446
Elective	Biology 461	Neuro. Diseases	Biology 456
Elective	Biology 464		Biology 463
Elective	Biology 422		

3. The learning goal ("students will be able to communicate to fellow scientists and also non-scientists in both written and oral forms") will be assessed annually. We annually assess student writing and oral communication skills via our capstone course. Each capstone course option requires students to both write and present their capstone research; therefore we expect that all students will meet a minimum written/oral component at the end of this experience. Furthermore, we will discuss how written and oral communication skills are assessed at a faculty meeting each spring. We will work to assure consistency among the evaluation of communication skills in upper-level courses, identify challenges in teaching and assessing communication skills, and apprise faculty of the SpeakWrite tools available and encourage the faculty to use them.

Courses approved for SpeakWrite (23 courses to count toward the major electives)

Biology 298A – Honors add-on to Biology 115
Biology 298B – Honors add-on to Biology 219
Biology 315 – Communicating Natural Science
Biology 318 – Writing Appalachian Ecology
Biology 339 – Animal Communication
Biology 350 – Plant Physiology
Biology 351 – Plant Diversity
Biology 352 – Plant Anatomy and Development
Biology 363 – Plant Geography
Biology 365 – Conservation Ecology
Biology 409 – Biochemical Basis of Therapeutics
Biology 410 – Cell and Molecular Biology Methods
Biology 411 – Introduction to Recombinant DNA - Lab
Biology 415 – Epigenetics
Biology 418 – Medical Genetics
Biology 420 – Genomics
Biology 422 – Current Topics in Genome Biology
Biology 426 – Molecular Biology of Cancer
Biology 439 – Neuroethology
Biology 453 – Molecular Basis of Disease
Biology 455 – Evolution of Infectious Diseases
Biology 461 – Principles of Evolution
Biology 478 – Sensory Neural Systems and Behavior
Biology 479 – Topics in Neuroscience

Courses not yet submitted to faculty senate, but expected to be SpeakWrite (3 courses)

Biology XXX – Neurobiological Diseases
Biology XXX – Systems Biology
Biology XXX – Molecular Microbiology - Lab

Courses actively taught but not SpeakWrite (35 courses)

Biology 302 – Biometry
Biology 310 – Advanced Cellular/Molecular Biology
Biology 311 – Advanced Cellular/Molecular Biology Lab
Biology 312 – Virology
Biology 313 – Molecular Basis of Cell Growth
Biology 316 – Developmental Biology
Biology 324 – Molecular Genetics
Biology 325 – Molecular Genetics Lab
Biology 337 – Physiological Psychology
Biology 338 – Behavioral Ecology
Biology 341 – Ichthyology
Biology 348 – Neuroscience I
Biology 349 – Neuroscience II
Biology 353 – Flora of West Virginia
Biology 361 – Plant Ecology
Biology 386 – Undergraduate Research
Biology 423 – Biochemistry of Nucleic Acids and Proteins
Biology 424 – Protein Structure and Function
Biology 425 – Developmental Genetics
Biology 430 – Bioinformatics
Biology 432 – Forensic Biology
Biology 436 – General Animal Physiology
Biology 438 – Animal Behavior
Biology 440 – Comparative Anatomy
Biology 446 – Freshwater Ecology
Biology 450 – Plant Systematics
Biology 451 – Plant Development
Biology 454 – Immunology
Biology 456 – Microbial Symbiosis
Biology 463 – Global Ecology
Biology 464 – Population and Quantitative Genetics
Biology 476 – Computational Neuroscience
Biology 477 – Central Nervous System Evolution and Development
Biology 490 – Teaching Practicum
Biology 491 – Professional Field Experience

Courses in the catalog but not actively taught for the foreseeable future (10 courses)

Biology 301 – History of Biology
Biology 317 – Developmental Biology Laboratory
Biology 335 – Cell Physiology
Biology 336 – Vertebrate Embryology
Biology 340 – Invertebrate Zoology
Biology 348A-C – Marine Ecosystems Topics

Biology 413 – Molecular Endocrinology
Biology 414 – Molecular Endocrinology Lab
Biology 433 – Herpetology
Biology 441 – Vertebrate Microanatomy