



UNC
COLLEGE OF
ARTS & SCIENCES

THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

DEPARTMENT OF BIOLOGY
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October 14, 2016

From:
Victoria L. Bautch
Chair, Biology

To:
Administrative Boards of the College of Arts and Sciences and the General College

To whom it may concern:

We are proposing the following program changes for Department of Biology programs of study starting in fall 2017.

- 1) We have added one new course (BIOL214H) to the list of courses allowed for the Quantitative Biology major.
- 2) We have split one course with laboratory into two courses (BIOL475 + 475L), one for the lecture component and one for the laboratory component.
- 3) We have added one new course (BIOL253) to the list of courses excluded from counting as a biology elective. It will count as an Allied Science elective. This is a new second course on human anatomy and physiology, intended for students desiring to attend certain professional schools that require it. We have excluded this course from counting as a biology elective in order to ensure that students take a sufficiently diverse curriculum. This exclusion is also in place for BIOL353, which BIOL253 will replace.
- 4) We have added COMP110 (Introduction to Programming) as allowable for the Computer science course requirement in the Quantitative Biology major. We have reviewed the content of this course, and determined that it meets the needs of our students. This change will make it easier for our students to satisfy this requirement, as COMP116 is often oversubscribed. (We have also submitted individual course change requests in CRAS to allow COMP110 to serve as a prerequisite for several higher-level Q-bio courses.)
- 5) We have added a list of courses excluded from Biology electives toward the major to the Quantitative Biology B.S. Major description. This is not a curricular change, but was previously only listed in the "normal" B.S. and B.A. descriptions.

We attach a file of the revised version of the text from the 2016 Undergraduate Bulletin, with the proposed changes indicated using the “Track Changes” function. Thank you very much for considering these changes.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Victoria L. Bautch". The signature is fluid and cursive, with a long horizontal stroke extending to the right from the end of the name.

Victoria L. Bautch, Ph.D.
Beverly Long Chapin Distinguished Professor and Chair of Biology

Department of Biology

- Use this document to submit curriculum changes for the 2017-2018 academic year.

Biology Major, B.S.

This program is designed for students who intend to continue graduate study in biological or health sciences.

Core Requirements

- BIOL 101/101L (gateway course, with a C grade or better in BIOL 101)
- BIOL 201, 202, and 205 (the core courses)
- One organismal structure and diversity course chosen from 271/271L, 272, 273, 274/274L, 277/277L, 278/278L, 279/279L, 471/471L, 472, 473/473L, 474/474L, 475/475L, 476/476L, 478, 479/479L, or 579
Comment: BIOL 475/475L was approved at the 9/20/2016 meeting.
- Four biology electives (each of three or more credits) numbered above 205 (not including 213, 253, 291, 292, 293, 294, 296, 353, and 495), at least two of them with a laboratory. A total of six hours from BIOL 295, 395, and/or 692H count as a laboratory course requirement. One additional elective may consist of a total of three hours of courses numbered above 600 (not including BIOL 692H).
Comment: BIOL 253 was approved at the 9/20/2016 meeting.
- At least two courses out of the five courses (four electives and one organismal course) must be numbered above 400 (not including BIOL 501 and 692H).

Additional Requirements

- CHEM 101/101L. A grade of C or better in CHEM 101 or 102 is required for BIOL 201 and 202.
- CHEM 102/102L, 241/241L, 261, 262/262L
- MATH 231 or 241, and one of the following: MATH 232 or 283; COMP 110 or 116; STOR 155 or 215
- PHYS 104 or 114 or 116 or 118, and 105 or 115 or 117 or 119
- A choice of two additional allied sciences electives selected from the course list below
- Enough free electives to accumulate 123 academic hours

Suggested Program of Study for B.S. Majors

First Year

- BIOL 101/101L; CHEM 101/101L, 102/102L; ENGL 105; language levels 2 and 3; MATH 231 or 241 plus a second course in mathematics, computer science, or statistics/operations research; lifetime fitness

Sophomore Year

- Two of the three biology core courses (BIOL 201, 202, 205); CHEM 241/241L, 261, 262/262L; Approaches (one course)

Junior Year

- Remaining biology core course, organismal biology course, biology electives (three courses); PHYS 114 or 118, and 115 or 119; Approaches and Connections (three courses)

Senior Year

- Biology electives (two courses); natural science or biology electives (two courses); Approaches and Connections (two courses); free electives as needed to complete 123 academic hours

Biology Major, B.S.–Quantitative Biology Track

This program is designed for students with a strong interest in a multidisciplinary approach to biological problems in preparation for graduate study in biological or health sciences.

Core Requirements

- BIOL 101/101L (gateway course, with a C grade or better in BIOL 101)
- BIOL 201, 202, and 205 (core courses for biology majors)
- Two laboratory courses. One must be a quantitative laboratory chosen from BIOL 224H/224L, 226/226L, 452/452L, 525/525L, 526, 527/527L, 528/528L, or 553/553L. The other can be any biology laboratory course, including two semesters of BIOL 395.
- A choice of three biology electives (each of three or more credits, not including 213, 253, 291, 292, 293, 294, 296, 353, and 495), of which at least two quantitative electives must be chosen from BIOL 214H, 224H*, 226*, 431, 452*, 454, 465, 525*, 526*, 527*, 528*, 534, 542, 551, 553*, 562, 563, or 642 (*asterisked courses cannot count as both a quantitative laboratory and a quantitative elective). A total of six hours from BIOL 295, 395, and/or 692H count as a laboratory course requirement. One additional elective may consist of a total of three hours of courses numbered above 600 (not including BIOL 692H).

Comment: BIOL 214H, pending approval at the 11/1/2016 meeting.

Additional Requirements

- BIOS 600 or STOR 155
- CHEM 101/101L. A grade of C or better in CHEM 101 or 102 is required for BIOL 201 and 202.
- CHEM 102/102L and 261
- COMP [110 or](#) 116 or 401
- MATH 231 or 241, and MATH 232 or 283, and MATH 233
- PHYS 104 or 114 or 116 or 118, and PHYS 105 or 115 or 117 or 119
- A choice of two additional allied sciences electives chosen from the course list below. Premedical students are encouraged to take CHEM 241/241L and 262/262L.
- Enough free electives to accumulate 127 academic hours

Suggested Program of Study for the Quantitative Track

First Year

- BIOL 101/101L; CHEM 101/101L, 102/102L; ENGL 105; language levels 2 and 3; MATH 231 or 241, 232 or 283; lifetime fitness; Approaches (two courses)

Sophomore Year

- Two of three biology core courses (BIOL 201, 202, 205); BIOS 600 or STOR 155; CHEM 261, 262/262L if premed; COMP [110 or](#) 116 or 401; MATH 233; Approaches (one course)

Junior Year

- Remaining biology core course; biology electives including one quantitative laboratory (three courses); PHYS 114 or 118, and 115 or 119; Approaches and Connections (three courses)

Senior Year

- Second laboratory course; biology electives (two courses); allied sciences elective (CHEM 241/241L if premed); Approaches and Connections; electives to accumulate 127 academic hours

Biology Major, B.A.

This program is designed to provide greater flexibility than the B.S. degree in meeting broad student interests.

Core Requirements

- BIOL 101/101L (gateway course, with a C grade or better in BIOL 101)
- BIOL 201, 202, and 205 (the core courses)
- One organismal structure and diversity course chosen from 271/271L, 272, 273, 274/274L, 277/277L, 278/278L, 279/279L, 471/471L, 472, 473/473L, 474/474L, 475/475L, 476/476L, 478, 479/479L, or 579
- Three biology electives (each of three or more credits) numbered above 205 (not including 213, 253, 291, 292, 293, 294, 296, 353, and 495), at least one with a laboratory. A total of six hours from BIOL 295, 395, and/or 692H count as a laboratory course requirement. One additional elective may consist of a total of three hours of courses numbered above 600 (not including BIOL 692H).
- At least one course out of the four courses (three electives and one organismal course) must be numbered above 400 (not including BIOL 501 and 692H).

Additional Requirements

- CHEM 101/101L. A grade of C or better in CHEM 101 or 102 is required for BIOL 201 and 202.
- CHEM 102/102L
- One of COMP 110, 116; MATH 130, 152, 231, 241; STOR 155 or 215
- Four additional allied science electives chosen from the course list below
- Students must fulfill all General Education requirements, including Supplemental General Education.
- General electives to complete the 120 academic hours required for graduation

Suggested Program of Study for B.A. Majors

First Year

- BIOL 101/101L; CHEM 101/101L, 102/102L; ENGL 105; language levels 2 and 3; Foundations quantitative reasoning requirement as specified above; lifetime fitness

Sophomore Year

- Two of the three biology core courses (BIOL 201, 202, 205); natural sciences electives (two courses); Approaches and Connections (four courses)

Junior Year

- Remaining biology core course, organismal biology course, biology electives (two courses); natural sciences electives (two courses); Approaches and Connections (two courses); Supplemental General Education requirement or free electives (two courses)

Senior Year

- Biology electives (two courses); Approaches and Connections (one course); Supplemental General Education requirement and free electives as needed to complete 120 academic hours and other requirements

Allied Science Electives

All allied science elective courses need to have a minimum of three credit hours.

- ANTH 143, 148, 298, 315, 317, 318, 412, 414, 415, 416, 470, 623
- Any ASTR course above 99
- Any BIOL course above 101, except BIOL 213, 291, 292, 294, 296, and 495
- Any BIOS course
- BMME 510
- Any CHEM course above 101
- Any COMP course above 100, except COMP 380
- ENEC 202, 256, 403, 406, 410, 411, 415, 471, 489
- EXSS 175, 276
- GEOG 110, 111, 212253, 445
- Any GEOL course above 100
- Any MASC course above 100
- Any MATH course above 110, except MATH 129P
- MCRO 251, 255
- NUTR 240
- PHIL 155

- PHYI 292
- Any PHYS course above 99, except 132
- PSYC 101, 210, 220, 222, 225, 230, 315, 400, 401, 402, 403
- Any STOR course above 151
- SPHS 570

Biology Major, NUS Joint Degree

Biology B.S. majors may wish to consider applying for the Joint Degree Program, an innovative joint undergraduate degree program between the University of North Carolina at Chapel Hill and the National University of Singapore. UNC–Chapel Hill undergraduates spend anywhere from two to four semesters at the National University of Singapore and receive a joint bachelor of science degree from both institutions. For further information, contact the Study Abroad Office.

Biology Minor

A student may minor in biology by taking four biology courses beyond BIOL 101/101L distributed as follows:

- Two of the three core courses: BIOL 201, 202, and 205
- One course with a laboratory
- One course numbered above 400