Summer 2017 - Course Offerings

MAYMESTER (MAY): May 9-May 23, 2017

1st Summer Session (00A/0PA): May 15-June 23, 2017

2nd Summer Session (00C/0PC): June 26-August 4, 2016

Entire Summer Session (00B/0PB): May 15-August 4, 2016

Please Note: The information contained in the Course Atlas is subject to change. For final schedule information, please refer to OPUS or contact the Biology Department.

Introductory Courses
Effective Fall 2014, the Biology 141 and 142 Labs are now separate, 1 credit-hour courses.

Effective Fall 2017, Biology 141L will be 2 credit hours.

Biology 141, 141L, 142, and 142L are required for all upper level biology courses. These courses meet the requirements for the biology major, premed, and the life sciences laboratory GER requirements. Biology 120 meets the GER requirement for a life science laboratory course, but not the requirements for the biology major, and is recommended for students who are not science majors or premed.

AP Credit
Biology AP scores of 4 or 5 will earn Biology 141 LECTURE credit ONLY for students entering Emory in Fall 2014 and later. Students with AP credit for Biology 141 will be required to take our Biology 141 Lab before taking Biology 142 and the Biology 142 Lab. Students who have taken Biology 141/142 prior to Fall 2014 will remain under the Fall 2008 or Fall 2013 requirements.

Biology Major
The major also requires one course in each of three areas of biology (Column A - Cell and Molecular, Column B - Organismal, and Column C - Ecology and Evolution) and 12 credit hours (minimum) of elective courses (4 or more courses). These courses must include one upper-level laboratory course.

NOTE: Students entering Emory Fall 2014 or later AND those declaring a major in Biology after Summer 2014 will be required to take QTM 100 (Intro. to Stat. Inference), in addition to two semesters of Calculus, for the BS degree.

Additional Requirements
The BA and BS degrees in Biology have additional required courses from other departments (or AP equivalents). The BA and BS require Chemistry 141 (or Chemistry 221/226L) and Chemistry 142. The BS also requires Chemistry 221, Chemistry 221L, Math 116, Math 116, and Physics 141 or 151 with Lab.

Freshmen who have AP credit for Chem 141 and take Chem 221/226L will be exempt from taking Chem 142 for the Biology major.

BIOLOGY 120 (00C): Concepts in Biology w/Lab (4 Credit Hours) (SNTL)
Abreu, M, Tu, W, Th, F, 10:00-11:20, MAX: 24, 1462 Clifton Road, Room 308

This course will be taught in the SECOND summer session.
NOTE: STUDENTS MUST ALSO REGISTER FOR THE BIOLOGY 120 LABORATORY. Dr. Megan Cole is the Lab Director/Instructor.

LAB:
LC1, TuTh, 12:00-3:00, MAX: 24, 1462 Clifton Road 120.

The lecture and laboratory portions of this course will be organized around modules that relate biology to current issues such as evolution, global warming, cloning, stem cell research, and more. This course is designed to have you think critically about biological subjects and to help you seek out reliable sources.

Texts:

- Lecture: None.

- Lab: Laboratory bound notebook with carbonless copies.

This course is NOT applicable to a science major, including biology majors and the premedical program, but does meet the GER requirement for a life science laboratory. Science/pre-health majors should NOT take this course.

Prerequisites: None.

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BIOLOGY 141 (00A): Foundations of Modern Biology | LECTURE [Cell Biology and Classical Genetics] (SNT) (3 Credit Hours)
Campbell, M, Tu, W, Th, Fri, 10:00-11:20, MAX: 48, 1462 Clifton Road 230

This is the first semester of a two-semester introductory biology course, is required for the biology major, and will be taught during the FIRST summer session.

NOTE: STUDENTS MUST ALSO REGISTER FOR A BIOLOGY 141 LABORATORY, which is now a separate 1 credit hour course. (SEE BIOL 141L or OPUS for days and times.)

Biology 141 and 141L (first semester) and Biology 142 and 142L (second semester) will provide a topic-driven overview of molecular and cellular biology and genetics. The second semester will cover evolution, genomics, molecular, developmental, and cancer genetics. The topics covered in class will address major issues in human biology and medicine. The integrated lecture and lab will emphasize the basic principles and critical thinking involved in modern biological discovery. In lab, students will design and perform experiments using several important model systems.


Biology 141, 141L, 142, and 142L should be taken during the Freshman year by prospective Biology majors, in addition to Chemistry 141 and Chemistry 142. If scheduling precludes taking both, it is recommended that you take Chemistry 141/142 (or the new Chemistry intro sequence) before taking Biology 141/141L/142/142L. However, Biology 141/141L and 142/142L are prerequisites for most 200-level and higher biology courses. (Biology 240 only requires Biology 141 and may be taken concurrently with Biology 142 and 142L.)

These courses include classical and molecular genetics and meet the biology premedical requirements.

AP Biology scores of 4 or 5 count for the Biology 141 LECTURE ONLY. All students taking Biology 141 and 142 Fall 2014 and later will be required to take Biology 141L and 142L.

Biology 120 is recommended for non-science majors who are not premed. Some exams may be administered in the evening.

Corequisite: Biology 141L.
BIOLOGY 141L (00A / 01A): Foundations of Modern Biology I LAB [Cell Biology and Classical Genetics LAB] (SNTL) (1 Credit Hour)
Cole, Megan, (LA1), Tu & Th, 12:00-3:00, MAX: 24, 1462 Clifton Road, Room TBD
or
Cole, Megan, (LA2), Tu & Th, 3:30-6:30, MAX: 24, 1462 Clifton Road, Room TBD

This is the laboratory component of Biology 141 and is required for ALL Biology majors taking Biology 141 Fall 2014 and later (including those with AP credit for Biology 141).

Biology 141L will teach students skills in experimental design, critical thinking, data analysis, scientific communication, and collaboration.

Text: Laboratory bound notebook with carbonless copies (LAB-REQUIRED)

AP Biology scores of 4 or 5 count for the Biology 141 LECTURE ONLY. All students taking Biology 141 and 142 Fall 2014 and later will be required to take Biology 141L and 142L.

Some exams may be administered in the evening.

Pre or Corequisite: Biology 141.

BIOLOGY 142 (00C): Foundations of Modern Biology II: Molecular Genetics (LECTURE) (SNT) (3 Credit Hours)
Campbell, M, Tu, W, Th, Fri, 10:00-11:20, MAX: 48, 1462 Clifton Road 230

This course will be taught in the SECOND summer session.

This is the second semester of a two-semester introductory biology course and is REQUIRED for all biology majors.

NOTE: STUDENTS MUST ALSO REGISTER FOR A BIOLOGY 142 LABORATORY, which is now a separate 1 credit hour course. (SEE BIOL 142L or OPUS for days and times.)

Biology 141 and 141L (first semester) and Biology 142 and 142L (second semester) will provide a topic-driven overview of molecular and cellular biology and genetics. The second semester will cover evolution, genomics, molecular, developmental, and cancer genetics. The topics covered in class will address major issues in human biology and medicine. The integrated lecture and lab will emphasize the basic principles and critical thinking involved in modern biological discovery. In lab, students will design and perform experiments using several important model systems.


Biology 141, 141L, 142, and 142L should be taken during the Freshman year by prospective Biology majors, in addition to Chemistry 141 and Chemistry 142. If scheduling precludes taking both, it is recommended that you take Chemistry 141/142 (or the new Chemistry intro sequence) before taking Biology 141/141L/142/142L. However, Biology 141/141L and 142/142L are prerequisites for most 200-level and higher biology courses. (Biology 240 only requires Biology 141 and may be taken concurrently with Biology 142 and 142L.)

These courses include classical and molecular genetics and meet the biology premedical requirements.

AP Biology scores of 4 or 5 count for the Biology 141 LECTURE ONLY. All students taking Biology 141 and 142 Fall 2014 and later will be required to take Biology 141L and 142L.

Biology 120 is recommended for non-science majors who are not premed. Some exams may be administered in
the evening.

**Prerequisites:** Biology 141 and Biology 141L. **Corequisite:** Biology 142L.

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**BIOLOGY 142L (00C / 01C): Foundations of Modern Biology II: Molecular Genetics**

**LAB (SNTL) (1 Credit Hour)**

Cole, Megan, (LC1), Tu & Th, 12:00-3:00, MAX: 24, 1462 Clifton Road, Room TBD

or

Cole, Megan, (LC2), Tu & Th, 3:30-6:30, MAX: 24, 1462 Clifton Road, Room TBD

This is the laboratory component of Biology 142 and is required for all students taking Biology 142 Fall 2014 or later (including those with AP credit for Biology 141).

Biology 142L will teach students skills in experimental design, critical thinking, data analysis, scientific communication, and collaboration.

**Text:** Laboratory bound notebook with carbonless copies (**LAB-REQUIRED**)

**AP Biology scores of 4 or 5 count for the Biology 141 LECTURE ONLY.** All students taking Biology 141 and 142 Fall 2014 and later will be required to take Biology 141L and 142L.

Some exams may be administered in the evening.

**Prerequisites:** Biology 141 and Biology 141L. **Corequisite:** Biology 142.
BIOLOGY 260 MAY: Insect Biology (4 Credit Hours) (SNTL)
de Roode, M, Tu, W, Th, F, 9:00-12:00 (LECTURE), MAX: 20, 1462 Clifton Road, Room 113
AND
M, Tu, W, Th, F, 1:00-3:00 (LAB), MAX: 20, 1462 Clifton Road, Room 119

This course has been CANCELLED by the College for MAYMESTER 2017. Sorry.

Students must also register for the laboratory portion of this class (M, Tu, W, Th, F, 1:00-2:00, 1462 Clifton Road, room 119).

This course offers students hands-on experience to develop an understanding of insect biology. Through lectures, labs, and fieldwork, students will develop the skills to distinguish the major groups of insects and to analyze the importance of insects for ecology and human food production and health.

Insects form one of the most diverse abundant animal groups on earth, with some estimates indicating that there are no fewer than 800,000 species of bee alone. Entomology is the branch of biology that studies insects and related arthropods such as spiders, ticks, millipedes, and woodlice. This course will provide an introduction to the study of entomology by addressing questions such as: what makes an insect, how do insects develop, and how does an understanding of entomology help combat human disease and ensure food security? Topics will further include insect behavior, insect ecology, and insect evolution. The course is a combination of lectures, labs, and field work, and a major goal is to develop the ability to distinguish between the major orders (e.g., butterflies vs. beetles) and subgroups (e.g., bees vs. wasps) of insects.

Texts:

This course will fulfill elective and upper-level lab credit for the Biology major and will satisfy the SNTL GER.

Prerequisites: Biology 142 and Biology 142L (or Biology 240).

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BIOLOGY 301: Biochemistry I (SNTL) -- ONLINE COURSE
Escobar (OLA1), M, W, F, 9:00-10:00; ON-LINE; MAX: 20
AND
Escobar (OLA2), TuTh, 9:00-10:30; ON-LINE; MAX: 20

This course is ON-LINE and will be taught during the FIRST summer session.

NOTE: Emory College On-line summer courses have required synchronous sessions every week. Students must be available to sign into the course online during those times (noted as the course meeting times—all times listed are local to Atlanta). Each course will involve at least 3-4 hours of asynchronous course contact per week (this is material that you access on your own time weekly), in addition to standard amounts of readings and course assignments. Students should plan accordingly.

The cell is an amazing network of self-organizing machinery that drives life in all its forms. This course begins by defining the molecular wheels and cogs of the cell's machines and how their capabilities are defined by their chemistries. The chemistries of each component are then explored to understand how they contribute to the operation and control of the cellular machinery. We will further explore how all of the cellular components are governed, by kinetic and non-kinetic controls, to produce a coherent and responsive metabolism that efficiently creates and utilizes the energy stored in chemical compounds, such as glucose and fats. Human metabolic disorders such as diabetes will provide models of how metabolism is controlled at the systematic level in complex organisms using biochemical signaling pathways to coordinate metabolic pathways in different tissues.


This course will fulfill elective credit for the biology major and should provide students with a firm foundation in biochemistry.
Students may also take CHEM 301 for the Biology major.

**Prerequisites:** Biology 142, Biology 142L, Chemistry 221, and Chemistry 221L.

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**BIOLOGY 497R (OPA/OPB/OPC): Supervised Reading**

*Individual Faculty (See OPUS for section and class numbers)*

This course does NOT count for the Biology major and does NOT fulfill the writing requirement for the GERs.

For this course, **selected readings** are done in conjunction with a Biology Department faculty member. Interested students should communicate with appropriate faculty and **obtain their permission** prior to preregistration. Once permission is received from the faculty member, contact Tonya Davis at tonya.davis@emory.edu or 404-727-6292 to obtain a permission number.

This course may be taken for variable credit (1 to 4 hours per semester).

**Prerequisites:** Biology 142 and Biology 142L.

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