

 FLORIDA ATLANTIC UNIVERSITY	COURSE CHANGE REQUEST Undergraduate Programs	UUPC Approval <u>2/26/24</u> UFS Approval _____ SCNS Submittal _____ Confirmed _____ Banner Posted _____ Catalog _____
	Department Biological Sciences College Science	
Current Course Prefix and Number BSC 1010	Current Course Title Biological Principles	
<i>Syllabus must be attached for ANY changes to current course details. See <u>Template</u>. Please consult and list departments that may be affected by the changes; attach documentation.</i>		
Change title to: Change prefix From: _____ To: _____ Change course number From: _____ To: _____ Change credits* From: _____ To: _____ Change grading From: _____ To: _____ Change WAC/Gordon Rule status** Add <input type="checkbox"/> Remove <input type="checkbox"/> Change General Education Requirements*** Add <input type="checkbox"/> Remove <input type="checkbox"/> <small>*See <u>Definition of a Credit Hour</u>.</small> <small>**WAC/Gordon Rule criteria must be indicated in syllabus and approval attached to this form. See <u>WAC Guidelines</u>.</small> <small>***GE criteria must be indicated in syllabus and approval attached to this form. See <u>Intellectual Foundations Guidelines</u>.</small>	Change description to: In this course students will apply the scientific method to critically examine and explain the natural world. This course will cover molecular biology, cellular biology, genetics, metabolism, and replication. Change prerequisites/minimum grades to: Change corequisites to: Change registration controls to: Please list existing and new pre/corequisites, specify AND or OR and include minimum passing grade (default is D-).	
Effective Term/Year for Changes: Fall 2024	Terminate course? Effective Term/Year for Termination:	
Faculty Contact/Email/Phone W. Randy Brooks / wbrooks@fau.edu / 7-3888		
Approved by Department Chair <u>SL Matton</u> College Curriculum Chair <u>[Signature]</u> College Dean <u>[Signature]</u> UUPC Chair <u>Korey Sorge</u> Undergraduate Studies Dean <u>Dan Meeroff</u> UFS President _____ Provost _____	Date 1-26-24 01/26/24 <u>2/11/24</u> <u>2/26/24</u> <u>2/26/24</u> _____ _____	

Email this form and syllabus to mjenning@fau.edu seven business days before the UUPC meeting.

BSC 1010-001 Biological Principles

MWF 11:00 – 11:50
3 credits

Semester, Year
Prof. XXXXX YYYYY
Office: XXXXX
Office hours: MWF 11-12
Classroom: XXXX
Telephone: 561-297-XXXX
Email: zzzzz@fau.edu



TA name	xxxxxx xxxxxxxxx
Office	xxxxxx
Office hours	MWF xx:xx – xx:xx
Telephone	561-297-xxxx
Email	xxxxxx@fau.edu

Course Description

In this course students will apply the scientific method to critically examine and explain the natural world. This course will cover molecular biology, cellular biology, genetics, metabolism, and replication.

Instructional Method

In-Person. There is no remote option for this course.

Prerequisites/Corequisites

- None

Course Objectives/Student Learning Outcomes

- Students will demonstrate scientific literacy by articulating and practicing the scientific method.
- Students will evaluate data regarding validity.
- Students will read and interpret a variety of scientific data.
- Students will identify major macromolecules and state their importance to living organisms.
- Students will explain metabolism.
- Students will compare and contrast prokaryotic and eukaryotic structures and processes of cell division and replication.
- Students will explain gene expression.
- Students will solve problems in transmission genetics.

Course Evaluation Method

- Homework 10%
- Exam 1 25%
- Exam 2 25%
- Final Exam 40%

Course Grading Scale

A	92.5 – 100%
A-	87.5 – 92.5%
B+	82.5 – 87.5%
B	77.5 – 82.5%
B-	72.5 – 77.5%
C+	67.5 – 72.5%
C	62.5 – 67.5%
C-	60 – 62.5%
D+	55 – 60%
D	50 – 55%
D-	45 – 50%
F	<45%

Policy on Makeup Tests, Late Work, and Incompletes (if applicable)

Late Assignment Policy:

I do not accept late homework submissions for credit. Submissions made late will still be graded as normal, but for no points. Technological problems are not a valid reason for late work. I suggest that you start early so that if there is a technical glitch, we can come up with a solution to work around it.

Make-up Policy for Exams:

Please note that you must have a genuine and valid reason for missing or taking a test at a later time. This could be something like surgery (with a doctor's note) or proof of jury duty. An excuse such as "I had a headache," or "my boss wanted me to work an extra shift" is unacceptable. The exam schedule is given. Valid reasons for missing the test must be given in advance. Not following this rule means that I don't have to reschedule a test for you.

Incomplete Policy:

A student who is passing a course, but has not completed all work due to exceptional circumstances, may, with consent of the instructor, temporarily receive a grade of incomplete ("I"). The assignment of the "I" grade is at the discretion of the instructor, but is allowed only if the student is passing the course.

Policy on the Recording of Lectures

Students enrolled in this course may record video or audio of class lectures for their own personal educational use. A class lecture is defined as a formal or methodical oral presentation as part of a university course intended to present information or teach students about a particular subject. Recording class activities other than class lectures, including but not limited to student presentations (whether individually or as part of a group), class discussion (except when incidental to and incorporated within a class lecture), labs, clinical presentations such as patient history, academic exercises involving student participation, test or examination administrations, field trips, and private conversations between students in the class or between a student and the lecturer, is prohibited. Recordings may not be used as a substitute for class participation or class attendance and may not be published or shared without the written consent of the faculty member. Failure to adhere to these requirements may constitute a violation of the University's Student Code of Conduct and/or the Code of Academic Integrity.

Attendance Policy

Students are expected to attend all of their scheduled University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of non-attendance. Students are responsible for arranging to make up work missed because of legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal obligations or participation in University-approved activities. Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances and debate activities. It is the student's responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a University-approved reason the opportunity to make up work missed without any reduction in the student's final course grade as a direct result of such absence.

Counseling and Psychological Services (CAPS) Center

Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual counseling, support meetings, and psychiatric services, to name a few – offered to help improve and maintain emotional well-being. For more information, go to <http://www.fau.edu/counseling/>

Disability Policy

In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS) and follow all SAS procedures. SAS has offices across three of FAU's campuses – Boca Raton, Davie and Jupiter – however disability services are available for students on all campuses. For more information, please visit the SAS website at www.fau.edu/sas/.

Code of Academic Integrity

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see [University Regulation 4.001](#).

Required Texts/Readings

- "Molecular Biology of the Cell" by Bruce Alberts, Alexander Johnson, Julian Lewis, David Morgan, Martin Raff, Keith Roberts, and Peter Walter
- "Genetics: Analysis and Principles" by Robert J. Brooker
- "Essential Cell Biology" by Bruce Alberts, Dennis Bray, Karen Hopkin, Alexander Johnson, Julian Lewis, Martin Raff, Keith Roberts, and Peter Walter
- "Biochemistry" by Jeremy M. Berg, John L. Tymoczko, and Lubert Stryer
- "Cell and Molecular Biology: Concepts and Experiments" by Gerald Karp

Course Topical Outline

- Week 1-2: Introduction to Scientific Literacy and the Scientific Method
 - Overview of scientific literacy and its importance
 - Introduction to the scientific method
 - Practice designing and critiquing experiments
- Week 3-4: Molecular Biology and Major Macromolecules
 - Structure and function of major macromolecules
 - DNA structure and replication
 - RNA and protein synthesis
 - Analyzing and interpreting molecular biology data
- Week 5-6: Cellular Biology and Metabolism
 - Cellular structure and function
 - Cell metabolism and energy production
 - Evaluating data related to cellular processes
 - Application of the scientific method to cellular studies
- Week 7-8: Genetics and Transmission Genetics
 - Mendelian genetics and inheritance patterns
 - Problem-solving in transmission genetics
 - Analyzing genetic data
 - Reading and interpreting studies on gene expression
- Week 9-10: Replication and Cell Division
 - Prokaryotic and eukaryotic structures and processes of cell division
 - Problem-solving in cell replication
 - Analyzing data related to cell division processes
- Week 11-12: Review and Integration
 - Comprehensive review of molecular biology, cellular biology, and genetics
 - Integration of knowledge to solve complex problems
 - Practice with scientific literacy through case studies

- Week 13-14: Final Review and Exam Preparation
 - In-depth review of major concepts
 - Problem-solving sessions and data analysis practice
 - Final exam preparation with a focus on data interpretation and problem-solving

Science and Natural World Syllabus Description

Intellectual Foundation (General Education) Program Outcomes.

Scientific principles are behind what we find in nature and in natural occurrences. Scientific issues, such as those dealing with stem-cell research, cloning and global warming, are hotly debated by policy makers. Courses that meet this requirement share the goal of seeking to understand patterns and principles behind phenomena and occurrences, both in the inorganic world and in the living world. They typically fall within either the physical sciences (astronomy, physics, chemistry, and the earth sciences) or the biological sciences.

Students who satisfy the Science and the Natural World requirement will be able to:

- Explain important scientific concepts, principles, and paradigms.
- Explain how principles of scientific inquiry and ethical standards are used to develop and investigate research questions.
- Explain the limits of scientific knowledge and of how scientific knowledge changes.
- Critically evaluate scientific claims, arguments, and methodology.

After completion of the associated lab, the student will be able to:

- Demonstrate and explain how experiments are conducted.
- Analyze resulting data and draw appropriate conclusions from such data.