**2018 Fall**

**SCIENCE 103**

**LIFE SCIENCES**

**Instructor**: Bilgen Bilgin, Ph.D.

**Office**: Student Center -B399

**Telephone**: 1217

**E-ma**il: [bbilgin@ku.edu.tr](mailto:iyilgor@ku.edu.tr)

**Office hours**: Please walk in any time

**Textbook**: There is no textbook for the course. Students shall be provided with the lecture notes and other relevant materials to study at **Blackboard.**

**Course Objectives**

* To practice scientific approach to the questions at hand.
* To place human past and present within the history of life. To place history of life within the history of universe.
* To learn effects of human presence and actions to life in general.
* To learn what is life, and its physical, chemical and biological constituents.

**Learning Outcomes**

* Students shall be able to tell the difference between scientific and other types of approaches to the problems.
* Students shall know the evolution of the universe, stars, galaxies, solar system, Earth, and life.
* Students shall be able to tell what is life, its constituents, relationships among living organism, effects of these relationships.
* Students shall know the functions of the living organisms at different organizational levels.
* Students shall be able to tell basic molecular constituents of the living organisms, their functions, interdependencies, and relationships of these molecules.
* Students shall know control of the life functions, and heredity.
* Students shall know present state of biotechnology and expected effects of the developments to the present and future human populations.

# Course content

* Why study science & scientific methodology?
* The conceptual framework of biology & evolution of the Universe
  + Cosmic evolution, Relativity, Big Bang Theory
* Evolution of Earth
  + Plate Tectonics
* Evolution of Living Organisms
  + Darwinian Evolution
  + Eugenics
* What is life?
* Classification of organisms
  + Kingdoms
  + Symbiosis
* Biodiversity, threats to biodiversity & effects of human exercise on life
* Human population & Earth
* Chemistry of life?
  + Elements, molecules, forces
* Basic molecules of life
  + Carbohydrates
  + Lipids
  + Nucleic Acids
    - Structure of DNA
    - DNA replication
  + Proteins
    - Central dogma of biology
      * Protein synthesis
      * Mutations
  + Vitamins
* Cells
  + Cell types: Prokaryotes & eukaryotes
  + Cell structure and organelles
    - Energy
      * Photosynthesis & Respiration
* Cell cycle and cell division
  + Cell cycle regulation
    - Cancer
  + Mitosis & meiosis
* Genetics & heredity
  + Mendelian Genetics
  + Non-Mendelian genetics
  + Genetic diseases
  + Blood groups
* Developments in Biotechnology and their applications
  + Tools of the trade
  + Cloning
  + Forensic applications
    - DNA Fingerprinting
  + Gene therapy
  + Human Genome Project
* Viruses and other nonliving infectious agents
  + HIV & AIDS
  + Prions
  + Viroids

**Information about Laboratories**

Science 103 lectures are accompanied by Laboratory Work (Lab).

During the first week of classes, all students must attend a mandatory lab orientation at their scheduled lab hour at SCI 134.

6 Laboratory experiments will be performed biweekly during the semester. The master copies of the experiment sheets will be available at the Copyland. You can also access the experiment sheets in the course website: <http://naturalscience.ku.edu.tr/>.

It is compulsory to attend the Laboratories. Each missed lab session, with or without a legitimate excuse accepted by the university, results in a reduction of your final course letter grade by one notch. A grade of at least 60% is required in Lab to pass the course, regardless of your performance in the rest of the course.

Whenever you have an excuse for the missing lab, you have to contact Nazmi Yılmaz ([nayilmaz@ku.edu.tr](mailto:nayilmaz@ku.edu.tr)) within 3 days and provide the relevant documents in order to arrange a make-up session. It is your responsibility to ask for a lab make-up appointment. Late requests for make-ups will not be taken into consideration.

**Laboratory Coordinator** Nazmi Yılmaz

Office: Science building room 136 - Tel: 1726

E-mail: [nayılmaz@ku.edu.tr](mailto:nayılmaz@ku.edu.tr)

**Attendance Missing more than 5 lectures totally disqualifies you for the 4% attendance bonus; missing 10 or more lectures leads to automatic F grade from this course**

**Grading**

|  |  |  |
| --- | --- | --- |
|  | **Date** | **Weight** |
| Mid-Term 1 |  | 25% |
| Mid-Term 2 |  | 25% |
| Mid-Term 3 | Final Exams Period | 25% |
| Laboratory performance |  | 21% |
| Attendance |  | 4% |

# Academic Grievance Procedure

The Academic Grievance Procedure of Koç University has been established to help students in resolving their complaints relating to academic matters. The procedure should be started within two weeks after the student becomes aware of a faculty member’s, or an instructor’s decision, act, or omission that might have negatively affected his/her academic performance or experience.

* A student who has an academic grievance claim against a faculty member or an instructor must first try to discuss the issue with the individual faculty member or instructor involved.
* If the student fails to satisfactorily resolve the issue with the individual faculty member or instructor involved, he/she may submit a written request to the Dean’s Office of his/her College. The student is expected to report, in writing, the matter as he/she perceives it, the specific remedy he/she seeks, and the response of the faculty member or instructor within one week after he/she receives the final response of the faculty member or instructor.

The Dean may consult with the student, the faculty member or instructor involved, and other faculty members, separately, or, if all parties agree, jointly to resolve the issue.  
  
The Dean is expected to inform the student and the faculty member or instructor involved about his/her decision, in writing, within four weeks.

* The student may appeal the Dean’s decision, within one week, to the Provost’s Office. The Provost is expected to inform the student about his/her decision, in writing, within four weeks.
* If the faculty member involved in the matter is the Dean himself/herself, the student should present his or her appeal directly to the Provost's Office.

# ACADEMIC DISHONESTY

**Academic Dishonesty**

Academic dishonesty includes and is not limited to cheating, plagiarism, multiple submissions, and collusion, the definitions of which are stated below:

**Cheating**

Cheating includes, but is not limited to, copying from a classmate or providing answers or information, either written or oral to others, in an examination or in the preparation of material subject to academic evaluation.

**Plagiarism**

Plagiarism is borrowing or using someone else’s writing or ideas without giving written acknowledgement to the author. This includes copying from a fellow student’s paper or from a text or internet site without properly citing the source.

**Multiple Submissions**

Multiple submissions include resubmission of the same work previously used in another course or project, without the permission of the instructor for both courses.

**Collusion and Impersonating**

Collusion is getting unauthorized help from another person such as having someone else write one’s assignment, or having someone else take an exam with false identification. Impersonating a student in an examination is also considered a grave act of dishonesty.

**Fabrication**

Fabrication includes, but is not limited to, falsification or invention of any information or citation in an academic exercise.

**Facilitating Academic Dishonesty**

Facilitating academic dishonesty includes, but is not limited to, knowingly helping another student commit an act of academic misconduct (e.g., cheating, fabrication, plagiarism, multiple submissions).

**Other Forms of Dishonesty**

Other forms of dishonesty, including, but not limited to, fabricating information or intentionally providing false information to the University is considered a violation of the code of conduct.

Falsification of records; and/or giving false information include and are not limited to altering, tampering, forging, or knowingly using falsified documents or records (including Koç University parking permits and identification cards); giving or providing false statements, written or oral, and/or providing false information during any university proceeding or to any university administrator or official.

# KOÇ UNIVERSITY

## CLASSROOM CODE OF CONDUCT

# Students at Koç University are required to adhere to classroom code of conduct and to refrain from all forms of unacceptable behavior during lectures. The activities which are prohibited in class include and are not limited to:

* Engaging in side conservations.
* Using cell phones and other electronic devices.  
  *All cell phones should be switched off before entering the lecture room. If you expect a very important call, please switch your phone to silent mode and let your professor know in advance that you may receive a call.*
* Using laptops for purposes that are not course-related.
* Arriving late or leaving early without the prior permission of the instructor.  
  *If you have to leave during class for an emergency, please try to minimize the disruption.*
* Reading material, e.g., magazines, newspapers, novels etc., that are not course-related.
* Working on personal activities or the assignments of other courses.
* Interrupting the professor or other students.  
  *Students should request permission from the instructor before asking questions or making comments.*
* Trashing the classroom.  
  *Eating and drinking are allowed as long as impact on others is minimized and students clean up their garbage after class.*

**Failure to comply with the Classroom Code of Conduct may result in dismissal from class and disciplinary action.**