SYLLABUS
BISC 101Lxg, Cellular and Molecular Biology: From the Cell to Human Life
Fall, 2014
Raffaella Ghittoni, Ph.D.

Brief Description:
This GE course (Category III: Scientific Inquiry) is designed to give undergraduates an introduction to structures and functions of the cell as the smallest form of a living organism. The course will also describe, at genetic and molecular level, cellular components, cell reproduction and the mechanisms of cell regulation. For several of these topics, dysfunctional aspects (e.g. mutations, genetic diseases, cancer etc.) will be mentioned as examples and basic techniques and methodologies currently used by scientists will be introduced.
Although there is no prerequisite, general knowledge of introductory biology and chemistry at the high school level is helpful.
Please note that this course is **not** designed for those majoring in biology or the related health sciences. BISC 101 does not satisfy the requirements for accreditation in any pre-health area of which we are aware, and should not be used in an attempt to satisfy admission requirements into one of the health professions. We do not support, and will not provide help, in using this course for such a purpose.

Lecturer:
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Laboratory director:
Angel Tabancay tabancay@usc.edu Office Hrs:

Teaching Assistants:
TBA

Course Textbook:
Lecture: **Biology: Life on Earth with Physiology** by T. Audesirk, G. Audesirk and B. E. Byers. Pearson. *10th edition*
E-book copy (required) ISBN: 9780321834782
Loose leaf (optional) ISBN: 9780321844828
Paper copy (optional) ISBN: 9780321834195

Website: https://blackboard.usc.edu/
Course materials and announcements will be posted to Blackboard. Students are responsible for checking the website.
The syllabus may change slightly during the semester. Exam dates are firm.

***E-mails*:** Course E-mails will be sent only to your official USC email address

Lecture: Tue/Thu 2:00-3:20 p.m. SLH 102

Lectures and Examinations Calendar:

Weeks	Date	Topics Covered	Reading assignment
Week 1	26-Aug	Course introduction and syllabus description	-
	28-Aug	Exploring life on earth (Introduction to life on earth)	Ch.1
Week 2	02-Sep	Sharing is Caring: covalent bonds and beyond (Atoms, molecules, and life)	Ch.2
	04-Sep	Organic molecules: the Carbon supremacy (Biological molecules I)	Ch.3
Week 3	09 -Sep	Fats, Sugars, Proteins and …a pinch of Nucleic Acids: The recipe for Life (Biological molecules II)	Ch.3
	11-Sep	The basic unit of life: The Cell (Cell structure and functions I)	Ch.4
Week 4	16-Sep	Inside the cell engine (Cell structure and functions II)	Ch.4
	18-Sep	Two levels of complexity: prokaryotes vs eukaryotes (Cell structure and functions III)	Ch.4
Week 5	23-Sep	The Fluid Mosaic: a Biological Masterpiece (Cell membrane structure and functions I)	Ch.5
	25-Sep	Compartments: A Place for Everything and Everything in its Place (Cell membrane structure and functions II)	Ch.5
Week 6	30-Sep	In & Out: How cell communication works (Cell membrane structure and functions III)	Ch.5
	02-Oct	The tiniest power plant (Energy: ATP & Enzymes)	Ch.6
Week 7	**07-Oct**	**Midterm 1**	-
	09-Oct	From 1 to 2. Cell division and heredity: Mitosis (Cellular reproduction I)	Ch.9
Week 8	14-Oct	Sex and the Cell: Meiosis (Cellular reproduction II)	Ch.9
	16-Oct	Shuffling the deck. Cell division and genetic variability (Cell reproduction III)	Ch.9
Week 9	21-Oct	Cancer: Losing Control (Cell reproduction IV)	Ch.9
	23-Oct	Gregor Mendel and the "magic peas" (Patterns of Inheritance I)	Ch.10
Week 10	28-Oct	Mendel's laws (Patterns of Inheritance II)	Ch.10
	30-Oct	Inheriting from mom and dad (Patterns of Inheritance III)	Ch.10
Week 11	04-Nov	Genetic Disorders: Biology Gone Wrong (Patterns of inheritance IV)	Ch.10
	06-Nov	**Midterm II**	**-**
Week 12	11-Nov	DNA: the blueprint of life (DNA molecules I)	Ch.11
	13-Nov	DNA structure and mechanisms (DNA molecules II)	Ch.11
Week 13	18-Nov	Message in a molecule (Gene expressions I)	Ch.12
	20-Nov	The genetic code: Nature's Alphabet (Gene expressions II)	Ch.12
Week 14	25-Nov	Cracking the code (Gene expressions III)	Ch.12
	27-Nov	**Thanksgiving holiday**	----------
Week 15	02-Dec	*Memento mori*…. Remember to die (Programmed cell death)	-
	04-Dec	Stem cells: The future of medicine? (Stem cells)	-
Thursday (2-4 pm)	**11-Dec**	**Final Examination**	

Grading:

Laboratory 25%
Midterm I 25%
Midterm II 25%
Final exam 25%

Grade determination and final examination details:
Tests and final exam are marked on a numerical basis. The 4 exams worth 100 points each for a total of 400 points. The total points will be then converted to letter grades.
Course Policies:

1) Exam dates are firm. There are no makeup exams in the course. Performance on the final may be prorated to substitute for a missing midterm exam, if an excuse considered valid by faculty is presented in a timely fashion. An acceptable written excuse or documentation must be provided to the faculty. The final exam will be administered only on the date and time set by the University.

2) Lab tests will be returned to students by the TA during lab section. Midterm exams will be returned to students by the professor during lectures The final examination will not be returned but will be retained for one semester by the faculty.

3) Regrades: If you think an answer you have provided was graded incorrectly or if there is an arithmetic error, you may seek a regrade. You must provide a written explanation of why you think your answer was graded incorrectly. Regrade requests are to be submitted to your TA. If a regrade is agreed upon, then the ENTIRE EXAMINATION may be subject to a regrade. Your grade may therefore go up, go down, or remain the same. Regrade requests must be received within one week of when the exam key is posted for midterms, or by the second week of classes the following semester for the final exam.

4) No special assignments for extra credit are permitted.

5) Academic integrity policies of the University will be strictly followed. Infractions can result in severe penalties. There may be assigned seating for exams. No student may be admitted to an exam after the first student has left the exam.

Statement on academic integrity: USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. Scampus, the Student Guidebook, contains the Student Conduct Code in Section 11.00, while the recommended sanctions are located in Appendix A: http://www.usc.edu/dept/publications/SCAMPUS/gov/. Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: http://www.usc.edu/student-affairs/SJACS/.

6) Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the

letter is delivered to the professor as early in the semester as possible. DSP is located in STU 301 and is open 8:30 AM – 5:00 PM, Monday thru Friday, Phone number: 213-740-0776.

7) It may be necessary to make adjustments to the syllabus during the semester. Check the course website or class announcements on Blackboard for updates. **Exam dates will not be changed.**

8) Any questions or concerns regarding these policies should be addressed to the faculty.