

## SYLLABUS

### BISC 321x: Multidisciplinary Seminar: Science, Technology and Society

Spring 2016

**Time and Location:** Mondays, 3:30-4:50 p.m. in ZHS 252

**Course Instructor:** Dr. Remo Rohs ([rohs@usc.edu](mailto:rohs@usc.edu), RRI 413H)  
<http://rohslab.cmb.usc.edu>

**Teaching Assistants:** Carolina Dantas ([dantasma@usc.edu](mailto:dantasma@usc.edu), RRI 413K)  
Lin Yang ([yang23@usc.edu](mailto:yang23@usc.edu), RRI 413K)

**Introduction:** One of the hallmarks of science and technology is that it is ever-changing, growing, and extending in its pursuit of knowledge with far-reaching implications for society. The main content of this course is to have faculty from various disciplines and other representatives across society convey their knowledge in areas of their own research and expertise and tell us why they believe their perspective and knowledge is relevant to technological advance, careers and the world around us.

Our first meeting, with Dr. Rohs on Monday, January 11<sup>th</sup>, in ZHS 252, will broadly give information on current topics in technology, including biotechnology and medicine, and on cultural changes that have profoundly changed the goals of a significant fraction of our society. This first meeting will also give information on writing the weekly reports and on the term paper.

The first weekly report, due 1/25, asks the following questions:

- What are, in your opinion, the 5 breakthroughs in science in the last 5 years with most societal implications? Please explain briefly.
- What are, in your opinion, the 5 emerging technologies in the last 5 years with most societal implications? Please explain briefly.

The entire course schedule and lineup of speakers will be announced in the first class on January 11<sup>th</sup>. This first meeting will also be used to address your questions regarding the homework and grading of this course. In the second meeting on Monday, January 25<sup>th</sup>, Professor Rohs will introduce his own research on gene regulation.

Questions/Approvals: Your Last Name starts with A-La --- Email Carolina  
Your Last Name starts with Le-Z --- Email Lin

#### Schedule:

**1/11 Professor Remo Rohs, Ph.D.**  
**How Science and Technology Shape Society**

**1/18 MLK Day – no class**

**1/25 Professor Remo Rohs, Ph.D.**  
**Mechanisms of Gene Regulation**

**2/1 No class – arrange meeting with TAs to get approval for topic of your term paper**

**2/8 Professor Scott Fraser, Ph.D.**  
**Multimodal Sensing and Imaging of Working Biological Systems**

- 2/15** President's Day – no class
- 2/22** Professor Andrea Armani, Ph.D.  
Developing New Methods for Understanding Biology, from Individual Proteins to Tissue
- 2/29** Professor Andrew McMahon, Ph.D.  
Regenerative Medicine - Reality and Expectation
- 3/7** No class – arrange meeting with TAs to discuss detailed outline of your term paper
- 3/14** Spring Break – no class
- 3/21** Professor David Agus, Ph.D.  
The Lucky Years: How to Thrive in the Brave New World of Health
- 3/28** Professor Michael Waterman, Ph.D.  
Reading the Text of Genomes
- 4/4** Professor Hao Li, Ph.D.  
Bridging Physical and Digital Worlds in Virtual Reality
- 4/11** Professor Arthur Toga, Ph.D.  
Mapping Human Brain – the Promise and the Challenge
- 4/18** Professor Steve Kay, Ph.D.  
Circadian Rhythms in Health and Disease
- 4/25** Professor Valter Longo, Ph.D.  
Nutrition, Genes, Aging and Disease

**Weekly Reports (10 points each; 110 points total):** Reports should be no more than one page in length and should contain a maximum of 500 words. Reports must be typed as printer output. No electronic submissions will be accepted. Late reports will be graded on the basis of 5 possible points. There are 11 weekly reports.

Each weekly report will be graded based on the following components: Name of lecturer, date of lecture, and title of the lecture. List the main points raised during the lecture and discuss the meaning of each. The writing should consist of complete and grammatically correct sentences.

**Term Paper (50 points):** This paper, no more than five pages in length, is similar in format to the weekly reports. This report should take up a topic, chosen by you, on a subject not covered by any of the lectures. This report must provide a bibliography that includes a few citations of your primary sources. Term Papers will be due in the final week of the course.

**Grading:** Your final letter grade in this course will be based upon all of your written reports, including the Term Paper. Thus, since there are no exams in this course, active participation and attendance are important components. The grade will consist of 2/3 for weekly reports (100 points, 10 points bonus) and 1/3 for the term paper. In other words, 150 points will be 100%.

**Statement for Observance of Religious Holidays:** USC's policy grants students excused absences from class to observe religious holidays: <http://orl.usc.edu/life/calendar/absences/>

In this case, please contact your instructor in advance to agree on alternative course requirements.

**Statement for Students with Disabilities:** 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 me (or to TA) as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m.–5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776.

**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: 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/>.