General Education Course Information Sheet

Please submit this sheet for each proposed course

Department & Course Number Life Sciences Core Curriculum / LS2

Course Title Life Sciences 2, Cells, Tissues & Organs

Indicate if Seminar and/or Writing II course _____

1 Check the recommended GE foundation area(s) and subgroups(s) for this course

Foundations of the Arts and Humanities

- Literary and Cultural Analysis _____
- Philosophic and Linguistic Analysis _____
- Visual and Performance Arts Analysis and Practice _____

Foundations of Society and Culture

- Historical Analysis _____
- Social Analysis _____

Foundations of Scientific Inquiry

- Physical Science _____
  With Laboratory or Demonstration Component must be 5 units (or more) _____
- Life Science X
  With Laboratory or Demonstration Component must be 5 units (or more) _____

2. Briefly describe the rationale for assignment to foundation area(s) and subgroup(s) chosen.

Introduction to basic principles of cell structure, organization of cells into tissues and organs, and principles of organ systems

3. "List faculty member(s) who will serve as instructor (give academic rank):
COOPER, RON; **FAIN, GORDON**; **SCHEIN, STAN**; BOK, DEAN; ESDIN, JOSEPH; SIMMONS, DWAYNE; EDGERTON, REGGIE; ARNOLD, ARTHUR; NARINS, CAMERON; PHELAN, JAY;

Do you intend to use graduate student instructors (TAs) in this course? Yes X No ____

If yes, please indicate the number of TAs (576 Students/24 Sections) 8

4. Indicate when do you anticipate teaching this course over the next three years:

2010-2011	Fall		Winter		Spring		
	Enrollment		Enrollment		Enrollment		
2011-2012	Fall	X	Winter	X	Spring	X	
	Enrollment	576	Enrollment	576	Enrollment	576	
2012-2013	Fall	X	Winter	X	Spring	X	
	Enrollment	576	Enrollment	576	Enrollment	576	

5. GE Course Units

Is this an ***existing*** course that has been modified for inclusion in the new GE? Yes X No ____

If yes, provide a brief explanation of what has changed.

LS2 is currently a GE course with Laboratory. The Laboratory component will be removed.

Present Number of Units: 5 Proposed Number of Units: 4

6. Please present concise arguments for the GE principles applicable to this course.

❑ General Knowledge	Discussion of scientific concepts and technologies is pervasive in the world today, from newspapers and magazines, with numerous important political and medical decisions contingent upon such knowledge. LS2 covers scientific discoveries and methods, including broad organizing theories and concepts, significant experimental results and practical applications of both.
❑ Integrative Learning	In LS2, students learn and apply knowledge about the physiology, and analyses of experimental observations that use quantitative methods and logic. Further, they explore how scientific technologies can have significant impacts on diverse disciplines, from agriculture, medicine, nutrition, and learning to criminology.
❑ Ethical Implications	Throughout LS2, students explore issues with important and difficult ethical implications. These include stem cells research as well as pre-natal testing.
❑ Cultural Diversity	An important component of our discussions relates to the evaluation of the amounts of within-population variation and between-population variation, which helps shed light on issues surrounding cultural and racial diversity, and the difficulty in categorizing individuals.
❑ Critical Thinking	At the core of LS2 lies the process of hypothesis-testing and the analysis of experimental observations in order to draw conclusions (and estimate our confidence in such solutions). From the use of statistical analyses to the examination of data in light of competing explanations to the generation of experimental predictions about novel situations, students spend significant time learning and using critical thinking skills.
❑ Rhetorical Effectiveness	Essay questions on the midterms and final exam in LS2 require students to analyze experimental results and to use their analyses to form persuasive arguments about the genetic mechanisms responsible for the observed patterns.
❑ Problem-solving	From weekly problem sets to exams heavily focused on problem solving, LS2 students must master problem-solving skills relating to every topic in genetics.
❑ Library & Information Literacy	Students must manage information from their textbook as well as classroom discussions of important research findings and the technical literature in which they are described.

(A) STUDENT CONTACT PER WEEK (if not applicable write N/A)

1.	Lecture:	**2.50**	(hours)
2.	Discussion Section:	**1.25**	(hours)
3.	Labs:		(hours)
4.	Experiential (service learning, internships, other):		(hours)
5.	Field Trips:		(hours)
(A) TOTAL Student Contact Per Week		**3.75**	**(HOURS)**

(B) OUT-OF-CLASS HOURS PER WEEK (if not applicable write N/A)

1.	General Review & Preparation:	**3**	(hours)
2.	Reading	**2**	(hours)
3.	Group Projects:		(hours)
4.	Preparation for Quizzes & Exams:	**2**	(hours)

5.	Information Literacy Exercises:	**2**	(hours)
6.	Written Assignments:	**3**	(hours)
7.	Research Activity:		(hours)

(B) TOTAL Out-of-class time per week	**12**	**(HOURS)**
GRAND TOTAL (A) + (B) must equal at least 15 hours/week	15.75	**(HOURS)**

Life Sciences 2
Cells, Tissues, and Organs
Course Information, Fall 2011
4 units; Requisite: Chemistry 14A or Chemistry 20A

TEXTBOOOK / REQUIRED MATERIALS

Sadava, Hillis, Heller, and Berenbaum. 2009. *Life, The Science of Biology, 9th edition.*
Prep-U Adaptive Quizzing website: www.prep-u.com (requires access card from textbook)
LS2 Section 2 Reader. Four required articles (from *Sci. American* /*Nature/Science*). Available at Course Reader Materials, 1081 Westwood Blvd. #1.

COURSE REQUIREMENTS

200	• **Midterm Exams** (2 @ 100 pts each)	
50	• **Section**	Four two-page papers on *Sci. Amer./Nature/Science* articles @ 10 pts
		Participation: 10 pts
175	• **Final Exam** (comprehensive)	
425	• **Total Points Possible**	

EXAMS

The midterms in this class—two of them—are given in the evening. They are from 5PM to 6:30PM (rather than 5-7pm as listed in the Schedule of Classes) on Tuesday evenings of the 4th and 8th weeks of the quarter. They will cover material from the lectures, the readings, and the discussion sections. Approximately half of the exam will be multiple choice questions and half will be short answer questions. The final exam is comprehensive.

Makeup exams are NOT given. If you have an emergency and are unable to take an examination, you are responsible for contacting the Life Sci. Core Office before the exam. You must have written verification regarding the illness/emergency. If you feel that a clerical error was made in the grading of your exam, submit your exam with a typed explanation of the issue to the Life Sciences Core Office by Friday of the week following the exam and your entire exam will be regraded. Late regrades will not be accepted. Please make a photocopy of your exam if you submit it as they will not be available until after the final exam.

THE LIFE SCIENCES CORE OFFICE

For administrative issues relating to LS2, see Lily Yanez in the Life Sci Core Office (Life Sciences Building, Room 2305, 825-6614). Because LS 2 is an impacted class, you may not drop it after Friday of Week 2.

DISCUSSION SECTION

- Discussion sections will include discussion and review of lecture material and discussion of articles from the scientific literature.

- During weeks 2, 4, 6, and 8, you will turn in a 2-page paper, worth 10 points, on the *Scientific American* / *Nature* / *Science* articles assigned for that week. You will receive more specific instructions on each writing assignment on the course website. You must turn in these papers ***in person during the section they are due*** or you will lose one point. Also, for each additional day they are late you will lose another point.

WEEK	DISCUSSION SECTION TOPIC / WRITING ASSIGNMENT
1	Introduction to scientific thinking
2	Biological macromolecules and cell structure. *Writing:* The benefits and ethics of animal research
3	Enzymes and energetics.
4	Photosynthesis and cell respiration. *Writing:* Atherosclerosis: the new view.
5	Investigating animal metabolism.
6	Reproduction and development. *Writing:* No truth to the fountain of youth/Why do we age?
7	Form and function in animal anatomy and physiology.
8	Endocrinology, neurobiology, and cell signaling. *Writing:* Neurotransmitters, receptors and the lust for danger.
9	Nutrition and digestion.
10	Review

LECTURE SCHEDULE FOR LS2

WK		LECTURE TOPIC	READING (CHAPTER)
1	Tu	1. Scientific Thinking and Experimental Design	1-2
	Th	2. Biological Macromolecules	3-4
2	Tu	3. Cellular Organelles	5
	Th	4. Cellular Membranes	6
3	Tu	5. Enzymes and Energetics	8
	Th	6. Mitochondria and Cellular Respiration	9
4	Tu	7. Chloroplasts and Photosynthesis	10
		Exam 1	
	Th	8. Photosynthesis (cont.)	10
5	Tu	9. Cell Cycle, Mitosis and Meiosis	11
	Th	10. Homeostasis	40
6	Tu	11. Reproduction	43
	Th	12. Animal Development	44
7	Tu	13. Signaling	7
	Th	14. Neurons and Sensory Systems	45,46
8	Tu	15. The Synapse	45
		Exam 2	
	Th	16. Endocrine System	41
9	Tu	17. Gas Exchange and Respiration	49
	Th	18. Transport and Circulation	50
10	Tu	19. Digestion and Absorption	51
	Th	20. Nutrition	

UCLA Course Inventory Management System

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Course Revision Proposal

Life Sciences 2
Cells, Tissues, and Organs

Requested revisions that apply:

☐ Renumbering ☐ Title ☑ Format ☐ Requisites ☑ Units ☐ Grading ☐ Description

Multiple Listing: ☐ Add New ☐ Change Number ☐ Delete

Concurrent Listing: ☐ Add New ☐ Change Number ☐ Delete

	CURRENT	PROPOSED
Course Number	**Life Sciences 2**	**Life Sciences 2**
Title	**Cells, Tissues, and Organs**	**Cells, Tissues, and Organs**
Short Title	**CELLS&TISSUES&ORGNS**	**CELLS&TISSUES&ORGNS**
Units	Fixed: **5**	Fixed: **4**
Grading Basis	**Letter grade only**	**Letter grade only**
Instructional Format	Primary Format **Lecture** Secondary Format **Discussion**	Primary Format **Lecture - 3 hours per week** Secondary Format **Discussion - 75 hours per week**
TIE Code	**LECS - Lecture (Plus Supplementary Activity) [T]**	**LECS - Lecture (Plus Supplementary Activity) [T]**
GE	**Yes**	**Yes**
Requisites	**Chemistry 14A or 20A**	**Chemistry 14A or 20A.**
Description	Lecture, three hours; discussion/laboratory, three hours (alternate weeks). Enforced requisite: Chemistry 14A or 20A. Introduction to basic principles of cell structure, organization of cells into tissues and organs, and principles of organ systems. Letter grading.	**Lecture, three hours; discussion, 75 minutes. Enforced requisite: Chemistry 14A or 20A. Introduction to basic principles of cell structure, organization of cells into tissues and organs, and principles of organ systems. Letter grading.**
Justification		**LS 2 is decreasing in units from 5 to 4 as the lab component is being proposed as a standalone lab effective fall 2011.**
Syllabus		
Supplemental Information		
Effective Date	**Fall 2002**	**Fall 2011**
Department	**Life Sciences**	**Life Sciences**
Contact		Name **TRACY NEWMAN** E-mail **tracyn@lifesci.ucla.edu**
Routing Help		

ROUTING STATUS

Role: Registrar's Office
Status: Processing Completed

Role: Registrar's Publications Office - Hennig, Leann Jean (lhennig@registrar.ucla.edu) - 56704
Status: Added to SRS on 2/19/2011 8:44:40 PM
Changes: TIE Code
Comments: Edited course description into official version.

Role: Registrar's Scheduling Office - Thomson, Douglas N (dthomson@registrar.ucla.edu) - 51441

Status: Added to SRS on 2/7/2011 1:42:58 PM
Changes: TIE Code
Comments: No Comments

Role: FEC School Coordinator - Soh, Michael Young (msoh@college.ucla.edu) - 45040
Status: Returned for Additional Info on 1/21/2011 6:02:45 PM
Changes: TIE Code
Comments: Routing to Registrar's Office

Role: FEC Chair or Designee - Knapp, Raymond L (knapp@humnet.ucla.edu) - 62278
Status: Approved on 1/21/2011 2:13:01 PM
Changes: TIE Code
Comments: No Comments

Role: L&S FEC Coordinator - Soh, Michael Young (msoh@college.ucla.edu) - 45040
Status: Returned for Additional Info on 1/20/2011 5:53:50 PM
Changes: TIE Code
Comments: Routing to FEC Chair Ray Knapp for approval

Role: Department/School Coordinator - Newman, Tracy L (tracyn@lifesci.ucla.edu) - 58445
Status: Approved on 1/12/2011 12:05:50 PM
Changes: TIE Code, Requisites, Description, Justification
Comments: Tracy Newman, MSO on behalf of Frank Laski, LS Core Chair

Role: Registrar's Office - Hennig, Leann Jean (lhennig@registrar.ucla.edu) - 56704
Status: Returned for Additional Info on 1/12/2011 11:01:45 AM
Changes: TIE Code
Comments: Reroute back to Tracy to fix requisites, description, and justification (update course numbers).

Role: Registrar's Scheduling Office - Hennig, Leann Jean (lhennig@registrar.ucla.edu) - 56704
Status: Added to SRS on 5/8/2010 12:48:17 PM
Changes: TIE Code
Comments: Hold for Fall 2011.

Role: Registrar's Publications Office - Hennig, Leann Jean (lhennig@registrar.ucla.edu) - 56704
Status: Added to SRS on 5/7/2010 11:06:41 AM
Changes: TIE Code
Comments: Processing is complete!

Role: Registrar's Scheduling Office - Thomson, Douglas N (dthomson@registrar.ucla.edu) - 51441
Status: Added to SRS on 5/3/2010 12:45:28 PM
Changes: TIE Code, Effective Date
Comments: Effective term changed from fall 2010 to fall 2011, per department.

Role: Registrar's Scheduling Office - Thomson, Douglas N (dthomson@registrar.ucla.edu) - 51441
Status: Added to SRS on 5/3/2010 12:45:23 PM
Changes: TIE Code, Effective Date
Comments: Effective term changed from fall 2010 to fall 2011, per department.

Role: Registrar's Publications Office - Hennig, Leann Jean (lhennig@registrar.ucla.edu) - 56704
Status: Added to SRS on 3/13/2010 11:36:58 AM
Changes: TIE Code, Requisites, Description
Comments: Edited course description into official version; corrected requisites.

Role: Registrar's Scheduling Office - Thomson, Douglas N (dthomson@registrar.ucla.edu) - 51441
Status: Added to SRS on 3/11/2010 10:31:22 AM
Changes: TIE Code
Comments: No Comments

Role: Registrar's Scheduling Office - Thomson, Douglas N (dthomson@registrar.ucla.edu) - 51441
Status: Added to SRS on 3/11/2010 10:14:24 AM
Changes: TIE Code
Comments: No Comments

Role: L&S FEC Coordinator - Soh, Michael Young (msoh@college.ucla.edu) - 45040

Status: Returned for Additional Info on 3/9/2010 6:35:33 PM
Changes: TIE Code
Comments: Re-routing to Doug Thomson in the Registrar's Office

Role: FEC School Coordinator - Weintraub, Dayna Staci Bake (N/A)
Status: Returned for Additional Info on 3/9/2010 6:14:45 PM
Changes: TIE Code
Comments: Routing to M Soh

Role: FEC Chair or Designee - Knapp, Raymond L (knapp@humnet.ucla.edu) - 62278
Status: Approved on 3/9/2010 7:56:51 AM
Changes: TIE Code
Comments: No Comments

Role: L&S FEC Coordinator - Soh, Michael Young (msoh@college.ucla.edu) - 45040
Status: Returned for Additional Info on 3/8/2010 2:13:58 PM
Changes: TIE Code
Comments: Re-routing to FEC Chair Ray Knapp for approval

Role: FEC School Coordinator - Weintraub, Dayna Staci Bake (N/A)
Status: Returned for Additional Info on 3/5/2010 2:54:48 PM
Changes: TIE Code
Comments: Routing to M Soh

Role: Department/School Coordinator - Newman, Tracy L (tracyn@lifesci.ucla.edu) - 58445
Status: Approved on 2/16/2010 3:55:31 PM
Changes: TIE Code
Comments: Tracy Newman, MSO on behalf of Frank Laski, Chair, LS Core

Role: FEC School Coordinator - Weintraub, Dayna Staci Bake (N/A)
Status: Returned for Additional Info on 2/2/2010 12:41:33 PM
Changes: TIE Code
Comments: Department chair approval

Role: Initiator/Submitter - Newman, Tracy L (tracyn@lifesci.ucla.edu) - 58445
Status: Submitted on 2/1/2010 9:03:39 PM
Comments: Initiated a Course Revision Proposal

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