General Education Foundations of Scientific Inquiry (FSI) Course Information Sheet

Please submit this sheet for each proposed course along with 1) a syllabus describing the key components of the course that will be taught regardless of the instructor and 2) assignment guidelines.

Department, Course Number, and Title Chemistry and Biochemistry; 98T; The intersection of science and ethics, CRISPR: a case study

Indicate when the department anticipates offering this course in 2019-20 and give anticipated enrollment:
Fall: Enrollment____ Winter: Enrollment 15 Spring: Enrollment____ Summer: Enrollment ____

As stated in the guidelines regarding courses in the Foundations of Scientific Inquiry (FSI), the aim of these course offerings is:

To ensure that students gain a fundamental understanding of how scientists formulate and answer questions about the operation of both the physical and biological world. These courses also deal with some of the most important issues, developments, and methodologies in contemporary science and technology, addressing such topics as the origin of the universe, environmental degradation, and the decoding of the human genome. Through lectures, experiential learning opportunities such as laboratories, writing, and intensive discussions students consider the important roles played by the laws of physics and chemistry in society, biology, earth and environmental sciences, and astrophysics and cosmology.

General Education FSI Student Goals: Courses fulfilling the GE FSI will provide a minimum of four units and should align with some (not necessarily all) of the following seven general goals:

1. Students will actively engage in the scientific process of inquiry, analysis, problem-solving, and quantitative reasoning.
2. Students will acquire an informed appreciation of scientists, scientific research, and technology.
3. Students will experience the interdisciplinary nature of science.
4. Students will develop information literacy.
5. Students will make evidence-based decisions in a wide array of science and non-science contexts.
6. Students will develop scientific literacy by addressing current, critical issues and topics in science that are personally meaningful in daily life and/or connected to the needs of society.
7. Students will recognize fundamental scientific principles and the connections between different domains of science.

General Education FSI Student Learning Outcomes: Each course should have student learning outcomes listed in the syllabus. These outcomes may be tied to a specific discipline but should be associated with the seven broad categories listed above (please see **Appendix I** for a sample list of possible learning outcomes supporting each goal).

General Guidelines for GE FSI Courses: GE Courses may be upper or lower division, but they should have no prerequisites. Any student should be able to take them and understand the material with the background expected from all UCLA students. While the course may include material related to the history of science and the social and cultural implications of scientific research, **at least half** of the course should be devoted to students actively engaging in the scientific process of inquiry, analysis, problem-solving, and quantitative reasoning (Goal #1).

Please indicate the area/s which you believe this course should satisfy.

Life Science: ☑ Physical Science: ☐ Life Science Lab*: ☐ Physical Science Lab*: ☐

**Please see the additional student learning outcomes and expectations for courses approved as GE FSI Labs.*

The GE FSI Assessment Project Resource Team would be delighted to meet with you to assist in filling out this form. Please contact us at RRamachandran@teaching.ucla.edu if you wish to arrange a meeting.

We are interested in understanding the alignment of your course learning outcomes with the GE FSI learning goals. First, identify measurable learning outcomes from your course and enter them in the first column of Table 1. You may add more rows as needed. If you need to state new learning outcomes, see Appendix I for a sample list of possible learning outcomes supporting each goal. Should you wish to choose any of these outcomes, you may simply indicate its number, e.g., 6a. Next, indicate how your learning outcomes relate to the GE FSI learning goals 1 through 7 (see previous page), by placing X's in the appropriate boxes. Note that all GE FSI courses must address Goal #1.

Table 1: Alignment of Course Learning Outcomes with GE FSI Learning Goals

	Your Course Learning Outcomes	**Select GE FSI Goal #**						
		1	**2**	**3**	**4**	**5**	**6**	**7**
1	Discuss the biological mechanism of CRISPR	✔	✔	✔				✔
2	Understand the design of clinical trials and how they exemplify the 'scientific method'	✔			✔			
3	Think critically about ethical questions surrounding CRISPR technologies	✔				✔	✔	
4	Conduct research and analyze resources to make informed conclusions regarding ethical topics discussed				✔	✔	✔	✔
5								
6								

Considering each of the GE FSI goals that you marked with X's in the table above, please provide information about related course activities and assignments.

Table 2: Course Activities and Assignments that Support the Learning Goals

Course Learning Outcome No. from Table 1	**Course Activities** How will progress towards meeting this outcome be facilitated? In other words, what types of course activities will be provided to assist students in achieving the learning goal?	**Course Assignments** How will students in the course demonstrate their ability to meet this goal? Please describe and provide a sample assignment, such as a term paper, exam, essay prompt, etc.
1	Lectures, class discussion	Guiding questions for the reading assignments, class participation during discussions, CRISPR quiz
2	class discussion, group presentations	Groups of 4-5 will give a 20-minute presentation on one of the diseases currently undergoing clinical trial research
3	class discussion, term paper	Class participation during discussions and the final term paper described below
4	term paper	Students will choose an ethical question, take a stand, and provide research to defend their stance
5		
6		

Please provide information on estimated weekly hours for the class.

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

Activity	Number of hours per week
Lecture	1.5
Discussion Section	1.5
Labs	N/A
Experiential (Community-engagement, internships, other	N/A
Field Trips	N/A
A) TOTAL student contact per week	

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

Activity	Number of hours per week
General Review and Preparation	2
Reading	3
Group Projects	2
Preparation for Quizzes & Exams	1
Information Literacy Exercises	2
Written Assignments	N/A
Research Activity	2
B) TOTAL Out-of-class time per week	

GRAND TOTAL (A) + (B) must equal at least 15 hours/week: 15 (hours)

Additional Student Learning Outcomes for experiential learning courses approved as "GE FSI Labs"

GE FSI Lab Definition and Expectations: A hands-on laboratory, computer simulation, demonstration, or field experience that involves active participation in experimental observation, data generation and collection using the techniques, methodologies, and approaches of modern-day scientists. Any lab should be conducted under sufficient supervision by the instructor or a Teaching Assistant (TA). Furthermore, the instructor and TAs should meet regularly outside of class time (minimum weekly or biweekly) to practice performing the lab procedures and/or to review the experimental results.

Please select one or more of the following learning outcomes for your course (select all that apply):

☐ 1. Students will design, implement, and evaluate an experimental strategy for answering scientific questions, testing a hypothesis, or solving a problem.

☐ 2. When possible, students will replicate experiments to allow testing for and interpretation of statistical significance.

☐ 3. Students will apply commonly used mathematical concepts and statistical methods (e.g., basic addition, subtraction, multiplication, division, averages, standard deviation, t-test for significance) in their analysis of different types of scientific data they collect.

☐ 4. Students will be able to visually depict a quantitative dataset as a chart, graph, table, or mathematical equation.

☐ 5. Students will be able to concisely summarize trends and patterns deduced from quantitative and qualitative data to make informed conclusions about their experimental results.

☐ 6. When interpreting their results, students will distinguish between the most important and extraneous findings (i.e. identify those that are critical to addressing a question, solving a problem, or supporting/refuting a hypothesis).

☐ 7. When interpreting their results, students will infer relationships between controls and experimental variables as well as assess causality and correlation among variables.

☐ 8. Students will be able to troubleshoot experimental procedures or methods of analysis to develop a sound scientific rationale for deducing what went wrong and why.

Please present concise explanation of how your course satisfies these criteria.

How will students in this course actively experiment and engage in the hands-on process of gathering, analyzing, and interpreting data? How will progress towards meeting the student learning outcomes for "labs" be measured/assessed? In other words, what types of assignments will be given to determine whether students are achieving the learning outcomes?	N/A

Appendix I. Student Learning Goals with Nested Learning Outcomes for All General Education (GE) Foundations in Scientific Inquiry Courses

Course Goals (1-7) and Student Learning Outcomes (a, b, c, etc.) for all "GE FSI" courses:

1. Students will actively engage in the scientific process of inquiry, analysis, problem-solving, and quantitative reasoning.
    a. Students will explain how scientists answer scientific questions, test a hypothesis, or solve a problem.
    b. Students will make reasonable predictions of experimental outcomes based on observation, measurements, and/or prior knowledge surmised from the scientific literature or other reliable, validated, accurate information sources.
    c. Students will break down, reason through, and solve complex quantitative problem sets.
    d. Students will be confident working with numerical data.
    e. Students will estimate and complete calculations to solve a quantitative problem.
    f. Students will recognize different objects and apply units of measurement at relevant scales (quantity, size, time) and orders of magnitude.
2. Students will acquire an informed appreciation of scientists, scientific research, and technology.
    a. Students will value their academic experiences in a science course that is outside their primary field of study.
    b. Students will recognize the benefits of science to society or their everyday life.
    c. Students will express interest in contributing to the sciences (e.g., engaging in research or scientific discourse with others).
    d. Non-science students will see scientists as role models, helping them to identify as scientists themselves.
3. Students will experience the interdisciplinary nature of science.
    a. Students will investigate topics from a variety of scientific fields.
    b. Students will explore the perspectives of multiple diverse scientists.
    c. Students will make logical connections between key concepts from multiple scientific disciplines.
4. Students will develop information literacy.
    a. Students will be mindful of information they encounter, recognizing contexts or situations when it is necessary to seek out other sources or data.
    b. Students will identify, locate, and critically evaluate information sources and datasets to ensure they are reliable, validated, accurate, and scholarly (i.e. associated with citations in peer-reviewed, public research studies).
    c. Students will explain the peer-review process in science and its role in critical evaluation and validation of published, scientific findings.
5. Students will make evidence-based decisions in a wide array of science and non-science contexts.
    a. Students will distinguish between opinion and fact (i.e. recognize data-supported conclusions).
    b. Students will use reliable, validated, accurate, and scholarly information sources and datasets before accepting or formulating a conclusion.
    c. Students will draw conclusions or make judgements about experimental results informed by critical thinking, that is, a comprehensive exploration of ideas and systematic engagement with the scientific process.
6. Students will develop scientific literacy by addressing current, critical issues and topics in science that are personally meaningful in daily life and/or connected to the needs of society (e.g., climate change, vaccination, GMOs, evolution).
    a. Students will clearly state the significance or relevance of a research question or problem (i.e. state why scientists are motivated to study the issue or topic).
    b. Students will discuss societal impacts by citing examples of the ways in which scientists and scientific research contribute to society.
    c. Students will describe the interactions between humans and their physical world and the positive and negative effects of this interaction.
    d. Students will explain why issues perceived as "controversial" in the public domain are not considered "controversial" in among scientists.
7. Students will recognize fundamental scientific principles and the connections between different domains of science.
    a. Students will describe the nature, organization, and evolution of living systems.
    b. Students will explain the origin and physical processes of the planet earth and the surrounding universe.
    c. Students will differentiate between a scientific theory, hypothesis, fact, or law.

The intersection of science and ethics: CRISPR, a case study

Overview:
As science continues to advance, the societal implications of new technologies need to be considered by the public. A key example is the evolution of technologies used for genetic modification. The discovery of CRISPR and its development into a robust method to selectively modify DNA in living organisms has inspired scientists to genetically modify crop strains, engineer yeast to make biofuels and correct human diseases. These biomedical applications require extensive research and clinical trials to ensure safety and efficacy of treatment prior to widespread usage. The advancement of genetic technologies, specifically through the ease of the CRISPR system, raise many ethical questions that should be considered by non-scientists and scientists alike. In this seminar, students will be first introduced to the CRISPR technology and then the course will consist of discussions regarding the applications and ethics of CRISPR, with a focus on ongoing human clinical trials.

Some questions we will be discussing:

- How do researchers decide what diseases CRISPR should be used to treat?
- How does the implementation of CRISPR to treat disease lead to the use of CRISPR to impart desirable traits in the next generation?
- If it becomes possible to increase intelligence with CRISPR, should this technology be accessible?
- Will CRISPR treatment be economically feasible for anyone but the elite?

The goal of this seminar is to impart a working understanding of the science behind CRISPR and the implications this technology will have on the treatment of human disease. We will discuss four cases: the CRISPR babies announced in China in 2018, and active clinical trials in the USA for the treatment of cancer, sickle cell anemia, and childhood blindness.

This course will allow students to form an appreciation of scientific methodology and technology as well as develop informational literacy through the discussion of scientific articles. The term paper will encourage students to actively engage with the material, the current clinical trials, and make evidence-based decisions regarding the ethical implications of the CRISPR technology.

Course Goals (Objectives):
By the end of this seminar, students should be able to:

1. Discuss the biological mechanism of CRISPR;
2. Understand the design of clinical trials and how they exemplify the ‘scientific method’;
3. Think critically about ethical questions surrounding CRISPR technologies;
4. Conduct research and analyze resources to make informed conclusions regarding ethical topics discussed.

Class Participation:
In order to actively participate in class, it is important each student has read and thought critically about the assigned literature. The materials will be discussed as a group during class periods. To aid in discussion and understanding of the material, guiding questions will be provided in advance. Students will get full credit for class participation if they are actively engaged in the discussion every week.

Group Presentations:
Students will sign up at the end of Week 1 to lead discussion during weeks 7-9 for one of the three topics (cancer, sickle-cell anemia, blindness) researchers are actively working on in the United States. In the weeks preceding the student presentations (week 5-6), I will present the case of the CRISPR babies as an example. In groups of 3-4, the students will prepare a 20-30 min presentation introducing the disease, current treatments, and any results from the ongoing clinical trial. The goal of the presentations is to provide background information necessary for discussion of the ongoing clinical trials. The presentations will conclude with 4-5 ethical questions that can be used to start a class-wide discussion.

Key points to address:

1) What is the disease?
    a. What is the genetic component of the disease?
    b. What are the symptoms of the disease?
2) Current treatments for the disease
    a. Historical perspective for the treatment of the disease
    b. What is the state-of-the-art treatment currently for this disease?
    c. How will CRISPR treat the disease?
3) Clinical trial updates
    a. When and where is the trial taking place?
    b. When will the trial conclude?
    c. Is there any data about the safety / efficacy of the treatment?
4) Discussion questions (4-5 to promote class discussion)
    a. What ethical issues arise from this clinical trial?

Term Paper:
Each student will pick an ethical question surrounding CRISPR / genetic modification of humans to treat disease, and write a 10-15 page persuasive research paper. The subject should be researched thoroughly so that the student can effectively argue their opinion. The topic must be approved by the instructor during Week 3. The thesis statement of the research paper will be due Week 4, with a rough draft due in Week 9. Term papers should have a minimum of 12 references – a discussion of "good" references will take place Week 2. Students will peer review another student's draft Week 10. The final paper is due one week after class ends. Feedback will be provided when the topic is approved, when the thesis statement is turned in, on the rough draft and through peer review.

Accommodations:
Students needing academic accommodations based on a disability should contact the Center for Accessible Education (CAE) at (310)-825-1501 or in person at Murphy Hall A255. When possible, students should contact the CAE within the first two weeks of the term, as reasonable notice is needed to coordinate accommodations. For more information visit www.cae.ucla.edu.

Grading:

Class participation: 10%
CRISPR quiz: 5%
Group presentation: 20%
Topic approval for term paper: 5%
Thesis statement for term paper: 10%
Rough draft of term paper: 15%
Peer Review of first draft of term paper: 10%
Final draft of term paper: 25%

2020 Coronavirus crisis:

This is an uncertain time and the well-being of yourself, your family and friends take precedence over this course. Please let the instructor know about any personal situations that arise and accommodations will be made.

In the event that we have not returned to in-person classes, all lectures will be pre-recorded for asynchronous learning. Each week we will meet via zoom to discuss the material and the readings. It is expected that students will have watched the lecture and done the readings prior to the discussion. Students will still be expected to give presentations over zoom, but expectations will be adjusted accordingly.

As we are all learning the best way to navigate online courses, feedback will be welcomed throughout the quarter such that the class can be beneficial to the learning of all students.

Zoom etiquette:

With many people on a zoom meeting it is important to set some guidelines to make meetings run smoothly. Please keep yourself muted unless you would like to speak. You can use the raise the hand function or type questions into the chat box if you have them.

Week 1: Introduction to the Central Dogma

Objective: 1

Reading : https://www.nature.com/scitable/ebooks/the-elaboration-of-the-central-dogma-16553173/contents/

i. The Double Helix (1.1-1.2)
ii. Structure and Function: DNA Replication (2.1)
iii. Transcription and Translation (3.1-3.4)

Week 2: Historical ways to treat genetic illnesses; Finding "good" sources

Objective: 1

Scientific article:

- Musunuru and coworkers. *J. Clin. Invest.* **2014**, 124, 4154. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4191047/pdf/JCI72992.pdf

Editorials:

- Is there a moral obligation to select healthy children? https://jme.bmj.com/content/medethics/41/8/696.full.pdf
- Editing policy to fit the genome? https://science.sciencemag.org/content/sci/351/6271/337.full.pdf

Useful resources:

- Good sources and writing a research paper https://uclalibrary.github.io/research-tips/handouts/

Week 3: CRISPR introduction

Objective: 1

Scientific article:

- Doudna and coworkers. *Science* **2012**, *337*, 816. https://science.sciencemag.org/content/sci/337/6096/816.full.pdf

Editorials:

- U.S. public opinion on the future use of gene editing https://www.pewresearch.org/science/2016/07/26/u-s-public-opinion-on-the-future-use-of-gene-editing/#

Optional paper:

- Lander, E. S. *Cell* **2016**, *164,* 18. https://reader.elsevier.com/reader/sd/pii/S0092867415017055?token=616EB60AD2E385B9B53EBF3DE5873F28C0ACC585DFF502904570C00FC8909FACDBBA03CBD31DA86CFC157D497EDB5C7C

Optional video:

- https://www.ibiology.org/genetics-and-gene-regulation/crispr-cas9/

Week 4: CRISPR continued (Quiz)
Objective: 1
Scientific article:

- Doudna, J. A.; Charpentier, E. *Science* **2014**, *346*, 1258096. https://science.sciencemag.org/content/sci/346/6213/1258096.full.pdf

Editorial:

- A prudent path forward for genomic engineering and germline gene modification https://science.sciencemag.org/content/sci/348/6230/36.full.pdf

Week 5: CRISPR babies
Objective: 1, 2, 3
Editorials:

- China's CRISPR babies: Read exclusive excepts from the unseen original research https://www.technologyreview.com/s/614764/chinas-crispr-babies-read-exclusive-excerpts-he-jiankui-paper/
- China delivers verdict on gene editing of babies https://science.sciencemag.org/content/sci/367/6474/130.full.pdf

Optional editorials:

- CRISPR babies: when will the world be ready? https://www.nature.com/articles/d41586-019-01906-z#correction-0
- CRISPR gene-editing tested in a person for the first time https://www.nature.com/news/crispr-gene-editing-tested-in-a-person-for-the-first-time-1.20988

Week 6: The design of a clinical trial
Objective: 2, 3
Editorials:

- Clinical Trials: Your Questions answered https://www.brightfocus.org/sites/default/files/clinical_trials_your_questions_answered_full_page_january_2019.pdf
- Phases of Clinical Trials https://www.brightfocus.org/clinical-trials/how-clinical-trials-work/phases-clinical-trials

Week 7: CRISPR clinical trial (sickle cell)
Objective: 1, 2, 3
Scientific article:

- Kan, Y. W. and coworkers. *PNAS* **2016**, *113*, 10661. https://www.pnas.org/content/pnas/113/38/10661.full.pdf

Editorials:

- 2015 Clinical trials update in sickle cell anemia https://onlinelibrary.wiley.com/doi/full/10.1002/ajh.24116
- Fist CRISPR treatment for sickle cell, other blood disease shows early benefits https://www.pbs.org/newshour/science/first-crispr-treatment-for-sickle-cell-other-blood-disease-shows-early-benefits-in-two-patients

Optional video:

- https://youtu.be/hRnrIpUMyZQ

Week 8: CRISPR clinical trial (Editing T cells)
Objective: 1, 2, 3
Scientific article:

- Marson, A. and coworkers. *Sci. Reports* **2017**, *737*, 1. https://www.nature.com/articles/s41598-017-00462-8

Editorials:

- https://clinicaltrials.gov/ct2/show/NCT03545815
- Early Results from First-in-U.S. Trial of CRISPR-Edited Immune Cells for Cancer Patients Suggest Safety of Approach https://www.pennmedicine.org/news/news-releases/2019/november/results-first-us-trial-crispr-edited-immune-cells-cancer-patients-safety-of-approach

Optional editorial:

- CRISPR gene-editing tested in a person for the first time https://www.nature.com/news/crispr-gene-editing-tested-in-a-person-for-the-first-time-1.20988

Week 9: CRISPR clinical trial (Photoreceptors for blindness) – Editas Medicine and Allergan
Objective: 1, 2, 3
Scientific article:

- Wu, Z. and coworkers. *Nature Comm.* **2017**, *8*, 1. https://www.nature.com/articles/ncomms14716.pdf

Editorials:

- NIH-funded scientists deploy CRISPR to preserve photoreceptors in mice https://www.nih.gov/news-events/news-releases/nih-funded-scientists-deploy-crispr-preserve-photoreceptors-mice
- Go-ahead for first in-body CRISPR medicine testing https://www.nature.com/articles/d41587-018-00003-2

Week 10: Looking forward/Peer review
Objective: 1, 2, 3, 4
Editorials:

- Quest to use CRISPR against disease gains ground https://www.nature.com/articles/d41586-019-03919-0
- The Ethics of Human Genome Editing https://www.who.int/ethics/topics/human-genome-editing/WHO-Commissioned-Ethics-paper-March19.pdf
- Should you edit your children's genes? https://www.nature.com/news/should-you-edit-your-children-s-genes-1.19432

Additional optional reading:

- Where in the world could the first CRISPR baby be born? (2015) https://www.nature.com/news/where-in-the-world-could-the-first-crispr-baby-be-born-1.18542
- What CRISPR-baby prison sentences mean for research https://www.nature.com/articles/d41586-020-00001-y
- Why were scientists silent over gene-edited babies? https://www.nature.com/articles/d41586-019-00662-4
- The first CRISPR gene therapy to cure sickle-cell disease https://www.advancedsciencenews.com/the-first-crispr-gene-therapy-to-cure-sickle-cell-disease/
- Trial underway in US uses CRISPR gene-editing in people with severe sickle cell disease https://www.cnn.com/2019/07/30/health/crispr-trial-sickle-cell/index.html

Potential optional movie:
Human Nature (Greenwich Entertainment)

New Course Proposal

Chemistry & Biochemistry 98T
The Intersection of Science and Ethics: CRISPR, A Case Study

Course Number Chemistry & Biochemistry 98T

Title The Intersection of Science and Ethics: CRISPR, A Case Study

Short Title CRISPR: CASE STUDY

Units Fixed: 5

Grading Basis Letter grade only

Instructional Format Seminar - 5 hours per week

TIE Code SEMT - Seminar (Topical) [T]

GE Requirement Yes

Requisites Enforced: Satisfaction of entry-level Writing requirement. Freshmen and sophomores preferred.

Course Description Seminar, three hours. Requisite: satisfaction of Entry-Level Writing requirement. Freshmen/sophomores preferred. CRISPR, a technique to modify DNA in living organisms, has been expanded to edit human DNA to treat genetic disease. In this seminar series, we will explore CRISPR scientifically and explore ethical issues that arise with this technology.

Justification Part of the series of seminars offered through the Collegium of University Teaching Fellows

Syllabus File *Syllabus_Day.pdf* was previously uploaded. You may view the file by clicking on the file name.

Supplemental Information Instructor (Rachel Day) UID:204758865
Professor Ellen Sletten is the faculty mentor for this course. UID:304708484
Approved by the Collegium of University Teaching Fellows Faculty Advisory Committee on April 13, 2020

Grading Structure Class participation: 10%
CRISPR quiz: 5%
Group presentation: 20%
Topic approval for term paper:5%
Thesis statement for term paper:10%
Rough draft of term paper:15%
Peer Review of first draft of term paper:10%
Final draft of term paper:25%

Effective Date Winter 2021

Discontinue Date Summer 1 2021

Instructor

Name	Title
Rachel Day	Teaching Fellow

Quarters Taught ☐ Fall ☑ Winter ☐ Spring ☐ Summer

Department Chemistry

Contact

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Routing Help

CHEM 98T

ROUTING STATUS

Role: Registrar's Publications Office
Status: Pending Action

Role: Registrar's Scheduling Office - Latimer, Tiara Brejae (tlatimer@registrar.ucla.edu) - 310/825-1441
Status: Added to SRS on 9/8/2020 1:38:08 PM
Changes: Title, Short Title
Comments: added short title. Discontinue date 211.

Role: L&S FEC Coordinator - Corrado, Leah Marcos (lcorrado@college.ucla.edu) - 310/825-1021
Status: Approved on 8/28/2020 2:08:03 PM
Changes: No Changes Made
Comments: No changes. Approved on behalf of Jeff Lewis, Chr, College FEC, per e-mail 8/21/2020

Role: CUTF Coordinator - Fedyna, Alison (afedyna@teaching.ucla.edu) - 310/825-9149
Status: Approved on 8/27/2020 1:43:47 PM
Changes: No Changes Made
Comments: on behalf of Professor Kathleen L. Komar, Chair, CUTF Faculty Advisory Committee

Role: Initiator/Submitter - Fedyna, Alison (afedyna@teaching.ucla.edu) - 310/825-9149
Status: Submitted on 8/27/2020 1:43:12 PM
Comments: Initiated a New Course Proposal

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