**Guidance for Use of this Document**

This description is for you to modify to match specific research program goals and needs. Contact the Research Ethics Program at ethics@ucsd.edu if assistance is needed.

The scholarly references in paragraph one are to reinforce awareness that UCSD is distinguished by having leadership in the field of RCR education. While it is optional, it is an indication that we see the requirement as being more than *pro forma*.

If trainees are postdoctoral, then consider requiring or proposing as an option *Ethical Challenges of Research* workshops that are held monthly (please see: <http://postdoc.ucsd.edu/training/essential-training.html#Ethical-Challenges-of-Research->). The format is similar to the Scientific Ethics course but, offers more flexibility. There are usually 20-30 participants enrolled in each workshop. Workshop topics have similar format and subject matter to the courses. To receive a certificate, participants must complete a total of four workshops, two hours each, including an initial introductory overview workshop.

**PLAN FOR INSTRUCTION IN THE RESPONSIBLE CONDUCT OF RESEARCH**

Research ethics has been an area of excellence at UC San Diego since 1997. Michael Kalichman, founding director of the Research Ethics Program (REP), and emeritus Professor of Pathology, focused his research interests on evidence-based approaches to research ethics education (Kalichman, 2009, 2013a, 2013b, 2016). The REP is now directed by Dr. Camille Nebeker, Associate Professor of Public Health. Dr. Nebeker began her affiliation with the REP in 2013 and is both an ethics educator and researcher who studies ethical and responsible research practices. The UC San Diego Research Ethics Program provides instruction that meets the responsible conduct of research (RCR) requirements for UCSD trainees and academic researchers at all career stages. The REP offers courses, seminar series, workshops, and individual seminars or lectures tailored to meet the needs of programs throughout the University.

The goals of the REP are to foster a campus culture of integrity by ensuring that researchers: (1) are aware of rules and policies that might have an impact on their research; (2) understand their roles and responsibilities in ethical decision-making, asking questions, and raising concerns; and (3) are empowered to be proactive in addressing the ethical dimensions of their work and the work of their colleagues (Kalichman, 2007).

All trainees will be required to take one of two courses offered by the REP, or the equivalent:

1. *Scientific Ethics*: This course consists of seven two-hour sessions with class sections of no more than 25 students. Based on principles of active and student-centered learning, this course is comprised of an introductory, interactive lecture, five meetings in which small groups (1-3 students) lead discussions on relevant topics of their choosing, and a concluding session in which a panel of faculty answer questions developed by the students on the topic of responsible conduct of research.
2. *Ethics and Survival Skills in Academia*: This course consists of ten three-hour sessions with a class of no more than 35 students. The course includes components parallel to those of the *Scientific Ethics* course, but also introduces knowledge and skills to succeed in academia such as writing of papers and proposals, oral communication for educators and scientists, career advancement, and time management.

*See* *REP Education*: [https://ethics.ucsd.edu/education/index.html](https://ethics.ucsd.edu/education/ethics/index.html)

***Format:*** Both courses are taught with a minimum of lecture, emphasizing instead face to face student-centered, active learning.

***Subject matter:*** These courses touch on all recommended topics: conflict of interest, policies regarding human subjects, live vertebrate animal subjects in research, and safe laboratory practices, mentor/mentee responsibilities and relationships, collaborative research, peer review, data management, research misconduct and policies for handling misconduct, responsible authorship and publication, the scientist as a responsible member of society, contemporary ethical issues in biomedical research, and the environmental and societal impacts of scientific research. However, the student-centered design maximizes the chance that students particularly focus on topics of importance and interest to their specific practices of research. Fundamentally, the topics covered are defined by the recognition that ethical considerations are synonymous with good science, which is the hallmark of reproducible science.

***Subject matter (special topics):*** The student-centered design of these courses maximizes the chance that students will particularly focus on topics of importance and interest to their specific practices of research. For example, based on recent news stories and concerns raised by observers of science, topics that have been of particular interest include reproducibility in science, the use and misuse of statistics, image manipulation, sabotage, and science activism.

***Faculty participation:*** Faculty and sponsors/mentors are required to join faculty panels as part of the courses to address questions asked by the students about RCR. This involvement of faculty serves to satisfy the NIH requirement for active involvement of faculty in RCR training. Further, faculty are always welcome to attend course meetings. In addition to these formal courses, informal learning opportunities are at least as important as formal training in courses. Faculty in [insert program name] are well versed in requirements pertaining to recordkeeping, authorship and publication practices, research design and [insert other topics relevant to proposed program], all of which are explicitly discussed with trainees. To facilitate their roles as effective trainers, faculty who have not already participated will attend one of two UCSD train-the-trainer programs offered at least annually: (1) *Ethics in Context*, to help faculty infuse research ethics into their research groups or into existing specialty courses (Kalichman, 2014) and (2) *Research Ethics Courses*, to help faculty create discipline-specific research ethics courses. The combination of these informal approaches with the formal curriculum ensures that trainees will receive a robust exposure to the ethical issues intrinsic to [insert language relevant to proposal focus].

***Duration of instruction:*** The Scientific Ethics course meets for a total of 14 hours face to face. The Ethics and Survival Skills course meets for a total of 30 hours face to face.

***Frequency of instruction:*** All trainees are required to take *Scientific Ethics* or an equivalent course during their tenure as a trainee. If they have previously taken the course, or a similar course, but it was at least four years earlier, then they can take a "refresher" track, consisting of participation in at least two of the sessions of the Scientific Ethics course for a total of four hours, to be supplemented by attendance and participation in at least four additional hours in a wide variety of campus programs about research integrity.

**Reporting and Documentation:** On completion of REP courses, participants receive a certificate of completion as a pdf document. In addition, the program documents participation in all other formal educational opportunities and faculty mentors keep track of informal mentoring in accordance with NIH policy.

1. Kalichman M (2007): Responding to challenges in educating for the responsible conduct of research. *Academic Medicine* 82(9):870-875.
2. Kalichman M (2009): Evidence-based research ethics. *The American Journal of Bioethics* 9(6&7): 85-87.
3. Kalichman M (2013a): Why do we teach research ethics? Proceedings from National Academy of Engineering *Workshop on Practical Guidance on Science and Engineering Ethics Education* pp. 5-16.
4. Kalichman M (2013b): Rescuing RCR education. *Accountability in Research* 21(1):68-83.
5. Kalichman M (2014): A Modest Proposal to Move RCR Education Out of the Classroom and into Research. *J Microbiol Biol Educ* 15(2):93–95.
6. Kalichman M (2016): Responsible conduct of research education (what, why, and does it work?) *Academic Medicine* 91(12):e10.