



RESPONSIBLE CONDUCT OF RESEARCH

Biochemistry 729, Section 8 Fall 2023

Time: Friday, 1:20-2:10 pm
Location: Room 1360 Gen-Biotech Ctr Building (unless other room noted)
Lead Instructor: David Schwartz, Departments of Chemistry and Genetics
dcschwartz@wisc.edu

This is not a formal course on ethics, but instead draws from experts across campus to provide their real-life experiences and insights into responsible conduct of research. The assembled instructors bring to the class a sincere interest in this subject, along with a few resources and some common sense.

The content of the course is designed to cover the 11 points defined by NIH for responsible conduct of research (RCR) training. T32, F30, F31 and F32 trainees should use this course to fulfill the 4th year requirement for their NIH-mandated RCR training. Entering T32, F30 and F31 trainees seeking to fulfill their initial requirement for RCR training are also eligible to enroll.

The course is discussion-based. No lecturing (well, almost no lecturing and no pontificating permitted). As a class, we will discuss issues for which there will often be quite legitimate, but different, perspectives. The most important thing you can do to assure success is to participate, honestly and openly.

The topics for the course will be introduced largely through the use of case studies. Some will be real-life events that triggered a considerable discussion of the issues, but in others, hypothetical but altogether realistic scenarios that draw focus to one or more issues will be considered. The hypothetical studies will largely come from the textbook (Francis Macrina, *Scientific Integrity: Text and Cases in Responsible Conduct of Research*, ASM Press, 2014, 4th edition). Reading materials will be provided to all enrolled class members. Information on actual events will be provided via Canvas.

Requirements? There will be 13 meetings. It is important that you read any assigned materials before coming to class and *that you think about the issues that will be discussed*. This course is graded. In order to pass the class, you have to participate in the discussion. Attendance will be recorded in each class, and you will be permitted only one excused absence during the semester.

Toward the end of the semester, you will be asked to work in small groups to create your own hypothetical case study, or select a recent relevant event for analysis within the framework of the class that interests you. Presentations and discussion of your case studies will be scheduled for the last several weeks of the semester, and your presence and participation is required for these sessions as well. Each group will turn in a co-authored 1 page, referenced abstract of their presentation and a final copy of any presentation materials.

On behalf of the instructors, we look forward to meeting you.

BIOCHEMISTRY 729 Section 8
FALL 2022 COURSE SCHEDULE

<i>DATE</i>	<i>TOPIC</i>	<i>INSTRUCTOR</i>
9/8/23	Introduction	David Schwartz (Chemistry, Genetics)
9/15/23	Mentor/Mentee Responsibilities and Relationships	Lloyd Smith (Chemistry)
9/22/23	Human subjects/Animals/Stem cells. Policies regarding human subjects, live vertebrate animal subjects in research, and safe laboratory practices	Mark Burkard (Medicine)
9/29/23	Academia and Industry. Conflict of interest – personal, professional, and financial – and conflict of commitment, in allocating time, effort, or other research resources	David Schwartz (Chemistry, Genetics)
10/6/23	Confidentiality/Peer Review/Intellectual Property. Peer review, including the responsibility for maintaining confidentiality and security in peer review	Joshua Coon (Chemistry; Biomol. Chemistry)
10/13/23	Data Acquisition and Analysis; Laboratory Tools; Recordkeeping Practices. Laboratory tools - tools for analyzing data and creating or working with digital images; recordkeeping practices, including methods such as electronic laboratory notebooks	Eric Shusta, Sean Palecek (Chemical and Biological Eng.) 1145 Discovery Bldg.
10/20/23	Collaboration including Collaborations with International Collaborations/Responsible Authorship and Publication	Meyer Jackson (Neuroscience) Auditorium, Biotech Center
10/27/23	Personal/Institutional/Societal Responsibilities. The scientist as a responsible member of society, contemporary ethical issues in biomedical research, and the environmental and societal impacts of scientific research <i>Case study proposals due for approval</i>	John Pool (Genetics) Auditorium, Biotech Center
11/3/23	Research Misconduct and Policies for Handling Misconduct	Megan McClean (Biomed. Eng.)
Note: One of the Case Studies will discuss and explore the topic of secure and ethical data use; data confidentiality, management, sharing, and ownership		
11/10/23	Case Study I	Alessandro Senes (Biochem)
11/17/23	Case Study II	Matthew Merrins (Medicine)/ Samuel Butcher (Biochem) 1145 Discovery Building
12/1/23	Case Study III	Audrey Gasch (Genetics)
12/8/23	Case Study IV	TBD

CREDITS: 1

How Credit Hours Are Met by the Course

This course includes 15 hours of in-class sessions and at least two hours per week of out-of-class student work. This work includes studying publications and other reading materials associated with the weekly session presenters and discussion leaders as well as extensive preparation time for the Case Study presentations given by the students.

REQUISITES

Graduate/professional standing

LEARNING OUTCOMES

Students in this course will receive training in responsible conduct of research (RCR) and discuss topics required by NIH as well as additional topics in RCR. The topics include:

- (1) conflict of interest – personal, professional, and financial – and conflict of commitment, in allocating time, effort, or other research resources;
- (2) policies regarding human subjects, live vertebrate animal subjects in research, and safe laboratory practices
- (3) mentor/mentee responsibilities and relationships
- (4) safe research environments (e.g., those that promote inclusion and are free of sexual, racial, ethnic, disability and other forms of discriminatory harassment);
- (5) collaborative research, including collaborations with industry and investigators and institutions in other countries
- (6) peer review, including the responsibility for maintaining confidentiality and security in peer review;
- (7) data acquisition and analysis; laboratory tools (e.g., tools for analyzing data and creating or working with digital images); recordkeeping practices, including methods such as electronic laboratory notebooks;
- (8) secure and ethical data use; data confidentiality, management, sharing, and ownership;
- (9) research misconduct and policies for handling misconduct;
- (10) responsible authorship and publication
- (11) the scientist as a responsible member of society, contemporary ethical issues in biomedical research, and the environmental and societal impacts of scientific research

GRADING

Letter grades are assigned based on participation in classroom discussion (70%), quality of Case Study presentation (30%), and attendance.

Participation

The success of this Responsible Conduct of Research course in achieving the learning outcomes will depend upon our shared responsibility to develop an active and respectful intellectual exchange. As graduate students with shared interests in the responsible conduct of research, you are expected to engage in lively, pointed, and collegial discussion with a focus on the learning goals stated in the learning outcomes.

DISCUSSION SESSIONS: N/A

LABORATORY SESSIONS: N/A

REQUIRED TEXTBOOK, SOFTWARE & OTHER COURSE MATERIALS

Reading Assignments:

The textbook is Francis Macrina, *Scientific Integrity: Text and Cases in Responsible Conduct of Research*, ASM Press, 2014, 4th edition. Each presenter will assign readings based on their presentation topic.

Additional Readings (optional):

Annual Review of Ethics (Case Studies) -

<https://oir.nih.gov/sourcebook/ethical-conduct/responsible-conduct-research-training/annual-review-ethics-case-studies>

Theme 23 – Authorship, Collaborations, and Mentoring (2023)

Theme 22 – Use of Human Biospecimens and Informed Consent (2022)

Theme 21 – Science Under Pressure (2021)

Theme 20 – Data, Project and Lab Management, and Communication (2020)

Theme 19 – Civility, Harassment and Inappropriate Conduct (2019)

Theme 18 – Implicit and Explicit Biases in the Research Setting (2018)

Theme 17 – Socially Responsible Science (2017)

Etc.

Guidelines and Policies for the Conduct of Research in the Intramural Research Program at NIH, 8th Edition, 2023

https://oir.nih.gov/sites/default/files/uploads/sourcebook/documents/ethical_conduct/guidelines-conduct_research.pdf

On Being a Scientist: A Guide to Responsible Conduct of Research, 3rd edition, National Academies of Sciences, Engineering, and Medicine. 2009. <https://doi.org/10.17226/12192>

Fostering Integrity in Research, National Academies of Sciences, Engineering, and Medicine. 2017. Washington, DC: The National Academies Press. <https://doi.org/10.17226/21896>.

EXAMS, QUIZZES, PAPERS & OTHER MAJOR GRADED WORK: N/A

HOMEWORK & OTHER ASSIGNMENTS:

Homework consists of reading for the class.

COURSE CALENDAR/GRID: TBD

ACADEMIC POLICIES AND STATEMENTS

ACADEMIC CALENDAR & RELIGIOUS OBSERVANCES

Establishment of the academic calendar for the University of Wisconsin-Madison falls within the authority of the faculty as set forth in [Faculty Policies and Procedures](#). Construction of the academic calendar is subject to various rules and laws prescribed by the Board of Regents, the Faculty Senate, State of

Wisconsin and the federal government. For additional dates and deadlines for students, see the [Office of the Registrar's pages](#). Students are responsible for notifying instructors within the first two weeks of classes about any need for flexibility due to [religious observances](#).

ACADEMIC INTEGRITY STATEMENT

By virtue of enrollment, each student agrees to uphold the high academic standards of the University of Wisconsin-Madison; academic misconduct is behavior that negatively impacts the integrity of the institution. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these previously listed acts are examples of misconduct which may result in disciplinary action. Examples of disciplinary [sanctions](#) include, but are not limited to, failure on the assignment/course, written reprimand, disciplinary probation, suspension, or expulsion.

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

The University of Wisconsin-Madison supports the right of all enrolled students to a full and equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State Statute (36.12), and UW-Madison policy ([UW-855](#)) require the university to provide reasonable accommodations to students with disabilities to access and participate in its academic programs and educational services. Faculty and students share responsibility in the accommodation process. Students are expected to inform faculty of their need for instructional accommodations during the beginning of the semester, or as soon as possible after being approved for accommodations. Faculty will work either directly with the student or in coordination with the McBurney Center to provide reasonable instructional and course-related accommodations. Disability information, including instructional accommodations as part of a student's educational record, is confidential and protected under FERPA. (See: [McBurney Disability Resource Center](#))

COURSE EVALUATIONS

Students will be provided with an opportunity to evaluate their enrolled courses and their learning experience. Most instructors use AEFIS a digital course evaluation survey tool. In most instances, students receive an official email two weeks prior to the end of the semester, notifying them that anonymous course evaluations are available. Student participation is an integral component of course development, and confidential feedback is important. UW-Madison strongly encourages student participation in course evaluations.

DIVERSITY & INCLUSION STATEMENT

[Diversity](#) is a source of strength, creativity, and innovation for UW-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals. The University of Wisconsin-Madison fulfills its public mission by creating a welcoming and inclusive community for people from every background – people who as students, faculty, and staff serve Wisconsin and the world.

MENTAL HEALTH AND WELL-BEING STATEMENT

Students often experience stressors that can impact both their academic experience and personal well-being. These may include mental health concerns, substance misuse, sexual or relationship violence, family circumstances, campus climate, financial matters, among others.

Students are encouraged to learn about and utilize UW-Madison's mental health services and/or other resources as needed. Visit uhs.wisc.edu or call University Health Services at (608) 265-5600 to learn more.

PRIVACY OF STUDENT RECORDS & THE USE OF AUDIO RECORDED LECTURES STATEMENT

View [more information about FERPA](#).

Lecture materials and recordings for this course are protected intellectual property at UW-Madison.

Students in courses may use the materials and recordings for their personal use related to participation in class. Students may also take notes solely for their personal use. If a lecture is not already recorded, students are not authorized to record lectures without permission unless they are considered by the university to be a qualified student with a disability who has an approved accommodation that includes recording. [Regent Policy Document 4-1] Students may not copy or have lecture materials and recordings outside of class, including posting on internet sites or selling to commercial entities, with the exception of sharing copies of personal notes as a notetaker through the McBurney Disability Resource Center. Students are otherwise prohibited from providing or selling their personal notes to anyone else or being paid for taking notes by any person or commercial firm without the instructor's express written permission. Unauthorized use of these copyrighted lecture materials and recordings constitutes copyright infringement and may be addressed under the university's policies, UWS Chapters 14 and 17, governing student academic and non-academic misconduct.

STUDENTS' RULES, RIGHTS & RESPONSIBILITIES

[Rights & Responsibilities](#)