

BIOTRAIN 751 “The Responsible Scientist I”

Spring 2024

Day/time: Thursday, 10:30-11:30 AM

Location: Bryan Research Building Room 103

Course Director: Erika Crosby, Ph.D. (she/her/hers)
OBGE RCR/R&R Curriculum Manager

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Overview:

This course is developed to engage Biomedical Ph.D. trainees in continued Responsible conduct of research, Rigor and Reproducibility RCR/R&R training, an emerging mandate from the National Institution of Health (NIH) and future requirement for NIGMS T32 Pre-Doctoral Training grants. The course is directed by the RCR Curriculum Manager in the Office of Biomedical Graduate Education (OBGE) in Duke School of Medicine and it is team-taught by faculty members from each SoM Ph.D. training program. The content is delivered as a combination of lectures, small group discussions and online based learning modules. This course is part of a curriculum that covers much more than research ethics. The topics included in this curriculum as mandated by the NIH include:

1. Conflict of interest – personal, professional, and financial
2. Policies regarding human subjects, live vertebrate animal subjects in research, and safe laboratory practices
3. Mentor/mentee responsibilities and relationships
4. Collaborative research including collaborations with industry
5. Peer review
6. Data acquisition and laboratory tools; management, sharing and ownership
7. Research misconduct and policies for handling misconduct
8. Responsible authorship and publication
9. The scientist as a responsible member of society, contemporary ethical issues in biomedical research, and the environmental and societal impacts of scientific research
10. Rigor of the prior research; scientific premise
11. Scientific rigor in experimental design
12. Biological variables
13. Authentication

Course Requirements and Expectations:

This course will have a 10 required assignments. There will be 5 lectures that will be given live and recorded. You must either attend in person and sign in or watch the recording in its entirety and complete the online, one-question quiz attesting to this fact. You will be working in teams of 2-4 people to create a case study and discussion questions. This draft should be completed using the “Collaborations” tab on the course Canvas site. Submission of this assignment is required for course credit. Finally, there will be 4 in person small group discussions. You must attend, sign in, and participate in these. There will be a **1 missed class** grace policy. If you miss 2 classes, you will be required to complete an additional RCR forum to receive credit for BIOTRAIN751. If you miss 3 or more classes, you will be required to retake the course next Spring. A reminder that this course is a REQUIREMENT for graduation.

Canvas Site:

All course materials and video recordings will be available on the course Canvas site. Lectures will be offered live at the scheduled class time, and attendance will be taken. If you attend in person and sign in, your attendance will automatically be logged on the Canvas site. Attendance at the live lecture is not required as all lectures will be recorded and posted on the Canvas site within 24 hours. If you do not attend live, you will be required to view the lecture online and attest via a 1 question quiz that you have watched the lecture in its entirety. The attestation will not be available until the video has been viewed. All attestation quizzes must be completed by April 12th.

Communication plan:

Dr. Crosby will communicate through the Canvas email platform. If you have a question about the schedule or your assignments, you should check the Canvas site first. You may always email Dr. Crosby directly and can expect a response within 48 hours.

Objectives & Student Learning Outcomes (SLOs):

By the end of the course, participants will be able to demonstrate the following learning outcomes:

Objective 1: Gain knowledge about the responsible conduct of research (RCR)

SLO i: Describe rules and policies for ethical research practices

Objective 2: Be exposed to ethical decision making (EDM) in RCR

SLO ii: Identify an ethical question (ethical sensibility: is there an ethical dilemma?)

SLO iii: Know procedures for reporting and investigating research misconduct

Objective 3: Exhibit moral courage

SLO iv: Understand that knowing what to do does not equal moral courage

Objective 4: Demonstrate Integrity

SLO v: Know the importance of character and being honest and fair

Attendance Policy Related to COVID Symptoms, Exposure, or Infection:

Student health, safety, and well-being are the university's top priorities. To help ensure your well-being and the well-being of those around you, please do not come to class if you have tested positive for COVID-19 or have possible symptoms and have not yet been tested. If any of these situations apply to you, you must follow university guidance related to the ongoing COVID-19 pandemic and current health and safety protocols. If you are experiencing any COVID-19 symptoms, contact student health (dshcheckin@duke.edu 919-681-9355). Learn more about current university policy related to COVID-19 at <https://coronavirus.duke.edu/>.

To keep the university community as safe and healthy as possible, you will be expected to follow these guidelines. Please reach out to me and OBGE (OBGE@duke.edu) as soon as possible if you need to quarantine or isolate so that we can discuss arrangements for your continued participation in class.

Disability Statement:

Students with disabilities who believe that they may need accommodations in the class are encouraged to contact the Office of Services for Students with Disabilities at 684-5917 or disabilities@as.duke.edu as soon as possible to better ensure that such accommodations are implemented in a timely fashion.

Tentative Schedule:

See below for a schedule and a list of the assessments that will be used for grading purposes. Changes to the schedule are at the discretion of the course director and will be communicated in a timely fashion.

Date	Topics/ Units	Lecturer	Assessment
Jan 11	Introduction to the Course and Duke research misconduct resources	Erika Crosby, Ph.D. Assistant Professor of Surgery/MGM/IIB OBGE RCR/R&R Curriculum Manager	Sign the sheet in person OR watch recording & complete quiz on Canvas
Jan 18	Inclusive mentoring	Courtnea Rainey, Ph.D. Assistant Dean for Assessment & Evaluation The Graduate School, Duke University	Sign the sheet in person OR watch recording & complete quiz on Canvas
Jan 25	Science Communication 101	Robin A. Smith, Ph.D. Senior Science Writer Duke Communications and Marketing	Sign the sheet in person OR watch recording & complete quiz on Canvas
Feb 1	Scientific publishing: economics of the industry and alternative publication options	Haley Walton Senior Assistant Librarian Librarian for Education and Open Scholarship	Sign the sheet in person OR watch recording & complete quiz on Canvas
Feb 8	Pressures of the research environment	Kelsey Smith, Ph.D. Scientific Integrity Associate Duke ASIST office Valery Nelson, MS Research Project Manager Duke ASIST office	Sign the sheet in person OR watch recording & complete quiz on Canvas
Feb 15	Case study discussion	Small groups- discussion led by peer mentors	Sign in
Feb 22	Case Study topic selection/Group assignments	Teams will find/write/edit/compile their case study and discussion questions on Canvas	Check Canvas for assignment
Feb 29	Work on Case Study		Work on draft in "Collaboration" tab in Canvas
Mar 7	Draft Case Study DUE	Peer mentors will post comments/edits on Canvas	
Mar 14	Case Study review and feedback	Teams will respond to comments/edits and produce the final version of case study	
Mar 21	Final Case Study DUE	Peer mentors will proof read and compile final versions for distribution to small groups	
Mar 28	Case study discussion Teams 1 and 2	Small groups	Sign in
Apr 4	Case study discussion Teams 3 and 4	Small groups	Sign in
Apr 11	Case study discussion Teams 5 and 6	Small groups	Sign in

RCR topics shown in red; R&R topics shown in blue; Topics that integrate both elements shown in green.

Small group instructors and locations are shown below:

	Small group 1	Small group 2	Small group 3	Small group 4	Small group 5	Small group 6
Instructor	Arnaldo Carreira Rosario	Allison Ashley- Koch	Rohit Singh	Dmitry Velmeshev	Mike Krangel	Paloma Liton Erika Crosby
Peer mentor(s)	Gus Lowry	Maggie Morash	Anna Umano Aditya Mohan	Margaret Gaggioli	Ben Neubert Angela Jones	Joseph Fernandes Kaitlyn Fouke
Room	247 NanDuke	140 CARL Building	MSRBIII 1125	TSCHE 4030 Conference Room 4A	TSCHE 3019 (Feb) Jones 415 (March/April)	TSCHE 3075- Conference room 3

You will randomly be assigned to a small group in Canvas. Please check your assignment there. Participation in small group discussions via zoom may be allowed under specific, pre-approved circumstances. Reasons may include travel for conferences, remote learning, or completing your degree at another institution. If you require access to zoom for any of the small group meeting dates, please reach out to Dr. Crosby as soon as possible because only 1 of our small groups will have a hybrid meeting component and switching small groups once topics have been assigned is not trivial.

Small group discussion guidelines:

Civility is an essential ingredient for academic discourse. Differences in beliefs, opinions, and approaches are to be expected. Active interaction with peers and your instructor is essential to success in this course, so please adhere to these guidelines:

- Respect that others' opinions and beliefs may differ from your own. If you disagree, you may critique the idea, but not the person.
- Listen carefully, be courteous, and don't interrupt.
- Support your statements with evidence and a rationale.
- Try to moderate how you contribute to the discussion – if you have a lot to say, try to avoid dominating the conversation; if you are reluctant to speak up, try to find an opportunity to share your perspective.

Please bring any communications you believe to be in violation of this class policy to the attention of Dr. Crosby immediately.

Academic Integrity:

Duke University is a community dedicated to scholarship, leadership, and service and to the principles of honesty, fairness, respect, and accountability. Citizens of this community commit to reflect upon and uphold these principles in all academic and non-academic endeavors, and to protect and promote a culture of integrity. To uphold the Duke Community Standard:

- The student will not lie, cheat, or steal in their academic endeavors;
- The student will conduct themselves honorably in all their endeavors; and
- The student will act if the Standard is compromised.

Students should also read the Duke policy on Academic Dishonesty at <https://studentaffairs.duke.edu/conduct/z-policies/academic-dishonesty>

Regardless of course delivery format, it is the responsibility of all students to understand and follow all Duke policies, including academic integrity (e.g., completing one's own work, following proper citation of sources, adhering to guidance around group work projects, and more). Ignoring these requirements is a violation of the Duke Community Standard. Any questions and/or concerns regarding academic integrity can be directed to the Office of Student Conduct and Community Standards at conduct@duke.edu.