

Updated 1.7.2026

BIOTRAIN 754 “The Responsible Scientist II” Spring 2026

Day/Time:

Thursday, 9-10 AM

Location:

Bryan Research Building Room 103

Course Directors:

Erika Crosby, PhD (she/her/hers)

OBGE RCR/R&R Curriculum Manager

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MSRB-I, Room 288

Calla Telzrow, PhD (she/her/hers)

Associate Director of Curriculum, Advising, and Experiential Learning

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MSRB-III, Room 1265



Overview:

This course is developed to engage biomedical PhD trainees in continued responsible conduct of research (RCR) and rigor and reproducibility (R&R) training, an emerging mandate from the National Institution of Health (NIH) and future requirement for National Institute of General Medical Sciences (NIGMS) T32 Pre-Doctoral Training Grants. The course is co-directed by the RCR Curriculum Manager and the Associate Director of Curriculum, Advising, and Experiential Learning in the Office of Biomedical Graduate Education (OBGE) in the Duke School of Medicine (SoM) and is team-taught by faculty members from each SoM PhD 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. 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
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
12. Rigor of the prior research; scientific premise

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13. Scientific rigor in experimental design
14. Biological variables
15. Authentication

Course Requirements and Expectations*:

This course includes **ten (10) required assignments**, outlined below:

- **In-person lectures (3):** Three lectures will be held in person. Students must attend all three live lectures and sign in on the attendance sheet to receive credit.
- **Recorded lectures (2):** Two lectures will be pre-recorded and posted on the course Canvas site in the respective date module. Students must watch each recording in full and complete the short, one-question quiz by the indicated due date to receive credit.
- **Case study (1):** Students will work in teams to create a case study and set of discussion questions using the “Collaborations” feature in Canvas. Teams must develop a draft case study and discussion questions by the indicated due date and must subsequently edit their case study and discussion questions based on facilitator feedback.
- **In-person small group discussions (4):** There will be four in-person small group discussions about case studies. Students must attend each session, sign in on the attendance sheet, and actively participate to receive credit. Students must be present to present their team’s case study.

Attendance Policy*:

Students are permitted a maximum of two (2) excused absences from in-person classes during the semester. Students must contact the course directors in advance of missing any in-person classes to be granted an excused absence. Excused absences include illness, family emergencies, religious observances, and approved professional or academic obligations. To make up for missed in-person lectures, students must watch the recording on Canvas, write a one-page summary of the content, and upload it to Canvas within one week of the absence. To make up for missed in-person small group discussions, students must write responses to the discussion questions for the week’s case studies and upload them to Canvas within one week of the absence. **Students with unexcused absences or three (3) or more missed in-person classes will be required to retake the course the next Spring semester.** As a reminder, this course is a REQUIREMENT for graduation.

Canvas Site:

All course materials and assignments will be available on the course Canvas site. Pre-recorded lectures will be posted on Canvas, and students are required to watch each recording in full and complete the accompanying one-question quiz. Case studies for all small group discussions will be posted on Canvas, and teams should use the “Collaborations” feature in Canvas to develop their case study. Make up assignments for excused absences will be submitted through Canvas, as described in the section above.

Communication Plan:

Drs. Crosby and Telzrow will communicate through the Canvas “Announcements” feature. Students should check the Canvas site first for any questions about the course schedule or assignments. Students may always email Drs. Crosby and Telzrow directly and can expect a response within 48 hours.

Objectives and 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*

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- *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

Disability Statement:

Duke University is committed to providing equal access to students with documented disabilities. Students with disabilities may contact the Student Disability Access Office (SDAO) to ensure access to this course and to the program. There students can engage in a confidential conversation about the process for requesting reasonable accommodations both in the classroom and in clinical settings. Students are encouraged to register with the SDAO as soon as they begin the program. Please note that accommodations are not provided retroactively. More information can be found online at access.duke.edu or by contacting SDAO at [919-668-1267](tel:9196681267), SDAO@duke.edu.

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Tentative Schedule*:

Date	Topics/ Units	Lecturer	Assignment
Jan 15	Introduction to the course and Duke research misconduct resources	Erika Crosby, PhD Assistant Professor of Surgery/MGM/IIB OBGE RCR/R&R Curriculum Manager Calla Telzrow, PhD Associate Director of Curriculum, Advising, and Experiential Learning	Attend the in-person lecture and sign the attendance sheet
Jan 22	Conflict of interests in research	Deb Paxton, PhD Duke Office of Scientific Integrity	Watch recorded lecture on Canvas
Jan 29	The bioethics of human research	Janet Malek, PhD Adjunct Professor in Science & Society	Attend the in-person lecture and sign the attendance sheet
Feb 5	Copyright and authors' rights	Kate Dickson, JD Copyright Librarian, Duke University Libraries	Watch recorded lecture on Canvas
Feb 12	Responsible use of artificial intelligence (AI) throughout the research lifecycle	Steven Grambow, PhD Director, Duke CRTP Co-Director, Duke CTSI Workforce Development Pillar Associate Chair of Education and Associate Professor, Department of Biostatistics and Bioinformatics	Attend the in-person lecture and sign the attendance sheet
Feb 19	Case study discussion	Small groups meet – discussion led by facilitators	Attend the in-person small group discussion and sign the attendance sheet
Feb 26	Confirm topic team assignments and work on case study	No in-person class meeting – topic teams will find/write/edit/compile their case study and discussion questions on Canvas	Check Canvas for case study topic assignment and work on draft in “Collaboration” tab
Mar 5	Draft case study DUE	No in-person class meeting – facilitators will post comments and edits on Canvas	N/A
Mar 12	Case study review and feedback	No in-person class meeting – topic teams will respond to comments and edits and produce final case study	Finalize case study in “Collaboration” tab
Mar 19	Final case study DUE	No in-person class meeting – facilitators will proofread and compile final versions of case studies	N/A
Mar 26	Case study discussion Teams 1-2	Small groups meet	Attend the in-person small group discussion and sign the attendance sheet
Apr 2	Case study discussion Teams 3-4	Small groups meet	Attend the in-person small group discussion and sign the attendance sheet
Apr 9	Case study discussion Teams 5-6	Small groups meet	Attend the in-person small group discussion and sign the attendance sheet

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

Small Group Facilitators and Locations*:

	Small group 1	Small group 2	Small group 3	Small group 4	Small group 5	Small group 6	Small group 7	Small group 8
Instructor(s)	Goldis Malek	Cathy Bowes Rickman	Alex Ochoa & Kris Wood	Dave Sherwood	Dimi Bissig & Javier Huayta Ramirez	Haleigh Conley	Ed Miao & Martina Hernandez	Erika Crosby
TA	Marco Gontijo	Jim Lopez	Zihan Yan	N/A	N/A	N/A	N/A	N/A
Room	CARL 0040	Nanaline 247	LSRC B105	LSRC B102	Sands 323	TSCHE 4030	TSCHE 4067	MSRB-III 1125 & Zoom

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Students will be randomly assigned to small groups, accessible under the “*Collaborations*” tab in Canvas. Virtual participation in the course via Zoom may be allowed under specific, pre-approved circumstances. Reasons may include remote learning or completing your degree at another institution. If you require virtual participation in the course, please reach out to Drs. Crosby and Telzrow as soon as possible because only one of our small groups will have a hybrid meeting component and switching small groups 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 facilitators 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 communications you believe to be in violation of this policy to the course directors 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.

The written assignment for this course consists of a case study and accompanying discussion questions. Students may use or adapt existing materials or utilize generative AI tools in their development, provided all sources and tools are properly cited.

Students should also read the Duke policy on Academic Dishonesty at <https://dukecommunitystandard.students.duke.edu/policy/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