BIOTRAIN 754 “The Responsible Scientist II”  
Spring 2024

Day/time: Thursday, 9-10 AM  
Location: Bryan Research Building Room 103

Course Director: Erika Crosby, Ph.D. (she/her/hers)  
OBGE RCR/R&R Curriculum Manager  
Email: erika.crosby@duke.edu  
Phone: 919-684-6205  
Office: MSRBI Room 288

OBGE Fellow: Luz Saavedra Sanchez  
Email: luz.saavedra.sanchez@duke.edu

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@aas.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.

<table>
<thead>
<tr>
<th>Date</th>
<th>Topics/ Units</th>
<th>Lecturer</th>
<th>Assessment</th>
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</thead>
<tbody>
<tr>
<td>Jan 11</td>
<td>Introduction to the Course and Duke research misconduct resources</td>
<td>Erika Crosby, Ph.D. Assistant Professor of Surgery/MGM/IIB OBGE RCR/R&amp;R Curriculum Manager</td>
<td>Sign the sheet in person OR watch recording &amp; complete quiz on Canvas</td>
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<tr>
<td>Jan 18</td>
<td>Inclusive mentoring</td>
<td>Courtnea Rainey, Ph.D. Assistant Dean for Assessment &amp; Evaluation The Graduate School, Duke University</td>
<td>Sign the sheet in person OR watch recording &amp; complete quiz on Canvas</td>
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<tr>
<td>Jan 25</td>
<td>Copyright law and scientific publishing</td>
<td>Kate Dickson, J.D. Copyright Librarian Duke University Libraries</td>
<td>Sign the sheet in person OR watch recording &amp; complete quiz on Canvas</td>
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<tr>
<td>Feb 1</td>
<td>Responsible use of AI in biomedical research</td>
<td>Nicoleta J Economou, Ph.D. Algorithm-Based Clinical Decision Support (ABCDS) Oversight Director Duke University School of Medicine</td>
<td>Sign the sheet in person OR watch recording &amp; complete quiz on Canvas</td>
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<tr>
<td>Feb 8</td>
<td>Sharing your Expertise via social media, news media, and folks on the street</td>
<td>Karl Bates Executive Director, Research Communications Duke Univ. Communications &amp; Marketing</td>
<td>Sign the sheet in person OR watch recording &amp; complete quiz on Canvas</td>
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<tr>
<td>Feb 15</td>
<td>Case study discussion</td>
<td>Small groups- discussion led by peer mentors</td>
<td>Sign in</td>
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<tr>
<td>Feb 22</td>
<td>Case Study topic selection/Group assignments</td>
<td>Teams will find/write/edit/compile their case study and discussion questions on Canvas</td>
<td>Check Canvas for assignment</td>
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<tr>
<td>Feb 29</td>
<td>Work on Case Study</td>
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<td>Mar 7</td>
<td>Draft Case Study DUE</td>
<td>Faculty/peer mentors will post comments/edits on Canvas</td>
<td>Work on draft in “Collaboration” tab in Canvas</td>
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<tr>
<td>Mar 14</td>
<td>Case Study review and feedback</td>
<td>Teams will respond to comments/edits and produce the final version of case study</td>
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<tr>
<td>Mar 21</td>
<td>Final Case Study DUE</td>
<td>Faculty/peer mentors will proof read and compile final versions for distribution to small groups</td>
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<td>Mar 28</td>
<td>Case study discussion Teams 1 and 2</td>
<td>Small groups</td>
<td>Sign in</td>
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<tr>
<td>Apr 4</td>
<td>Case study discussion Teams 3 and 4</td>
<td>Small groups</td>
<td>Sign in</td>
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<tr>
<td>Apr 11</td>
<td>Case study discussion Teams 5 and 6</td>
<td>Small groups</td>
<td>Sign in</td>
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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:

<table>
<thead>
<tr>
<th>Small group 1</th>
<th>Small group 2</th>
<th>Small group 3</th>
<th>Small group 4</th>
<th>Small group 5</th>
<th>Small group 6</th>
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<tbody>
<tr>
<td>Chantell Evans</td>
<td>Cindy Kuhn</td>
<td>Beth Hauser</td>
<td>Ephraim Tsalk</td>
<td>David Tobin</td>
<td>Mustafa Khasraw</td>
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<td></td>
<td></td>
<td>Haleigh Conley</td>
<td>Valerie Yelverton</td>
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<td>Annelise Poss</td>
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<td>Peer mentor(s)</td>
<td></td>
<td>Marnus du Plooy</td>
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<td>RD Marek</td>
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<td>Minel Ariel</td>
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<tr>
<td>Room</td>
<td></td>
<td>MSRBIII 1125</td>
<td>TSCHE 4030 Conference Room 4A</td>
<td>TSCHE 3019 (Feb)</td>
<td>TSCHE 3075- Conference room 3</td>
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<tr>
<td>247 NanDuke</td>
<td>140 CARL Building</td>
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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 themself 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](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](mailto:conduct@duke.edu).