

Instructor: Dr. Kyle MacLea, Associate Professor

Office: room 559 and Lab room 560/560C

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Responses: Will be made within 48 hours if at all possible

Office hours: Always by appointment as well as Fridays 1pm-2pm. Usually in my office (Room 559) or lab (Room 560/560C) but may occasionally move to other campus locations or online with notice (or a note on my door). Email is the easiest way to reach me, but if I am in my office, feel free to stop by! You may also text me at the number above in emergencies.

Courses: **Applied Research, BIOT 891; Internship, BIOT 892; Directed Graduate Research, BIOT 893; Graduate Co-op Experience, BIOT 895. Variable [credits](#) 3-9**

University requirements met: none

Modality: Virtual weekly meetings, via Zoom links provided in Canvas, with in-person work expectations for BIOT 892, 893, and 895.

Time and Place: Thursdays, 6:40pm-8:30pm in Zoom room provided in Canvas, Final Capstone Presentations are scheduled in person on the UNH Manchester campus, time and date listed in the Canvas/MyCourses course.

Department: Dept. of Life Sciences, UNH Manchester, College of Professional Studies

Programs: M.S. in Biotechnology: Industrial and Biomedical Sciences and allied programs

Prerequisites: None; permission of instructor

Course descriptions:

- **BIOT 891:** The applied research experience enhances the student's academic achievements with real-world, professional industry projects through placement at biopharma industry organizations. The student is expected to apply knowledge and skills acquired through other coursework in the major to address and solve new, authentic problems identified by the employer. Under the direction of a faculty advisor and workplace supervisor, the student is expected to contribute effectively within a team at the organization.
- **BIOT 892:** The internship experience enhances the student's academic achievements with real-world, professional industry projects through placement at biopharma industry organizations. The student is expected to apply knowledge and skills acquired through other coursework in the major to address and solve new, authentic problems identified by the internship employer. Under the direction of a faculty advisor and workplace supervisor, the student is expected to contribute effectively within a team at the organization.
- **BIOT 893:** The research project experience enhances the student's academic achievements with a project-based experience in an academics lab. The student is expected to apply knowledge and skills acquired through other coursework in the major to address and solve new, authentic basic or applied science questions under the direction of a faculty advisor. The student is expected to contribute effectively within a lab team.
- **BIOT 895:** This intensive internship experience enhances the student's academic achievements with real-world, professional industry projects through placement at biopharma industry organizations. The student is expected to apply knowledge and skills acquired through other coursework in the major by working in an industry setting alongside professionals to hone their technical and business skills. Under the direction of a faculty advisor and workplace supervisor, the student is expected to contribute effectively within a team at the organization.

Format: BIOT 891-892-893-895 meet as a synchronous online course meeting on Thursday evenings each week.

Student Learning Objectives:

1. Demonstrate the ability to integrate and apply concepts from coursework to address authentic scientific and business problems in biopharma or related industry settings and/or academic research labs.
2. Identify, analyze, and propose effective solutions to complex industry and research-based challenges, utilizing data-driven decision-making and innovative approaches.
3. Strengthen technical laboratory skills, research methodologies, and/or business acumen (depending on the role) through hands-on experiences in industry and/or academic environments.
4. Work efficiently within interdisciplinary teams, demonstrating strong communication, leadership, and teamwork skills in both industry and/or academic research settings.
5. Exhibit professionalism, ethical decision-making, and adaptability in dynamic workplace and research environments while meeting the expectations of employers, faculty advisors, and team members.

Credit Hour Policy: This syllabus reflects the federal definition of a credit hour, which entails a minimum 3 hours of engaged time per week per credit over a 15-week semester. Examples of engaged time include class time, assignments, examinations, laboratories, participation in course-related experiences (attending a talk or performance, speakers and events, fieldwork, etc.), conferences, and office hours. Student work reflects intended learning outcomes and is verified through evidence of student achievement. For more information, please see [NECHE's Policy on Credits and Degrees](#).

Types of Assessments Used: Writing reflections and technical reports (turned in online), In-class participation in Capstone meetings including giving in-class presentations and peer review (synchronous online), evaluation of work on-site at a company or academic laboratory (in person work, time and date TBD per employer/supervisor requirements, evaluation completed by supervisor), and completion of a Final Capstone Presentation, which must be scheduled on-site at the UNH Manchester campus (in-person, time and date TBD by mutual agreement).

Grading Procedure and Scale: Students will earn points based on the assessment point breakdown below. The percentage earned out of the total available points will be compared to the [standard UNH grading scale](#) to assign the final course grade for BIOT 891-892-893-895. Grading for this course is A-F. Graduate students must earn 80% (B- or better) to earn graduate credit for the course. NOTE: Each portion of the grading (Capstone Participation, Supervisor Evaluation, and Final Capstone Presentation) must be passed at the 80% level to receive a passing grade for the course.

Capstone Grading Scheme

CAPSTONE PARTICIPATION 200

Capstone Initial Check-in Meeting, 50 pts
Capstone Midpoint Meeting, 25 pts
Capstone Midpoint Reflection/Report, 25 pts
Final Capstone Reflection, 50 pts
Capstone Participation, 50 pts

SUPERVISOR EVALUATION 200

FINAL CAPSTONE PRESENTATION 200

Total Points Available600

Textbook: None. Readings will be provided.

Preparation: Participation in Capstone Meetings requires active engagement in meetings below, as described, and arriving on time, professionally, to engage with your peers.

Core Class Expectations:

Engagement with the Class: Attendance and active participation in the Capstone course is expected. If you miss a session for which you are slated to attend you will not receive participation points for that session unless an approved, excused absence is provided. Failure to attend any of your assigned session, without an excused absence, will result in failure of the course.

Video Engagement: Logging on to the synchronous online session is not sufficient to receive the in-session participation points. Here are some guidelines on points:

- **Showing up, video generally on, interacts with speaker or peers, asks or answers questions = 5 pts**
- **Missing session = 0 pts**
- **Video off and on, constant connection issues = 3 pts maximum (one session free, subsequent sessions will be penalized as listed)**
- **No interaction with speaker or peers, no questions asked = 1 pt maximum**
- **Logging on from a car or other moving vehicle = 0 pts**

MyCourses and Email: Check MyCourses (Canvas) every day. Non-urgent announcements will be posted on MyCourses. Urgent/time sensitive announcements will be sent, where possible, via email. Check your UNH email account (the account registered in MyCourses) often. I am not allowed to contact you on a non-UNH email per federal regulations (FERPA).

Classroom Behavior Expectations and Classroom Recording: To ensure a climate of learning for all, disruptive or inappropriate behavior may result in exclusion (removal) from this class. As a reminder, cell phone/tablet, etc., use, including text messaging, and videotaping and recording is not permitted in this class unless by instructor permission. Students' enrollment in a UNH course is consent to being recorded by UNH media platforms for educational and remote access purposes. The University and Zoom have FERPA-compliant agreements in place to protect the security and privacy of UNH Zoom accounts. Students may **not** share recordings outside of this course. Please ask me before recording using portable recorders or the like. Cell phones should be put away during class except when research is asked for using your devices. Absolutely no online video-watching or gaming, etc., can happen during class. I will ask students to leave the session if they are not paying attention and/or are causing distractions.

Knack Peer Tutoring

Knack is a peer-to-peer tutoring platform available to all enrolled students for all undergraduate courses in Durham and Manchester and is offered at no charge to students. Students looking for additional assistance outside of the classroom are advised to consider working with a peer tutor through Knack. UNH has partnered with Knack to provide students with access to verified tutors who have successfully completed your course. To view available tutors, visit: unh.joinknack.com. Sign in with your student account. *Questions about Knack Tutoring can be sent to Stephanie Kirylych, Director of Advising, at stephanie.kirylych@unh.edu.*

Student Accessibility Services (SAS) – Manchester

According to the Americans with Disabilities Act (as amended, 2008), each student with a disability has the right to request services from UNH to accommodate his/her/their disability. If you are a student with a documented disability or believe you may have a disability that requires accommodations, please contact Student Accessibility Services (SAS) located on the Manchester campus in the Student Services Suite (Office 405A). Accommodation letters are created by SAS with the student. Please follow-up with your instructor as soon as possible to ensure timely implementation of the identified accommodations in the letter. Faculty have an obligation to respond once they receive official notice of accommodations from SAS but are under no obligation to provide retroactive accommodations. For more information refer to www.unh.edu/sas or contact SAS at 603.862.2607, 711 (Relay NH) or sas.office@unh.edu.

Student Wellness Support- Mental Health Services

In partnership with The Mental Health Center of Greater Manchester, UNH Manchester offers consultation visits on campus and virtually during the academic year with a mental health counselor Monday-Thursday. Students can make counseling appointments directly through an online scheduling system located on the [UNH Manchester Wellness page](#).

Services include:

- Free confidential screening & consultation with a licensed mental health therapist.
- Referrals to mental health or substance misuse treatment.
- And assistance in understanding how to afford additional treatment (with or without insurance!) or find free services.

Basic Needs Resources:

UNH has many resources that can help students who are experiencing food insecurity, housing or other financial concerns. All enrolled students are eligible for Basic Needs resources and services. A complete listing of university and local basic needs resources can be found on the [UNH Manchester Basic Needs webpage](#). The following UNH resources students are referred to most frequently are listed below:

The Student Emergency Financial Assistance Fund (SEFA) provides UNH undergraduate and graduate students unable to meet essential expenses due to a temporary or unexpected hardship with short-term financial assistance once per academic year. *Please note that funding is currently limited due to high demand and UNH had to pause funding for graduate students at this time.* We encourage graduate students to schedule a time to meet with the Basic Needs team to discuss their options and connect them to additional resources at basic.needs@unh.edu.

UNH received a grant from Granite Edvance to support our Student Emergency Financial Assistance program specifically for undergraduate students.

To request SEFA students must complete the [Student Emergency Financial Assistance Request Form](#)

UNH Manchester Wildcat Cupboard, located on the second floor, Room 290, is available to all UNH Manchester undergraduate and graduate students, staff or faculty who need access to free, nourishing food. There are an assortment of items including pasta, canned food, cereal, milk, eggs, fresh fruits and vegetables, which are purchased from the NH Food Bank through a grant or donated by members of the community. The Cupboard is open Tuesdays and Thursdays from 12:30-3:30 pm and Wednesdays from 3:00-6:00 pm. Walk ins are welcomed and no appointments are needed.

The UNH Manchester Wildcat Wardrobe provides students with access to new and gently used professional attire for interviews, career fairs, networking events, and the workplace. Students can visit the Wildcat Wardrobe, located on the second floor in Room 288 (next to the Wildcat Cupboard) Monday-Friday from 9-5 pm. Items are completely free.

Confidentiality and Mandatory Reporting. The University of New Hampshire and its faculty are committed to assuring a safe and productive educational environment for all students and for the university as a whole. To this end, the university requires faculty members to report to the university's Title IX Coordinator (Bo Zarycky, Bo.Zarycky@unh.edu, 603-862-2930/1527 TTY) any incidents of sexual violence and harassment shared by students. All employees are subject to this mandatory reporting. If faculty or staff wish report an incident while on campus they can speak with Manchester's Title IX Deputy Intake Coordinator and Assistant Dean Lisa Enright 603-641-4336. Lisa's office is located on the second floor in the Library and Engagement Center, Room 236.

If a student wishes to speak to a confidential support service provider who does not have this reporting responsibility because their discussions with clients are subject to legal privilege, here is a list of confidential service providers. Including a statement of confidentiality and mandatory reporting along with links of supports for students is important for helping our community stay in compliance with Title IX, as well as living up to our commitment of building a safe community for everyone:

[The SHARPP Center for Interpersonal Violence Awareness, Prevention, and Advocacy](#) at (603) 862-7233/TTY (800) 735-2964. SHARPP's Expanded Services Coordinator, Caroline Young, is available to meet virtually year-round Mondays-Fridays 9am-4pm and is on Manchester's campus Mondays during the Fall and Spring semesters (in Room 471). If you'd like to book a confidential appointment with her [schedule an appointment here](#). SHARPP Advocates are also available 24/7 via our Crisis Line: 603-862-SAFE (7233).

[REACH Crisis Services](#): 24/7 Support Line: 603-668-2299. SMS/Text (M-F 8:30 AM-5:00 PM): 603-836-9620.

For more information about what happens when a student reports, how the university treats your information once a report is made to the Title IX Coordinator, your rights and reporting options at UNH (including anonymous reporting options) [please visit student reporting options](#).

The [uSafeUS](#) app is also available for students to keep reporting options and resources easily accessible on their phones.

Help us improve our campus and community climate. If you have observed or experienced an incident of bias, discrimination or harassment, please report the incident by contacting the Civil Rights & Equity Office at UNH.civilrights@unh.edu or TEL # (603) 862-2930 voice/ (603) 862-1527 TTY /

Library: The UNH Manchester librarians are available to assist you with the research process. Visit our website at <https://cps.unh.edu/library> to explore library services and search for reliable academic sources. You can also contact the library at 603-641-4173 or unhm.library@unh.edu.

Helpful links for students:

- **Make a Research Appointment:** <https://libraryguides.unh.edu/remotearchive/researchhelp>
- **Library Search Box:** https://libraryguides.unh.edu/librarysearchbox_unhmanchester
- **Reserve a Study Room:** <https://cps.unh.edu/library/support-services>
- **Citing Sources:** <https://libraryguides.unh.edu/unhmcitingsources>
- **Evaluating Sources:** <https://libraryguides.unh.edu/ENGL401UNHManchester/evaluatingresources>

Connors Writing Center (CWC)

The [Connors Writing Center](#) offers one-on-one writing conferences to current UNH students (undergraduate and graduate). They work with writers from all disciplines on many kinds of writing. Our conferences are conducted by trained writing assistants who are UNH undergraduate and graduate students. The CWC offers both in-person and virtual appointments, available to any current UNH student. The online sessions are synchronous (real-time) appointments designed to help students have one-on-one conversations about their writing at any stage of the process, mirroring what we do during in-person appointments. [Students can schedule an appointment](#) any time during the semester.

Online Writing Lab (OWL)

The [Online Writing Lab \(OWL\)](#) assists students via asynchronous remote collaboration with qualified writing assistants. The OWL is not an editing or manuscript preparation service. Feedback may include reference to mechanics on the submitted paper, but it will be targeted to bring attention to patterns and issues to help the writer self-correct the paper and carry forward lessons to improve future writing. Students in all fields of study can submit up to 20 double-spaced pages of any form of writing, including course papers, resumes, creative essays, or personal statements. Within 3 business days, writing assistants provide feedback that can be printed or viewed on screen. The OWL is accessible through any computer that has an Internet connection and Microsoft Word.

To submit a paper, students can sign in at unh.mywconline.com and select the "Online Writing Lab" schedule.

Academic Honesty:

The Biology/Biotechnology Programs at UNH Manchester will strictly adhere to the [University policy on academic honesty](#), as published in the UNH Student Rights, Rules, and Responsibilities Handbook. It is imperative that you review this policy to understand the rules and responsibilities about honest, academic integrity, plagiarism, and cheating. By turning in any piece of work in this course, you declare that you have read and understand the policy, and that you did not engage in any form of academic dishonesty as defined in the Handbook.

Plagiarism can take many forms, such as: submitting someone else's work - in whole or in part - as your own; collaborating on answers for individual homework assignments or allowing your own work to be used by another student; copying information from a web site or other text without proper documentation; buying a pre-written paper or lab report. Computer-generated content may be helpful in preparing drafts, but should be used with caution. (See AI policy, below.)

Biotech Graduate Capstones / BIOT 891-892-893-895

Your assignments submitted through Canvas will be routinely screened for plagiarism using sophisticated software. It is strongly recommended that you complete the [Tutorial on Plagiarism in order to fully understand the definition\(s\) and all forms of it.](#)

Cheating is mainly concerned with copying on quizzes, exams or in lab, bringing crib notes into an exam or referring to notes or the textbook or any other source such as a programmable calculator, tablet, or cell phone during an exam. All electronic devices must be turned off and placed upside down on the table in front of you for the duration of any exams or quizzes. Ear buds are not permitted.

Any instances of cheating or plagiarism will result in consequences that can range from a failing grade on the assignment for all students involved to dismissal from the University, as defined in the UNH Student Rights, Rules, and Responsibilities Handbook.

AI/LLM (ChatGPT, Gemini, etc.) use is allowed for preliminary research or brainstorming within the Program. However, it is important to note that academic citation and source generation by AI tools is particularly problematic given evidence that these tools often invent citations even when they claim they are not doing so.

We highly value independent critical thinking and problem-solving skills and thus AI/LLM use is not allowed within the Program to generate answers or complete assignments. All use of AI/LLMs must be disclosed, including grammar polishing. In that case, the original unpolished version of the assignment must also be submitted along with the final version. Use of AI without disclosure is considered plagiarism.

Biotech Capstones Schedule (Tentative)

See Schedule in the Canvas/MyCourses Course for BIOT 895 (etc.)