

Academic Year 2024-2025

BSBT 6939-001 **TECHNOLOGY &** **INNOVATION** **INTERNSHIP** **HANDBOOK**

(3-6 Credits)



Course Director: Hannah Hathaway, PhD

Internship Organizations: Academic, Industry or Clinical laboratories, Biotechnology, Data Science, Regulatory Affairs, Program Management, or Clinical businesses

COURSE OVERVIEW AND OBJECTIVES

The BSBT 6939-001: Internship: Technology & Innovation course (3-6 credits) provides valuable hands-on learning and professional growth opportunities in the fields of academic research, biotechnology, data science, innovation, pharmacy, drug development, management, and entrepreneurship, among others.

This course is designed to introduce students to a "real-world" setting of professional life and provide networking opportunities, experience, and access to careers in biomedical sciences and biotechnology. An internship allows students to hone the professional and leadership skills that align with their career goals, develop their oral and written communication abilities, and build their résumé and professional network.

The BSBT program encourages students to seek internships as early as possible to support their learning and professional development; however, students should demonstrate proficiency in the BSBT academic training prior to contacting a potential internship site. It is **strongly recommended** that students pass the BSBT Foundations courses prior to beginning an internship. It is reasonable for internships to begin no sooner than the second semester.

REGISTRATION

The Program Administrator will provide a registration number for the course once the Internship Plan is approved by the Course Director.

IDENTIFICATION OF INTERNSHIP OPPORTUNITIES

Graduate students who want to enroll into the Internship course should identify an Internship site of their choice and may select from the list of mentors on the BSBT-GEN website or seek out potential internship sites that will support their career goals. The Course Director will meet with the internship mentor if requested.

For students currently working in a research setting:

Select an Internship site different from your lab, and preferentially in a new study field.

It *might* be acceptable to perform your internship in the lab in which you are currently employed. Contact the Course Director for pre-approval.

PRE-REQUIREMENTS

Enrollment in BSBT 6939-001 Internship is permitted only for students who:

- are in good academic standing
- ready for additional commitment to project-based learning
- select a mentor from the list on the program website or other mentor approved by the Course Director
- communicate by email with the Course Director their choice of project, mentor, and site
- submit an "Internship Plan" developed with the help of the Internship Mentor. The plan needs to be signed by the Intern, Internship Mentor, and Internship Course Director
- will conduct their Internship in a lab/site/department other than their site of employment or other approved Internship site

COURSE DIRECTOR ROLE AND RESPONSIBILITIES

The Course Director helps develop internship opportunities for students by maintaining a list of eligible mentors who are willing to provide experiential learning opportunities to students. The Course Director will educate students regarding Internship policies and procedures, which can be found in “Preparation, Learning, and Training Support” and BSBT 6939-001 Canvas courses. The Course Director is responsible for monitoring the academic quality and development of the Internship, including assisting the student in setting appropriate learning goals, monitoring the student’s progress, and posting the final grades.

The Course Director and Mentors must sign the “Internship Plan” form. The Intern should consult with the Course Director to determine the best time for the Internship Exam (Master of Science Comprehensive Exam). Upon prior approval, the Course Director may assume the Committee Chair position in the case of internships where a faculty member is unavailable or unable to serve on the committee (e.g., an employee of an industry organization). The Course Director will aim to attend the presentations. In the absence of the Course Director, the Committee Chair should meet with the Program Director to discuss the outcome of the Exam.

Note: Should any ethical, legal, or safety issues arise, the student is expected to contact the Internship Course Director immediately.

INTERNSHIP REQUIREMENTS AND STUDENT INTERN RESPONSIBILITIES

The student Intern is a degree-seeking student in good academic standing and currently enrolled at the Anschutz Medical Campus.

Interns are required to:

- before the start of the Internship, read and sign the course “**Acknowledgement Form**” and upload it to the assigned area in the Canvas 6939-001 course
- prior to beginning the Internship, will develop an Internship Plan and have it signed by the Internship Mentor, Faculty Mentor (can be the Course Director) and the Internship Course Director
- submit the “**Application to Candidacy**” form via DocuSign not later than four (4) weeks prior to the Internship presentation
- submit the “**Exam Request**” form via DocuSign as soon as the Oral Presentation date is confirmed, but not later than four (4) weeks prior to the Internship presentation
- spend a minimum of 150 hours at the Internship site to earn the minimum required three (3) credits. This time does not include time for preparation (reading) or compiling the final written report and Oral Presentation. Students are encouraged to spend more time than the required 150 hours to fulfill Internship goals and achieve learning objectives. For each additional credit (6 maximum), the student must work at least 40 more hours
- document the work hours on the “**Time Sheet**” provided on Canvas 6939-001 course and submit it to the Program Administrator as soon as the hours are completed and no later than the end of the Internship. The Time Sheet must be signed by the Internship Mentor before submission.
- submit to committee members **and** the Program Administrator the “**Written Internship Report**” in the format of a scientific paper (see pages 7-9) ten (10) days before the Oral

Presentation. Committee members may approve a shorter time (not less than five (5) business days) if requested by email along with a justification of necessity.

- submit the “**Oral Internship Presentation**” electronically to committee members no later than the day of Oral Presentation
- defend their Internship work to the exam committee members and fellow students. An in-person presentation is preferable, but a Zoom defense is possible if a reasonable and valid justification is provided.
- submit the “Mentor Evaluation” (survey on Canvas) toward the end of the Internship and prior to the Oral Presentation. Remind the Mentor to send the “Mentee Evaluation” to the Program

Student Intern Expectations:

Interns are expected to:

- conduct themselves in a manner consistent with the Anschutz Medical Campus guidelines for ethical conduct (see pages 9-10)
- demonstrate professional conduct at all times by showing up to the Internship on time and in a dress code appropriate to the organization site. Professional conduct includes, but is not limited to, use of appropriate language and conduct, and avoiding the use of derogatory comments.
- address faculty by their title or pronoun and last name unless given permission to do otherwise
- work well with the organization team. Interns are expected to treat and communicate with others with respect.
- be proactive, diligent, and respectful of everyone’s time and effort
- adhere to all Internship requirements, meet their obligations at the Internship site, and fulfill the requirements of the Internship Plan
- follow closely the Internship schedule and procedures outlined in the Internship Handbook and Canvas BSBT 6939-001 course

Interns should NOT sign any forms presented to them by the Mentor or Internship organization that have not received prior approval from the Course Director. Students who pursue an internship in a company may have to sign a Non-Disclosure Agreement (NDA). Students shall forward such agreements to the Course Director, who will in turn submit them for review with university legal counsel. Once cleared by university counsel, students may sign the agreement. In most cases, the terms are standard, but it is the students’ responsibility to ensure that they understand what their responsibilities and obligations are, especially for any clauses that may assign any inventions and for any non-compete clause. Students may also consult with a private attorney if they feel the need to do so or if they have questions.

Note: The Intern is expected to contact the Internship Course Director immediately if any ethical, legal, or safety issues arise. In extreme cases, the Internship might be terminated, and a new Internship site will be selected.

INTERNSHIP MENTOR/ INTERNSHIP ORGANIZATION ELIGIBILITY AND RESPONSIBILITY

The Internship provider is an academic laboratory, company, clinical service provider, nonprofit organization or government agency that has been approved by the Course Director to provide a work experience related to the student’s field of study or professional interest.

Internship Mentor Eligibility:

All Internship providers must comply with the following requirements:

- The Internship Mentor is expected to be a qualified professional in the field who meets with the Intern on a regular basis to monitor work assignments, mentor progress, provide professional opportunities for the Intern to accomplish identified learning objectives, and complete a performance evaluation at the conclusion of the Internship.
- The organization must be a legitimate established business entity, nonprofit organization, government agency, clinical service provider, or research laboratory.
- The organization may not be a home-based business. Any home-based business granted an exception to this requirement must be evaluated for safety and liability and approved by the Internship Course Director.

Internship Mentor Responsibility:

- The onsite Internship Mentor must agree to provide necessary orientation, training, and precautionary safety instructions for the student Intern.
- The onsite Internship Mentor may assign a supervisor who is a practicing professional in the field who agrees to provide the student with ongoing supervision, performance reviews, and a final evaluation at the conclusion of the internship.
- The Internship Mentor must supervise or assign a supervisor to monitor the minimum number of work hours required for the student to earn academic credit.
- The Internship Mentor must agree to provide timely notification to the Internship Course Director if any problems arise during the internship.
- The Internship Mentor may not require a student to pay the Internship provider in any form for any part of the experience.
- The Internship Mentor/Internship organization must provide the student access to an appropriate workspace and tools to perform their duties.
- The Internship Mentor/Internship organization will disclose to the Course Director any agreements requested in addition to the Internship Plan, such as confidentiality agreements, etc.
- The Internship Mentor must submit the “**Mentor Evaluation**” form to the Program Administrator (Patricia.Goggans@cuanschultz.edu) at the end of the Internship.
 - Master’s students are self-funded trainees. Some compensation for the Internship is appreciated but is not required.
 - Interns may not be hired as “independent contractors”.
 - The Intern may not be considered a “consultant” or be expected to provide a function the organization’s professional staff does not have skills to perform.
 - **The University prohibits Internships that require “hold harmless” agreements.** The Intern may not sign any agreement that might be requested by the Internship organization without prior approval by the Course Director/Program Director.

INTERNSHIP SCHEDULE AND PROCEDURES

Scheduling of day-to-day activities during the Internship will be organized by the student and Mentor. They will decide if it would be more appropriate and efficient to conduct the Internship in a one-block session (for example, in the summer) or if it would serve both interests to conduct the Internship over several weeks/months during the selected semester.

Note: If a student does not complete the required 150 minimum hours for three (3) credits in a period less than 18 months, the Course Director will convene a meeting with the student and the Mentor to assess the suitability of the student to continue. Based on this meeting, the student may be allowed to continue, or a full restart of the Internship may be required.

Exam Committee Chair and Member Selection and Function:

At the beginning of the Internship (**no later than the second week of the Internship**), students should discuss with their Mentor(s) the composition of their Exam Committees. An Exam Committee is composed of at least three voting committee members:

- the Internship Mentor (cannot be the Chair)
- a committee member with expertise related to the Intern's work
- a committee member with a science background in a related field

Eligibility of Exam Committee members:

Special faculty can serve as a chair as long as they have a doctoral degree and a faculty appointment in a department as an assistant, associate, or full professor.

***2 Special Graduate Faculty Appointment (Special GFA)**- Special GFA nominations can be made for any individual who could bring expertise to training graduate students. Often, if a new faculty member does not initially qualify for a Regular GFA, they can be nominated for a Special GFA, which allows them to be co-mentor/co-advisor to students and co-chair committees along with a Regular GFA member who accepts the commensurate responsibility.

- To decide on the committee members, students can check in the **Graduate Faculty Directory** if and which kind of Graduate Faculty Appointment their selected committee members hold. New Graduate Faculty Appointments can be issued on a temporary basis (for the time of the student's Internship) to Internship Mentors who are not members of CU

Denver|Anschutz faculty. In this case, for approval as BSBT Graduate Faculty, committee members will have to submit an Application for **Special Graduate Faculty Appointment Application** form (found on the Graduate School website) together with the faculty's CV to the BSBT Program Administrator. The Application for Graduate Faculty Appointment must be approved by the Program Director prior to the student submitting the Exam Request form in the first month of the Internship.

Note: Nomination Process for Regular GFA, mRegular GFA and Special GFA:

Nomination forms for Regular and Special GFAs are found on the Graduate School website. Nominations are sent to the Graduate School Dean's Executive Assistant and include:

[1] Nomination form

[2] CV of the nominee (preferable to a Biosketch or résumé). It is not necessary to provide it for one-time committee expertise providers

[3] Letter from the Program Director describing the reasons for nominating the person. The justification can be very brief unless the nominee for a Regular GFA does not have the standard credentials for being primary advisor.

- With prior approval, the Course Director may assume the Committee Chair position for Internships where a faculty representative is lacking or if absolute confidentiality is required (e.g., the case of Industry Mentor organization).
- **Voting committee members must not be in a reporting relationship** (among each other). For example, if a faculty member and a postdoc who work together in the same laboratory serve as co-mentors, both can serve on the committee, but only one of the two can vote on the Intern's passing and Internship grade.
- Committee members can be from outside organizations if they are an expert in the field, particularly if their expertise is lacking on the Anschutz Medical Campus. They can join the presentation by Zoom. If an outside expert is desired as a committee member, the Program Administrator should be notified as soon as possible, but no later than four weeks into the Internship.

Basic Exam Guidelines for the Chair and Committee members:

- The Committee Chair welcomes the Intern and introduces the committee members.
- The Intern presents for thirty (30) minutes.
- The Chair invites the audience to ask questions.
- The Chair may then ask the audience to leave or allow the audience to stay for the Q&A session.
- The Chair leads and guides the Q&A session about the Intern's work (report, presentation, and performance), after which the Intern is asked to leave the room but to stay nearby. ^{*1}
- The Chair leads the discussion about the outcome of the Intern's exam (Pass, Conditional Pass, Fail) and a suitable letter grade (A to B-) for the work. The grade will be discussed based on the BSBT 6939 Internship Rubric. ^{*4}
- If committee members cannot decide on a complete Pass and a letter grade, they may settle on a Conditional Pass and define the conditions to be met in a specific time frame.
- If a Conditional Pass is given, the committee shall reconvene to discuss a final Pass and grade assignment once the Intern submits the required work in the required time frame. For each day beyond the defined resubmission date, a 2% grade reduction will apply until the required work is submitted. If the grade reduction is greater than 20%, a Fail grade will be assigned, and the student

will need to register in a new internship. This procedure will be suspended for major circumstances such as illness. If the defined conditions are not met by the end of the semester, the student will not graduate in that semester and will have to submit an Application for Graduation for the next semester.

- When the committee agrees on the outcome of the Intern's exam, the Chair asks the Intern to come back to the room to hear the committee's decision.
- The **Master of Science Comprehensive Exam Report** will be generated via DocuSign and signed by all committee members.

*³ To avoid any perception of a conflict of interest, committee members who are in a reporting relationship with the Internship Mentor should leave the room with the student, as they cannot participate in the grading.

*⁴ To pass, the student will need to earn at least a B-, the maximal grade permitted being an A.

Basic Guidelines for the Internship Performance:

It is expected that, as graduate students, Interns:

- interact professionally, including timely arrival and respectful interaction with others
- listen and observe attentively
- are self-motivated to search for and use appropriate resources
- ask pertinent questions and demonstrate a high level of engagement with the task
- be curious and eager to learn new techniques
- discuss results and challenges frequently with the Internship Mentor, and in final stages get advice from committee members on the slide presentation
- keep an Internship notebook. There are many notebook formats depending on the Internship organization. The original notebook should stay with the Internship organization, and it is up to the onsite Internship Mentor to decide if a student is allowed to keep a copy for their own records.
- keep proper records allowing others to build on the work that was accomplished
- accept responsibility for mistakes and be willing to learn from their experiences

Basic Exam Guidelines for Students:

- Interns are required to meet at least once during their Internship with the Exam Committee members individually or as a group in a committee meeting to inform them about their progress and/or concerns. They should inform the Program Director/Program Administrator via email that the meeting is scheduled.
- Interns should prepare early for the date of their Oral Presentation and make sure that all committee members and the Program Director are available for the selected date.
- At the end of the Internship, students will submit a "**Written Internship Report**" and give a formal **30-minute Oral Presentation** on the goals and achievements of the Internship to their Exam Committee and other interested parties (see BSBT Internship Rubric). After the presentation to a broad audience and taking questions from the audience, the Exam Committee may continue the discussion with the Intern in a public setting or in closed session as recommended by the Chair.
- The Oral Presentation will focus on the student's work during the Internship. In the short time of the Internship, major research progress is not necessarily expected, but the Intern should be able to describe and discuss:
 - Introduction: what is known in the field, the gap of knowledge, the significance of the project

- Methods and Results: approaches used to answer the question at hand and the experimental or project outcomes
- Discussion and Future Directions: take-home message, limitation(s) of the approaches, additional work or modifications needed to achieve the goal, future directions, and applications

Basic Guidelines for the Internship Report:

The Internship Report should follow the structure of a manuscript. Please check the “Scientific Writing” course (BSBT 6064) for more detailed guidance, and check the rubric. The rubric can be found on Canvas, in the BSBT 6939-001 Internship course and in the Appendix of the handout. It is encouraged to work with the [Writing Center](#) in the preparation of the Written Internship Report. In summary, it is expected that Interns:

- describe the task, the approaches used, and the achieved results in detail.
- point out if the project has been completed or if it has been developed to a point at which others could take over. In the latter case, the student should describe what additional steps would have to be taken to finish the task.
- start with a cover page that includes the name of the Intern, the title of the project, the name of the Mentor, Internship site, and date. For an example, see page 5 of the Graduate School “[Format Guidelines for Theses and Dissertations](#)”.
- outline the Written Internship Report in the format of a research paper (abstract, introduction, results, methods, discussion/conclusions, references, acknowledgements). Graphs and tables should be embedded in the text. References should be numerical, carefully selected and inserted at the appropriate place in the text.
- submit a typed (12-point, Arial, Times New Roman, or Calibri font), single-spaced, 1-inch margins report. Typically, the report is approximately 30 pages, including Figures or Tables. Page numbers are required.
- avoid using jargon or too many abbreviations. The report should be a clearly written and easy-to-read communication of achievements and learning experiences.
- play close attention to spelling and grammatical mistakes
- share the written report electronically with the primary Mentor(s) first before sending it to the other committee members. The report should be sent to the committee ten (10) days prior to the presentation day, at the latest. Any request for delays (no more than five (5) days) should be in writing, must include a reasonable and strong justification, and requires the approval of all committee members.

***Note:** Plagiarism is not tolerated in any Internship documents! Plagiarism includes copying and pasting words and phrases from resources that are not referenced in the text and using statements and claims from others without quotation marks even if they are referenced. It also includes poorly paraphrased source information or passages where only some words have been changed. [The Writing Center](#) can provide a Turnitin Similarity Report of your draft, which identifies phrases, sentences, and passages that are “similar” to other sources, including previously submitted student work. This report can then be used to revise problematic areas of “similarity.” If plagiarism is discovered, Graduate School disciplinary actions may be triggered, accompanied by a significant reduction in grade that may, upon the discretion of the Course Director, lead to the assignment of a Fail grade for the course.*

Basic Guidelines for the Oral Presentation:

- The Oral Presentation is thirty (30) minutes (one minute per slide). Be articulate, clear, and concise.
- Text should be minimal, and full sentences should be avoided. Presentation should mostly be graphs and pictures that support the talking points. Avoid busy slide backgrounds (keep it simple). Colors may enhance understanding, but should be used wisely. Animations could be used, but should not distract from the story being told.
- Slides should be well organized and easy to understand with a logical flow.
- Importing a video clip that was not made by the Intern may limit the time to demonstrate their own efforts.
- In certain cases, having a diagram that explains the take-home message is very helpful for understanding of complex concepts and results.

COURSE REFERENCES

There is no specific textbook required for this Internship course. It is the responsibility of the student to seek information and specific references, with the support of the onsite Internship Mentor for the exercise of professional growth. References should be cited in the Written Internship Report and Oral Presentation.

Oral Presentation Dates:

- Due to increasing scheduling conflicts at the end of the semester, it is strongly recommended that students confirm an internship presentation/exam date that is at least three (3) weeks prior to the end of the semester (see Anschutz Academic Calendar).
- The **date for the Oral Presentation** must be reported on the Exam Request form (found on the Graduate School website and on Canvas BSBT 6939-001). Together with the Exam Request form, students, regardless of presenting in their last semester or earlier, must submit an Application for Candidacy (found on Canvas BSBT 6939-001).
- Students will have to find a presentation time that is convenient for ALL committee members and the Course Director. They should ask the Program Administrator for help with finding a presentation room. It is the Intern's responsibility to ensure that the projector equipment works properly and that all necessary adaptors are available.

Submission of the Written Internship Report:

- The Internship Written Report shall be approved by the Internship Mentor before they are submitted to all committee members and the Course Director at least ten (10) days prior to the

presentation day. In circumstances that are beyond a student’s control, a later submission of up to five (5) days before the presentation date might be possible at the discretion of the Course Director. In this case, the request for delay shall be in writing (by email with an open read receipt) and include a valid and reasonable justification. The approval of the Course Director and all committee members is required to avoid any grade reduction.

Submission of Oral Presentation (Slides):

- Interns should review their slide presentation with the Internship Mentor(s) before sending it to the Exam Committee members and the Course Director. Interns also should send the presentation to the Program Administrator by the day of the presentation, at the latest, to avoid grade reduction.

Note: If the Internship takes place during a student’s final semester, i.e., the semester in which the student wants to graduate, there are additional [Graduate School deadlines](#) that must be observed. Students must strictly adhere to all BSBT Program and Graduate School deadlines to avoid delays that may interfere with their ability to graduate in the selected semester. If in doubt, please contact the Program Administrator.

CONFIDENTIALITY

Due to legal confidentiality issues, students who would like to Intern in an Intellectual Property (IP) Office will have to make special arrangements for the “**Written Internship Report**” with the Mentor organization to accommodate protected intellectual property (IP). Similar steps might be necessary for students who intern in industrial laboratories. In all cases, the Internship Mentor will be the first to review the Written Internship Report/Oral Presentation and may modify content in conflict with the confidentiality rules of the company.

GRADING

The Internship is a graded course with the result appearing on the student’s academic transcript. Students must earn at least a grade of “**B -**” for the Internship course for it to count towards graduation. The maximum grade is **A** (A+ is not awarded).

The grade will be a composite of the **evaluation of the Written Internship Report, the Oral Presentation and Defense, and the Internship Performance** based on the BSBT 6939 Rubric for Internship Evaluation provided to committee members. The rubric can be found in the BSBT 6939-001 Canvas course.

• A- = 90.0 – 92.9%	A = 93.0 – 100%	(A+ not awarded)
• B- = 80.0 – 82.9%	B = 83.0 – 86.9%	B+ = 87.0 – 89.9%
• C- = 70.0 – 72.9%	C = 73.0 – 76.9%	C+ = 77.0 – 79.9%
• D- = 60.0 – 62.9%	D = 63.0 – 66.9%	D+ = 67.0 – 69.9%
• F = 59% and below		

To adhere to the Anschutz Medical Campus academic standards, and keeping in mind that some committee members, especially from outside academia, might be less familiar with the academic requirements, it is the prerogative of the Internship Course Director to adjust the grade that was recommended by the Exam Committee.

STUDENT CODE OF CONDUCT - CONDUCT REQUIREMENTS

Students are expected to adhere to the [CU Denver Student Code of Conduct](#) and be familiar with the common sanctions for violations. In addition, students must respect University policies regarding the [Academic Honor Code and Discipline Policies](#), the Academic Probation and Suspension Policies, the [Code of Student Conduct](#) (Student Rights and Responsibilities and Procedures for Disciplinary Review and Action), Amorous Relationships, Drugs and Alcohol, Inclusiveness and Nondiscrimination, Sexual harassment and anti-Violence, and [Sexual Misconduct](#).

Plagiarism:

Plagiarism is the use of another person's ideas or words without acknowledgement. The incorporation of another person's work into yours requires appropriate identification and acknowledgement. Examples of plagiarism when the source is not noted include: word-for-word copying of another person's ideas or words; the "mosaic" (interspersing your own words here and there while, in essence, copying another's work); the paraphrase (the rewriting of another's work, while still using their basic ideas or theories); fabrication (inventing or counterfeiting sources); submission of another's work as your own; and neglecting quotation marks when including direct quotes, even on material that is otherwise acknowledged. If plagiarism is detected, the grade of the assignment and/or the course, at the discretion of the Course Director, will be reduced to zero, and the student will be referred to the Graduate School for violation of the academic code of conduct.

Cheating:

Cheating involves the possession, communication, or use of information, materials, notes, study aids, or other devices and rubrics not specifically authorized by the course instructor in any academic exercise, or unauthorized communication with any other person during an academic exercise. Examples of cheating include copying from another's Internship work or submitting the work as one's own. If cheating is detected, the grade of the assignment will be reduced to zero and the Intern will be referred to the Graduate School for violation of the academic code of conduct.

Fabrication:

Data fabrication involves inventing or counterfeiting information—creating results not properly obtained through the study or laboratory experiment. Falsification involves deliberate alteration or changing of results to suit one's needs in an experiment or academic exercise. If fabrication is detected, the overall [grade of the Internship](#) will be reduced to zero and the Intern will be referred to the Graduate School for violation of the academic code of conduct.

APPENDIX

1. Internship Plan (found on Canvas)
2. Risk Assessment
3. Time Sheet (found on Canvas)
4. Mentor Evaluation (found on Canvas)
5. Mentee Evaluation (submitted by email by the Internship Mentor)
6. BSBT 6939 Rubric for Internship Evaluation