

Cancer Biology Graduate Program Handbook

A Biomedical Science Subprogram

University of Iowa - Biomedical Science Graduate Programs - Holden Comprehensive Cancer Center

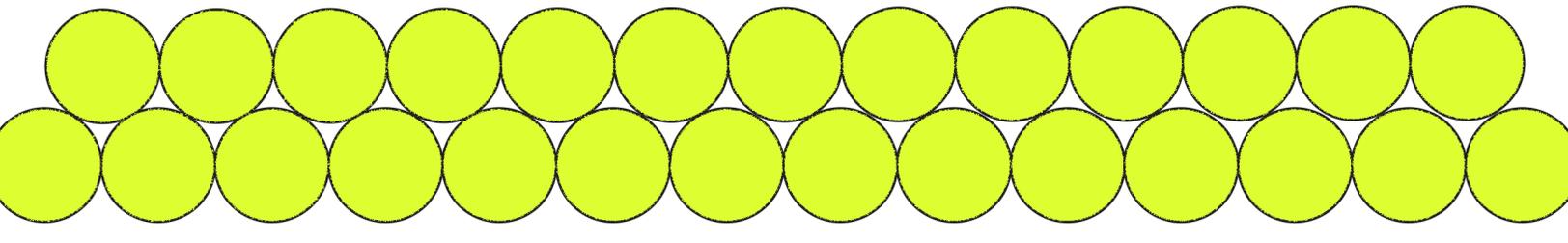


Table of Contents

I.	Introduction to the Cancer Biology Graduate Program (CBIO)	3
II.	Program Administration	5
	A. Contacts	5
	B. When are You Required to Contact the Program Office?	5
	C. Whom Should You Contact?	6
III.	Financial Support (stipend, tuition, covered fees)	7
	A. Graduate Research Assistantships	7
	B. Teaching Opportunities and Assistantships	7
	C. Other Means of Support	8
	D. Summer Registration	8
	E. Tax Information	8
	F. Vacations and Sick Leave	8
IV.	Academic Standards	9
	A. Registration	9
	B. Coursework	9
	C. English Proficiency	9
	D. Academic Standing	9
	E. Laboratory and Seminar	10
V.	Curriculum	10
	A. Required Core CBIO Courses	10
	B. Elective CBIO Courses	11
	C. Seminar	12
	D. Scholarly Integrity/ Responsible Conduct of Research	13
	E. Laboratory Rotations	14
	F. Teaching	14
	G. Timetable for Course of Study	15

	H. Medical Scientist Training Program (MSTP)	16
VI.	Plan of Study for the CBIO Program	16
	A. Coursework	16
	B. The Comprehensive Examination	17
	C. Thesis Committee	22
	D. Final Examination (Thesis Defense)	22
	E. Publication Requirement	23
V.	Program Committees	23
	A. Executive Committee	23
	B. Recruitment & Admissions Committee	23
VI.	Petitions and Appeals Procedures	24
	A. Petitions	24
	B. Appeals	24
VII.	Scientific Ethics: Guidelines and Other Resources	25
	A. Policy on Authorship of Publications	25
	B. Scientific Misconduct	25
	C. Academic Misconduct	25
	D. Sexual Harassment	26
	E. Counseling Resources	26
	F. University Policy on Discrimination	26
	G. Social Media Policy	26
Appendix I: Guidelines for Faculty Membership		27
Appendix II: Best Practices for Graduate Students and their Research Advisors		28

Introduction

The Cancer Biology (CBIO) Ph.D. Program at The University of Iowa is an interdepartmental program whose course of study leads to a Ph.D. degree in Cancer Biology. The Program does not offer a Master's degree (M.S.).

CBIO is a subprogram in Biomedical Science, which has eight PhD subprograms and three related biomedical PhD programs. CBIO is affiliated with The Holden Comprehensive Cancer Center (HCCC), which was founded in 1980 and has been an NCI-designated cancer center since 2000. Through its four thematic research programs, it promotes interactive, high-quality cancer research, high-quality health care related to the prevention, detection, and treatment of cancer, and educates cancer professionals and Iowa citizens about cancer.

The HCCC has 190+ full and associate faculty members from throughout the University of Iowa who are engaged in basic and translational cancer research. These faculty are members of CBIO and can participate in the Program and may direct the Ph.D. dissertation research of CBIO graduate students. Students have potential access to a wide range of expertise and disciplines. Members are from the Colleges of Medicine, Liberal Arts, Public Health, Engineering, Pharmacy, and Nursing. The primary departmental affiliations of the faculty include the Departments of Anatomy and Cell Biology, Anesthesia, Biochemistry, Biology, Biomedical Engineering, Biostatistics, Chemistry, Electrical and Computer Engineering, Epidemiology, Family Medicine, Internal Medicine, Medicinal and Natural Products Chemistry, Microbiology, Molecular Physiology and Biophysics, Neurology, Obstetrics and Gynecology, Occupational and Environmental Health, Ophthalmology and Visual Sciences, Orthopaedics and Rehabilitation, Otolaryngology, Pathology, Pediatrics, Pharmaceutical Sciences and Experimental Therapeutics, Pharmacology, Physical Therapy and Rehabilitation Science, Psychiatry, Psychology, Radiology, Radiation Oncology, Statistics, Surgery, and Urology.

More information about the HCCC is available at: <https://uihc.org/cancer-research> and a list of all members is at: <https://uihc.org/cancer-research-members>

The four HCCC Programs are:

- Cancer Genes and Pathways (CGP), focusing on genome organization, regulation and cancer gene expression; cellular proliferation and survival and transformation; and tumor immunosurveillance;
- Experimental Therapeutics (ET), focusing on therapeutic targets and lead discovery, novel drug delivery approaches, and clinical therapeutics;
- Free Radical Metabolism and Imaging (FRMI), focusing on free radical biology, redox-based therapeutics, patient outcome and molecular imaging, and novel approaches to diagnostic imaging;
- Cancer Epidemiology and Population Science (CEPS), focusing on cancer etiology, cancer health services and outcomes, and cancer prevention and control.

Although students are appointed as half-time Research Assistants, this award represents a full-time appointment as a graduate student in the CBIO Program. You are expected to commit full effort to progress toward your degree.

The curriculum is a sequence of required and elective courses, which provides students with advanced knowledge in current concepts in molecular, cellular, and genetic processes that contribute to the development and treatment of cancer and to provide students with specialized training in experimental methodology used to study cancer in a laboratory setting. It prepares students for a variety of career paths in academic, clinical, and industry environments that deal with the study and/or treatment of cancer. Students gain clinical exposure by shadowing oncologists. In addition, sufficient flexibility is provided so that students can adapt the program to permit specialization. It is expected that entering students will have a solid background in chemistry and mathematics, as well as the biological sciences. Prospective students should have taken undergraduate courses in introductory biology and chemistry, biochemistry, genetics, organic chemistry, physical chemistry, and calculus. Course work in cancer biology is desirable. Deficiencies in a particular area, as determined by the Graduate Studies Committee, can be remediated by completion of appropriate courses during the first year of graduate study.

II. Program Administration

A. Contacts:

Program Website: *<https://medicine.uiowa.edu/cancerbiology>*

Adam J. Dupuy, MS, PhD, Program Director

Associate Professor
Department of Anatomy & Cell Biology
Carver College of Medicine
University of Iowa
3202 MERF
375 Newton Road
Iowa City, IA 52242
Phone: 319-335-8090
Email: adam-dupuy@uiowa.edu

Alicia Denman, BA, Program Coordinator

3209A MERF
375 Newton Road
Iowa City, IA 52242
Phone: 319-353-8615
Email: alicia-denman@uiowa.edu

B. When are You Required to Contact the Program Office?

Educational Milestones

Students need to contact the Program Office (Alicia) at each of these milestones:

- Anytime your name, address, home phone number, cell phone number, or office/lab contact information changes
- When you make rotation mentor choices
- When you choose your mentor
- Anytime your funding source changes
- When you choose your thesis committee members
- When you have changes in your committee membership
- When you need to schedule committee meetings
- If you prefer to schedule your committee meetings independently, immediately upon scheduling the meetings
- As soon as you know your comps date
- As soon as you know you plan to defend in a particular semester
- As soon as you know your defense date
- Alumni—whenever you have a change of position, institution, name, or other contact information

Noteworthy Accomplishments

For website updates and to assist the Program Administration with other Cancer Biology Program public relations, promotional, and training grant goals, please contact the Program Office when:

Students

- You receive fellowships, grants, or other monetary awards
- You publish papers or chapters
- You receive any honors or awards
- You receive any positive media attention
- Anything else you think may be announcement worthy

Faculty

- You receive moderate or high level accolades of any sort
- You receive any positive media attention
- You receive any award related to your teaching
- You publish something particularly noteworthy
- You receive noteworthy grants or other monetary awards

C. Whom Should You Contact?

First Contact	Question or Request
Alicia	Registration changes (adds, drops, and change of hours forms)
Alicia	Website updates and corrections
Alicia/Dr. Dupuy	Research rotations and rotation evaluations
Alicia	Room reservations
Alicia	Travel arrangements and reimbursements
Alicia	Meeting arrangements
Alicia	Invoice payments (e.g. restaurant or supply bills)
Alicia	Reports for Committee meetings
Alicia	Reports for Comprehensive Committee meetings
Alicia	Poster printing
Alicia	Course evaluations
Alicia	Budget questions
Alicia	Policy questions
Alicia	Stipend questions
Alicia	U-Bill questions
Alicia/Dr. Dupuy	Grant and fellowship questions
Alicia	Complaints/concerns/problems
Alicia	At educational milestones listed above

III. Financial Support (stipend, tuition, covered fees)

Graduate students in the CBIO Program at the University of Iowa are normally fully supported (stipend, tuition, covered fees) throughout their training in the Program, contingent on satisfactory progress, for a period that normally runs 4 to 6 years (total expected training time). Support commitments are reviewed annually, and are normally renewed each year if the student is making satisfactory progress. Whether the student is making satisfactory progress is determined by the student's mentor, the Student Advisory Committee, and the Program Director.

Graduate student appointments include a stipend, which is subject to change each year commensurate with the recommendation of the Office of the Associate Dean for Graduate and Postdoctoral Studies of the College of Medicine. The stipend is set to be competitive with peer institutions.

Tuition and covered fees include the following: (1) Base tuition and associated mandatory fees (technology fee, student activities fee, student services fee, student union fee, building fee, recreation facility fee, arts & cultural events fee, professional enhancement fee for graduate students, student health service fee); records and documents fee; (2) All fees associated with core, required, and directly relevant elective coursework; (3) All fees associated with registration changes, credit hour changes, and other changes that occur in connection with required and directly relevant courses; (4) ITS printing fees (beyond the allotted amount); (5) Summer recreation facility fees (if student is not registered for the summer term and desires access to the recreation facility). Fees that are NOT covered by the Program include: (1) Key deposits; (2) Fees associated with extracurricular or other elective courses not relevant to the program of study in CBIO; (3) Fines, penalties, parking tickets, and other such violation-associated fees; (4) Mandatory fees associated with submitting a dissertation, including a degree application fee, a publication and binding fee, and a thesis fee; (5) Fees and regalia rental charges associated with participating in commencement.

Stipend, tuition, and covered fees are paid by either University and/or departmental funds, and/or by extramural sources. Graduate students receive support through the following mechanisms:

A. Graduate Research Assistantships

Students in the second and subsequent years of training may be appointed to a graduate research assistantship from a research grant, or may receive funding from the department in which their research is being performed, or may be awarded support from funds provided by the Graduate College.

B. Teaching Opportunities and Assistantships

Students who are interested in teaching experience are encouraged to discuss this with Dr. Dupuy and their mentor, who will then work with the student to find opportunities of value.

C. Other Means of Support

Students may receive support from other sources, including University of Iowa Graduate Recruitment Fellowships and a variety of nationally competitive NIH, NSF, and other individual awards.

D. Summer Registration

Graduate students in the Program normally do not register for summer term. There are four exceptions to this: (1) Some first-year students who may take courses during their first summer; (2) Students taking the Comprehensive Examination during the summer term; (3) Students who are defending their PhD during the summer term; and (4) Students who have a summer fellowship (e.g., from the Graduate College). Outside of these exceptions, students will not register for the summer. (This policy is broadly in effect for all of the biomedical science advanced degree programs at the University of Iowa.)

E. Tax Information

Students should be aware that IRS regulations may require FICA withholding for summer stipend checks for students not registered for the summer term. This can amount to an income loss of about \$300, depending on the student's particular circumstances. CBIO faculty mentors have the prerogative to pay their student an extra \$300 (or whatever the FICA withholding amounts to) for the summer, to offset the withholding. An agreement about this, one way or another, should be reached between the student and faculty mentor at the beginning of the academic year (normally July or August), for the following summer.

F. Vacation and Sick Leave

Graduate training is a full-time, 12-month professional commitment with your mentor and with the Program. The University policy on vacation and sick leave for graduate research assistants is negotiated with COGS, the graduate student union.

See COGS contract at: <https://www.grad.uiowa.edu/cogs-contract>

Graduate research assistants (50% appointment) may take up to 15 workdays of vacation per year without loss of pay. In addition, students shall receive the nine paid University holidays: New Year's Day, Dr. Martin Luther King Jr.'s Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, Christmas Day, and the day before/after Christmas (as identified by the University).

Graduate research assistants (50% appointment) may be absent due to illness for up to 18 workdays per year without loss of pay.

Students must notify their advisor about absences (vacation, sick leave) from the lab. Vacations or any other planned absences should be discussed in advance with your mentor and reported to the Program Office. Absences in excess of the above allowances must be requested in writing and approved by your mentor and the Program Director.

IV. Academic Standards

To be eligible for continuation of stipend support and tuition scholarships, graduate students must satisfy the following minimum conditions of satisfactory performance.

A. Registration

The student must pursue continuous, full time studies (9-15 semester hours per semester prior to passing the Comprehensive Examination, then post-comp registration after completion of the Comprehensive Examination). The Graduate College has a specific definition of “continuous, full time studies,” with which CBIO students must be in compliance, and students are encouraged to consult with the Graduate College for further information.

B. Coursework

The student must complete coursework in a timely manner. Core and elective courses for the CBIO Program are normally completed by the end of the second year (or by the end of the first year for MSTP students; see section III.J below).

C. English Proficiency

For students whose first language is not English, the Graduate College specifies that a matriculating graduate student who’s TOEFL score is below the required level must take the English Proficiency Examination (EPE). The EPE is usually taken prior to the student’s initial registration for courses. The student is required to enroll in and complete English as Second Language (ESL) course(s) as prescribed by the results of the EPE. All ESL course(s) should be completed within the first year.

D. Academic Standing

a. Program Requirements

The student must maintain a cumulative grade point average (GPA) of 3.0 in coursework. No research or independent study taken during a student's graduate training counts in the GPA for this purpose.

b. Graduate College Policy

The student shall be placed on academic probation by the Graduate College if, after completing 9 hours of graded (A, B, C, D, F) graduate work at The University of Iowa, the student's cumulative grade-point average falls below 3.00. A student will be returned to good standing when his or her cumulative grade-point average becomes equal to or greater than 3.00. If, after completing 9 more semester hours of graded (A, B, C, D, F) graduate work at this University, the student's cumulative grade-point average remains below 3.00, the student shall be dropped from the degree program and denied permission to reregister within any Graduate College doctoral degree program. The student may apply for and be accepted into a nondoctoral degree or certificate program.

E. Laboratory and Seminar

The student must maintain satisfactory laboratory and seminar performances as evidenced by grades of “S” or “P” in CBIO Research, and CBIO Seminar.

V. Curriculum

The Graduate College requires the satisfactory completion of 72 semester hours in order to obtain a Ph.D. These hours are obtained through a combination of Core and Elective courses, and seminar and research hours accumulated throughout graduate training.

A. Core Curriculum

1. Core Biomedical Science Courses

For the first year, students take common courses with other Biomedical Science first year students. There is an elective in each semester the first year. Students with a strong interest in cancer are encouraged to take electives which are cancer related and/or to fill gaps in knowledge.

Fall Semester

BMED:5207	Principles of molecular & cellular biology
PCOL:5204	Basic biostatistics & experimental design
BMED:7777	Biomedical Science Seminar
BMED:5208	Topics in Principles of Molecular & Cellular Biology
BMED:7888	Biomedical Science Research
Elective	

Spring Semester

PATH:5270	Pathogenesis of Major Human Diseases
MMED:6260	Methods for Molecular/Translational Medicine
PHAR:6504	Mastering Reproducible Science
BMED:7777	Biomedical Science Seminar
BMED:7888	Biomedical Science Research
Elective	

2. Required CBIO Courses

Graduate students are required to complete these CBIO Program core courses (listed below) prior to taking the Comprehensive Examination. (On rare occasions, core courses may be completed after the Comprehensive Examination; e.g., if a course is not available

in a feasible manner. The student should make such arrangements in consultation with their mentor, the Program Director, and the Student Advisory Committee.) Topics in cancer biology (CBIO:5500) and Seminar: cancer biology (CBIO:6000) are repeated for credit until the Comprehensive exam is passed. Students are expected to continue to participate in these two courses every year after as no credit courses.

Graduate students must achieve a grade of “B” or better in core courses in order to satisfy this requirement. If a student receives a grade of less than a “B” in a core course, the course may have to be repeated or a student may have to perform remedial work as specified by the Student Advisory Committee, mentor, and Program Director. Based on courses undertaken prior to entering the CBIO Program, some core CBIO course requirements may be waived.

Core Courses

FRRB: 7001	Molecular & cellular biology of cancer, 3 s.h.
BMED: 7270	Scholarly integrity/responsible conduct 1, 0 s.h.
BMED: 7271	Scholarly integrity/responsible conduct 2, 0 s.h.
CBIO:5500	Topics in cancer biology, 1 s.h.
CBIO:6000	Seminar: cancer biology, 1 s.h.
CBIO: 6500	Research in cancer biology, Arranged s.h.
CBIO: 7000	Clinical connections, 1 s.h.
CBIO: 7500	Crafting a scientific proposal, 1 s.h.

Cancer Biology (CBIO) course descriptions:

CBIO:7000 Clinical Connections in Cancer Biology

Students will have arranged clinical shadowing experiences with oncologists who are treating cancer patients at the University of Iowa Hospitals and Clinics.

CBIO:7500 Crafting a Scientific Proposal

This course will provide training for students in the areas of scientific writing and the development of a scientific proposal. The proposal developed by the students in this course will be related to, but not identical to the proposal for the comprehensive exam.

CBIO:6500 Research in Cancer Biology

Students will have research rotations in laboratories conducting cancer research.

CBIO: 6000 Seminar in Cancer Biology

Students will attend seminar presentations of cutting edge science in the field of cancer biology, given by experts in the field as well as trainees.

CBIO: 5500 Topics in Cancer Biology

New literature reports will be presented and discussed in a journal club format.

C. Elective C BIO Courses

This list of elective courses is not conclusive. Graduate students may take electives not on this list after discussion with their advisor or Dr. Dupuy.

Cancer Biology

- Introduction to Data Science & Informatics CBIO:3310 (3 sh) (Spring)

Biochemistry

- Perspectives in Biocatalysis BIOC:5875 (1 sh) (Fall)
- Introduction to Protein Structures BIOC:7251 (1 sh) (Fall)
- Enzymes, Carbohydrates, Nucleic Acids, and Bioenergetics BIOC:7252 (1 sh) (Fall)
- Metabolism 1 BIOC:7253 (1 sh) (Fall)
- Cellular Biochemistry BIOC:7254 (1 sh) (Spring)
- Metabolism 2 BIOC:7255 (1 sh) (Spring)
- Molecular Biology BIOC:7256 (1 sh) (Spring)

Molecular Medicine

- Mechanism of Cellular Organization MMED:6220 (3 sh) (Fall)
- Growth Factor Receptor Signaling MMED:6225 (1 sh) (Spring)
- Cell Cycle Control MMED:6226 (1 sh) (Spring)
- Cell Fate Decisions MMED:6227 (1 sh) (Spring)
- Critical Thinking Molecular Medicine MMED:6280 (1 sh) (Fall and Spring)

Pharmacology

- Growth Factor Receptor Signaling; PCOL:6225 (1 sh) (Spring)
- Receptors and Cell Signaling; PCOL:6210 (3 sh) (Spring)

Genetics

- Critical Thinking in Genetics ACB:6238 (1 sh) (Fall)
- Genetic Analysis of Biological Systems GENE:6150 (3 sh) (Fall)

Bioinformatics & Biostatistics

- Introduction to Biostatistics BIOS:4120 (3 sh) (Spring/Summer/Fall)
- Biostatistical Computing BIOS:5510 (2 sh) (Fall)
- Biostatistical Methods I BIOS:5710 (4 sh) (Fall)
- Bioinformatics Techniques BME:5320 (3 sh) (Fall)
- Bioinformatics GENE:4213 (4 sh) (Fall)

C. Seminar

The C BIO Seminar Series, in conjunction with other affiliated Biomedical Science programs, provides a weekly forum for research presentations by faculty and students of the Program, and by invited guest speakers. The Seminar is attended by all students in the Program, by Program faculty, and by faculty and guests from other Departments and Programs on campus.

Graduate student attendance is required. Each semester, students will be allowed up to 2 unexcused absences from Seminar. Students with more than 2 unexcused absences in a semester will receive an Unsatisfactory (U) grade for that semester. Acceptable excuses for missing Seminar include: attending a required class (e.g., Principles of Scholarly Integrity); attending research conferences or out-of-town meetings; religious holidays; family emergencies. Examples of absences that will not normally be excused include: being tied up with an experiment; illness. Some of these events may not be avoidable, but that is why students are permitted 2 unexcused absences each semester. If students are unsure about whether a particular reason for being absent will be considered excused or unexcused, they should check well in advance with the director of the CBIO seminar series. In all cases, students should email the director of the CBIO seminar series well before any expected absences. Student attendance at Seminar is of paramount importance, and the Program will keep to a hard line on our policies.

High-spirited discussions are encouraged. Presentations are monitored to ensure a high level of quality. The format encourages student-faculty interactions. Invited speakers at CBIO seminars are introduced by a CBIO graduate student. Invited speakers are scientists with national and international prominence. The seminar meets throughout the Fall and Spring semesters.

Graduate students in the Program present at a seminar according to the following schedule:

1. First year students give a Rotation Talk, usually at the end of the Spring semester of their first year. First-year students select one of their three rotation projects and describe the goals and results of the research in a brief (approximately 15-20 minute) presentation. Three (four if necessary) first-year students split a one-hour seminar slot. Each Rotation Talk is followed by a brief question-and-answer follow-up. Rotation Talks should include an “Elevator Talk” portion (see below), adjusted in length to be proportionate to the length of the presentation (e.g., a shorter presentation, on the order of 15 minutes, would have a briefer Elevator Talk than a presentation twice that long).
2. From the second year on, students give a 30-minute presentation, once per year. Two students split a one-hour seminar slot. Each presentation is followed by a short question-and-answer session.
3. Students who have passed their Comprehensive exam give a full one-hour presentation, with time for questions and answers at the end. This presentation is designed and scheduled to provide students an opportunity to rehearse the presentation they will be using for their thesis defense.
4. Students in the last semester of the Program are not required to give a Seminar presentation.

D. Scholarly Integrity / Responsible Conduct of Research

First year students must complete web based training modules of Collaborative Instruction Training Initiative (CITI). Students must complete with a passing grade of 80% or higher

four modules in the fall semester (August) and four modules in the spring semester (January).

Second year students will enroll in a 0 semester hour course, which includes the following elements (both include four 90-minute small group sessions):

1. BMED:7270 Scholarly Integrity/Responsible Conduct of Research 1 (fall)
2. BMED:7271 Scholarly Integrity/Responsible Conduct of Research 2 (spring)

In addition, students continue to participate in education in Scholarly Integrity and Responsible Conduct of Research throughout their graduate training.

E. Laboratory Rotations

As a subprogram within the Biomedical Sciences Program, first-year students follow the guidelines and policies of the BSP regarding laboratory rotations.

F. Teaching

Teaching experience is not a requirement in CBIO. Students who have interest in gaining teaching experience are encouraged to discuss their career plans with their mentor and/or the Program Director. Teaching opportunities and coursework will be found for students with teaching interest.

Additional instruction in teaching, designed specifically for graduate students, is offered through the [Office of Graduate Teaching Excellence](#). The College of Education (COE) opened the Office of Graduate Teaching Excellence (OGTE) in Fall 2008. In partnership with the COE and the Graduate College, OGTE enables all University of Iowa doctoral students to complement their home discipline's curriculum and research training with the development of effective teaching skills. OGTE provides doctoral students with the knowledge and skills needed for success in the classroom when they accept academic positions upon graduation and/or after completion of post-doctoral training. OGTE's goal is to provide students who intend to enter academia with the tools and preparation to be effective teachers.

The Graduate Certificate in College Teaching is available to all University of Iowa PhD students enrolled under the Graduate College. In order to earn a Graduate Certificate in College Teaching, the coursework requirements from each of the 3 Categories listed below must be completed. A minimum of 12 semester hours is required for the Graduate Certificate in College Teaching. Previous teaching experience will not be permitted to waive any of these requirements.

Category 1 - Minimum of 6 s.h. required.

Choose TWO:

- Teaching and Learning in Higher Education (3 s.h.) GRAD:7385, EPLS:7385
- Seminar in College Teaching (1-3 s.h.) PSQF:217

- Introduction to Online Post-Secondary Course Design and Facilitation (3 s.h.) EALL:7387
- Teaching Sociology (3 s.h.) SOC:7010
- Design of Instruction (3 s.h.) PSQF:6205

Category 2 - Minimum of 3 s.h. required.

Must enroll twice, under the supervision of TWO different professors.

Teaching Assistantship duties may not be used to satisfy the teaching experience requirement.

- Enroll in EDTL, E, PSQF, RCE, U:7380 Practicum in College Teaching (1-3 s.h.) when supervised by a College of Education faculty member.
- Enroll in GRAD:7400 Practicum in College Teaching, (1-3 s.h.) when supervised by a faculty member in a College other than Education.

Category 3 - Minimum of 3 s.h. required.

- –ePhD Portfolio in College Teaching (3 s.h.) EALL:7475 / 07X: 475

For additional information and to enroll in the certificate program, please contact Dr. [Dennis R. Maki](#), Director, or [Mitchell Kelly](#), Associate Director.

In addition, students make presentations in Seminar, participate in journal clubs, and participate in lab meetings during their rotations and thesis research.

G. Timetable for Course of Study

In consultation with the Program Director and Student Advisory Committee, each student's program of study is designed individually in relation to prior undergraduate training and graduate research goals. During the first year in the CBIO Graduate Program, each student meets with the Program Director to prepare a program of study. Thereafter, the student and his/her mentor will be responsible for crafting a training plan (e.g. course registration, comprehensive exam committee membership, etc.)

H. Medical Scientist Training Program (MSTP)

Students can matriculate into the CBIO Program from the MSTP to pursue their PhD training. MSTP students typically complete a somewhat abridged curriculum of pre-comprehensive examination instruction and coursework, due to their having already satisfied a number of core requirements. Specifically:

1. Coursework: MSTP students normally can complete necessary coursework within one year, and can then sit for the Comprehensive Examination. MSTP students have normally completed some core and eligible elective coursework prior to matriculating into the CBIO Program.
2. Laboratory Rotations: MSTP students normally can opt for fewer than 3 laboratory rotations, and may only do 1 or 2 lab rotations prior to choosing a mentor (some matriculating MSTP students will have already selected a home lab). MSTP students

have normally completed some laboratory rotations prior to their joining the C BIO Program. However, additional rotations in C BIO faculty can be arranged.

3. In most cases, MSTP students are eligible to perform the Comprehensive Examination in the summer following their first year in the C BIO Program.
4. Decisions about coursework, laboratory rotations, and choosing a mentor are made in consultation with the student's mentor and the Program Director, along with the Directors of the MSTP.

VI. Plan of Study for the C BIO Program

A. Coursework

First Year coursework follows the Biomedical Science core courses:

Fall

Principles of Molecular & Cellular Biology
Basic Biostatistics & Experimental Design
Biomedical Science Seminar
Topics in Principles of Molecular & Cellular Biology
Biomedical Science Research
Elective relevant to Cancer Biology

Spring

Pathogenesis of Major Human Diseases
Methods of Molecular/Translational Medicine
Mastering Reproducible Science
Biomedical Science Seminar
Biomedical Science Research
Elective relevant to Cancer Biology

Selection of a PhD mentor (thesis advisor) is normally finalized by around the end of the spring semester of the First Year. The Biomedical Sciences program will set a deadline each year for students to finalize their mentor selection.

Students may take an Elective course during the summer of the first year if the mentor approves.

Second Year:

Fall

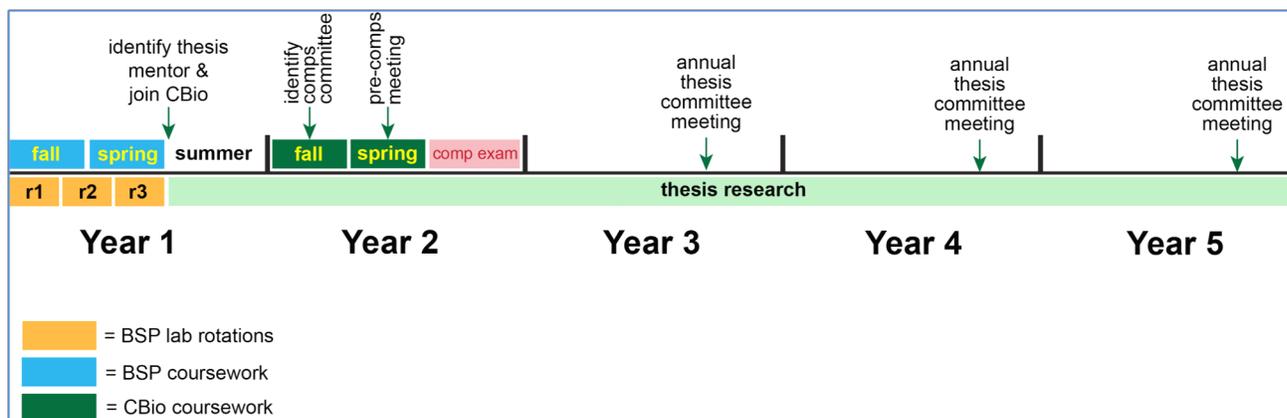
Elective
 Clinical connections
 Crafting a scientific proposal
 Topics in cancer biology
 Seminar: cancer biology
 Research: cancer biology
 Scholarly integrity/responsible conduct I

Spring

Topics in cancer biology
 Seminar: cancer biology
 Research: cancer biology
 Scholarly integrity/responsible conduct II

The Comprehensive Examination is typically completed during the second summer.¹

B. The Comprehensive Examination

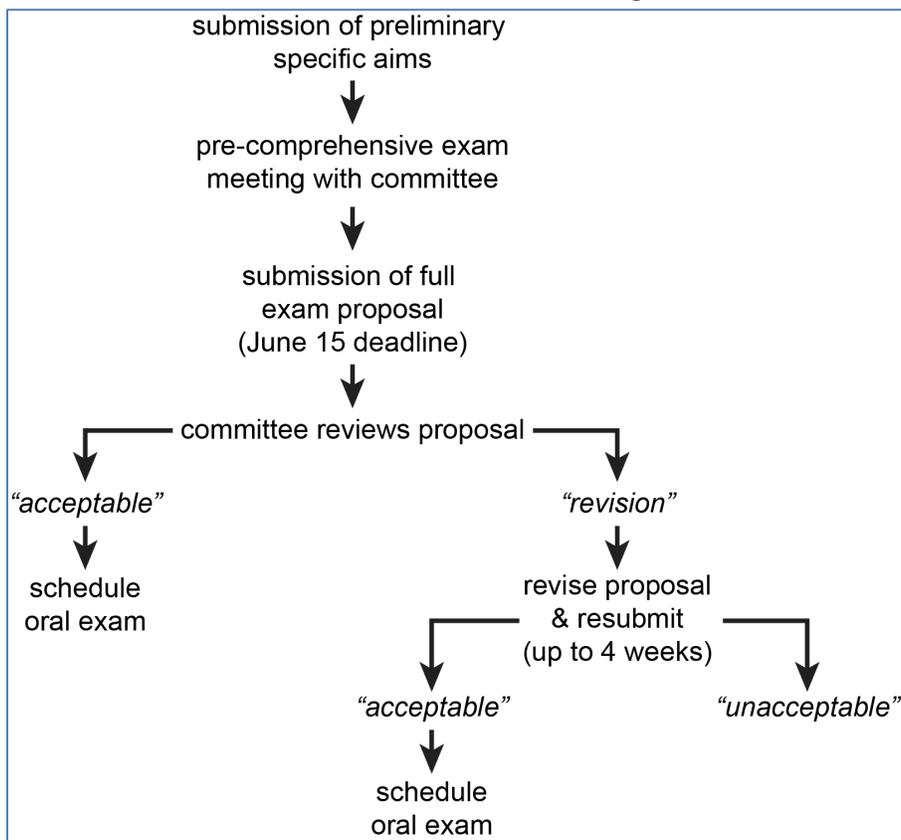


1. Students are eligible to take the CBIO Program Comprehensive Examination when the following minimum requirements are met. Normally, this is during the summer following the second academic year of the program (except for MSTP students; see Footnote). The first attempt of the comprehensive exam must be completed by the fall semester of the 3rd year.
 - a. The student is in good academic standing as defined by the Graduate College.
 - b. The student has completed all required CBIO Program core courses with a grade of at least “B” in each course or a “Pass” in a Pass/Fail course. Students failing to achieve a “B” grade in such courses may have to retake the course, and achieve a grade of “B” or higher, or may have to perform remedial work as specified by the Program Director. Based on courses undertaken prior to entering the CBIO Program, the Program Director may waive some core CBIO course requirements.

¹ Students who matriculate into the CBIO Program from the MSTP are exceptions: for these students, coursework is normally completed after one year, and the Comprehensive Exam would be taken after the first year.

It is to be understood that material presented in these courses may be included in the Comprehensive Examination, and students must demonstrate competence just as if they had taken the University of Iowa C BIO Program course(s).

- c. In addition to the required coursework, it is strongly recommended that academic preparation prior to taking the Comprehensive Examination include at least one course on statistics.
2. A goal of the Comprehensive Examination is to ensure that the students have a broad knowledge of the field of cancer biology so that (a) the students can be conversant with scientists and oncologists in any area of the field, and (b) the students can bring a broad interdisciplinary perspective to their own research. The examination provides a means of assessing whether students have obtained the requisite broad knowledge. In addition, preparing for the examination is intended to be a useful educational experience for the students.
3. The student, in consultation with their advisor, shall select a Comprehensive Examination Committee during the fall semester of their second year. The proposed Committee must be submitted to the Program Director for approval. The



Comprehensive Examination Committee for each student shall consist of 5 faculty members (4 members must be tenure track) who will usually be the same as members of the Thesis Committee, with the exception that the thesis advisor is replaced by exam committee chair to be selected by the student. The thesis advisor does not participate in the Comprehensive Examination. The exam committee chair must be a tenure track faculty. At least 3 of the 4 members of the C BIO PhD Program (Full or Associate members of the Holden Comprehensive Cancer Center). To represent a reasonable

diversity of research interests, no more than 3 of the 4 chosen members may be from any one department.

- One tenure track Chair who is not the mentor
- No more than 3 of the 5 can be members of the same department
- Four Committee members, of whom:
 - 3 must be Full or Associate members of the Cancer Center (these are faculty with research funding and should be tenure track; however it is good to double check. Ask Alicia).
 - 1 may be non-tenure track*
 - Non-UI faculty can be part of the committee if there is a specific need or expertise*

**pending approval of the Graduate College. If this faculty has not been approved before, a CV is needed for the college to review.*

The Comprehensive Examination Committee's actions and decisions are made objectively and autonomously. Exam outcomes will be reported to the Graduate College (cc'd to the Program Director) using standard Graduate College exam report procedures. Appeals of the Committee's decisions must follow procedures outlined in Section VII-B.

3. Once the faculty members of the comprehensive exam committee have been identified, the student will schedule a meeting with the committee prior to spring break of the second year. This pre-comprehensive exam committee meeting is intended to familiarize the faculty members of the committee with the student's thesis research. Student's will follow these steps in preparing for this meeting:
 - a. The student will submit a draft specific aims page to the committee members one week prior to this meeting. The specific aims should correspond to the aims proposed in the comprehensive exam (see point 5a below).
 - b. The format of the pre-comprehensive exam committee meeting is as follows:
 - i. The student will give brief a presentation providing an overview of their thesis research.
 - ii. The committee members will then discuss their assessment of the specific aims submitted by the student prior to the meeting.
5. Students will be required to write the Comprehensive Exam in the format of an NIH fellowship proposal.
 - a. Topic: The comprehensive exam proposal will focus on the student's thesis research topic. The proposal will have *at least two* specific aims: an on-topic aim and a novel aim.

The on-topic aim will propose work from the student's research within the mentor's lab. This aim should contain preliminary data supporting the proposed experiment. The preliminary data may be derived from a publication from the mentor's lab, unpublished data generated by another lab member, or the student's own

preliminary data. Unpublished data contributions should be attributed in the corresponding figure legend for clarity. *While the experiments proposed in this aim may be related to an existing grant proposal, the student is not allowed to use an existing proposal from their mentor in preparing this aim.* Instead, students must write this aim in their own voice so that the committee can independently evaluate the student's understanding of their thesis research.

The novel aim will be conceived, designed, and written by the student independent of the mentor. This aim will be related to the on-topic aim but will pursue a novel research direction not currently being taken within the mentor's lab. Students can use existing unpublished experimental data and literature to support the rationale of the novel aim. However, students should not conduct experiments to specifically support the novel aim since these experiments would necessarily be conducted under the supervision of the mentor, thus defeating the purpose of the novel aim.

- b. Format. The format of the written proposal will be based on the NIH format for a PHS SF424 (R&R) Individual Fellowship Application. Students will receive instruction on crafting a scientific proposal in CBIO:7500 during the fall semester of their second year.
 - c. Students must carefully and thoroughly address NIH guidelines for promoting scientific reproducibility, rigor, and transparency. This should include careful consideration of appropriate statistical analysis.
6. The proposal should be the primary work of the student. While the mentor will clearly influence the development of the on-topic specific aim of the exam proposal, the student's mentor cannot review, edit, or provide consultation to the student in preparing the exam proposal. The student may seek advice and guidance from other faculty, postdoctoral fellows, and fellow graduate students, on an ad hoc basis. However, the student *must always* preface such discussions by disclosing that the subject is related to the comprehensive exam proposal. Students may discuss specific experimental techniques, experimental design (e.g. appropriate controls), and data analysis techniques. However, students are not to elicit input on their proposed hypotheses or proposal details.
 7. The student must submit the proposal to the comprehensive exam committee chair and the CBIO Program Coordinator by June 15th of the second year (first year for MSTP students). Students will normally have completed all required coursework for the Program (see Footnote 2). The CBIO program will provide the student's mentor with the Specific Aims page of the proposal. The thesis mentor will then complete a brief evaluation describing the similarity between the student's proposal and any of the mentor's grant applications that have been submitted or are in preparation. The mentor's evaluation of the Specific Aims page will be provided to the exam committee along with an assessment of the student's performance in the laboratory.
 8. Once the written proposal is submitted and reviewed, the exam committee will review the exam and return an evaluation to the student within two weeks. The evaluation will be either "acceptable" or "unacceptable" with suggestions for revision and improvement. If acceptable, the student will schedule their oral comprehensive exam, which will be graded on a pass/fail system. If the initial written exam is found to be unacceptable, the student must revise the exam within four weeks of receiving the committee comments. The committee will then respond within one week, with an

acceptable or unacceptable outcome. If the revised written exam is given an unacceptable outcome, the student will be given a “fail” for the first attempt of the comprehensive exam. If the revised proposal is deemed “acceptable” by the exam committee, the student may schedule the oral comprehensive exam. At this stage, students should organize a “mock comprehensive exam” with their peers to prepare for the oral examination.

9. A purpose of the private oral comprehensive exam is to determine whether the student’s written submission adequately represents the student’s knowledge. For example, it may become apparent that the student has included material in the written proposal but does not actually understand the material. The student will also be queried on issues beyond the limited scope of the written proposal (e.g., farther-reaching implications of the study) to allow the exam committee to determine the student’s general depth of knowledge.
10. The comprehensive examination committee evaluates the student’s performance in a brief closed session immediately following administration of the oral examination. The student will then receive a result of **Satisfactory**, **Reservations**, or **Unsatisfactory**. The student’s performance is considered Unsatisfactory if two or more members of the Committee judge the student’s performance to be unsatisfactory. Otherwise, if there are two or more votes of Reservations (or at least one vote of Reservations and one vote of Unsatisfactory), then the committee will report an outcome of “Reservations.” Thus, a satisfactory performance requires that there is no more than one vote of Unsatisfactory or Reservations.
11. A vote of **Reservations** occurs when the Committee judges that the deficiencies in performance were modest and can be rectified fairly easily. In the event of a report of **Reservations**, the Comprehensive Examination Committee will report these reservations to the student, and eventually to the Program Director and Graduate College. The Comprehensive Examination Committee will stipulate what actions the student must take to have the reservations removed.
 - a. The student must satisfy these stipulated actions in a timely manner, and a deadline will be specified by the Comprehensive Examination Committee.
 - b. At the discretion of the Comprehensive Examination Committee, remedial work may include revision of the written proposal, assignment of specific readings, further examination in a particular area, additional coursework, or other procedures as appropriate.
 - c. The Comprehensive Examination Committee will determine whether or not the student has satisfactorily completed the actions stipulated for removal of the reservations. In the event that the Reservations have been removed, the student will have passed the comprehensive examination, and the outcome will change from **Reservations** to **Satisfactory**.
 - d. If a student does not satisfy the stipulated actions adequately or within the timeline set forth by the exam committee, then the outcome of the examination will change from **Reservations** to **Unsatisfactory**.
12. In the event of an Unsatisfactory outcome, the student may request a reexamination with their mentor’s consent. The second administration of the comprehensive examination cannot occur earlier than four months after the completion of the first

examination. A second grade of Unsatisfactory will result in dismissal of the student from the Program for failure to make satisfactory progress.

C. Thesis Committee

1. The student shall select a Thesis Committee as soon as possible after successful completion of the Comprehensive Examination, and at the longest, within 2 months. Generally, the thesis committee consists of the members of the student's comprehensive exam committee with the student's mentor replacing the exam committee chair.
2. Membership: The Thesis Committee shall consist of members of the graduate faculty who are particularly competent to advise the student during the thesis research phase of training and to evaluate the dissertation in its final form. The thesis committee shall consist of at least five faculty members, at least four who are members of the C BIO Program faculty, including the student's thesis advisor, who shall act as Chair. The composition of the thesis committee can deviate from these rules, with special permission of the thesis advisor and Program Director. Such requests must have approval from the Graduate College as well. All Thesis Committees must be approved by the Program Director.
3. The Thesis Committee has three principal roles:
 - a) To review the organization and progress of thesis research.
 - b) To review the written thesis.
 - c) To conduct the PhD Thesis Defense (Final Examination).

D. Final Examination (Thesis Defense)

1. The work for the PhD degree culminates in a final oral examination (Thesis Defense) administered on campus. All students must meet the following requirements prior to scheduling the oral thesis defense:
 - a) Complete 72 semester hours of coursework.
 - b) Have at least one primary author manuscript published, or accepted for publication, at a peer-reviewed journal (see Section E below).
 - c) Obtain consent of the thesis committee to schedule the final oral thesis defense.
2. In accord with Graduate College rules, the Final Examination may not be held until the next session after satisfactorily completing the comprehensive examination; however, a student must pass the final examination no later than their 5th year in the Cancer Biology Program. Failure to meet this deadline will result in a reexamination of the student to determine his or her qualifications for taking the final examination.

The procedures to be followed are the same as those for the comprehensive examination (see Section IV.B. above).

3. Thesis Defense (Final Examination): The student is required to present to each member of the Thesis Committee a complete copy of the thesis at least two weeks prior to the oral thesis defense date. At least two weeks prior to the scheduled exam, the student must submit to the CBIO Program office the date/time/location of their exam so that the Program office can complete and submit the Graduate College Request for Final Examination form. The student should keep in mind that the date of final deposit for each semester (including summer semesters) is set by the Graduate College, and is the deadline for receipt of the thesis in order to graduate in that semester. Students who are in the final stages of preparing their thesis should check with the CBIO Program Office for important Graduate College deadlines.
4. The thesis defense will be carried out as described below.
 - a. The student, through the CBIO Program Office, should file an Application for Degree in the Office of the Registrar.
 - b. During the Thesis Defense, the student will answer questions relating to the thesis work. These questions can cover a wide range of topics including the development of the hypotheses in the thesis, the relevant literature, experimental procedures, interpretation, and future directions. Intensive questioning on areas of knowledge constituting the immediate context of the investigation is expected.
 - c. Following the private thesis defense, the members of the thesis committee will provide an evaluation of **Satisfactory** or **Unsatisfactory**. Two unsatisfactory votes will make the committee report unsatisfactory. In case of a report of unsatisfactory in the final examination, the candidate may not present himself or herself for reexamination until the next session. The examination may be repeated only once, at the option of the CBIO Program. Once a Satisfactory evaluation is given by the thesis committee, the student may schedule the final public thesis defense.
 - d. The final public thesis Defense shall be scheduled, publicized, and conducted in accordance with procedures set forth in the Manual of Rules and Regulations of the Graduate College of The University of Iowa.
 - e. The report of the Final Examination is due in the Graduate College office not later than 48 hours after the final public thesis defense.

E. Publication Requirement

Students are required to have a minimum of one first-author publication in a peer-reviewed journal prior to graduating with the PhD degree in CBIO. The article must be formally accepted and “in press” or published prior to graduation. A co-first-authored peer-reviewed publication will count towards this requirement.

V. Program Committees

Program Committees provide guidance and execution of the policies and procedures of the Program in all major areas that comprise a PhD training program. The Committees operate autonomously from the Program Director, with the Chair of each Committee serving as a liaison between the Committee and the Program Director.

Committee membership is guided by several principles: (1) There is multi-departmental representation, from both basic science and clinical departments; (2) Faculty members are qualified to serve and are interested in participating; (3) Committee membership is rotated (on a 3-year cycle) so that there is always a mixture of more experienced and less experienced members, ensuring continuity of committee purpose and function; and (4) There is student representation on all appropriate committees (students have 1- or 2-year cycles). Faculty and students are invited (or volunteer) to participate on committees by the Program Director.

A. Executive Committee

The **Executive Committee** sets overarching agenda and policy for the Program. The Executive Committee meets approximately once per semester, and more often as necessary, to review and discuss issues of general program importance. Membership is principally the Chairs of other Program committees, and a student representative.

B. Recruitment & Admissions Committee

The **Recruitment & Admissions Committee** is responsible for all activities related to recruitment and admissions. A major function is the annual review of applicants, including selection of applicants for on-campus interviews, admission recommendations, and recommendations for nominations for special fellowships (e.g., Presidential, Dean's). Another vital function is participation in recruitment efforts, such as attending fairs and promotional activities at colleges and universities throughout the nation in order to promote our Program to undergraduates. The Committee meets frequently during the admissions "season" (about once every two weeks during the December-through-March period), and on a couple of other occasions throughout the year.

VI. Petitions and Appeals Procedures

A. Petitions

Requests for waiver or deferment of a requirement may be submitted in writing to the Program Director. The request letter should be prepared by the student, in conjunction with the student's Advisor/Mentor, and should be signed by both. The letter should provide clear justification for the request. The Program Director will act on the request.

B. Appeals

All actions of the CBIO Program, the Program Director, Committees, and other program units and staff are subject to appeal by the following procedure.

1. The student must specify in writing the action that is being appealed. This is to be in the form of a letter addressed to the Program Director.
2. After reviewing the letter of appeal, the Program Director shall appoint a committee of three members from the CBIO Program faculty. The committee members shall have no direct involvement in the action or incident that is being appealed, and shall be reasonably expected to render an unbiased opinion on the matter at issue.
3. This committee will examine all documentary information available to it, including items provided by the student and contained in the student's academic file and other Program files as appropriate.
4. This committee may meet with the aggrieved party or parties for oral discussions of the appeal, and may also meet with other individuals involved in the dispute.
5. Within one month of being convened, this committee shall present a written report to the Program Director, which will include recommendations for resolution of the appeal.
6. The Program Director shall report these recommendations to the Dean of the Graduate College.
7. The Program Steering Committee shall be the final arbiter on all appeals relating to Program Policies within its purview. The Dean of the Graduate College shall decide all appeals arising from rules and regulations of the Graduate College.
8. The Program Director shall inform the student(s) within one week following decisive action on the appeal.

VII. Scientific Ethics: Guidelines and Other Resources

A. Policy on Authorship of Publications

To merit authorship, an individual should:

- Contribute significant ideas and experimental design to the project,
- Take part in the actual experimentation and data analysis,
- Be able to present and defend the work at a scientific meeting. (Exceptions may be made when one author has carried out a unique, sophisticated study or analysis.)

Students should also read "Ethical Obligations of Authors" in *Accounts of Chemical Research* 18(12), pp. 356-57 (1985).

B. Scientific Misconduct

The U.S. Public Health Service has a formal policy dealing with misconduct. It is described in a special July 19, 1985, issue of the NIH Guide to Grants and Contracts. At the very least we must respect this statement. It says in part:

It is the policy of the PHS to maintain high ethical standards in research and to investigate and resolve promptly and fairly all instances of alleged or apparent misconduct.

As defined by the policy, "misconduct" is: (1) Serious deviation from accepted practices in carrying out research or in reporting the results of research. This includes fabrication, falsification, or plagiarism of data. (2) Other examples include material failure to comply with Federal requirements affecting specific aspects of the conduct of research; e.g. the protection of human subjects and the welfare of laboratory animals.

Misconduct does not include errors of judgment, errors in the recording, selection, or analysis of data or differences in opinions involved in the interpretation of data.

Scientific misconduct is grounds for immediate dismissal from the CBIO Ph.D. Program.

C. Academic Misconduct

Any form of cheating or plagiarism in respect to curricular requirements is grounds for dismissal. Plagiarism is taking another's ideas, words, or creative works and presenting them as your own, or presenting them without proper attribution (giving credit to the original source).

D. Sexual Harassment

The University of Iowa has clearly stated guidelines and regulations pertaining to sexual harassment. A copy of these rules is available from the Graduate College and the University of Iowa, and is required reading for all incoming students.

E. Counseling Resources

We need to be constantly vigilant about not only the scientific health and status of our students and faculty, but also about their mental health. Graduate school can be extremely stressful for students and faculty alike. We would like to remind our students and faculty that if concerns arise about their mental health status, for whatever reason, it is appropriate to seek help. The University offers counseling services for students at University Counseling Service (3223 Westlawn, 335-7294) and for faculty at Faculty Services (5101A D, 335-2085). Individual faculty or students should feel free to contact

those services directly or, if they feel it appropriate, to talk with the Program Director about the possible need for interventions.

F. University policy on discrimination

The University of Iowa prohibits discrimination in employment, educational programs, and activities on the basis of race, creed, color, religion, national origin, age, sex, pregnancy, disability, genetic information, status as a U.S. veteran, service in the U.S. military, sexual orientation, gender identity, associational preferences, or any other classification that deprives the person of consideration as an individual. The university also affirms its commitment to providing equal opportunities and equal access to university facilities. For additional information on nondiscrimination policies, contact the Director, Office of Equal Opportunity and Diversity, the University of Iowa, 202 Jessup Hall, Iowa City, IA, 52242-1316, 319-335-0705 (voice), 319-335-0697 (TDD), diversity@uiowa.edu.

G. University social media policy

As an employee of the University of Iowa, it is important to follow guidelines from the Office of Strategic Communication when posting as an identified employee of the UI.

These include:

- If your profile or bio identifies you as a UI employee, include a disclaimer such as “My opinions are mine, not the opinions of the University of Iowa”
- Do not use UI logos
- Communicate respectfully

The full social media policy is at <https://osc.uiowa.edu/social-media-policies>

Appendix 1: Guidelines for Faculty Membership

I. Definition

Faculty members may hold appointments as either Full or Associate Members of the Holden Comprehensive Cancer Center. For list see <https://uihc.org/cancer-research-members>.

Core Faculty serve as the primary training mentors for graduate students in the Program. Core Faculty participate fully in the Program activities, including Program committees, courses, Seminar, and supervision of lab rotations by CBIO students. Many of the Core Faculty serve as training mentors on the CBIO Training Grant, and have sufficient funding to support graduate students in their laboratories.

Criteria for being appointed to the CBIO Faculty are outlined below.

II. Criteria for Membership as Core Faculty

1. Serving as PhD thesis advisor for a CBIO graduate student
2. Chairing a Program committee
3. Organizing and/or serving as instructor of record for a required CBIO course
4. Participating in at least 3 of the following activities:
 - Lecturing for a required CBIO course
 - Serving on a Program committee
 - Sponsoring lab rotations by CBIO graduate students
 - Attending faculty meetings
 - Serving on the dissertation committee of a CBIO graduate student
 - Serving as a faculty advisor to a CBIO or CBIO-oriented bioscience student
 - Attending the CBIO Seminar regularly
 - Presenting at the CBIO Seminar within the past 2 years

It is required that Core Faculty participate in Activities #1, #2, or #3 at least once during any given five-year period of faculty membership.

It is required that Core Faculty meet Criterion #4 at all times in order to maintain faculty membership.

III. Criteria for Membership as Affiliate Faculty

Affiliate faculty in the CBIO program are full or associate members of the Holden Comprehensive Cancer Center who have not met the criteria for Core Faculty.

Appendix 2: Best Practices for Graduate Students and their Research Advisors

The progress, development and success of a graduate student hinges on the commitment of both the student and the research advisor. Basic principles of best practices in mentoring and graduate student life appear in the two lists that follow. Graduate students should be aware of what is necessary for their success and their advisors likewise should be aware of practices that promote their students' best interests.

Although the concepts of commitment and responsiveness underlying the lists of expectations apply to all disciplines, the specifics of these principles vary considerably among the biological sciences, physical sciences, social sciences, and humanities. The following guidelines are generally construed and are generally appropriate for students in the CBIO Program, but not every detail will apply to every student.

Expectations of Graduate Students

1. A graduate student has the primary responsibility for successful completion of his or her degree. A graduate student should be committed to his or her graduate education and should demonstrate this by efforts in the classroom and in research. A graduate student is expected to maintain a high level of professionalism, self-motivation, engagement, excellence, scholarly curiosity, and ethical standards.
2. A graduate student should meet regularly with the research advisor and provide updates on the progress and results of ongoing research.
3. A graduate student should be knowledgeable of the policies and requirements of the graduate program, the graduate college, and the institution. The student should strive to meet these requirements in a timely fashion.
4. A graduate student should work with the research advisor to develop a thesis/dissertation project. This will include establishing a timeline for each phase of the work. The student should strive to meet the established deadlines.
5. A graduate student should work with the research advisor to select a thesis/dissertation committee. The student should meet with this committee at least annually (or more frequently, if needed) and be responsive to the advice of and constructive criticism from the committee.
6. A graduate student should discuss policies on authorship and attendance at professional meetings with the research advisor. The student should work with the advisor to submit all relevant research results that are ready for publication in a timely manner prior to graduation.
7. A graduate student should attend and participate in meetings, seminars and journal clubs that are part of the educational program.
8. A graduate student should contribute to maintaining a research environment that is intellectually stimulating, emotionally supportive, safe, and free of harassment.

9. A graduate student should participate in the institution's Responsible Conduct of Research Training Program and practice those guidelines in conducting thesis/dissertation research.
10. A graduate student should discuss policies on work hours, sick leave and vacation with the research advisor or graduate director. The student should consult with the advisor in advance of any planned absences.
11. A graduate student should acknowledge primary responsibility to develop a career following the completion of the doctoral degree. The student should seek guidance from available resources, including the research advisor, career counseling services, thesis/dissertation committee, and any other mentors.
12. A graduate student should comply with all institutional policies, including academic program milestones. The student should comply with both the letter and spirit of all best practices and policies of the institution.
13. A graduate student should pursue independent funding opportunities (i.e. training grants, fellowships). Establishing a track record of independent funding is essential to creating future career opportunities.

Expectations of Research Advisors

1. The research advisor should be committed to the education and training of the graduate student as a future member of the research community.
2. The research advisor should meet one-on-one with the student on a regular basis. The advisor should provide timely feedback on the student's written work to facilitate ongoing progress on the thesis/dissertation.
3. The research advisor should be knowledgeable of the requirements and deadlines of his/her graduate program as well as those of the institution, including teaching requirements and human resources guidelines. The research advisor should guide the student in these areas to ensure academic and professional success.
4. The research advisor should help to plan and direct the graduate student's project, set reasonable and attainable goals, and establish a timeline for completion of the project. The research advisor should anticipate conflicts between the interests of externally funded research programs and those of the graduate student, and should help keep these interests from interfering with the student's thesis/dissertation research.
5. The research advisor should help a graduate student select a thesis/dissertation committee. The advisor should assure that the committee meets at least annually (or more frequently, according to program guidelines) to review the graduate student's progress.

6. The research advisor should discuss authorship policies regarding papers with the graduate student. The advisor should acknowledge the graduate student's contributions and work with the graduate student to present and publish his/her work.
7. The research advisor should encourage the graduate student to attend scientific/professional meetings and make an effort to secure and facilitate funding for such activities.
8. The research advisor should provide an environment for his/her graduate students that is intellectually stimulating, emotionally supportive, safe, and free of harassment.
9. The research advisor should discuss intellectual policy issues with the student regarding disclosure, patent rights and publishing research discoveries.
10. The research advisor should not require the graduate student to perform tasks unrelated to his/her academic and professional development.
11. The research advisor should provide career advice and assist in finding a position for the graduate student following his/her graduation. The advisor should provide honest letters of recommendation and be accessible for advice and feedback on career goals.
12. The research advisor should lead by example and facilitate the training of the graduate student in complementary skills needed to be a successful researcher, such as oral and written communication, grant writing, lab management, animal and human research policies, the ethical conduct of research, and scholarly professionalism. The advisor should encourage the student to seek opportunities in teaching, if not required by the student's program.
13. In disciplines where it is customary, the research advisor should provide financial resources for the graduate student to facilitate the student's thesis/dissertation research. Advisors have the prerogative to pay their student's mandatory fees associated with submitting a dissertation, including a degree application fee, a publication and binding fee, and a thesis fee. However, they are not required to do so.