

The Accelerated Master's Program in Molecular and Cellular Biology

Student Handbook

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BASIC INFORMATION

Overview

The Accelerated Master's Program (AMP) in Molecular and Cellular Biology (MCB) is a program designed to enable advanced U of A undergraduate students to complete both the Bachelor of Science degree as well as the Master of Science degree in MCB in a total of 5 years. This program is not open to U of A students who have already completed a Bachelor's degree or an advanced degree, or to students from other institutions; it is only available to current U of A undergraduates.

Who should pursue the AMP?

The MCB AMP is well-suited for students who aim to gain research experience at the graduate level, including pre-med students who may conduct research in the future, students who would like to evaluate their passion for research before pursuing a Ph.D. program, and others who might find graduate-level research experience beneficial for a future career or position.

Eligibility Criteria

To be considered eligible to apply for the MCB AMP, students must meet the following criteria ***at the time of application***:

- Be a continuing U of A undergraduate, having at least one full semester remaining prior to receiving their Bachelor's degree (Students may not apply to the AMP if they are graduating in that same semester).
- Have a minimum cumulative U of A GPA of 3.300.
- Have completed a minimum of 75 units of undergraduate course work, including college credits from the U of A, other colleges/universities, and AP/IB/CLEP exam credit. Students must have completed 90 units prior to beginning the AMP.
- Have completed at least 12 units in their major at UA.
- Have completed MCB 304 and 305, or equivalents. It is acceptable for one of these courses to be in progress at the time of application to the AMP.
- It is expected that students will complete their Bachelor's in a total of four years, and that they will be able to complete the necessary graduate classes and research over the course of their senior year plus one additional year (a total of five years from the time of entrance to the U of A).
- It is expected that students being admitted into the MCB AMP find a research lab in which they wish to complete their Master's Thesis. A lab and PI must be confirmed in the semester prior to graduating with your Bachelor's degree to continue in the program. It is recommended that students have one year of research experience in their lab.

Applying to the AMP

Applications for the AMP are accepted twice a year, for November 15 (for students graduating with their Bachelor's in the following May or later), and April 15 (for students graduating in the following December or later). Note: if these dates fall on a weekend, the deadlines will be the following Monday.

Students are encouraged to apply during their junior year so that they can take graduate-level courses throughout their senior year. Seniors are welcome to apply, but if accepted, they would be required to condense their starting graduate-level work (approximately two graduate courses) into the final semester of their senior year.

Applications for the AMP are submitted directly to the U of A Graduate College: <https://apply.grad.arizona.edu/users/login>. For “Choose the type of application,” select “Molecular and Cellular Biology M.S.-Accelerated Master’s Program.” For the “AMP Application Authorization Code” please contact AMP Coordinator Kara Dyson, at kdyson@email.arizona.edu, to receive the code; and for “Choose the Program of Study”, select “Molecular and Cellular Biology (MS)”. There is \$75 fee to apply for the AMP.

Research and the AMP

AMP students are welcome to have a research advisor who is housed in a different U of A department. However, it is imperative that the advisor is a tenure-track faculty member, and that the content of the research that the student is conducting (or will conduct) is focused on using a molecular and/or cellular approach to addressing a biological question.

Ideally, the research that a student conducts during their time as an undergraduate will serve as a foundation upon which the Master’s thesis will be built. Hence, it is highly preferable that a student’s undergraduate research advisor will continue as the student’s graduate thesis advisor, and that the student’s thesis will be a culmination of the research that the student has done throughout their time as an undergraduate and graduate student. However, if a student opts to secure a different research advisor for the AMP, the student must do so before beginning the program and obtain approval from the AMP Director regarding the change.

U of A Graduate College’s Policies Regarding the AMP

Students will be considered undergraduates until they complete their undergraduate requirements, which should be no later than the end of their fourth year. Students must take at least 12 of their graduate credits while in graduate status. Specifically:

- During years 1-3 (or approximately 0-90 credits) students will be taking undergraduate coursework and charged at the undergraduate rate.
- Once admitted to AMP, during the senior (or transition) year, they may take up to 12 units of graduate coursework, which may apply toward both the bachelor’s and the master’s degrees. Students will be charged at the undergraduate rate and retain eligibility for undergraduate scholarships.
- After completion of Bachelors' requirements, students will be granted graduate status and be charged at the graduate tuition rate.
- Should a student have completed 12 graduate credits but not yet completed the undergraduate degree, they will be considered to have graduate status for financial aid and tuition purposes. They will no longer be eligible for undergraduate scholarships.
- At least 12 graduate credits must be taken while in graduate status, after completing all degree requirements for the Bachelor’s. A total of 30 graduate credits must be taken for the Master’s degree.
- Students should be encouraged to complete their undergraduate requirements as soon as possible, but not later than one semester before receiving their Master’s.

Creating a Master's Thesis Committee

Once accepted to the AMP, a student's **first priority** is to set up their Master's thesis committee. The committee is a group of three faculty who will guide students in selecting elective courses, and will eventually be the committee before which a student will conduct their Master's thesis defense.

Members of the committee must be members of the U of A Graduate Faculty. The primary research advisor will serve as a student's Master's thesis committee chair. At least two of the committee members must hold a primary appointment in the Department of Molecular and Cellular Biology. To allow for proper guidance and oversight, the Master's thesis committee must be assembled during the first semester in the program.

To create a committee, students should first approach their research advisor for suggestions for members. Students can then approach those faculty and simply ask if they would be willing to serve on their committee. Students should then schedule a first committee meeting during their second semester in the program (second semester of undergraduate year), at which they will introduce their project and discuss their graduate plan of study.

Creating the Plan of Study

The Plan of Study is essentially a list of courses that a student has taken and is planning to take to complete the Master's degree.

Students should consult with their research advisor to discuss suggestions regarding 500-level course work to be taken during the senior year, and then discuss a preliminary plan with their Master's thesis committee, who needs to approve the plan before it is officially submitted. Students should also review their Plan of Study draft with the AMP coordinator, including courses that the Master's thesis committee has approved for elective course work and any substitutions the committee has approved for core courses, to determine if any modifications are required. This Plan of Study needs to be finalized and submitted before the beginning of the graduate year.

THE ACCELERATED MASTER'S PROGRAM: UNDERGRAD STATUS

The AMP is unique in that it permits students to apply up to 12 units of 500-level course work taken as an undergraduate towards both the Master's and Bachelor's degrees. Hence, the program essentially allows undergraduate students to start on their Master's degree early, before they graduate with their Bachelor's degree.

Curriculum

The M.S. degree in MCB requires that students complete a minimum of 30 graduate units, with a minimum cumulative GPA of 3.000. Only grades of C or better in graduate coursework satisfy requirements for the degree.

The course requirements consist of a minimum of 19 units of regularly graded courses:

- MCB 572a – Cell Systems (4 units), offered every fall
- BIOC 568 – Nucleic Acids, Signaling, and Metabolism (4 units), offered every spring
- MCB 546 – Genetic and Molecular Networks (4 units), offered every spring
- MCB 595 – Journal Club (1 unit) for two semesters, offered every semester
- MCB 596 – Seminar (1 unit) for two semesters, offered every semester
- A minimum of 3 regularly graded units of graduate-level elective course work. Approved elective courses include, but are not limited to BIOC 565 (Proteins and Enzymes), BIOC 585A (Biological Structures I), BIOC 585B (Biological Structures II), ECOL 553 (Functional and Evolutionary Genomics), MCB 580 (Introduction to Systems Biology), CBIO 552 (Cancer Biology), CMM 577 (Principles of Cell Biology), MCB 582 (Modeling Human Disease), and PLS 539 (Methods in Cell Biology and Genomics). Substitutions for these elective courses may be approved by the student's Master's thesis committee.

In addition, the following pass/fail graded courses are required:

- MCB 910 – Thesis (3 units), for two semesters, offered every semester

Any remaining graduate units may be fulfilled by additional, pass/fail graduate-level courses, such as MCB 900 (Research), MCB 695E (Science, Society and Ethics), and MCB 696A (Lab Presentations and Discussion). Like the regularly graded coursework, substitutions for these elective courses may be approved by the student's thesis committee.

Recommended Schedule of Classes

The following are sample plans for the AMP (courses in italics are **graduate-level courses**):

Sample Plan: Students Applying Junior Year (Based on 2026-27 Catalog)

YEAR ONE: Undergraduate Work	
WRIT 101.....3 MATH 122A/B or 119A4-5 CHEM 1514 Exp Perspective Gen Ed3 MCB 1951 UNIV 101 <u>1</u> 16-17	WRIT 102 3 MATH 129 or MATH 263..... 3 CHEM 152..... 4 ECOL 182R 3 ECOL 182L..... 1 Building Conn Gen Ed..... <u>3</u> 17
YEAR TWO: Undergraduate Work	
CHEM 241A3 CHEM 243A1 MCB 181R3 MCB 181L.....1 2 nd Language4 Exp. Perspective Gen Ed <u>3</u> 15	CHEM 241B..... 3 CHEM 243B..... 1 MCB 284..... 3 2 nd Language 4 Exp. Perspective Gen Ed 3 Research (MCB 392 or 399H) <u>3</u> 17
* Start involvement in research	
YEAR THREE: Undergraduate Work	
MCB 304.....4 Building Conn Gen Ed3 Sub-Plan Elective3 Upper Div. Free Elective3 Research (MCB 492 or 499H) <u>3</u> 16	MCB 305 4 Sub-Plan Elective..... 3 Civic Institutions Gen Ed 3 UNIV 301 1 Research (MCB 492 or 499H) <u>3</u> 14
*AMP applications due in April	
YEAR FOUR: AMP (Year One; Undergrad and Grad Work)	
MCB 306.....4 MCB 572A (also used for major elec.).. 4 MCB Lab/Research/Thesis (498, 498H) 3 PHYS 110..... <u>4</u> 15	MCB 546 (also used for major elec.).... 4 BIOC 568..... 4 MCB Writing/Thesis (498, 498H) 3 PHYS 111 <u>4</u> 15
* Bachelor's degree awarded at end of this semester	
YEAR FIVE: AMP (Year Two Graduate Work)	
MCB Graduate Elective..... 4 MCB 595 1 MCB 596 1 MCB 910 (thesis)..... <u>3</u> 9	MCB Graduate Elective 3 MCB 900..... 2 MCB 595..... 1 MCB 596..... 1 MCB 910 (thesis)..... <u>3</u> 10
* Master's Plan of Study due before semester begins	* Master's degree awarded at end of this semester

Sample Plan: Students Applying Senior Year (Based on 2026-27 Catalog)

YEAR ONE: Undergraduate Work	
WRIT 101.....3 MATH 122A/B or 119A..... 4-5 CHEM 1514 Exp Perspective Gen Ed3 MCB 1951 UNIV 101..... <u>1</u> 16-17	WRIT 102 3 MATH 129 or MATH 263..... 3 CHEM 152.....4 ECOL 182R 3 ECOL 182L..... 1 Building Conn Gen Ed..... <u>3</u> 17
YEAR TWO: Undergraduate Work	
CHEM 241A3 CHEM 243A1 MCB 181R.....3 MCB 181L1 2 nd Language4 Exp. Perspective Gen Ed <u>3</u> 15 * Start involvement in research	CHEM 241B..... 3 CHEM 243B..... 1 MCB 284 3 2 nd Language4 Exp. Perspective Gen Ed.....3 Research (MCB 392 or 399H)..... <u>3</u> 17
YEAR THREE: Undergraduate Work	
MCB 304.....4 Building Conn Gen Ed3 Sub-Plan Elective3 Research (MCB 492 or 499H) <u>3</u> 13	MCB 3054 Sub-Plan Elective 3 Civic Institutions Gen Ed..... 3 UNIV 301 1 Research (MCB 492 or 499H)..... <u>3</u> 14
YEAR FOUR: AMP (Year One; Undergrad and Grad Work)	
MCB 306.....4 MCB Lab/Research/Thesis (498, 498H)..3 PHYS 1104 Upper Div. Free Elective <u>3</u> 14 *AMP applications due in November	MCB 546 (also used for major elec.) ... 4 BIOC 568 (also used for major elec.)... 4 MCB Writing/Thesis (498, 498H)..... 3 PHYS 111 <u>4</u> 15 * Bachelor's degree awarded at end of this semester
YEAR FIVE: AMP (Year Two Graduate Work)	
MCB 572A 4 MCB Graduate Elective 3 MCB 595 1 MCB 596 1 MCB 910 (thesis) <u>3</u> 13 * Master's Plan of Study due before semester begins	MCB Graduate Elective 3 MCB 900..... 2 MCB 595..... 1 MCB 596..... 1 MCB 910 (thesis) <u>3</u> 10 * Master's degree awarded at end of this semester

Registering For 500-Level Courses as An Undergraduate

Before AMP students have completed their Bachelor's degree, they should register for 500-level courses using the "Undergraduate Enrollment in Graduate Courses" form, which is available from the AMP Coordinator.

Students are to obtain instructor permission, mark the "Accelerated Master's Program" box for their coursework, and have their academic advisor and MCB Department Head sign off on the form before submitting it to the Graduate College and then to the Registrar's Office.

One form must be used for each semester for which students wish to register for graduate level courses. Up to 12 units of these courses can be used to apply towards both the Bachelor's degree and the Master's degree.

Senior Degree Check

During the first semester of the fourth year, AMP students, like their regular MCB undergraduate counterparts, should schedule an appointment with an MCB Advisor to complete their official Senior Degree Check. This ensures that students have everything in line to graduate with the Bachelor's degree as planned. The degree check consists simply of paperwork that can be completed during a 30-minute meeting with an academic advisor.

Financial aid

The MCB-AMP does not guarantee funding to its students. However, there are several potential financial aid options from the MCB department, depending on the availability of funds (varies year to year):

- Graduate tuition waivers. Students may request graduate tuition waivers by contacting the Graduate Program Coordinator before the start of each semester of the graduate year.
- Teaching Assistantships (TAs). Students may request TAs by contacting the Graduate Program Coordinator at least 3 months before each semester of the graduate year as those are assigned early. TAs are given to PhD students first, and AMP students are eligible for the remaining TA slots, if any. TAs cover the cost of tuition and provide a graduate stipend.

THE ACCELERATED MASTER'S PROGRAM: GRADUATE STATUS

First Step: Required Forms

Once AMP students have graduated with the Bachelor's degree they will be required to complete a secondary application on GradApp. This application is only to change the student status to graduate level. Once this application has been completed, students will be converted to graduate student status and will be given access to U of A's GradPath system (accessible via UAccess Student Center) to submit necessary forms throughout their graduate program.

Forms to submit:

- 1) **Master's Committee Appointment Form.** AMP students must formally submit a Master's Committee Appointment Form on GradPath, which will automatically be routed to the Graduate Program Coordinator. If special approval is needed for any of the committee members, this may also be requested via GradPath.
- 2) **Master's Plan of Study.** AMP students must submit the official Master's Plan of Study, which should be completed after a draft of the Plan of Study has been approved by the thesis supervisor, thesis committee, and the Graduate Program Coordinator. The Plan of Study must be submitted before the penultimate semester prior to graduation with the Master's degree.
- 3) **Responsible Conduct of Research Form.** This form requires only student consent.

Registering for Graduate Courses as a Grad Student

Once AMP students have solidified their Plan of Study with their committee, students register for the graduate courses using UAccess, except for MCB 910, 595, and 596 – students register for these courses by contacting the Graduate Program Coordinator.

Full-Time Status

Full-time status as a graduate student is defined in any of the following ways:

- Taking 9 units of graduate credit
- Taking 6 units and holding a teaching or research assistantship
- Taking at least 3 units of thesis credit only (e.g. MCB 910)

Satisfactory Academic Progress

To remain in good academic standing, students must maintain a minimum cumulative GPA of 3.000 for the graduate portion of the degree. If a student's GPA falls below 3.000, then they will be placed on probationary status. If in the following semester, the student cannot regain a 3.000 or higher GPA, they will be converted to non-degree seeking status by the U of A Graduate College.

Although it is expected that AMP students will complete the program requirements for both the Bachelor's and Master's degrees in MCB in a total of five years, circumstances during the undergraduate years could lead to a longer residence time in the program (i.e., study abroad, leave of absence, etc.; see time limitation section).

THE MASTER'S THESIS, THESIS DEFENSE, AND DEGREE CONFERRAL

As students approach the conclusion of their Master's program, they should meet with their research advisor to discuss the completion of the Master's thesis and the upcoming thesis defense.

In your final semester, the Graduate Program Coordinator will send an email with instructions for writing your thesis, thesis defense, as well as the thesis evaluation rubric that will be used by the thesis committee.

In addition, the Graduate Program Coordinator will send you a link to the **MCB AMP Exit Survey**. It is VERY important that you fill it.

Writing the thesis

Students must follow the U of A thesis formatting guide:

<https://arizona.app.box.com/v/grad-gsas-thesisformat>

To allow the thesis committee time to read and evaluate the thesis, a final polished draft of the written thesis should be provided to the committee at least two weeks prior to the defense date, along with the thesis evaluation rubric. Part of the committee's evaluation of the written thesis will include whether substantial deficiencies exist and progression to an oral defense of the thesis is warranted. The thesis should include:

- An appropriate introduction to the research topic and rationale for the specific research question that has been addressed.
- A detailed description of the experimental results as well as interpretations of these findings.
- A description of the methodologies used.
- A scholarly discussion of the results and any implications that they might have for future work in this area.

Thesis defense

Once the thesis committee agrees for the thesis defense to proceed, the defense can be scheduled. Students are responsible for making all arrangements for their defense, including finding a time when all committee members can be present and a location (students may contact Whitney Slay, the MCB Department Building Manager, at wslay@arizona.edu to reserve a conference room in Life Sciences South). We recommend using polls such as [when2meet](#) to find a time when all thesis committee members are available.

To submit all materials to the Graduate College by University graduation deadlines, the thesis defense must occur at least one week prior to the end of classes to allow time for any required revisions and additions to the written thesis.

Students should contact the Graduate Program Coordinator with the date, time, and location of the defense, as well as the student's thesis title, at least two weeks before their scheduled defense. The Graduate Program Coordinator will then announce the defense to the public so that all interested parties may attend, and will send students the final Completion of Degree Requirements form, which they will need to take to the thesis defense along with the thesis evaluation rubric.

The thesis defense will consist of a public oral presentation of the student's research project and results, followed by a closed-door defense of the thesis project with the thesis committee.

After the defense, committee members will be contacted by the Graduate Program Coordinator to complete and sign the Thesis Evaluation Rubric through Adobe Sign. All committee members will also need to electronically sign the Thesis Approval Page (this will become page 2 of your thesis), which will then be sent automatically to the Graduate College. The Thesis Approval page will be sent to you through Adobe Sign when you notify the Graduate Program Coordinator of your defense date and title.

Several outcomes of the written thesis and defense evaluation process are possible:

- If the thesis defense is passed with no deficiencies, then you will be advanced to the Graduate College for conferral of the Master's degree.
- If the thesis defense is passed contingent upon the completion of changes to the written thesis, then you will be advanced to the Graduate College for conferral of the Master's degree only upon satisfying the thesis committee's recommendations.
- If the written thesis is deemed unacceptable or the defense is failed on the first attempt:
 - You may be given a chance to rewrite the thesis and reschedule the defense within two months.
 - You may be asked to leave the program with no chance for a second attempt.
- If the written thesis is deemed unacceptable or the defense is failed on the second attempt, then the thesis committee will recommend dismissal from the Master's Program and Graduate College.

If the committee recommends dismissal from the program, the thesis committee must draft a letter detailing the reasons for the recommendation to the AMP Director with a copy to the student. The AMP Director, in consultation with the MCB Department Head, must submit a written decision on the recommendation to the student within one week. The student may appeal this decision in writing to the MCB Department Head. The appeal should specifically address all the points raised in the AMP Director's letter to the student and must be submitted within one week of this notification.

Upon submission of the Thesis Evaluation Rubric and Thesis Approval Page, the Graduate Program Coordinator will submit the Master's Completion Certification in GradPath. The Graduate College will then verify the completion of all course work and requirements and will confer the Master's degree.

Graduation

Students are encouraged to participate in the MCB Department Senior Celebration as well as the College of Science and/or the U of A Commencement ceremonies. Students will be sent information directly through email regarding these graduation events and may find information about the different Commencement ceremonies on the U of A website.

TIME LIMITATION

All requirements for the Master's degree **must be completed within 6 years** to ensure currency of knowledge. Time-to-degree begins with the earliest course listed on the Plan of Study, including credits transferred from other institutions. Work more than 6 years old is not accepted toward degree requirements. For exception, see [Pathway to Degree Completion for Returning Master's Students](#).

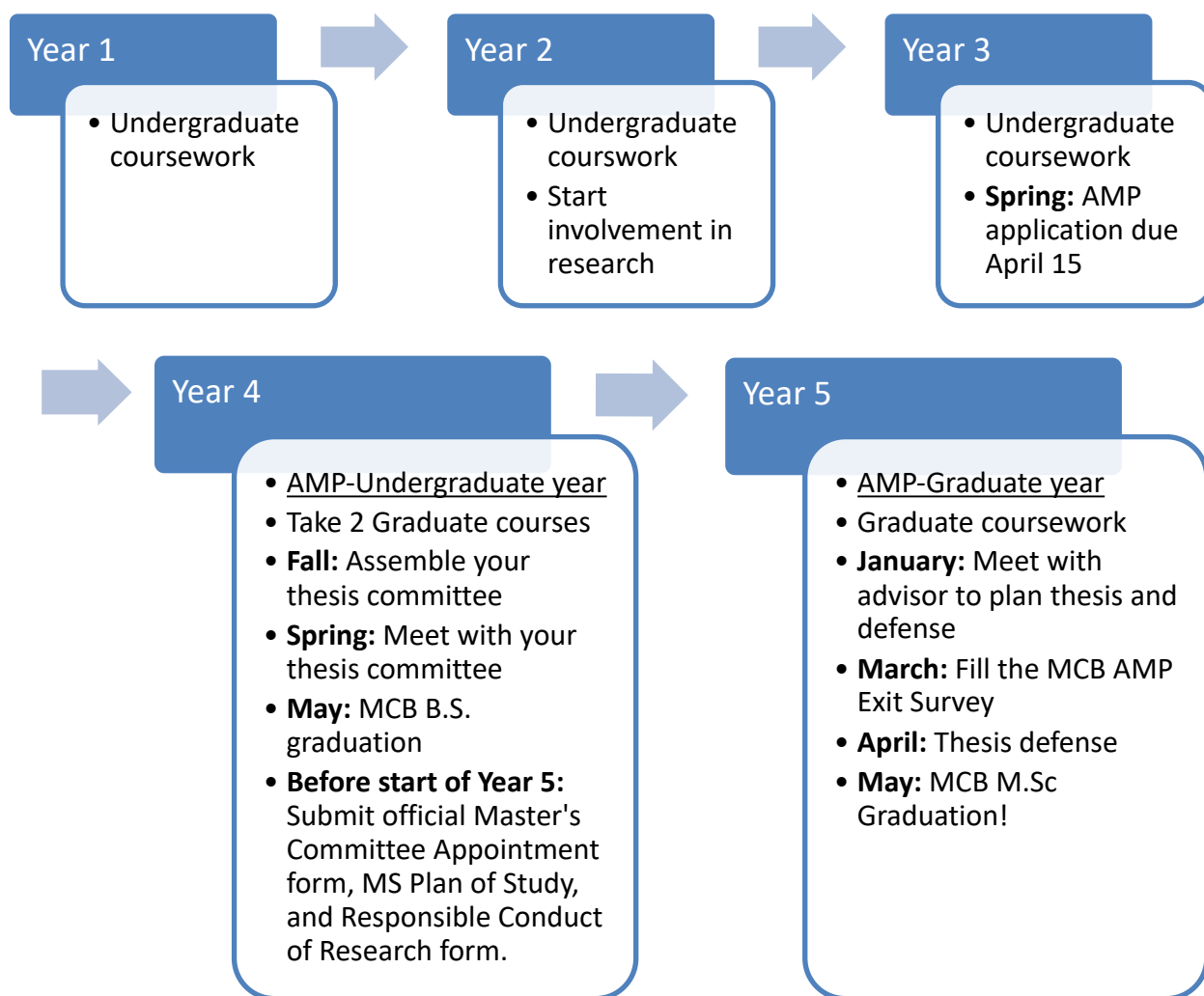
It is expected that students will complete and defend the Master's thesis within 1 year after completing the required coursework for the degree, and with no more than 2 years in the graduate status.

Master's students must be enrolled in the semester in which they file their final document with the Graduate College.

Students must file the final version of their thesis within one year of defending or be subject to a repeat defense.

Students who take a break in their studies or whose time to degree exceeds 6 years should check with their [Student Support Specialist](#) to determine their options. See also, [Pathway to Degree Completion for Returning Master's Students](#).

Example timeline (with application in Junior year)



CONTACT INFORMATION

Questions regarding MCB's Accelerated Master's Program should be directed to:

AMP Coordinator – Undergraduate year

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