
Applied Mathematics for the Life and Social Sciences (PhD) Program Handbook



School of Human Evolution and Social Change
Applied Math for the Life and Social Sciences PhD Handbook
Arizona State University

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INTRODUCTION

This guidebook outlines the graduate requirements and procedures set forth by the faculty of the School of Human Evolution and Social Change (SHESC) at Arizona State University. These graduate degree programs are directed toward the attainment of excellence in Anthropology, Global Health, Environmental Social Science, and Applied Mathematics for the Life and Social Sciences as demonstrated by accomplishments in research, coursework, and examinations.

This guidebook is a living document and SHESC will refer to the most current version for the enforcement of policy. Any student can petition for a specific exception to the current guidebook if it puts them at a disadvantage.

In addition to the requirements set by SHESC, students must follow the [policies and procedures](#) established by the Graduate College.

ADMISSIONS INFORMATION

To be eligible for admission to SHESC's graduate programs, applicants must:

- Have earned a bachelor's degree or higher from a regionally accredited institution in the U.S. or the equivalent of a U.S. bachelor's degree from an international institution that is officially recognized by that country. Although applicants are not required to have a specific type of bachelor's degree, most admitted students have a degree related to their graduate program of interest.
- Have maintained a "B" (3.00 on a 4.00 scale) grade point average (GPA) in the last 60 semester hours or 90 quarter hours of undergraduate course work. If students do not meet the minimum GPA requirements, their application may still be considered.
- Submit general GRE scores; exam must have been taken within the last 5 years.
- Demonstrate [English proficiency](#) if the applicant's native language is not English.

Application Information

SHESC's admissions are for the fall semester. Graduate admission to SHESC consists of the following application dates for full consideration of funding and campus recruitment activities. Applications received after these dates will be considered at a lower priority for funding and visitation:

December 1 – Submission of online application

December 15 – Receipt of all application supplemental materials

All application materials are submitted online through the Graduate Admissions [electronic application](#). The application consists of two categories of materials: those required by Graduate Admissions and those required by SHESC. The application will provide instructions regarding the required materials, which include:

- Basic application and fees
- Personal statement/letter of interest
- Three letters of recommendation
- Official GRE scores
- Official TOEFL scores
- Official transcripts from all former institutions
- Academic Record Form

More details regarding the required documents can be found at the electronic admissions application.

All applicants will be considered for financial support. Applicants not in need of financial support should notify the prospective faculty advisor(s) at the time the application is submitted. Funding resources greatly impact the admissions review process and the number of students who are admitted.

STUDENT ADVISING

During Orientation, which is mandatory and typically occurs the week of or before the fall semester starts, each incoming graduate student will receive general information about the graduate program from the Associate Director of Graduate Studies as well as the Approach Head of their program. Students should meet individually with their research advisors for personalized guidance about the graduate program, advice in first year class selections, and discussion of other related matters. The Associate Director of Graduate Studies is available to assist in advising graduate students at any time, but particularly during this period.

Research Advisor

The student must identify a faculty member (job titles are Assistant Professor, Associate Professor, Professor) of the School of Human Evolution and Social Change who agrees to serve as their research advisor and chair their Thesis/Dissertation Supervisory Committee. Co-advisors and co-chairs are allowed.

Thesis or Supervisory Committee

The student, after consultation with their advisor, will secure the appropriate number of ASU faculty members as members of their Thesis/Dissertation Supervisory Committee. These members in general will be from the [Graduate Faculty](#)—a classification defined and managed by the ASU Graduate College. All SHESC faculty members are on the Graduate Faculty, along with various researchers and lecturers. Most Graduate Faculty can be committee chairs or co-chairs. Personnel may be added to the Graduate Faculty by a request submitted by the SHESC Student Support Specialist with approval from the Associate Director of Graduate Studies. Students who wish to add members to the Graduate Faculty should contact the Student Support Specialist for the procedures.

M.A. Supervisory Committee

This 3 person committee shall consist of:

- The research advisor as chair or two research advisors as co-chairs
- Two members of the [Graduate Faculty](#) in the degree program (which includes all SHESC faculty as well as other research staff and faculty from other programs). If a student has co-chairs only one additional committee member is required.
- Additional participants (e.g., academic professionals, adjunct faculty, affiliated faculty, or non-ASU faculty members not on the SHESC Graduate Faculty) may serve only in addition to the 3 Graduate Faculty members upon approval of the Graduate Committee

Ph.D. Supervisory Committee

This 3 person committee shall consist of:

- The research advisor as chair or two research advisors as co-chairs
- Two members of the [Graduate Faculty](#) in the degree program (which includes all SHESC faculty as well as other research staff and faculty from other ASU degree/research programs). If a student has co-chairs only one additional committee members are required.
- Additional participants (e.g., Academic Professionals or external faculty members not on the SHESC Graduate Faculty) may serve as one of the committee members pending approval of the Supervisory Committee, the Associate Director of Graduate Studies, and the Graduate College.
- Students must have at least half of their committee consist of SHESC faculty, exceptions can be made, but must be approved by the supervisory committee, Approach Head, and Associate Director of Graduate Studies.

If a student wishes to include non-ASU participants, he/she should submit the name of the proposed member and a rationale for that choice to the Supervisory Committee for evaluation. Should the Supervisory Committee concur, the outside participant should be contacted by the student and asked to provide their curriculum vitae. The student submits a short memo requesting this addition and presenting the rationale for it along with their curriculum vitae and a [committee approval request form](#) to the Associate Director of Graduate Studies through the Graduate Student Support Specialist. With the Associate Director's approval, the request form is submitted to the Graduate College. Once the Graduate College approves the outside participant, the student should adjust their Program of Study (see below) accordingly.

REGISTRATION AND ENROLLMENT

All students are required to have proof of measles immunizations on file with [Health Services](#) prior to registration. Graduate students register through My ASU according to their enrollment appointment. Details regarding registration and tuition are provided in the [Registration and Tuition Payment Guide](#).

Course Load

Graduate students employed as a Research (RA) or Teaching Assistant (TA) cannot be otherwise employed and must register for a minimum of nine credit hours. SHESC graduate students are limited to a maximum of twelve credit hours per semester. Students supported on work-study, other types of financial aid, or those on a VISA may be required to take a minimum course load of more than nine credit hours but no more than twelve hours per semester.

Students should review the [registration and enrollment guidelines](#) in the Graduate College Policies and Procedures guidebook for more information.

Continuous Enrollment

Once admitted to a graduate degree program or graduate certificate program, students must be registered for a minimum of one credit hour during all phases of their graduate education, including the term in which they graduate. This includes periods when students are engaged in research, conducting a doctoral prospectus, working on or defending theses or dissertations, taking comprehensive examinations, taking Graduate Foreign Language Examinations, or in any other way utilizing university resources, facilities or faculty time.

Registration for every fall semester and spring semester is required. Summer registration is required for students taking examinations, completing culminating experiences, conducting a doctoral prospectus, defending theses or dissertations, or graduating from the degree program.

To maintain continuous enrollment the credit hour(s) must:

- Appear on the student's Plan of Study, OR
- Be research (592, 692, 792), thesis (599), dissertation (799), or continuing registration (595, 795), OR
- Be a graduate-level course.

Grades of "W" (withdrawal) or "X" (audit) are not valid for continuous enrollment purposes or minimum registration requirements. "W" grades are received when students officially withdraw from a course after the course drop deadline or they do not successfully complete an audited class. "X" grades are received when a student successfully completes audited courses.

Additionally, students completing work for a course in which they received a grade of "I" (incomplete) must maintain continuous enrollment as defined previously. Graduate students have one year to complete work for an [incomplete grade](#); if the work is not complete and the grade changed within one year, the "I" grade becomes permanent. The [Student Services Manual](#) provides more information about incomplete grades.

If a program of study must be interrupted, the student may apply for leave status for a maximum of two semesters during their graduate program. The research advisor, Supervisory Committee, Associate Director of Graduate Studies, and the Graduate College must endorse an application for leave status. This request must be filed and approved the semester before the anticipated absence. The form and the policies related to continuous enrollment are located on the [Graduate College website](#). The student should briefly state the reason for needing leave status and the duration (not to exceed two semesters per Graduate College guidelines). This petition should be turned in to the Graduate Student Support Specialist once all committee members have signed the form. A student on leave is not required to pay fees, but is also not permitted to place any demands on university faculty or use any university facilities.

Failure to maintain continuous enrollment without prior approval will result in the student being discontinued from the graduate program. A student removed from a graduate program for failure to maintain continuous enrollment may re-apply for admission. The application will be considered along with all the other new applications to the degree program. There is no guarantee of admission and not all prior credits or culminating events may count.

Grades and Grievances

The final passing grade for research (AML/ASB 592/792) and dissertation (AML/ASB 799) is a Y. Research grades will be assigned at the end of each semester. Thesis and dissertation grades will be assigned after the student has successfully defended. SHESC students should refer to the Academic and Research Performance Evaluations section for more information regarding GPA and letter grade expectations.

Students who are seeking to appeal a grade should refer to the College of Liberal Arts and Sciences [Academic \(Grade\) Grievance procedures](#). Grade appeals should be addressed by the student as soon as possible after the grade in question is awarded.

Drop/Add and Withdrawal Deadlines

Registration deadlines determine the last day a student is able to [add, drop or withdraw](#) from classes. Each class has its own set of registration deadlines which are based on the length of the class as well as the session in which the class is held. The drop/add/withdrawal deadlines listed on the [Academic Calendar](#) apply to classes scheduled in the regular A/B/C sessions. If a class does not follow the A/B/C session timelines, the drop/add/withdrawal deadlines are prorated. The best way for a student to determine the registration deadlines for a class in which he/she is registered is to sign in to My ASU and click on the calendar icon next to the class in the My Classes box. To determine the registration deadlines of a class for which the student has not yet registered, students should use the online [Class Search](#) to search for the class and click on the Dates column in the search results.

Medical/Compassionate Withdrawal

If a student experiences a serious illness, injury or other significant personal situation that is preventing progress in classes or research, and the standard withdrawal options for the student are not appropriate for the situation, the student may request a [medical/compassionate withdrawal](#). All applications for the medical/compassionate withdrawal require thorough and credible documentation and must be approved by the College of Liberal Arts and Sciences Dean's Office. The student must complete all of the required steps in order to be considered for a medical/compassionate withdrawal.

Voluntary Withdrawal

Students may voluntarily withdraw from a specific degree program or from ASU at any time. Students who wish to withdraw should submit a [voluntary complete withdrawal form](#) to Graduate Admission Services. Submission of this form will not withdraw students from course(s) for any semester. Students may choose to complete the course(s) for which they are currently enrolled. If a student needs to withdraw from course(s) currently in progress or course(s) in the upcoming semester, the student should contact the Registrar's Office.

PROGRAM OF STUDY

The [Program of Study \(POS\)](#) is an official academic plan for students that maps the requirements for degree completion. It includes coursework, the student's Dissertation Supervisory Committee and any additional milestones.

Pre-admission/Transfer Credits

Graduate-level credits taken at ASU or other accredited institutions prior to admission to a SHESC graduate degree program are considered pre-admission credits (which is the same as transfer credits). Graduate students are allowed to include a maximum of 12 semester hours of pre-admission credit toward a Program of Study (POS) per approval by the student's advisor. Such courses must be acceptable for inclusion in graduate degree programs at that institution. Pre-admission courses must have been taken within three years of admission to the ASU degree program. Only graduate-level courses with "B" grade or higher that were not used toward a

previous degree may be eligible to apply toward the current degree program. See the [Graduate College guidelines](#) for more details regarding pre-admission credits (refer to ASU pre-admission section under graduate degree requirements section).

Filing the Program of Study

The student is expected to meet with their Supervisory Committee shortly after its appointment to formulate and approve their POS. The POS must be filed before their Annual Self-Evaluation is due. Annual Evaluations should cover student progress over a calendar year. It is the student's responsibility to submit and update a POS (found in "My Programs" section of My ASU) as necessary and to include the POS requirements as noted in this guidebook depending on their degree. The student must turn in the POS "courses" and "approval" pages signed by their advisor to the Graduate Student Support Specialist for approval by the Associate Director for Graduate Education. The POS will then be forwarded to the Graduate College for approval. Final approval of the POS by the Graduate College confirms the appointment of the Dissertation Supervisory Committee and the approval of coursework toward degree requirements.

POS coursework requirements for the Cert., M.A. and Ph.D. degrees will be listed in upcoming sections. The POS coursework and/or Supervisory Committee may need to be updated as the student advances toward completion of their studies. Ph.D. students must have an approved POS on file before taking comprehensive oral exams. It is the student's responsibility to ensure that the information on the POS is accurate before the student schedules the defense. Students must notify the Graduate Student Support Specialist when any changes are made to the POS.

ACADEMIC AND RESEARCH PERFORMANCE EVALUATIONS

A graduate student is considered to be performing satisfactorily when:

- Student maintains a "B" average (3.0 GPA) or better in graduate coursework approved by the Graduate Committee or the student's Supervisory Committee, excluding research, thesis or dissertation credits. The minimum must be maintained on all GPA's: Plan of Study (iPOS) GPA, Overall Graduate GPA and Cumulative GPA. The iPOS GPA is calculated on all courses that appear on the student's approved iPOS (with the exception of LAW and Transfer credits). Cumulative ASU GPA represents all courses completed at ASU during the graduate career. Students have a "career" for each admission (degree or non-degree). The cumulative GPA is the GPA within each "career". The Overall Graduate GPA is based on all courses numbered 500 or higher that appear on the transcript after admission (degree or non-degree). This includes shared coursework if in an approved accelerated bachelor's/master's program. Students can find all three GPAs in the 'Programs' tab under the 'My Programs' section of My ASU.
- Student research is progressing satisfactorily as determined through the annual report process.
- The performance of duties related to any appointment the student may hold (e.g., teaching or research assistantship) is satisfactory. Students in a TA position will be evaluated by the faculty instructor of the assigned course(s). Students in an RA position will be evaluated by the faculty member funding the assistantship.

- Requirements and responsibilities outlined in the following sections for examinations, technical reviews, and defense of dissertation are completed within the allowed time period.

Annual Review

The Graduate Committee of SHESC reviews the progress of all graduate students annually. All students with one or more semesters completed are required to submit the following materials to the Graduate Committee through the SHESC Graduate Student Blackboard by January 20 (details of the submission process will be sent in advance of the due date):

- The SHESC Progress Report form (found at the end of this document) signed by the Supervisory Committee. Signatures can be obtained by scanning a signed hard copy, coordinating an email indicating signature by the advisor, or by using electronic signatures.
- An updated CV.
- An unofficial copy of your most recent ASU transcript
- The Courses and Approval pages of your approved PhD iPOS

The student must meet with their Supervisory Committee (as many members as possible; virtual presence is permitted) for an annual review of academic progress before the report is due on January 20. Students who defended their dissertation during the annual period are exempt from submitting a report. After reviewing all student submitted Progress Report Forms, Faculty will return an Evaluation Letter to the student and Graduate Student Support Specialist informing the student of their 'satisfactory' or 'unsatisfactory' status within their program.

Failure to submit an annual research report will result in a meeting with the Graduate Committee to discuss the student's progress in more detail, and may also result in loss of office space, low priority for funding, or termination from the graduate program.

End of Semester GPA Review

The Graduate College requires all students (M.A. and PhD) to maintain a 3.0 GPA in order to be in good academic standing. Graduate students who do not meet these GPA requirements will go on academic probation.

At the end of each semester, SHESC will conduct a review of graduate student GPAs. The purpose of this review is to identify students who do not meet the minimum GPA requirements set forth by the Graduate College. Students will receive an academic probation letter if any of their GPAs fall below the minimum requirements.

Students who are on academic probation will not be allowed to complete any major milestones until their GPAs meet these minimum requirements. These milestones include but are not limited to: comprehensive exams, technical reviews, defenses and graduation.

Continuing academic probation beyond two semesters, students may result in loss of office space, low priority for funding, or termination from the graduate program.

Students with an approved iPOS can verify their GPAs in the 'My Programs' section of My ASU.

Satisfactory Academic Progress

Satisfactory academic progress is evaluated through the annual report process. During the annual review process, the student's advisor or the Program Approach Head will review all reports. Students will receive an approval letter if they are progressing satisfactorily. Students with situations of concern will receive a detailed letter addressing the concerns. The letter will outline the basis for the decision regarding satisfactory progress in the program. For a student whose performance is deemed unsatisfactory, the following actions may be proposed to the Associate Director of Graduate Studies:

- Termination as a graduate student in the graduate program at the end of the semester in which the student is currently enrolled.
- Probationary continuation of enrollment in the graduate program. Following a meeting with the Supervisory Committee, the student will be given a specific set of requirements to achieve in a specified period of time. The requirements and timeline will be documented in a memo and kept in the student's file. Failure to meet these requirements will result in the recommendation above.

Copies of letters recommending probation, suspension, or dismissal will be forwarded to the dean of the Graduate College. The student may appeal in writing to the Associate Director of Graduate Studies if he/she feels there are extenuating circumstances that should be considered. Unsatisfactory performances in research, academics, and/or assistantship assignments are grounds for discontinuation of financial support from the School of Human Evolution and Social Change.

Academic Integrity

Academic dishonesty will not be tolerated, and if uncovered, appropriate actions will be taken. Students are expected to familiarize themselves with what constitutes violations to the [academic integrity policy](#). Briefly, violations include (but are not limited to): cheating on exams and assignments, plagiarizing, fabricating data or information, etc. Students are encouraged to pay special attention to the definition of plagiarism so as to avoid unintentional mistakes, and discuss the topic further with their advisors and instructors if they are unclear on whether a particular action constitutes plagiarism.

Allegations of academic dishonesty will be reviewed by the Graduate Committee who will decide on the appropriate actions. This may include reporting the student to the Graduate College with a recommendation of dismissal from the program.

PROCEDURES & PAPERWORK

The majority of SHESC graduate programs are PhD programs. Students without an MA/MS degree accepted into PhD programs begin in Phase I. Phase I culminates with a Master's degree (known as a "Master's-in-passing" or simply MIP) that is posted to the transcript. Pending approval of the culminating experience and receipt of the MIP, such students continue into Phase

II of the PhD program. Students with MA/MS degrees accepted into PhD programs begin in Phase II. All graduate students at ASU are subject to the [Office of Graduate Education policies](#).

PhD Phase I Procedures & Paperwork (pre-MA)

Identify your faculty advisor during fall of year 1. File PhD Plan of Study (iPOS) during spring of year 1 (see below for information on how to file your iPOS). Notify the graduate specialist via email of your intention to earn the MIP at the beginning of the semester in which you intend to earn the degree (include your ID number in the email) and then identify remainder of master's committee and submit the [SHESC Committee formation](#) document to the graduate specialist along with a memo from your chair explaining committee membership and a one-page statement from you regarding your research interests. Notice that your MIP committee should have 3 members total. To facilitate the process, co-chairs, external members, and 4-person committees are not recommended for the MIP. Thus, your MIP committee may be somewhat different from your eventual PhD committee.

The graduate specialist submits an MIP request form to Graduate Education, at which point the MIP iPOS is generated and appears in MyASU. Graduate Education will not generate an MIP iPOS unless the PhD iPOS has been approved. Complete the MIP iPOS as soon as possible after it has been generated. You cannot apply to graduate with the MIP until your MIP iPOS has been approved. You can apply to graduate (via MyASU). Be sure you apply to graduate with the Master's degree, not the PhD. The deadline to apply to graduate is posted online with other [graduation deadlines](#), but occurs in early October in fall and early February in spring. There is a \$50 application fee, but if you do not graduate in the semester you pay the fee it will roll forward; you only have to pay the fee once per degree.

Complete research paper/portfolio and present at MA Symposium.

Turn in the signed [MA/MS culminating experience](#) paperwork to the graduate specialist upon successful completion of requirements.

PhD Phase II Procedures & Paperwork (Post-MA)

Identify faculty advisor during fall of year 1. File PhD iPOS during spring of year 1 (see below for information on how to file your iPOS). Identify remainder of doctoral committee and submit the [SHESC Committee formation](#) document to the graduate specialist along with a memo from your chair explaining committee membership and a one-page statement from you regarding your research interests. The committee must have at least three members, at least half of whom are regular or research faculty within the School. Except in unusual circumstances, committees with more than four members are not recommended. The chair or co-chair must be a regular or research faculty within the School. Emeritus faculty normally may serve as sole chair for no more than one year after the date of their retirement. At least one other member must be a regular or research faculty within the School.

The third (and possible fourth) members may be from within or outside the School. For external members, fill out Graduate Education's [Committee Approval Request](#) form and turn it in to the

graduate specialist (SHESC 218) along with the member's most recent CV. Your committee members' names should be typed or printed and they sign in the "signature" column. You do not have to fill out section II of the form, but once section I is completed turn it in to the graduate specialist, along with the memo and statement, for circulation among the appropriate graduate committee members. Note that for anthropology, all approach conveners sign the form before it goes to the head of the grad committee and the director of SHESC. For non-anthropology degrees, the degree director signs the form before it goes to the head of the grad committee and the director of SHESC. Update the iPOS to reflect the entire committee membership.

If changes in committee membership later become necessary (after the iPOS has been filed and approved) the iPOS must be updated to reflect the new committee. If the chair or 2 or more members of the committee change, the SHESC paperwork must be redone as well.

Per degree requirements for your program, complete comprehensive examinations.

Have your committee sign the [Comprehensive Exam form](#) and turn it in to the graduate specialist. Put the date your committee notified you of your exam results in the field labeled "DATE WRITTEN COMPREHENSIVE EXAMINATION TAKEN." The graduate specialist will get the head of academic unit signature for you. Once the results are entered, you will see your results in the "my programs and degree progress" box in MyASU under the iPOS tab.

Per the requirements of your degree program, defend dissertation proposal (sometimes also called prospectus). Proposal defenses have a public component and may also have a private component. Generally you want to reserve a room for 2 hours (maybe 3 so there is half an hour on either end for set up/break down). The front office staff can help you reserve a room and any equipment you might need. Once you know the time/date/location of your defense, email that information to the communications specialist and the graduate specialist with a list of your committee members, a title, and a one-paragraph abstract. Send this information two weeks before the defense so that an announcement can run in the weekly Graduate Digest. Have your committee sign the [Dissertation Proposal](#) form and turn it in to the graduate specialist.

The graduate specialist will get the head of academic unit signature for you. Once the results are entered, you will see your results in the "my programs and degree progress" box in MyASU under the iPOS tab. You will also be able to download your candidacy letter. If you do not download the letter and the option to do so disappears, contact the graduate specialist, who can get you another copy.

Conduct research for dissertation and write up dissertation. "Readers". There is no official process to have a "reader" for your dissertation. A reader will be ancillary and will not have any authority over whether you pass or not and therefore will be an informal member. Your Chair, however, should approve of the reader and you should keep an electronic paper trail.

3-Paper Dissertation Option. [ASU policies.](#) [SHESC policies.](#)

Apply to graduate (via MyASU) by the deadline in the semester in which you anticipate defending. The deadline to apply to graduate is posted online with other [graduation deadlines](#), but occurs in early October in fall and early February in spring. There is a \$50 application fee, but if you do not

graduate in the semester you pay the fee it will roll forward; you only have to pay the fee once per degree.

Schedule defense (at least 10 working days in advance).

Please refer to the [Graduate Education's defense page](#), which contains information on:

- Overall defense procedures
- Deadlines
- Formatting
- Submitting to ProQuest

Dissertation defenses are public and must be held during business hours on days that the university is open for business. There are some blackout days when no defenses can be held, so use the defense scheduling link in the "my programs and degree progress" box in MyASU under the defense tab to make sure the day you want is available. Generally you want to reserve a room for 2 hours (maybe 3 so there is half an hour on either end for set up/break down). The front office staff can help you reserve a room and any equipment you might need. Once you know the time/date/location of your defense, use the defense scheduling link in MyASU to schedule your defense with Graduate Education. Email your defense information to the communications specialist and the graduate specialist along with a list of your committee members, a title, and a one-page abstract. Send this information two weeks before the defense so that an announcement can run in the weekly Graduate Digest. Your committee will bring the pass/fail form to the defense. If they forget, the graduate specialist can print a copy. Have your committee fill out the form turn it in to the graduate specialist. PAY ATTENTION, as the form can be confusing and signatures in incorrect places can delay processing.

Once the results are entered, you will see your results in the "my programs and degree progress" box in MyASU under the defense tab. Following your defense, a "next steps" link will appear with instructions for the Survey of Earned Doctorates and ETD/ProQuest.

Please review the [Absent Committee Member Procedures](#) if a member of your committee cannot be present for your dissertation. Note that a minimum of 50% of your committee must be physically present. The Chair (or one co-chair) must be present. If a Proxy is used he/she must be approved to serve on a committee for the program and the Chair and Graduate Director must approve the appointment. Forward (or CC) approvals to the graduate specialist who will inform Graduate Education of the proxy. Send an email to the graduate specialist asking that any outstanding "Z" grades on your transcript be changed to "Y."

Terminal Master's Procedures & Paperwork

Students in Museum Studies and Global Health are accepted into their respective terminal MA programs. Upon completion of the Master's, such students have completed their graduate work at SHESC (i.e., they do not automatically continue on into a PhD). These students may apply to a PhD program in SHESC according to the normal process and deadlines; if accepted, they would enter in Phase II.

- Complete the iPOS by the time you have earned 50% of the credits required for the degree.
- Apply to graduate (via MyASU) by the posted deadline for the semester in which you intend to graduate.
- The deadline to apply to graduate is posted online with other [graduation deadlines](#), but occurs in early October in fall and early February in spring.
- There is a \$50 application fee, but if you do not graduate in the semester you pay the fee it will roll forward; you only have to pay the fee once per degree.
- Complete the relevant culminating experience.
- For museum studies, a research portfolio and presentation. Turn in the [MA/MS Culminating Experience](#) form to the graduate specialist once complete.
- Global health students take applied project credit so a culminating experience form is not required; however, make sure that your chair contacts the graduate specialist for any grade changes to applied project credit from prior semesters.

Paperwork for Special Circumstances

Student Committee Approval: If one or more of your committee members is outside SHESC or ASU and you are unable to add them to your iPOS, please fill out the [Student Committee Approval](#) form and turn it in to the graduate specialist along with that individual's most recent CV. Per SHESC policy, at least 50% of your committee must be regular SHESC faculty. So if you have 2 external members you need a 4-person committee. Your [PhD Supervisory Committee](#) formation documents must be correct and on file with the graduate specialist to add an external member.

Request to maintain continuous enrollment (a.k.a. "leave of absence"). There are separate versions of the [form for doctoral students](#) and [master's/certificate students](#). Graduate students planning to discontinue registration for a semester or more must request approval to maintain continuous enrollment. This request must be submitted and approved before the anticipated semester of non-registration. Students may request to maintain continuous enrollment without course registration for a maximum of two semesters during their entire program. By requesting to maintain continuous enrollment without course registration, you affirm that you will not be making use of any University resources for the time period indicated. These resources include University Libraries, laboratories, recreation facilities or faculty time. A leave of absence does not stop your time to degree "clock." For a doctoral degree, you have 10 years total or 5 years after your written comprehensive exam, whichever is less. For a master's degree, you have 6 years total. For a certificate, you have 3 years total. Generally approved reasons for a leave of absence include illness of yourself or a close family member.

Request for an extension: Fill out a [petition to Graduate Education](#), have it signed by your committee, and turn it in to the graduate specialist. The specialist will get the head of academic unit signature and submit it to Grad Education. The petition should include:

- The reason you have been unable to complete the degree by your deadline.
- A timeline of the work remaining until degree completion, including specific dates.

- A statement acknowledging that you understand only one extension of time to degree may be granted. If you do not complete the remaining work and graduate according your timeline, no further extensions will be granted and you will be terminated from the degree program.
- Generally speaking, you must be advanced to candidacy in order for a petition for an extension to be considered.
- The maximum extension granted is typically one year.

Enrollment and Degree Verification for Outside Agencies and Third Parties: Arizona State University has contracted with the National Student Clearinghouse to process all enrollment and degree verification requests for employers, employment agencies, background search firms, and various other businesses that offer products or services based on the individual's status as an enrolled student.

If you need assistance, contact National Student Clearinghouse directly at 703-742-4200. If the National Student Clearinghouse can confirm the degree or enrollment, the response is immediate and requestors will be able to print or obtain a PDF version of the verification. Enrollment verifications for each term will be available starting the first week of classes for that term. A fee will be charged for this service. To request an Enrollment Verification:

- Go to your MyASU and navigate to your My Classes box
- Select Grades & Transcripts
- Select Transcripts & Test Scores
- Select Enrollment Verification

If you need special information on your enrollment verification, or if you need a specialty verification form completed such as the Canadian or Alaskan form, submit an Enrollment Verification Request Form (see instructions on form) to any registration location (photo ID required for in person visits.)

Verification of Full-Time/Half-Time Status. If you have advanced to candidacy, will be registered for fewer than 6 credit hours in a given semester, and have student loans you would like to keep "in school," please fill out this form and put it in Monica Salazar's mailbox so that she may get the signatures and submit to the Registrar. This form does not permit new borrowing.

Resources for iPOS

The iPOS is a list of all coursework and credits taken that will be counted toward the degree. It must be filed by the time 50% of the credits for the degree have been earned. If it is not filed by that point, your registration will be cut off until your iPOS is complete. Your iPOS must be complete, updated, and approved at the time of all milestones including the MIP, comprehensive exams, dissertation proposal, and dissertation defense. For more information, see Graduate Education's iPOS page. For a walk-through of the iPOS process that includes screen shots, see the iPOS Training Manual.

Access your iPOS. You can access it via *myASU* → *My Programs and Degree Progress* box → *iPOS* tab → *Graduate Interactive Plan of Study*

- Select the appropriate degree. For the PhD, the next screen should state that your requirements are 84 hours, a Written Comprehensive Exam, and a Dissertation.

- Reminder: You need to allow pop-ups on your internet browser when filing your iPOS.

Apply previous Master's degree from another institution. If you were awarded a Master's degree from a previous university, you can elect to apply a blanket 30 credit hours from the degree to your doctoral POS.

- Select "yes" when asked whether you want to apply a previously awarded Master's.

- Select the appropriate Master's degree to apply. It should list the university and the year awarded.

- If you do not see a link at the top of the page saying Previous Degree, please contact the graduate specialist.

- Please remember that if you apply the blanket 30 hours from the Master's degree, you do not want to explicitly list any courses that were counted toward the Master's program of study/degree (i.e., you cannot count credits twice).

Master's in Passing (MiP) from ASU. If you were awarded a Master's in Passing from ASU as part of your movement through the PhD program, **do not** apply the blanket 30 credit hours from the degree to your doctoral POS.

- Select "no" when asked whether you want to apply a previously awarded Master's.

- Import all the courses that you want to count toward your PhD off of your transcript (see "select your courses" below).

Select your courses. The easiest way to do this is to pull directly from your transcript, then delete any excess courses.

- Reminder: You need to list a minimum of 54 hours of credit if you have applied a previously awarded Master's. If you are not applying a previous Master's, you must list 84 credits. If you list an extra hour or two because of a 4 credit hour class, that is fine. However, you cannot submit with less and should not submit with more.

- Acceptable courses to list on the iPOS include anything 500 –level or above (except 595 Continuing Registration). You can, with the permission of your chair, have up to 6 relevant 400-level credits on your iPOS.

- You should not list more than 12 hours of 792 Research; however, you can list less. You can list 592 Research hours in addition to 792 Research.

- You are required to list 12 hours *exactly* of 799 Dissertation work (no more, no less). Please be aware of this when registering, and always register in increments that will add up to exactly 12.

- You can list courses that are in progress and do not have a grade yet. If you are adding courses from the current semester after the semester has begun, they will appear on your transcript (not as future courses).

- To add courses that will occur in the future (not including the current semester), select "Future Courses" button then fill in the anticipated course and semester/year you will take it.

Select any transfer courses.

- Many may not need this option as your coursework will have been completed here at ASU or will have been applied via the previously awarded Master's.

- You cannot list more than 9 hours of transfer work from another institution.

Select an advisor. You have the option to list your entire committee or just your advisor/chair. SHESC prefers that you list your committee in its entirety. If you have co-chairs, the system will not allow you to submit unless you list your committee in its entirety.

- Your committee must match the committee that is listed on your *PhD Committee Approval* form, which should be on file with the graduate specialist.
- If you do not have a *PhD Committee Approval* signature form yet on file, you will need to complete one and submit it to the graduate specialist before your iPOS can be approved.
- If one of your committee members is from outside SHESC or the ASU and comes up as “not found” during the search, please fill out the *Student Committee Approval* form and turn it in to the graduate specialist along with the individual's most recent CV. External members cannot be the sole chair, but can co-chair.

Submit your iPOS. Once submitted, it should say "pending in the academic unit."

Print off the summary pages. You will want to print off both the “Courses” page and the “Approval” page links found on the right side of the page.

- After you have printed off both pages you will need to have them signed by your advisor/chair.
- If you have co-chairs you only need the signature of one person, though you will want to let your other co-chair/members look at your iPOS pages to confirm that they also approve.

Hand in the papers to the graduate specialist.

- Once you have obtained your advisor’s signature on both pages, you will want to submit them to the graduate specialist, who will obtain the head of the academic unit’s signature for you and electronically approve your iPOS.

Update your iPOS as necessary. Projections do not always match reality. If you do not register for courses you projected during the semester you said you would, or if the prefix/number/title or number of credits do not match, a "course not found" error will be generated.

- Periodically (before degree milestones) you should check your iPOS to be sure that your committee and all coursework are correct.
- If there are errors or out of date information, you can submit a committee or course change to correct them.
- Once you have corrected the information, submit the changes so they are "pending in the academic

Curriculum for Ph.D. in Applied Mathematics for the Life and Social Sciences

Admitted With A Bachelor's	Semester Hours	
Required Core Courses	15	Phase I
Master's in Passing Elective Hours*	15	
Complete Phase I (for students w/o Master's)		
Required Numerical Analysis Course	3	Phase II
Elective Hours*	27	
Present Comprehensive Exams and Defend Dissertation Proposal		
Required Research Hours	12	Dissertation
Required Dissertation Hours	12	
Total Semester Hours Required	84	

*All courses should be in consultation with student's advisor or chair.

All students admitted with a bachelor's degree to the Ph.D. in Applied Mathematics in the Life and Social Sciences program are automatically admitted into Phase I and must complete the following:

- I. **Phase I: Required Core Courses** (15 credits)
 - a. AML 610 Topics in AMLSS (*3 credits*)
 - b. AML 611 Research Design and Proposal Writing(*3 credits*)
 - c. AML 612 AMLSS Modeling Seminar(*3 credits*)
 - d. AML 613 Probability & Stochastic Modeling for LSS (*3 credits*)
 - e. One course in Bio-Statistics (*3 credits*)
- II. **Phase I: Elective and Research Courses** (15 credits)
 - a. Elective hours in consultation with faculty advisor or chair (students may take “Reading and Conference” or “Research Hours” to fulfill these credits) (*24-27 credits*)
 - b. Student must complete 30 credit hours before passing to Phase II
 - c. Student needs two completed research papers for portfolio
- III. **Complete Master's in Passing** (Masters Degree Granted)
 - a. Present master's research at Graduate Symposium (in April or May of second year)
 - b. Present portfolio to be reviewed by a subcommittee appointed by the graduate committee
- IV. **Phase II: Required Courses** (3 credits)
 - a. One course in Numerical Analysis (*3 credits*)
- V. **Phase II: Elective Hours** (27 credits)
 - a. Elective hours in consultation with student's chair (*27 credits*)
 - i. *At least 6 credits must be in the Life Sciences, and*
 - ii. *At least 6 credits from the Social Sciences*
- VI. **Comprehensive Exams and Dissertation Proposal Defense**
- VII. **Dissertation and Research Credits** (24 credit hours)
 - a. AML 792 Dissertation Research (*maximum of 12 credits*)
 - b. AML 799 Dissertation (*12 credits*)
- VIII. **Completion of Program**
 - a. Present dissertation orally in an open forum

Curriculum for Ph.D. in Applied Mathematics for the Life and Social Sciences

Admitted with a Master's	Semester Hours	
Required Core Courses	18	Phase II
Elective Hours*	12	
Present Comprehensive Exams and Defend Dissertation Proposal		
Required Research Hours	12	Dissertation
Required Dissertation Hours	12	
Total Semester Hours Required	54	

*All courses should be in consultation with student's advisor or chair.

All students admitted with a master's degree to the Ph.D. in Applied Mathematics for the Life and Social Sciences program are automatically placed into Phase II and must complete the following:

- I. **Phase I: Required Core Courses** (18 credits)
 - a. AML 610 Topics in AMLSS (3 credits)
 - b. AML 611 Research Design and Proposal Writing(3 credits)
 - c. AML 612 AMLSS Modeling Seminar(3 credits)
 - d. AML 613Probability & Stochastic Modeling for LSS (3 credits)
 - e. One course in Bio-Statistics (3 credits)
 - f. One course in Numerical Analysis (3 credits)
- II. **Phase II: Elective Hours** (12 credits)
 - a. Elective hours in consultation with student's chair (12 credits)
 - i. At least 6 credits hour must be in the Life Sciences, and
 - ii. At least 6 credit hours from the Social Sciences
- III. **Comprehensive Exams and Dissertation Proposal Defense**
- IV. **Dissertation and Research Credits** (24 credits)
 - a. AML 792 Dissertation Research (maximum of 12 credits)
 - b. AML 799 Dissertation (12 credits)
- V. **Completion of Program**
 - a. Present dissertation orally in an open forum

COURSE OFFERINGS IN APPLIED MATHEMATICS FOR AMLSS PHD STUDENTS

Additional courses may be applied with prior approval. Students are also encouraged to check each semester for Topics courses in Applied Mathematics and related fields (not listed below due to rotating topics and instructors).

Applied Biological Sciences (ABS):

ABS 560-Ecological Modeling (offered at Polytechnic Campus)

Applied Mathematics for the Life and Social Sciences (AML):

AML 520-Agent-Based Modeling (cross-listed ASM 520)

AML 610-Topics in Applied Mathematics for the Life and Social Sciences

AML 612-Applied Mathematics for the Life and Social Sciences Modeling Seminar

Applied Mathematics (APM):

APM 503-Applied Analysis

APM 504-Applied Probability and Stochastic Processes

APM 505-Applied Linear Algebra

APM 530-Mathematical Cell Physiology

APM 531-Mathematical Neuroscience I

APM 532-Mathematical Neuroscience II

APM 533-Mathematical Population Biology I

APM 534-Mathematical Population Biology II

APM 535-Mathematical Models in Medicine

APM 541-Stochastic Modeling in Biology

APM 560-Applied Dynamical Systems

APM 570-Applied Linear Operators

APM 575-Perturbation Methods in Applied Mathematics

Following list was compiled by Complex Adaptive Systems Initiative (CASI) as graduate course offerings in Complexity at ASU. Note some courses overlap with above listings. Please contact CASI regarding applying these courses towards the newly-approved Graduate Concentration in Complex Adaptive System Science.

AML 591 – Probability Theory

AML 591 – Agent Based Modeling

AML 610 – Topics in Applied Mathematics for the Life and Social Sciences

AML 612 – Applied Mathematics for the Life and Social Sciences Modeling Seminar

ANB 602 – Current Issues in Animal Behavior

ASB 533/SOS 532 – Sustainable Urban Dynamics

ASB 555 – Complex Societies

ASM 570 – Fundamentals of CASS

ASM 591 – Dynamic Modeling in Social and Ecological Systems

ASM 591/BIO 591 – Readings in Complexity

BIO 522 – Populations: Evolutionary Ecology

BIO 545 – Populations: Evolutionary Genetics

BIO 591 – Topics in Mathematics for Life and Sustainability Science

CBS 520 – Modeling and Computational Biology

CBS 521 – Applications and Complex Problem Solving in Computational Biology

CES 561 – Modeling and Simulation Theory and Application

PAF 591 – Introduction to Policy Informatics
PAF 591 – Complexity in Public Policy and Management
PSY 576 – Dynamics in Psychology
PSY 598 – Dynamics in Perception, Action, and Cognition
PUP 598 – Modeling and Simulating Urban Environments
SOS 598 – Social Network Analysis

COURSE OFFERINGS IN LIFE/SOCIAL SCIENCES FOR AMLSS PHD STUDENTS

Recommendations for coursework in specific focus areas. Additional courses may be applied with prior approval.

Note: Most courses do not have specific pre-requisites, but students are highly encouraged to contact instructors prior to enrollment to determine the extent of Life/Social Sciences background necessary.

Anatomy and Physiology:

BIO 506-Clinical Gross Anatomy
BIO 561-Comparative Animal Physiology
BIO 563-Environmental Physiology
BIO 564-Cellular Physiology and Signaling

Biochemistry:

BCH 501-Current Topics in Biochemistry
BCH 561-Advanced Topics in Biochemistry
BCH 564-Bionanotechnology
PLB 540-Plant Biochemistry

Cellular/Molecular Biology and Biophysics:

BIO 550-Advanced Cell Biology
MCB 555-Advanced Molecular and Cellular Sciences
MCB 556-Advanced Molecular and Cellular Biology II
PHY 542-Topics in Biophysics

Ecology:

BIO 521-Landscape Ecology
BIO 522-Populations: Evolutionary Ecology
BIO 524-Ecosystems
EVO 520-Evolution and Ecology of Emerging Infectious Diseases

Evolutionary Biology and Genetics:

BIO 543-Molecular Genetics
BIO 545-Populations: Evolutionary Genetics
BIO 546-Principles of Human Genetics
BIO 549-Phylogenetic Biology and Analysis
BIO 552-Developmental Genetics

Neuroscience:

BIO 568-Stress and the Brain
BME 521-Neuromuscular Control Systems
BME 524-Fundamentals of Applied Neural Control
MIC 527-Neuroimmunology
PSY 526-Neuroanatomy

Sustainability:

SOS 511-Methodology of Sustainability Research and Problem Solving
SOS 513-Science for Sustainability
SOS 515-Industrial Ecology and Design for Sustainability
SOS 530-International Development and Sustainability
SOS 532-Sustainable Urban Dynamics
SOS 535-Sustainable Ecosystems
SOS 540-Statistical Modeling for Sustainability