POLICIES and PROCEDURES

Graduate Programs

School of Computer, Mathematical, and Natural Sciences

Morgan State University

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INTRODUCTION and PREAMBLE

The policies and procedures detailed in this handbook are established to ensure high standards of quality, scholarship, and rigor to the Master’s and Ph.D. degree programs in the School of Computer, Mathematical, and Natural Sciences (SCMNS) of Morgan State University.

A sequence of events, beginning with the first semester of graduate study and culminating in the submission of an approved thesis or dissertation to the SCMNS and to the School of Graduate Studies (SGS), is outlined herein to guide the student, Research Advisor, and all pertinent members of the SCMNS community towards expeditious completion of degree requirements.

The policies, procedures, and forms found in this handbook apply to the following graduate degree programs of SCMNS: Master of Arts in Mathematics; Master of Science in Bioinformatics; Master of Science in Science (with concentrations in Biology, Chemistry, Physics, or General Science), the Doctor of Philosophy (Ph.D) in Bioenvironmental Science, Information Assurance, and Industrial and Computational Mathematics. They are designed to compliment policies and procedures promulgated by the departments and programs within the SCMNS and also those of the SGS.

The orderly sequence of milestone events during the tenure of the graduate student will be as follows:

1. Preparation of graduate student dossier.
2. Completion of department or program Core Courses.
3. Completion of Research Rotations (optional but recommended for Master’s degree students; required for Ph.D. students, depending on the degree program).
5. Pass comprehensive written qualifying examination.
7. Preparation and presentation of thesis/dissertation Research Proposal as a seminar to the Graduate Advisory Committee, outside evaluator(s), and other members of SCMNS as appropriate. This will constitute the Oral Examination.
8. Advancement to degree candidacy.
9. Completion of elective courses.
10. Completion of original research and writing of thesis/dissertation under guidance of the student’s Graduate Advisory Committee.

11. Approval of thesis/dissertation by Graduate Advisory Committee, including outside evaluator(s). Approval of thesis/dissertation by the Assistant/Associate Dean of Research and of Graduate Studies and Dean of SCMNS.


13. Sign-off of thesis/dissertation by Office of the Dean, SCMNS, and submission of documents to the SGS.

There are several milestone events at which point a graduate student can be dismissed from the program. They are: the student (1) repeatedly fails one or more Core Courses; (2) does not demonstrate sufficient motivation, scientific curiosity, and aptitude during Research Rotations; (3) fails the written comprehensive qualifying examination twice; or (4) does not present an acceptable research proposal and fails the oral examination.

To ensure appropriate quality control and accountability, every milestone event has a specific form that must be filled out and kept on record. Instructions are found on each form for requisite signatures and routing for filing of copies.

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1 See also “Sequence of events, critical dates, requisite forms, and approval processes for Master’s and Ph.D. degree programs” document.
Upon matriculation into the graduate program, the departmental Graduate Coordinator will meet with the graduate student and open a dossier which will be regularly updated with appropriate information, documents, and forms pertinent to the student’s program of study. Included in the dossier will be copies of the application forms, transcripts (official or unofficial), letters of recommendation, etc. The purpose of having this initial body of information is for prospective research advisors to evaluate the student’s academic history.

Additionally, at the end of each semester (including summer terms if applicable), a complete and accurate print-out of the graduate student’s grades for all courses taken must be put into the dossier. This activity is necessary so as to obviate any unexpected problems involving the completion of an audit of the student’s academic record prior to graduation.

Minutes and recommendations of meetings of the student’s Graduate Advisory Committee are also to be maintained in the dossier.

This dossier will be kept in active form until notification is received from the SGS that the student has successfully completed all requirements for the graduate program and that the degree has been granted. Thereafter, the dossier will be kept permanently in an archival file pool.

At the time of the first meeting with the student, the Graduate Coordinator will give hard copies of handbooks on Policies and Procedures for Graduate Programs of the SCMNS, and of the departmental and/or specific program. The Graduate Coordinator will also direct the student to the SGS website where additional important information about graduate degree requirements can be found. A point of emphasis will be the critical timelines that must be followed as the student approaches and enters the final semester of study, concluding with the presentation of a thesis or dissertation, its approval, and successful oral defense of the body of work contained therein.

It is the responsibility of the Graduate Coordinator to keep copies and/or originals of all requisite departmental and SCMNS forms that certify and track progress in the degree program within the student dossier. The dossiers must be kept in a secure location and should be considered confidential.

The duties and responsibilities of the Graduate Coordinator are detailed on the next page.
DUTIES AND RESPONSIBILITIES
OF THE GRADUATE COORDINATOR

1. Provides advice and support to students on a range of academic matters.

2. Serves as liaison between students and faculty and/or administration, as necessary.

3. Reviews and screens credentials of prospective students, and assists in processing applications.

4. Coordinates and assists with student recruitment, admission, registration, and other activities pertaining to student advancement within the program.

5. Advises students on degree requirements (e.g., departmental comprehensive examination) and their associated timelines.

6. Prepares class schedules and catalogs; develops recruitment and retention materials for the program.

7. Develops and maintains comprehensive student records and databases to monitor student progress in relation to program requirements, and expeditiously correspond with students regarding problems and deficiencies.

8. Coordinates and participates in the recruitment and administration of graduate assistants and teaching assistants.

9. Ensures that university policies and standards are met in relation to grades, graduation requirements, admissions, withdrawals, and associated issues.

10. Coordinates preparation and timely administration of departmental or programmatic Comprehensive Qualifying Examination.

11. Regularly conducts an audit of the student’s academic records to make certain that Core and elective courses are satisfactorily completed and grades have been correctly inputted.

An important task of the Graduate Coordinator is to liaison with the School of Graduate Studies to not only review application packages, but to act as a champion for those applicants who are awarded financial aid. Because applicants may oftentimes not receive timely notification of financial aid, the Graduate Coordinator must, either by direct person-to-person, telephone, or e-mail contact, discuss the conditions by which financial aid is given. At the same time, the Graduate Coordinator should determine the level of serious interest the prospective student has in
coming to Morgan State University, as this may have consequences for course offerings, Research Rotations (as applicable), and placement in laboratories for thesis or dissertation research.

The matriculation date is typically the fall semester; however, some applicants, depending upon circumstances, may gain entry to a graduate program during the spring term. Irrespective of the entry date, the Assistant/Associate Dean of Research and of Graduate Studies will convene a meeting of all SCMNS Graduate and/or Program Coordinators prior to the beginning of each new semester, and including the summer session should conditions warrant. The general agenda for these meetings will be:

New business:
- Commitment new applicants to attend MSU
- Financial aid packages to new applicants
- Possible mentor : mentee matchups of new applicants

Old business:
- Detailed status of current graduate students
- Problems and their resolutions
- Tracking of Morgan-degreed graduate students

All correspondence by Graduate Coordinators must be copied to the Assistant/Associate Dean of Research and of Graduate Studies, SCMNS. Within their respective departments, Graduate Coordinators report to the chairperson; within the scope of SCMNS graduate programs, all Graduate Coordinators report to the Assistant/Associate Dean of Research and of Graduate Studies.

Issues and concerns within a graduate program that cannot be resolved at the level of the Assistant/Associate Dean of Research and of Graduate Studies should be escalated to the Dean’s office and subsequently to the SGS.
CORE COURSES

Each department and/or program of the SCMNS has an established set of required Core Courses. It is the responsibility of the graduate student and the Graduate Coordinator (and later, the Graduate Advisory Committee) to determine the sequence of Core Courses to take, as well as appropriate elective courses germane to the student’s research interests.

It is possible that students may enter a program of study already having taken one or more courses equivalent to those in the prescribed Core requirements. In such instances, it is the responsibility of the student and the Graduate Coordinator to deliver appropriate documentation to the Assistant/Associate Dean of Research and of Graduate Studies, SCMNS, and to the Dean of the SGS to obtain waiver or exemption from the Core Course(s). For this process, the Application for Transfer Credits form, available from the SGS, is to be used. Documentation of such waiver will be kept by the Graduate Coordinator in the student’s dossier. Please note that it is the firm policy of the SGS that no graduate credits can be transferred from a foreign college or university to Morgan State University.

Ph.D. students in the Bioenvironmental Sciences Program must complete Core Courses by the end of the first year. Master’s degree students should complete Core Courses by the end of the first year. Ph.D. students in the Industrial and Computational Mathematic Program must complete Core Courses by the end of the sixth semester.

Core and elective courses must be conducted at the graduate level. Any textbook(s) used must meet the approval of the departmental Chairperson in consultation of the Assistant/Associate Dean of Research and of Graduate Studies and Assistant Dean for Graduate Studies. This requirement is predicated on the happenstance when a contractual instructor used a textbook that was inappropriate for a graduate course and which later handicapped some students at the time of the Comprehensive Qualifying Examination.

Upon successful completion of Core Courses, the department Graduate Coordinator and Chairperson will endorse this milestone using the Certification of Completion of Core Courses form.
RESEARCH ROTATIONS

Master of Arts, Mathematics; Master of Science, Bioinformatics; Master of Science, Science (Biology, Chemistry, Physics, or General Science)

A Research Rotation with at least two different members of the graduate faculty during the first semester is strongly encouraged. This is designed to assist the student in selection of his/her Research Advisor as well as support the development of his/her scientific and technical expertise.

The Master’s degree student engaging in Research Rotation should enroll in XXXX 788, Supervised Research, for 3 credit hours.

At the conclusion of each Research Rotation, the Graduate Student Research Rotation Evaluation form is to be completed by the supervising faculty member. The student will also be required to complete an evaluation of the Research Rotation.

Doctor of Philosophy, Bioenvironmental Science

During the first year, each doctoral student is encouraged to choose an advisor for their dissertation or to complete three Research Rotations in the laboratories of research and graduate faculty members of their choice. Each Rotation will last for no more than 3 months (i.e. fall semester, spring semester and summer) and is intended to assist in the process of selecting a Research Advisor and dissertation research area. These Research Rotations should offer the student the opportunity to explore multiple disciplines as they relate to Bioenvironmental Science. Research Rotations placement must meet the approval of the Chairperson of the respective department, the Graduate Coordinator, and Assistant/Associate Dean of Research and of Graduate Studies.

A student who enters the Bioenvironmental Science program with a Master’s degree in an appropriate area of study may already have research experience. In such a case, the student may be exempted from having to take three Research Rotations; two may be sufficient or fully exempted if he/she is assigned an advisor at any time. To qualify for exemption, the student must provide documentation that demonstrates laboratory or field research experience to the Graduate Coordinator and Assistant/Associate Dean of Research and Graduate Studies. Upon review, the Assistant/Associate Dean of Research and of Graduate Studies will write an official memorandum exempting the student from one Research Rotation.

The Ph.D. student will enroll in BIOL/CHEM 800-802, Supervised Doctoral Research for 3 credit hours for each Research Rotation. The three Rotations are BIOL/CHEM 800, 801, and 802; a total of 9 credit hours will be earned by the end of the Rotations. It is expected that the student will spend no less than 20 hours per week in the laboratory. The student is required to present...
research findings in an informal seminar to supervising faculty, members of the laboratory, and respective department Graduate Coordinator. The Ph.D. student will be graded for each Research Rotation as follows: a grade of “A” is considered superior, “B” is average, and both “C” and “F” are failing grades.

**General Guidelines for Research Rotation**

For a Research Rotation to be a meaningful training experience, the process should be appropriately structured and each graduate faculty member should have several feasible projects on hand. The following will be expected of the faculty during each Rotation:

1) Prepare a list of review and research papers to help guide and orient the student to the research area or topic of interest.

2) Develop a clearly defined research project which emphasizes acquisition of technical as well as critical thinking skills.

3) Prepare a detailed timeline for the Rotation and reasonable expectations.

4) Schedule at least once-weekly meetings with the student to discuss papers, research progress, data analysis and interpretation, etc.

5) Actively train the student in the scientific method (e.g., hypothesis testing, use of controls, etc.) and new techniques.

6) Closely and objectively monitor the student’s progress in research and skills development.

7) Prepare a report using the *Faculty’s Evaluation of Graduate Student Research Rotation* (see below).

Students should write a memorandum to the respective departmental Graduate Coordinator before each Rotation with a first and second choice of Research Rotation labs. The faculty member must have given consent to accepting the student for the Rotation and have sufficient resources to support the student throughout the research project. Should a problem arise, the Graduate Coordinator will discuss the matter with the student, respective member faculty, and the Assistant/Associate Dean of Research and of Graduate Studies to expeditiously resolve the issue(s).

At the end of each Research Rotation, there will be a formal evaluation of the student’s progress and research capabilities. The faculty supervising the Research Rotation will complete the *Faculty’s Evaluation of Graduate Student Research Rotation* form. The student will also be expected to complete an evaluation of the faculty member’s teaching and mentoring during the
Rotation, using the Graduate Student’s Evaluation of Research Rotation form. The completed forms will be kept by the Graduate Coordinator.

It may be the collective judgment of Research Rotation faculty that the student may not sufficiently demonstrate capabilities of conducting high-level research. In such an instance, the Research Rotation faculty members must convene a formal meeting to objectively discuss whether or not the student should continue forward with the graduate program or study, or, if the student should be dismissed. Also in attendance of such a meeting should be the departmental or program Graduate Coordinator, the departmental Chairperson, and the Assistant/Associate Dean of Research and of Graduate Studies. Two courses of action are envisaged: First, a remedial program of study may be recommended, with additional coursework and/or another Research Rotation. If the student accepts this outcome, stringent and continuous follow-ups are required. Unsatisfactory progress will result in the student’s dismissal. Secondly, the recommendation may be to dismiss the student outright. In consultation with the Deans of SCMNS and SGS, the Assistant/Associate Dean of Research and of Graduate Studies will write a letter of dismissal to the student.
SELECTION OF RESEARCH ADVISOR

Master’s degree students must select a research area and thesis advisor before the end of the second semester of the first year of study. Doctoral students in the Bioenvironmental Science program, after having satisfactorily completed three Research Rotations, and by no later than the second week of September of the second year in the program, will choose a research area and Research Advisor for dissertation research.

Mutual agreement between the student and the Research Advisor must be evident, and requires the approval of the departmental Graduate Coordinator and the Assistant/Associate Dean of Research and of Graduate Studies. The faculty member should have an active research program, as evidenced by current funding and productive research. It is realized, however, that in some instances funding may not necessarily be required to conduct and complete the proposed research project.

A Research Advisor must have certain qualifications that are required by the SGS. To review the criteria, please go to:
http://www.morgan.edu/academics/Grad-Studies/faculty.asp

To be a Research Advisor for doctoral degree students, full membership as Graduate Faculty is necessary. Being an associate member of the Graduate Faculty makes one eligible to be Research Advisor only for the Master’s degree level; however, he/she may serve on a doctoral committee. Occasionally, there may be special circumstances whereby a Visiting, Adjunct, or Research Professor may be approved to guide and advise a Master’s degree or doctoral student. Such a request will be granted if the person has a distinguished record of scholarly achievement and, as applicable, funds are available to support the proposed research for the duration of the project.

Additionally, to be a Research Advisor, SCMNS faculty must be actively and continuously engaged in scholarly activities. Scholarly activities are defined as one or more of the following:

- Publishing scientific papers in peer-reviewed professional journals of high caliber within the past five years, and with a good record of being cited by other scholars in the research literature.
- Publishing and/or editing textbook(s), reference book(s), or monograph(s) in his/her discipline.

2 In the event of a gap in research funding, a plan shall be developed for the support of the graduate student. This may require support and/or approval of the Departmental Chair and/or Deans.
3 This information may be obtained from the Institute for Scientific Information’s database, Web of Knowledge, through Morgan’s Library:
http://www.morgan.edu/Library
• Being a referee for manuscripts submitted to professional journals of high caliber, or being on the journal editorial board.

• Regular invitations to give seminars and/or workshops at other institutions of higher learning or during a national or international meeting of a professional scientific society.

• Contributing significantly to the development of graduate courses by improving their content, introducing new areas of concentration, or developing effective pedagogy.

A SCMNS faculty who has been a full-time instructor or lecturer in undergraduate and/or graduate courses, but not actively engaged in research may not be a Research Advisor.

The duty of the Research Advisor is to oversee and ensure that the graduate student’s research is original, of the highest quality, that progress is timely, and proper scientific conduct was employed. The student and Research Advisor will sign a document of commitment to be approved by Graduate Coordinator, Department Chairperson, and the Assistant/Associate Dean of Research and of Graduate Studies.

For this activity, the Selection of Graduate Research Advisor form is to be used.
WRITTEN COMPREHENSIVE QUALIFYING EXAMINATION

The written comprehensive qualifying examination must be taken during the semester (or summer) following satisfactory completion of all required Core Courses. In the event that a student fails a Core Course, but has performed well in other Core Courses (with grades of A or B), the comprehensive examination will be delayed until such time that the student earns a satisfactory grade in the failed course.

Comprehensive examinations must be concluded prior to the last semester of the student’s enrollment and prior to the approval of the student’s thesis/dissertation proposal. Under no circumstance will departments and programs be permitted to schedule a comprehensive examination during the last semester when the student is completing his/her thesis or dissertation and is expected to soon graduate.

The written comprehensive examination will consist of a common pool of questions for all students derived from coursework. This examination should fulfill two general objectives: First, to serve as an educational vehicle to enhance the training of students, and second, to allow the faculty to assess whether students are sufficiently prepared to progress to the next phase of the graduate program.

In addition, the exams will evaluate the ability of the students to (1) formulate scientific hypotheses or develop methods to solve those problems, (2) design and interpret scientific experiments, and (3) write clearly and persuasively.

Determination of the passing score will be at the discretion of each department or program, but in general, should be no less than 80%. To mitigate any question of uneven grading, faculty who contribute questions must provide to the Graduate Coordinator an outline of idealized answers. This will serve as a benchmark for scoring purposes.

If a student fails the written comprehensive examination in its entirety or a section of it, he/she must satisfactorily pass the failed section(s) within the next semester (or summer) of the original date of the examination. A second failure of the entire exam will result in dismissal from the program.

To document this milestone, the Certification of Completion of the Written Comprehensive Qualifying Examination form is to be completed.
ADVANCEMENT TO CANDIDACY

Following successful completion all Core Courses, Research Rotations (if applicable), selection of a Research Advisor, passing the Written Comprehensive Qualifying Examination, and maintaining a 3.0 or better grade point average in all graduate coursework, the graduate student is ready to be advanced to candidacy in his/her degree program.

Advancement to candidacy means that with the exception of taking elective courses and discharging specific requirements of his/her degree program (e.g., teaching activities), the graduate student engages in full-time research. The culmination of research must result in a Master’s degree thesis or doctoral dissertation that meets all the requirements of the SCMNS and SGS.

Advancement to candidacy should occur no less than one semester for Master’s degree students and no less than one full academic year for Ph.D. students before the expected graduation date. This activity is documented with the Certification of Advancement to Candidacy form.
After satisfactory completion of the written comprehensive qualifying examination, the graduate student will organize his/her Graduate Advisory Committee. This Committee is responsible for:

- guiding student research and thesis/dissertation development;
- providing objective scientific and project management advice to student-advisor teams;
- approval of the Master’s thesis or doctoral dissertation proposal;
- advising the student on remaining coursework;
- advising the student on ethical conduct of research;
- editorial guidance during writing of the thesis or dissertation;
- overseeing the thesis or dissertation oral defense;
- approval of final thesis or dissertation.

The members of the Graduate Advisory Committee will be selected by the student in consultation with his/her Research Advisor. All Committee members must be approved by the departmental chairperson, Graduate Coordinator, Assistant/Associate Dean of Research and of Graduate Studies, and Dean, SCMNS.

For the Master’s and Ph.D. degrees, it is desirable to have at least four and five members, respectively. No less than one-half or the majority of committee members should be Full Members of the Graduate Faculty\(^4\). The remaining committee members can be MSU faculty who are Associate Members of the Graduate Faculty\(^5\). At least one member of the committee should be an “external examiner.” By this, it is meant that the person is from a different department or program of MSU that is allied to the student’s area of study, or ideally, a person external to the University and having appropriate scientific expertise\(^6\).

Irrespective of whether the external examiner is a MSU faculty person or one from outside the MSU community, he/she should agree to discharge the responsibilities itemized above without consideration of remuneration for his/her time and services. If the external committee member is not a MSU faculty, it is appropriate to provide a meal, parking, and other courtesies while attending Graduate Advisory Committee meetings or functions related to the student’s program of study. It may be that the external committee member is from a location that requires more than routine travel and possibly overnight stay(s). It is also conceivable that the person requires consultancy fees. In such a case, it is the responsibility of the Research Advisor to secure funds to accommodate all such expenses incurred by the external committee member. It

\(^4\) Please refer to the SGS for qualifications to become a Full or Associate Member of the Graduate Faculty. http://www.morgan.edu/school_of_graduate_studies/graduate_council/graduate_faculty.html

\(^5\) To become a Full or Associate Member of the Graduate Faculty, that person must be nominated by the department Chair to the Deans of the SCMNS and SGS.

\(^6\) The “external examiner” is not the same as the External Referee, discussed in the section, Research Proposal and Oral Examination.
is expected that an MSU community person who serves as an external committee member will indicate such on his/her annual report.

The Research Advisor, whose role in the actual performance of the thesis or dissertation research is essential, will NOT serve as the Chair of the Graduate Advisory Committee. The Chair of the Graduate Advisory Committee shall be elected from among the committee members and must be a Full Member of the Graduate Faculty. Approval of the composition of the Graduate Advisory Committee will be the responsibility of the Assistant/Associate Dean of Research and of Graduate Studies and Dean, SCMNS; the *Graduate Advisory Committee Approval* form is to be used.

The duties and responsibilities of the Graduate Advisory Committee Chairperson are:

- To provide objective oversight and ensure adherence to policies and procedures as stipulated by the SGS and SCMNS.

- In consultation with the Research Advisor, establish realistic milestones for determination of progress.

- To work cooperatively and in consultation with the graduate student and the Research Advisor, to convene and preside over committee meetings. Meetings should be scheduled at least twice per year and possibly more frequently thereafter as the student approaches completion of degree requirements.

- To ensure the recording of detailed minutes of each meeting, circulate them for approval by committee members, and submit said minutes to the departmental Graduate Coordinator, and Assistant/Associate Dean of Research and of Graduate Studies.

- To review objectives, determine rate of progress, and make changes to milestones when necessary to overcome obstacles that may impede student progress. The Committee Chair must communicate all Graduate Advisory Committee decisions to the departmental Graduate Coordinator.

- To ensure that the thesis or dissertation quality, content, and style meet the established requirements as promulgated by the Department or program, SCMNS, and SGS.

- Provide copies of the *Policies and Procedures* manual for SCMNS graduate programs and associated forms to each committee member who is not a faculty of Morgan State University so that he/she/they are in duly aware of them.
The Advisory Committee must meet once per semester to review the student’s progress and to provide guidance so that timely program requirements and milestones are met. This activity is to be documented using the *Graduate Advisory Committee Meeting Summary and Progress Report* form.
RESEARCH PROPOSAL AND ORAL EXAMINATION

Research Proposal

All graduate programs in the SCMNS require a thesis or dissertation to be submitted for satisfactory completion of degree requirements. This document embodies a specific and scholarly research problem undertaken by the student through the guidance of his/her Research Advisor and members of the Graduate Advisory Committee, and must be of very high quality.

The nature of scientific research demands that there be a good fit between the faculty Research Advisor and the student. It is therefore necessary for the student to have a genuine interest in the research activities of the faculty member, and in turn, the faculty must be willing to mentor and guide the student toward successful completion of a graduate degree. As already stated, a major prelude to this stage in the student’s tenure is the Research Rotation; however, it is realized that not all SCMNS graduate programs would entail Research Rotations. Further, the form, Selection of Graduate Research Advisor, signifies the mentor/mentee relationship.

A major part of graduate training is the preparation of a Research Proposal to demonstrate his/her scholarship and academic preparedness. It is expected that the Research Proposal will be a well-thought out document of very high quality. The proposed research project or problem must be original, novel, and where appropriate, hypothesis-driven. It is understood that in some fields such as Mathematics, the research may be introduced as a statement of a problem and demonstrating an alternate means of solving that problem. In any case, the student’s Research Proposal should be organized similar to an application for research funds, such as those to the National Institutes of Health, the National Science Foundation, other Federal and State granting agencies, private foundations, and professional organizations. In general, the Research Proposal should consist of all or most of the following elements:

- Abstract or summary of the Research Proposal.
- Introduction, where the relevant past and current research literature is be cogently summarized with identification of gaps in current knowledge.
- Statement of the problem or hypothesis.
- Specific aims of the Research Proposal.
- Preliminary data and results, if applicable.
- Scientific approach and methods to be used in conducting the research, and rationalization or justification of each, including realistic timelines.
- Expected results.
- Identification of potential pitfalls and suggestions for alternative approaches.

Because the goal is to have graduate programs of excellence, it becomes necessary that the student and his/her Research Advisor select a project that will result in scholarly work. Specifically, the research project or problem to be undertaken by a Master’s degree student should result in publication of at least one paper in a high-impact (or highly respected) professional
peer-reviewed scientific journal. For doctoral students (e.g., Bioenvironmental Science), their dissertation should culminate in at least two published papers.

The graduate student, in consultation with his/her Graduate Advisory Committee, should have (an) external referee(s) who will critically but objectively read the Research Proposal and provide input as appropriate. The external referee(s) must be a person(s) of high academic repute from outside the Morgan State University community whose expertise can further provide quality control measures to the SCMNS graduate programs. It is not intended that the external referee(s) will supplant the responsibilities of the Research Advisor or other members of the Graduate Advisory Committee, but rather, to complement them.

Oral Examination

The Oral Examination will consist of a defense of the student’s Research Proposal and questions pertaining to his/her specific area of concentration. This will be done in the form of a seminar of the Research Proposal. The Research Proposal seminar will be an open forum for all faculty and students; however, only the candidate’s Graduate Committee members and external referee(s) will be responsible for scoring the candidate on the oral defense of the Research Proposal. The Chairperson of the Graduate Advisory Committee will take minutes of the meeting.

There are three possible outcomes stemming from the submission of the Research Proposal and the Oral Examination.

- The student may pass unconditionally, and thereafter engages in full time research.

- The student may pass conditionally. This means that some component of the Research Proposal and/or Oral Examination was not satisfactory. In such an event, the issues and problems must be succinctly written in the form of a report. The student must then agree to abide by the findings if he/she wishes to continue with the program of study. The student will have one month to correct the problem(s) and resubmit a revised Research Proposal. Another Oral Examination must then be scheduled within two weeks after submitting the revised document. If the student again fails to satisfy his/her Graduate Advisory Committee and external referee(s), a Master’s degree student may be dismissed from the program; a doctoral student, depending on coursework taken, and evaluation and recommendation by the Graduate Advisory Committee and external referee(s), may be given a terminal Master’s degree and dismissed from the program.

- The student may fail altogether. The Graduate Advisory Committee and external referee(s) must then undergo careful, thoughtful, and objective deliberation to decide whether to grant the student another opportunity or to dismiss him/her from the program.

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7 The external referee(s) is not the same person as the "external examiner", detailed in the section, Organization of Graduate Advisory Committee.
If a student is to be dismissed from his/her graduate program, the decision must be immediately communicated to the Assistant/Associate Dean of Research and of Graduate Studies in the form of a memorandum. The Assistant/Associate Dean of Research and of Graduate Studies will deliberate with the Deans of SCMNS and SGS and send a formal letter of dismissal from the program to the student.
FINAL SERIES OF COURSES TO TAKE

Master's degree requirements

The following lists of courses in the respective SCMNS departments and/or programs are designed to complement the student’s research progress. This information is summarized from the Graduate Studies Catalog of the SGS, which can be found online: http://www.morgan.edu/academics/academic_catalogs.html. Please note that each department and/or program may have differing requirements for graduation in addition to University requirements.

XXXX 788/789, Supervised Research, is taken during the time the student is actively engaged in conducting experimental and/or theoretical research. The goal of the research must be to produce original data of sufficiently high quality so that it can be published in a professional, peer-reviewed scientific journal having a superior reputation in the field of study. The Research Advisor enters a grade of A, B, C. or F; another option is P (pass) or F (fail).

XXXX 790, Graduate Seminar, is taken after the student completes his/her course requirements and has submitted a research proposal of high quality. A departmental seminar, based on the research proposal, is then given by the student. The Research Advisor enters a grade of A, B, C. or F; another option is P (pass) or F (fail).

XXXX 797, Thesis Guidance (2 credits), is taken when the student is writing his/her Master’s degree thesis. The Research Advisor enters a grade of S (satisfactory) or F (fail)\(^8\). This course is taken repeatedly until the thesis is satisfactorily completed.

XXXX 799, Thesis Seminar (3 credits), is taken only once during the term when the student is written the thesis. The thesis must be approved and accepted by his/her Graduate Advisory Committee, the Departmental Chair, the Departmental Graduate Coordinator, and the Assistant/Associate Dean of Research and of Graduate Studies. The seminar will be a formal defense of the thesis and presented in a public forum where the research project is described as a professional body of work. Following the seminar, only the Graduate Advisory Committee will meet with the student and continue with the thesis defense. So long as the work on the thesis is in progress, the grade will be “CS”. Once the thesis is completed, the Research Advisor enters a grade of “P” (pass) or “F” (fail).

\(^8\) The difference in entering a grade of P (pass) for XXXX 790 or 799, and S (satisfactory) for XXXX 797 is that the latter can be taken continuously, from one semester or term to the next. By contrast, Graduate Seminar (XXXX 790) and Thesis Seminar (XXXX 799) can only be taken once.
Specific Master's degree programs

Master of Science in Science (Biology)
Candidates are required to complete a total of 33 credit hours as follows:
- 23 credit hours of courses (Core and electives); 8 credit hours of research; 2 credit hours of thesis seminar.
The proper sequence of 700-level courses is:
- BIOL 788-789, Supervised Research, 4 credit hours x 2 = 8 credit hours
- BIOL 797, Thesis Guidance, 2 credit hours
- BIOL 799, Thesis Seminar, 3 credit hours

Master of Science in Science (Chemistry)
Candidates are required to complete a total of 33 credit hours as follows:
- 18 credit hours of courses (Core and electives); 8 credit hours of research; 2 credit hours of thesis seminar.
The proper sequence of 700-level courses is:
- CHEM 788-789, Supervised Research, 4 credit hours x 2 = 8 credit hours
- CHEM 790, Graduate Seminar, 2 credit hours
- CHEM 797, Thesis Guidance, 2 credit hours
- CHEM 799, Thesis Seminar, 3 credit hours

Master of Science in Science (Physics)
Candidates are required to complete a total of 33 credit hours as follows:
- 23 credit hours of courses (Core and electives); 8 credit hours of research; 2 credit hours of thesis seminar.
The proper sequence of 700-level courses is:
- PHYS 788-789, Supervised Research, 4 credit hours x 2 = 8 credit hours
- PHYS 797, Thesis Guidance, 2 credit hours
- PHYS 799, Thesis Seminar, 3 credit hours

Master of Arts in Mathematics
Candidates are required to complete a minimum of 30 credit hours as follows:
- 18 credit hours of Core courses; 12 credit hours of elective courses; 6 credit hours of research; 3 credit hours of thesis guidance; 3 credit hours of thesis seminar.
The proper sequence of 700-level courses is:
- MATH 788-789, Supervised Research, 3 credit hours x 2 = 6 credit hours
- MATH 797, Thesis Guidance, 2 credit hours
- MATH 799, Thesis Seminar, 3 credit hours
Master of Science in Bioinformatics

Candidates are required to complete a total of 38 credit hours as follows:

15 credit hours of Core Courses; 12 credit hours of Scientific Core Courses, 6 credit hours of elective courses; 2 credit hours of thesis guidance; 3 credit hours of thesis seminar.

The proper sequence of 700-level courses is:

COSC 797, Thesis Guidance, 2 credit hours.
COSC 799, Thesis Seminar, 3 credit hours.

Doctoral degree requirements

XXXX 997, Dissertation Guidance (3 credits), is taken when the student is writing his/her doctoral dissertation. A grade of S (satisfactory) or F (fail)\(^9\). This course is taken repeatedly until the thesis is satisfactorily completed.

XXXX 998, Dissertation Seminar (6 credits), is taken only once during the term when the student is writing the dissertation and expects to graduate. The dissertation must be approved and accepted by his/her Graduate Advisory Committee, the Departmental Chair, the Departmental Graduate Coordinator, and the Assistant/Associate Dean of Research and of Graduate Studies. The seminar will be a formal defense of the dissertation and presented in a public forum where the research project is described as a professional body of work. Following the seminar, only the Graduate Advisory Committee will meet with the student and continue with the dissertation defense. So long as the work on the dissertation is in progress, the grade will be “CS” (for “continuing student”). Once the dissertation is completed, the Research Advisor enters a letter grade of “P”.

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\(^9\) The difference in entering a grade of P (pass) for XXXX 790 or 799, and S (satisfactory) for XXXX 797 is that the latter can be taken continuously, from one semester or term to the next. By contrast, Graduate Seminar (XXXX 790) and Thesis Seminar (XXXX 799) can only be taken once, in the final semester of his/her tenure as a graduate student, and when the thesis or dissertation is defended, respectively.
PREPARATION OF THESIS/DISSERTATION

A thesis or dissertation must be a high quality professional document that reflects scholarly and original research. It must have the following elements:

- Review and critical analysis of the relevant scholarly literature pertaining to the area of study.

- Clear statement(s) of the purpose of the research or a testable hypothesis.

- Detailed description of the research methodology used so that those reading the document can readily replicate the experimental process. To be included are descriptions of how the data were analyzed by statistics or other tools.

- Presentation of results in a logical, lucid, and consistent style. Graphs and/or tables should not be crowded with data, and they must be interpretable by persons knowledgeable in the area of study.

- Discussion of the data and results in the context of the current and prior research literature. Reasonable conclusion(s) must be derived from the student’s research.

- A bibliography of which a style is selected that reflects standards of the area of study. Every citation in the document must be found in the bibliography. Further, each referenced scientific research or review paper, articles from the popular press, Internet websites, and all other information sources must be consistent in its format. It is strongly encouraged that students employ software to manage references. For example, EndNote is affordable and easy to use: http://www.endnote.com/.

The graduate student will assume the primary responsibility that the thesis/dissertation conforms to the requirements and timelines of the SCMNS and SGS. Without exception, the thesis or dissertation is to be constructed with proper grammar and spelling. Use of the first person (i.e., “I”) is strongly discouraged and contractions (e.g., can’t) are not permitted. There are to be no run-on and incomplete sentences. As an aid to proper writing, the graduate student is referred to Strunk and White’s manual, “The Elements of Style” http://www.amazon.com/Elements-Style-Fourth-William-Strunk/dp/020530902X

Nothing within the document should raise questions about the authenticity of the data or results. It is also expected that there will be proper attribution and citation of the words or works of other scholars. Failure to do so may lead to concerns of plagiarism or academic dishonesty,
both highly serious offenses. Each thesis and dissertation will be analyzed for originality of content by the service organization, “Turnitin”.  

Moreover, the thesis/dissertation must conform to every formatting requirement of the SGS. The graduate student, Research Advisor, Graduate Advisory Committee members, and the Graduate Coordinator must be knowledgeable about these requirements as stated in the Dissertation & Thesis Handbook of the SGS. This can be downloaded at http://www.morgan.edu/Documents/ACADEMICS/SCHOOLS/SGS/DissThesisHand.pdf

Accepting the role as Research Advisor means that he/she is willing to provide continuous and meaningful guidance throughout the tenure of the graduate student. This includes proactive and meticulous but fair editing of the thesis/dissertation. Members of the Graduate Advisory Committee are also expected to provide objective and high standards of editorial feedback during the writing of the thesis/dissertation.

In the end, the document must be prepared in such a way that it meets editorial and peer-review standards of a high-impact or highly respected professional scientific journal in the student’s area of concentration. It should be “publication-ready,” and the student must proceed on the basis that there will be zero tolerance for errors, however minor.

The thesis/dissertation in its final form must be approved by all members of the Graduate Advisory Committee, the Graduate Coordinator, departmental Chairperson, Assistant/Associate Dean of Research and of Graduate Studies, and Dean of SCMNS. The Assistant/Associate Dean of Research and of Graduate Studies will ensure quality control of this process and reserves the right to not accept a thesis/dissertation for non-conformance to these stated requirements. The defense of the thesis/dissertation CANNOT proceed until the Assistant/Associate Dean of Research and of Graduate Studies and Dean of SCMNS are satisfied that all measures and criteria of quality and scholarship have been met.

During the time the graduate student is writing the thesis or dissertation, continuous enrollment in XXXX 797 (Thesis Guidance, 2 credits) or XXXX 997 (Dissertation Guidance, 3 credits), respectively, is required. Also, a well-advertized public seminar must be given during the final semester of the graduate student’s tenure. For this, the student must be enrolled in Thesis or Dissertation Seminar (XXXX 799 or XXXX 998, respectively).

There are two forms to be used for this process: Thesis/Dissertation Approval and Request to Schedule Defense of Thesis/Dissertation.

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10 Please refer to pages 37-38 of the Graduate Studies Catalog for specific policies and examples of responsible academic conduct and research, and penalties thereof.
ORAL DEFENSE OF THESIS/DISSERTATION

The final milestone during the tenure of a graduate student is a public seminar based on his/her research, followed by a closed-door oral defense of the thesis or dissertation by members of the Graduate Advisory Committee.

There is a prescribed sequence of events that must be strictly followed before the oral defense is officially permitted.

First, the Graduate Advisory Committee must unanimously endorse the acceptance of the thesis or dissertation to be one of high quality, and that it meets all the required criteria of the SCMNS and SGS. Acceptance of the thesis or dissertation by the Graduate Advisory Committee is signified by each Committee member signing the Thesis/Dissertation Approval form.

Second, before the oral defense can be scheduled, the thesis or dissertation must be approved by the Assistant/Associate Dean of Research and of Graduate Studies and the Dean of SCMNS. The purpose of this procedure is not to question the scientific content of the research embodied in the thesis or dissertation, but rather to make certain that it meets the standards of high quality and scholarship required by the Office of the Dean, SCMNS. Unless the Assistant/Associate Dean of Research and of Graduate Studies and the Dean of SCMNS approve of the thesis or dissertation, the oral defense of same cannot be scheduled. There will be no exceptions to this policy.

Third, following approval of the Assistant/Associate Dean of Research and of Graduate Studies and Dean of SCMNS, the graduate student will complete the form, Request to Schedule Defense of Thesis or Dissertation. Because of prescribed timelines, especially mandated by the SGS, it is imperative that the graduate student and his/her Graduate Advisory Committee be cognizant of the critical dates by which time certain final milestones must be completed. As already stated above, in recognizing that the oral defense is one of the final steps in the graduate education of the student, this important event requires the approval of the Assistant/Associate Dean of Research and of Graduate Studies and the Dean, SCMNS, and there is an especially stringent demand on quality and scholarship. The administration of the SCMNS absolutely reserves the right to delay the oral defense until all matters of quality and strict adherence to policies and produces have been satisfactorily met.

If the student passes the oral defense, the form Documentation of the Results of Thesis/Dissertation Defense is completed. Should a student fail the oral defense, the Graduate Advisory Committee must provide in writing on the above-mentioned form reason(s) for their decision. Further, specific guidelines are to be given to the student to assist him/her in a second oral defense. Repeating the defense must be within thirty (30) days of the first defense date, but keeping in mind the deadlines of the SGS. A public seminar is not required for the repeat defense.
Finally, the graduate student will take all appropriate forms, together with the completed (and corrected) thesis or dissertation to the SGS. Once there, additional forms are required for the student to fill out.\textsuperscript{11}

\textsuperscript{11} Please refer to the Graduate Studies Catalog, pages 36-52.
GRADUATE STUDENT RESPONSIBILITIES AFTER COMPLETING DEGREE REQUIREMENTS

An important task remains after the graduate student has completed all degree and program requirements, up to and including successful defense of the thesis or dissertation and personally submitting the document to the School of Graduate Studies with all pertinent and signed paperwork. The student must, without exception, return to his/her Research Advisor the following:

- Any supplies, software, or equipment that was on loan to conduct research. Such materials are the property of the State of Maryland and must therefore be promptly returned.

- Original forms of data, both written and electronic. These would include bound notebooks, loose paper, photographs, and all forms of digital data storage, including CD-ROMS, DVDs, and USB memory modules. The student has the additional responsibility of properly coding or identifying the data and information so that the Research Advisor or any graduate student can readily trace and follow the records.

- Biological constructs such as recombinant DNA, bacterial plasmids, viral genomes, yeast artificial chromosomes; transformed, transfected, or transgenic cell line(s) or whole organism(s); gene knock-in or gene knock-out cell line(s) or whole organism(s); cell line(s) established from primary cultures.

- Software, hardware, or intellectual property developed while a graduate student.

- All MSU keys and access codes or passwords to secure data files.

- Erasure or destruction of data records from computer internal and/or external hard drives, floppy disks, CD-ROMS and DVDs, USB memory modules, and any other means of electronic data storage are forbidden.

Failure to comply with any of these requirements is a serious matter that may result in Morgan State University reserving the right to withhold granting of the graduate degree.
CHECKLIST FOR THE COMPLETION OF DOCTORAL DEGREE

The following are steps doctoral students must take in preparation for submitting the dissertation and graduating.

____ Submit Application for graduation (October deadline for May graduation) and pay a $40.00 graduation fee.

____ Register for Dissertation Guidance

____ Review transcript for missing grades and incorrect grades.

____ Work with Program Coordinator and Chairperson to correct grades.

____ Schedule a committee meeting to gain agreement of committee that the dissertation research is completed

____ Work with the Dissertation Advisor and committee members to finalize the content of the dissertation.

____ Schedule the dissertation defense in cooperation with the committee and Program Coordinator.

____ After the dissertation defense, make all revisions required by the dissertation committee. Prepare final copies of dissertation on required paper.

____ Obtain approval and signatures of committee, Program Coordinator and Departmental Chairperson on final dissertation.

____ Obtain approval and signature of Assistant/Associate Dean of Research and of Graduate Studies and Dean.

____ Submit dissertation to School of Graduate Studies.

____ Dissertation/Thesis Fee of $60.00 will be charged for binding three copies of dissertation or thesis.

____ Payment of all financial obligations.
FACTORS THAT CONTRIBUTE TO DELAYS IN GRADUATING

Procrastination is part of human nature. It should therefore come as no surprise when a graduate student waits until critical deadlines to complete a milestone event. This can have serious consequences for the student if problems arise.

Two important dates are the deadlines by which all documentation, including the Master’s thesis or Ph.D. dissertation, must be received by the School of Graduate Studies to clear the student for May or December graduation. If, for example, the student schedules the oral defense of the thesis or dissertation only one day before the SGS deadline and fails the defense, it will not be possible to meet the desired graduation date.

Although this is but one example of how graduation may be delayed, the student, his/her Graduate Advisor, the Graduate Advisory Committee, and the Graduate Coordinator must be aware of critical milestones and dates. In the above scenario, the oral defense must be rescheduled and the student must unconditionally pass. This should occur within 30 days from the initial oral defense date. The student must then formally reapply for the next graduation date (i.e., May or December), and register for XXXX998, Dissertation Guidance, during the semester of the new graduation date.
GRADUATE ADMISSION PROCESS

Graduate Admissions is a four step process:

1. Applicant submits all required documentation to the School of Graduate Studies (SGS);
2. Submit completed folder to Department Chair or Graduate Coordinator for review by departmental/program admission committee.
3. Faculty/program admissions committee reviews application and forwards admit or deny decision to the Dean of SGS; and,
4. Following admit or denial decision by departmental committee, the Dean of the School of Graduate Studies sends official decision by mail.

A. Documents required for complete application:

- a bachelor’s degree from a regionally accredited college or university.

- official transcript showing undergraduate cumulative grade point average G.P.A. of 3.0 or better for unconditional admission. Or, official transcript showing a cumulative undergraduate G.P.A. of between a 2.5 and 2.9 may be considered for conditional and/or unconditional admission, based on scholarly activities and other factors (i.e., reference letters).

- transcripts showing completed minimum course work in designated areas depending on the discipline/program to which the student seeks admission.

- an application for admission together with official copies of transcripts from all graduate and undergraduate institutions attended.

- test scores (for those programs requiring them) on the Graduate Record Examination (GRE). Test scores may not be more than 5 years old prior to the date of application.

- three letters of recommendation(preferably from faculty members of institutions previously attended)

- a one-page typed personal statement of academic and professional plans and the reasons for selecting Morgan State University.
B. International students must also include the following documents:

- An evaluation of the applicant’s credentials from Educational Credential Evaluators, Inc., (ECE) P.O. Box 92920, Milwaukee, Wisconsin 53202-0970, or from World Educational Services (WES), P.O. Box 745, Old Chelsea Station, New York, NY 100113-0745.

- Scores from the Test of English as a Foreign Language (TOEFL). TOEFL (iBT) scores include:
  - Reading (0-30)
  - Listening (0-30)
  - Speaking (0-30)
  - Writing (0-30)
  - Total Score (0-120) (61 to 85 is range of acceptable scores)

- TOEFL scores are not required for applicants from the British Commonwealth, Australia, Canada, Great Britain, West Indies, New Zealand, South Africa, Nigeria, Kenya, and Tanzania.

C. Required Student and Exchange Visitor Information System (SEVIS) Documentation

1. International Supplemental Form

2. Financial Certificate showing funds sufficient $27,466 to cover first year’s tuition

3. Recent bank statements for last 6 months with the balance greater than $27,466

4. Notarized letter of sponsorship if the student is using another person’s financial information as documentation for their I-20

5. Transfer Eligibility Form if student attended a US college or university. This does not apply if the previous degree is from Morgan State University. The student’s electronic SEVIS record must be transferred to Morgan State University by the previous institution.
PROPOSING A NEW GRADUATE COURSE

Faculties of the SCMNS are encouraged to propose new graduate courses in their field(s) of research interest. The process, however, is one that requires due diligence and strict adherence to guidelines as promulgated by the Morgan State University Graduate Council Curriculum Sub-Committee, and the SCMNS.

To maintain quality control, the SCMNS requires additional signatures. Specifically, the order of approval will be: departmental Chairperson, departmental graduate coordinator (or Program Coordinator for the PhD Program in Bioenvironmental Science), Assistant/Associate Dean of Research and of Graduate Studies, Assistant Dean for Graduate Studies, and Dean, SCMNS. Thereafter, final approvals are completed by the School of Graduate Studies and appropriate parties are duly notified of the decision.

Scheduling of approved graduate courses . . .

On the next page is a facsimile of the SCMNS form that must be followed. Please pay strict attention to the guidelines, as deviation from them can result in the Sub-Committee returning the graduate course proposal to the faculty without further review.

Shown below is an example of the Fall 2015 timetable for submission and review of new graduate course proposals. Please be aware that the date of initial submission (e.g., Oct 9) is strictly enforced.
FALL 2015 SCHEDULE

Due Dates for approval of new courses to be offered in Spring 2016

1. New course or new program proposals to be submitted to Chair, Curriculum Sub-committee  
   Oct. 9
2. Proposals distributed to sub-committee members  
   Oct 11
3. Curriculum sub-committee meeting  
   Oct. 25
4. Proposers notified of status of proposals  
   Oct 27
5. Corrected proposals returned to Chair  
   Nov 7
6. Recommendation to Council  
   Nov 14
PROPOSAL FOR A NEW GRADUATE COURSE
MORGAN STATE UNIVERSITY

Date:

Department:

COURSE NUMBER, TITLE and NUMBER of CREDITS

COURSE NUMBER:

COURSE TITLE:

COURSE CREDIT HOURS:

1. COURSE CATALOG DESCRIPTION
Provide a description of the course to be published in the University’s official graduate catalog. The description should include brief statements about the subject matter, focus and target audience for the course. It should be written in such a way that it provides assistance to students in determining the suitability of the course for their needs. (Maximum of 40 words)

2. COURSE OBJECTIVES
Write a short paragraph that describes in broad terms, the objectives of the course. Follow this with separate bullets or numbers that describe, in student-centered terms, what the course is designed to accomplish, i.e. what knowledge, skills, competencies or attitudes the graduate student should be able to demonstrate upon completion of the course.

3. COURSE CONTENT AND KNOWLEDGE BASES
Write a statement about the subject matter and focus of the course. Identify the major concepts or themes to be addressed. Identify the bodies of literature or sub-divisions, within the discipline, from which the course will draw.

4. RATIONALE
Provide a justification for the course that says why the course is important to the students for whom it is intended. Your justification could be conceptual, based on the importance of its subject matter within the discipline; or practical, based on the competencies that it will develop; or professional, based on its relevance to particular professions; or some combination of these, or other justifications as are applicable.

5. TEACHING METHODS AND EVALUATION
Describe the major teaching strategies that would be required for the achievement of the course objectives. The intent here is to give an indication of the kinds of experiences that a student taking the course should have...what products the student would be required to produce, in what activities they would be engaged. Say what would be the assessment strategy for the course. Identify the products or performances on which the students’ grades would be assigned and give the intended weighting.
6. **RELATIONSHIP TO CURRICULUM SEQUENCE**
State whether the course is required or an elective, and why it is needed and how the course is related to other courses in the relevant sequence.

7. **PREREQUISITE COURSE(S)**
Include the alpha prefix, number and full course title of the prerequisite course(s). If no prerequisite is required, state “None.”

8. **RELATIONSHIP TO SIMILAR COURSE OFFERINGS IN OTHER DEPARTMENTS**
State the relationship, if any, and how/why your course differs enough to necessitate this proposed course. Otherwise, state that there is no similar course offered.

9. **BIBLIOGRAPHY**
List all required texts or handouts, recommended texts, journal articles, other references, required software and other technology. The bibliography should be current and sufficiently extensive to support graduate study in this course.

10. **SIGNATURES**

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<tr>
<th>Department Chairperson</th>
<th>Date</th>
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<td>Department Graduate Coordinator</td>
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<tr>
<td>Assistant/Associate Dean of Research and of Graduate Studies</td>
<td>Date</td>
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<tr>
<td>Dean, SCMNS</td>
<td>Date</td>
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