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University Council

March 15, 2019

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Dear Colleagues:

The attached proposal from the Franklin College of Arts and Sciences to offer the existing major in Marine Sciences (M.S.) with a Non-Thesis option will be an agenda item for the March 22, 2019, Full University Curriculum Committee meeting.

Sincerely,

John Maerz, Chair

University Curriculum Committee

cc: Interim Provost Libby V. Morris
Dr. Rahul Shrivastav

Proposal to Add a Non-Thesis Option to the M.S. in Marine Sciences

Department of Marine Sciences

Submitted to: Dr. Suzanne Barbour
Dean, Graduate School

Submitted by: Daniela Di Iorio, Ph.D., Professor and Department Head
Prepared by: Christof Meile, Ph.D., Professor and Graduate Coordinator
Date: October 22, 2018; revised Feb 14 and March 2, 2019

Basic Information:

Proposed Change: Non-thesis option for students pursuing a non-research, experiential track.
Proposed Start Date: Fall 2019

Program Description:

The Department of Marine Sciences requests that a non-thesis option be added to the Master of Science (M.S.) in Marine Sciences. The department has long focused on training Ph.D. students who are prepared to direct research in academic or professional settings. Our current master's program is also focused on research. However, we recognize that there are expanding opportunities for students with the additional training possible with a master's degree that does not require completing research and a thesis. We anticipate that a non-thesis option for the master's program will expand opportunities for students who wish to enter such a professional career.

The proposed non-thesis master's program (Table 1) contains all the courses already required of thesis-track master's students. Students in both tracks are required to take the Marine Sciences core courses that provide fundamental knowledge in the discipline, as well as training in quantitative methods. All students are required to complement the core courses with graduate courses in their area of specialization.

Students in the thesis program take six hours of directed research and three hours of thesis, as well as electives, for a total of 30 hours. Thesis master's students are supervised by a thesis advisory committee, consisting of a major faculty adviser and two additional faculty. Thesis master's students must pass an oral defense of their thesis to graduate.

Non-thesis master's students will replace the research hours with a required internship/data project (MARS 7100), and elective credits at the 6000 – 8000 level for a total of 30 hours. Thus, the non-thesis master's program is identical to the existing thesis master's program, except that:

- the Internship/Project course (MARS 7100, 9 hours) replaces the Research (MARS 7000, 6 hours) and Thesis (MARS 7300, 3 hours) requirement of our existing thesis master's program

- the project report and presentation at the end of MARS 7100 replace the thesis and oral exam of the existing thesis master's program. Committee members will review and assess the project report providing an evaluation of the written work. Upon satisfactory completion of the report an oral presentation will be scheduled that will be open to the University community and an evaluation of that presentation will also be carried out.
- A syllabus will be developed for MARS 7100 by the faculty advisor in collaboration with the external project advisor where applicable, outlining the learning objectives of the individual internship project.

Hence, the number of total credit hours for both tracks is identical.

Non-thesis students will be advised in assembling a coherent program of study, with some area of concentration, with a faculty advisor together with a committee of two other faculty members whose responsibility encompasses, but is not limited to, approval of the Graduate School Program of Study Master of Science, Non-Thesis degree objective and assessment of the performance in MARS 7100. Matching the grading for MARS 7000/7300, MARS 7100 is offered as S/U, with the faculty advisor as the instructor of record. The grade will be determined based on a majority assessment by the committee of the internship/project report and a departmental oral presentation; in cases when MARS 7100 involves activities outside the university (e.g. internship), a letter from the external supervisor will be required and considered when assessing the overall performance.

Table 1. An outline of the program of study that is required for the current masters's thesis option, and the proposed master's non-thesis option (credit hours in parentheses).

Current M.S With Thesis	Proposed M.S. Non-thesis
Core Courses	Core Courses
MARS 8010, Biological Oceanographic Processes (3 hours)	MARS 8010, Biological Oceanographic Processes (3 hours)
MARS 8020, Chemical Oceanography (3 hours)	MARS 8020, Chemical Oceanography (3 hours)
MARS 8030, General Physical Oceanography (3 hours)	MARS 8030, General Physical Oceanography (3 hours)
Required Courses	Required Courses
MARS 7380, Quantitative Methods in Marine Science (3 hours)	MARS 7380, Quantitative Methods in Marine Science (3 hours)
Electives	Electives
8000-level elective course (3 hours)	8000-level elective course (3 hours)
Any courses at the 6000 – 8000 level (6 hours)	Any courses at the 6000 – 8000 level (6 hours)
Thesis Work	Internship / Project
MARS 7000, Master's Research (6 hours)	MARS 7100, Non-thesis M.S. Research Project or Internship Experience (9 hours)
MARS 7300, Master's Thesis writing (3 hours)	
Minimum Total Credit Hours: 30	Minimum Total Credit Hours: 30

Faculty Vote

The Graduate Faculty in Marine Sciences voted to approve this proposal, with 19/24 eligible faculty voting (thus representing a quorum); the votes were: 19 in favor, 0 opposed, and 0 abstentions.

Justification for the Proposed Non-Thesis Master's Option

1. *Increased career opportunities.* The department has long focused on training students who are prepared to direct research in academic or professional settings. However, the field of Marine Sciences has taken on much broader importance in professional settings. The broad range of job opportunities in the environmental field will likely spur the need for workers with advanced skills in this field. The department recognizes the growing importance of these opportunities and believes there is unmet demand for the kind of training that will prepare our students to pursue these new career paths. Although we recognize the importance of training students to do research, we recognize that there are many more career paths now, or soon to be, available to students with advanced skills related to pre-college science teaching, management of coastal resources, and/or data analysis that can be obtained through graduate-level coursework. A non-thesis master's degree will also likely result in higher starting salaries for graduates compared to jobseekers without a master's degree.
2. *Increased opportunities through the Double Dawgs program.* A non-thesis master's provides UGA undergraduates the chance to obtain an undergraduate degree combined with a non-thesis master's degree in Marine Sciences. Due to the extensive research requirements in our existing master's, this is currently only possible under extraordinary circumstances.
3. *Increased opportunities for further graduate study.* Some undergraduates recognize only late in their programs of study that they wish to pursue further graduate study in a variety of fields. Coursework at the graduate level will make those students better prepared to bridge to a graduate degree.
4. *Additional option for current graduate students.* The majority of the graduate students enter the Department of Marine Sciences hoping to earn a Ph.D. Some students discover that this is not the appropriate career path; those students typically leave the program before completing a research project that could form the basis for a master's thesis. However, those students have often successfully completed sufficient coursework to have earned a non-thesis degree, but we have no such option for them.

Admission Procedure for Domestic Applicants

The Department of Marine Sciences can admit students who apply directly to the department, following the normal application procedures as defined by the Graduate School. These applications are reviewed by the faculty of the Department of Marine Sciences' Graduate Affairs Committee, chaired by the Graduate Coordinator. We anticipate that most non-thesis master's students will apply directly to the department. The admissions standards will be the same for students applying for either the thesis or the non-thesis option.

Admission Procedure for International Applicants

The admission procedure for International Applicants is identical to that of domestic applicants, except that TOEFL scores are also taken into consideration.

Impact on Current Students

We do not anticipate any adverse impact on current master's students. The positive impact will be to give our existing students another option for graduating with a degree in Marine Sciences. Students currently enrolled in the M.S. or Ph.D. program will be given the option of changing to the non-thesis M.S. (and completing those requirements) or continuing with their current degree objective. We do not anticipate that current students will switch to the non-thesis option.

Financial Impacts

No new faculty, facilities, or services will be required to implement a non-thesis option for the master's degree. Thus, no new funds are required.

Assessment

The department currently has a robust assessment plan for our graduate program. We will make adjustments as necessary for the non-thesis master's track to be properly assessed, but envision that items 1A, 1C, 2A, 2B, 3A and 3B of our existing Student Learning Outcome Assessment will be directly applicable (see supporting documentation). Due to the diverse options possible to fulfill MARS 7100, we also plan to establish specific learning outcomes (for internships: in consultation with the external internship supervisor) as part of individual syllabi. These will be considered when assessing the performance in MARS 7100.

Approvals on File

Proposal: Offer the existing major in Marine Sciences (M.S.) with a Non-Thesis option

College: Franklin College of Arts and Sciences

Department: Marine Sciences

Proposed Effective Term: Fall 2019

School/College:

- Department of Marine Sciences Department Head, Dr. Daniela Di Iorio, 10/22/2018
- Franklin College of Arts and Sciences Associate Dean, Dr. Jean Martin-Williams, 10/24/2018

Graduate School:

- Graduate School Dean, Dr. Suzanne Barbour, 3/20/2019