Program Change Request

New Program Proposal

Date Submitted: 03/28/19 5:42 pm
Viewing: Research Program
Parent Plan: MAJ Atmospheric & Oceanic Sci/MS
Last edit: 08/21/19 11:58 am
Changes proposed by: ardesa2

Name of the school or college academic planner who you consulted with on this proposal.

Name
Elaine M Klein - L&S

Proposal Abstract/Summary:
As part of our plan to add a professional master's named option in AOS, we are adding a "research program" to move the traditional thesis MS program from the parent program into a separate named option. Students will apply and be admitted to one option or the other; the parent program will no longer admit students. No changes to requirements are being made. The guides will be edited to reflect the distinctions between these formal programs, and to remove references to a non-thesis "track" within the research program, since that informal pathway is no longer relevant in the context of the new program.

Basic Information

Type of Program: Named Option
Parent Program: MAJ Atmospheric & Oceanic Sci/MS
Parent Audience: Graduate or professional
Parent Home: ATM OCN 5
Department: College of Letters and Science
School/College: The program will be governed by the home department/academic unit as specified. Will an additional coordinating or oversight committee be established for the program?
No
Parent is in the Graduate School: Yes
SIS Code:
SIS Description:
Transcript Title: Research Program
Named Options:
Sub Plan 1047: No Title Found
Sub Plan 1062: No Title Found
Does the parent program offer this as an additional major as well? No

Roles by Responsibility: List one person for each role in the drop down list. Use the green + to create additional boxes.

<table>
<thead>
<tr>
<th>Role Type</th>
<th>Name (Last, First)</th>
<th>Email</th>
<th>Phone</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department Chair</td>
<td>Tripoli, Gregory J</td>
<td><a href="mailto:gtripoli@wisc.edu">gtripoli@wisc.edu</a></td>
<td>608/262-3700</td>
<td></td>
</tr>
<tr>
<td>Faculty Director</td>
<td>Desai, Ankur R</td>
<td><a href="mailto:ardesa2@wisc.edu">ardesa2@wisc.edu</a></td>
<td>608/520.0305</td>
<td></td>
</tr>
<tr>
<td>Primary Contact</td>
<td>Vanruyven, Dee D</td>
<td><a href="mailto:ddvanruy@wisc.edu">ddvanruy@wisc.edu</a></td>
<td>608/262-2827</td>
<td></td>
</tr>
<tr>
<td>Primary Dean's Office Contact</td>
<td>Klein, Elaine M</td>
<td><a href="mailto:emklein@wisc.edu">emklein@wisc.edu</a></td>
<td>608/265-8484</td>
<td></td>
</tr>
</tbody>
</table>

List the departments that have a vested interest in this proposal.
Are all program reviews in the home academic unit up to date? Yes
Are all assessment plans in the home academic unit up to date? Yes
Are all assessment reports in the home academic unit up to date? Yes
Mode of Delivery: Face-to-Face (majority face-to-face courses)
Will this program be part of a consortial or collaborative arrangement with another college or university? No
Will instruction take place at a location geographically separate from UW-Madison? No
Parent has outside accreditation: No
Graduates of parent program seek licensure or certification after graduation: No
First term of student enrollment: Fall 2020 (1212)
When will the application for the first term of enrollment open? Spring 2019 (1194)

Which terms will you allow new students to enroll? What are the application deadlines for each term selected?

<table>
<thead>
<tr>
<th>Start Term</th>
<th>Application Deadline MM/DD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>01/15</td>
</tr>
<tr>
<td>Spring</td>
<td>12/01</td>
</tr>
<tr>
<td>Summer</td>
<td>01/15</td>
</tr>
</tbody>
</table>

Year of three year check-in to GPIC [3 years after first student enrollment]: 2024
Year of first program review [5 years after first student enrollment]: 2026
If this proposal is approved, describe the implementation plan and timeline.

We will modify our website to clarify that the MS program has two named options: research program and professional program. The rest stays the same.

Rationale and Justifications

How does the named option relate to the major and to other named options in the major, if relevant?

As recommended by L&S and the Graduate School, proposing a second named option for the existing research program makes it clear to students who apply that there are two distinct programs of study in this MS program. The "Research Option" will be the traditional research program culminating in a thesis; it will continue to serve as a pathway to doctoral-level study, industry, and research science positions.

Why is the program being proposed? What is its purpose?

As noted above, this proposal is being made to formally distinguish the current research-oriented program from the non-thesis professional program that is being proposed.

Do current students need or want the program? Provide evidence.

Our program has had robust enrollment, nearly 80 applicants (half MS/half PhD, half international/half domestic) for many years. APR data show that, on average, 10-11 MS-ADS degrees are conferred each year. We anticipate no change in this level of interest.

What is the market, workforce, and industry need for this program? Provide evidence.

We are a top 15 program in atmospheric and oceanic science, our MS thesis majors go on to PhDs, jobs in industry, research science positions.

What gap in the program array is it intended to fill?

Because this program currently exists, the only gap to be filled is to improve communication with students about the two distinct programs offered under the MS-ADS. Creation of this program will ensure that students who apply and are admitted to these programs will see clearly the distinction between them.

Faculty and Staff Resources

List the core program faculty and staff with title and departmental affiliation(s) who are primarily involved and will participate in the delivery and oversight.

<table>
<thead>
<tr>
<th>Name (Last, First)</th>
<th>Department</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desai, Ankur R</td>
<td>Atmospheric &amp; Oceanic Sciences (ATM OCN S)</td>
<td>Graduate program chair</td>
</tr>
<tr>
<td>Tripoli, Gregory J</td>
<td>Atmospheric &amp; Oceanic Sciences (ATM OCN S)</td>
<td>Dept chair</td>
</tr>
<tr>
<td>Dahmen, Chelsea Mare</td>
<td>Atmospheric &amp; Oceanic Sciences (ATM OCN S)</td>
<td>Dept administrator</td>
</tr>
<tr>
<td>Vanruymbeke, Dee D</td>
<td>Atmospheric &amp; Oceanic Sciences (ATM OCN S)</td>
<td>Grad coordinator</td>
</tr>
</tbody>
</table>

What resources are available to support faculty, staff, labs, equipment, etc.?

All resources (faculty, staff, labs, equipment) that are currently dedicated to the research MS-ADS program will continue to support this program.
Describe how student services and advising will be supported.

Advising is supported by our graduate faculty following the process laid out in our graduate handbook and website. This includes annual committee meetings, annual progress reports, department seminar presentations, and monitoring of progress by the student coordinator.

Confirm that the program advisor(s) or coordinator(s) have been consulted and reviewed this proposal.

Resources, Budget, and Finance

Is this a revenue program? No

What is the tuition structure for this program?

Standard resident/MN/nonresident graduate tuition

Does the program or change require substantial new resources other than those just described? Describe the needs. Confirm that the dean is committed to providing the resources.

No new resources are needed to support continuation of the current program.

Are new library resources needed to support this program?

No

Describe plans for funding students including but not limited to funding sources and how funding decisions are made.

Research program students are primarily supported on 12-month 50% RA (current stipend $26,732) and are eligible to be awarded TA or PAs, or supported by external or university fellowships such as AOF. In general, a new AOF is awarded per year, and the program has had several externally supported fellows from NASA, NSF, or private foundations (e.g., Ford Foundation). MS Research students may also opt to self-fund; though this is not common (the most recent program profile showed fewer than 5% of students in both the MS and PhD were without funding). AOS does not provide written guarantee of funding beyond the first year due to the dependence on RA funding; however, the department is waiting for guidance from the graduate school on how to implement such guarantees with limited department funding and a small TA allocation. If the Professional Program is successful, additional resources may be reinvested to more easily implement multi-year guarantees.

Funding decisions are based informally on students making adequate progress relative to timely achievement of milestones (as indicated on the annual student progress report), if funding support is available from the student advisor.

Curriculum and Requirements

Parent Plan Admissions/How To Get in Requirements

Students apply to the MS in Atmospheric and Oceanic Sciences through one of the named options:

Atmospheric and Oceanic Research Program
Atmospheric and Oceanic Sciences Professional Program

Guide Admissions/How To Get In tab

Approved Shared Content from /shared/graduate-school-admissions/

Graduate School Admissions

Graduate admissions is a two-step process between academic degree programs and the Graduate School. Applicants must meet requirements of both the program(s) and the Graduate School. Once you have researched the graduate program(s) you are interested in, apply online.

Graduate Admissions Requirements

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall Deadline</td>
<td>January 15</td>
</tr>
<tr>
<td>Spring Deadline</td>
<td>December 1</td>
</tr>
<tr>
<td>Graduate Record Examinations</td>
<td>January 15</td>
</tr>
<tr>
<td>English Proficiency Test</td>
<td>General test required</td>
</tr>
<tr>
<td>Other Test(s) [e.g., GMAT, MCAT]</td>
<td>n/a</td>
</tr>
<tr>
<td>Letters of Recommendation</td>
<td>3</td>
</tr>
<tr>
<td>Supplemental requirements</td>
<td>Supplemental form indicating research areas and advisor preferences required</td>
</tr>
</tbody>
</table>

Overall, our criteria for admissions is holistic and we generally favor high quality applicants who have:

- Evidence of interest in meteorological, climate, ocean, and/or remote sensing research
- Sufficient background in prerequisite courses to be successful in AOS courses and research, regardless of academic major
- Interests that match interests of current faculty members
- Prior experience in research through thesis work, practicum courses, internships, summer research experiences, presentation/publication, etc
- Received nationally competitive or University-wide awards or fellowships (e.g., NSF GRFP)
- Evidence of solid written and oral English and scientific communication skills
- GPA, GRE, and TOEFL scores reflective of academic strength

Ability to enhance the academic, geographic, gender, ethnic, economic, or cultural diversity of our department, especially for underrepresented groups

Applications submitted by January 15th are given highest consideration for Fall semester admission. Spring semester admission is also possible, but less common. All applicants are assessed and ranked by an admissions committee chaired by the Graduate Program Chair. Admission priority is given to the highest-ranked applicants who best meet our application criteria (usually ~25-30% for domestic applicants). International applications are not admitted without a source of funding (assistantship, fellowship, or personal) and advisor directly identified.

An offer of admission for Fall typically made in February or early March, does not guarantee funding. Assistantship and internal fellowship decisions are made jointly by the admissions committee and the faculty or group providing the funding in a separate process, with decisions made typically by March/April. You will be notified if funding for you becomes available. Typically we are able to fund approximately 8-10 students
year, primarily by research assistantship. We do not typically provide teaching assistantships to incoming students. The department discourages self-funding of Ph.D. degrees, but will allow it for M.S. For fall admission, you will have until April 15 to accept or reject any offers of admission or funding.

Describe plans for recruiting students to this program.

We recruit annually at our annual American Meteorological Society Meeting.

Projected Annual Enrollment:

<table>
<thead>
<tr>
<th>Year</th>
<th>Projected Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>10</td>
</tr>
<tr>
<td>Year 2</td>
<td>10</td>
</tr>
<tr>
<td>Year 3</td>
<td>10</td>
</tr>
</tbody>
</table>

Maximum enrollment that can be supported with existing instructional and student services resources: 30

Those who are not familiar with using the html editor fields may upload a document with information about the curriculum for use by those who will format and edit the content that will appear in the Guide.

Parent Requirements

Approved Shared Content from /shared/graduate-minimum-degree-requirements-and-satisfactory-progress/

Minimum Graduate School Requirements

Review the Graduate School minimum academic progress and degree requirements, in addition to the program requirements listed below.

Major Requirements

Note: The major is currently non-admitting. Students are admitted though one of the named options (sub-majors) below.

**MODE OF INSTRUCTION**

<table>
<thead>
<tr>
<th>Face to Face</th>
<th>Evening/Weekend</th>
<th>Online</th>
<th>Hybrid</th>
<th>Accelerated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Mode of Instruction Definitions

Approved Shared Content from /shared/graduate-school-mode-instruction-definitions/

**CURRICULAR REQUIREMENTS**

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Credit Requirement</td>
<td>M.S.--Research Named Option: 30 credits</td>
</tr>
<tr>
<td></td>
<td>M.S.--Professional Named Option: 30 credits</td>
</tr>
<tr>
<td>Minimum Residence Credit Requirement</td>
<td>16 credits</td>
</tr>
<tr>
<td>Minimum Graduate Coursework Requirement</td>
<td>See either the M.S. named option in Research or Professional Program for the requirement information.</td>
</tr>
<tr>
<td>Overall Graduate GPA Requirement</td>
<td>See either the M.S. named option in Research or Professional Program for the requirement information.</td>
</tr>
<tr>
<td>Other Grade Requirements</td>
<td>The Graduate School requires an average grade of 80 or better in all coursework (900 or above, not including research credits) taken as a graduate student unless conditions for probationary status require higher grades. Grades of incomplete are considered to be unsatisfactory if they are not removed during the next enrolled semester.</td>
</tr>
<tr>
<td>Assessments and Examinations</td>
<td>See either the named option in Research or Professional Program for the requirement information.</td>
</tr>
<tr>
<td>Language Requirements</td>
<td>No language requirements.</td>
</tr>
</tbody>
</table>

**REQUIRED COURSES**

Select a Named Option for required courses.

**Named Options (Sub-Majors)**

A named option is a formally documented sub-major within an academic major program. Named options appear on the transcript with degree conferral. Students pursuing the Master of Science in Atmospheric and Oceanic Sciences must select one of the named options: Atmospheric and Oceanic Sciences Research Program

Atmospheric and Oceanic Sciences Professional Program

<table>
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MODE OF INSTRUCTION

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</tr>
</thead>
<tbody>
<tr>
<td>Mode of Instruction Definitions</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Approved Shared Content from /shared/graduate-school-mode-instruction-definitions/

Curricular Requirements

<table>
<thead>
<tr>
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<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Credit Requirement</td>
<td>30 credits</td>
</tr>
<tr>
<td>Minimum Residency Credit Requirement</td>
<td>16 credits</td>
</tr>
<tr>
<td>Minimum Graduate Coursework</td>
<td>Half of degree coursework (15 credits out of 30 total credits) must be completed graduate-level coursework; courses with the Graduate Level Coursework attribute are identified and searchable in the university's Course Guide (<a href="https://registrar.wisc.edu/course-guide/">https://registrar.wisc.edu/course-guide/</a>).</td>
</tr>
<tr>
<td>Overall Graduate GPA Requirement</td>
<td>3.00 GPA required.</td>
</tr>
<tr>
<td>Other Grade Requirements</td>
<td>A grade of B or greater is required for the 12 credits of lecture courses in the department numbered 400 or above.</td>
</tr>
</tbody>
</table>

Assessments and Examinations: A master's thesis is required, and must be approved by the major professor and two additional faculty members. A public oral presentation of presentation of the thesis research is required.

Language Requirements: No language requirements.

Required Courses

There is a set of six core courses which are highly recommended as a good foundation for graduate degrees in the Department of Atmospheric and Oceanic Sciences. A GPA of 3.0 must be maintained for both options. The following is a listing of the core courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATM 610</td>
<td>Geophysical Fluid Dynamics I</td>
<td>3</td>
</tr>
<tr>
<td>ATM 611</td>
<td>Geophysical Fluid Dynamics II</td>
<td>3</td>
</tr>
<tr>
<td>ATM 630</td>
<td>Introduction to Atmospheric and Ocean Physics</td>
<td>3</td>
</tr>
<tr>
<td>ATM 640</td>
<td>Radiation in the Atmosphere and Ocean</td>
<td>3</td>
</tr>
<tr>
<td>ATM 650</td>
<td>Analysis of Atmospheric Systems</td>
<td>3</td>
</tr>
<tr>
<td>ATM 660</td>
<td>Introduction to Physical Oceanography</td>
<td>3</td>
</tr>
</tbody>
</table>

In consultation with their advisor, each student seeking a M.S. degree will design a curriculum that must be approved by their advisor.

12 of the credits must be taken in the department as lecture courses numbered 400 or above. Seminars, research, independent study or directed reading courses do not satisfy this requirement. A grade of B or greater is required for these 12 credits.

An additional 12 (at least) credits may be taken in or out of the department. These credits can include seminars, core courses, and other courses taken as a graduate student. Research credits do not count toward this requirement.

Up to 6 research credits in the department can be counted (but are not required) toward the 30 credit requirement.

Total credits required: 30

Parent Plan Graduate Policies

Approved Shared Content from /shared/graduate-school-policies/

Graduate School Policies

The Graduate School's Academic Policies and Procedures provide essential information regarding general university policies. Program authority to set degree policies beyond the minimum required by the Graduate School lies with the degree program faculty. Policies set by the academic degree program can be found below.

Major Specific Policies
Graduate Program Handbook

The Graduate Program Handbook is the repository for all of the program's policies and requirements.

Prior Coursework

Graduate Work from Other Institutions
See the M.S. named option in Research or Professional Program for the policy information.

UW–Madison Undergraduate
See the M.S. named option in Research or Professional Program for the policy information.

UW–Madison University Special
See the M.S. named option in Research or Professional Program for the policy information.

Guide Graduate Policies tab

Approved Shared Content from /shared/graduate-school-policies/

Graduate School Policies

The Graduate Program's Academic Policies and Procedures provide essential information regarding general university policies. Program authority to set degree policies beyond the minimum required by the Graduate School lies with the degree program faculty. Policies set by the academic degree program can be found below.

Named Option-Specific Policies

Graduate Program Handbook

The Graduate Program Handbook is the repository for all of the program's policies and requirements.

Prior Coursework

Graduate Work from Other Institutions
With program approval, students are allowed to count no more than 14 credits of graduate coursework from other institutions. Coursework earned five or more years prior to admission to a master's degree or earned ten years or more prior to admission to a doctoral degree is not allowed to satisfy requirements.

UW–Madison Undergraduate
With program approval, students are allowed to count no more than 7 credits of graduate coursework taken as an undergraduate at UW-Madison, as long as those credits were not applied toward an undergraduate degree. Coursework earned five or more years prior to admission to a master's degree is not allowed to satisfy requirements.

UW–Madison University Special
With program approval, students are allowed to count no more than 15 credits of coursework numbered 300 or above taken as a UW–Madison Special student. Coursework earned five or more years prior to admission to a master's is not allowed to satisfy requirements.

Probation

A semester GPA below 3.0 will result in the student being placed on academic probation. If a semester GPA of 3.0 is not attained during the subsequent semester of full time enrollment (or 12 credits of enrollment enrolled part-time) the student may be dismissed from the program or allowed to continue for 1 additional semester based on advisor appeal to the Graduate School.

The Graduate School regularly reviews the record of any student who earned grades of C, D, F, or Incomplete in a graduate course (300 or above), or grade of U in research credits. This review could result in academic probation with a hold on future enrollment or in being suspended from the Graduate School.

Probation is based on student status. The status of a student can be one of three options:
- Good standing (progressing according to standards; any funding guarantee remains in place).
- Probation (not progressing according to standards but permitted to enrolled; loss of funding guarantee; specific plan with dates and deadlines in place in regard to removal of probationary status).
- Unsatisfactory progress (not progressing according to standards; not permitted to enrolled; dismissal; leave of absence or change of advisor or program).

ADVISOR / COMMITTEE

All students are required to conduct a yearly progress report meeting with their advisor, scheduled by December 31 and completed by April 30. Failure to do so will result in a hold being placed on the student's registration.

CREDITS PER TERM ALLOWED

12 credits

Time Constraints

The M.S. degree should be completed within three years. For additional time constraints, please consult the Graduate School Academic Policies and Procedures.

Other

n/a

Discuss expected progress to degree and time to degree. For undergraduate programs discuss considerations for supporting students to complete the degree in four academic years. Typically 2.5 years.

Program Learning Outcomes and Assessment

Parent Program Learning Outcomes

[Research Program or Professional Program]: Acquisition of a broad foundation of knowledge contained in our graduate-level core courses.

[Research Program]: Have learned the historical origin and significance of certain issues central to the field.

[Research Program or Professional Program]: Have developed a good problem-solving skill that prepares them to become efficient supporting scientists for research institutions or effective career atmospheric professionals in operational units of government or commercial institutions. 

https://next-guide.wisc.edu/courseleaf/approve/?role=GRAD SCH Dept. Approver
[Research Program]: Articulate, critique, or elaborate the theories, research methods, and approaches to inquiry or schools of practice in the field of study.

[Research Program or Professional Program]: Recognize and apply principles of ethical and professional conduct.

[Professional Program]: Gain practical hands-on experience in professional atmospheric science careers.

Summarize the assessment plan.

Assessment plan is up to date and modified to reflect two named options.

Student faculty advisor ensures that all MS requirements have been met before requesting the final MS warrant.

Students form a MS committee made up of their advisor and at least two faculty members. MS students successfully conduct research and write a thesis under the guidance of their advisor and thesis committee. MS students present their thesis to the departmental faculty, graduate students and visitors during the weekly departmental colloquium. Participation in departmental activities, colloquia, seminars, annual events. Students completed a departmental exit survey.

Faculty are informed of the presentation of the MS students and are informed of statistics of graduating students at faculty meetings.

Assessment committee provides report to faculty and college annually.

**Commitments**