

Handbook for Students and Faculty

MIT-WHOI Joint Program in Marine Geology & Geophysics

Prepared by the Joint Committee for Marine Geology and Geophysics

(July 1997; modified November 2002; July 2004; April 2006; September 2011; August 2012; December 2013; January 2014; March 2014; July 2014; March 2015; February 2016; March 2016; September 2016; October 2016; August 2019, March 2023)

1. Introduction

The MIT/WHOI Joint Program in Marine Geology and Geophysics offers graduate Students a unique opportunity for training and research in fields including geophysics, geology, paleoceanography, climate, petrology, geochemistry, geobiology, and coastal processes. This Handbook is for Students and faculty in Marine Geology and Geophysics; it describes the framework within which a graduate Student progresses towards the doctoral degree. It is intended to provide continuity and direction for graduate studies while allowing considerable latitude for individual courses of study and research opportunities. It also provides guidelines for the different steps of the program in order to ensure uniformity of standards.

2. Background

In 1968, the Woods Hole Oceanographic Institution (WHOI) and the Massachusetts Institute of Technology (MIT) entered into an agreement to conduct a cooperative academic program leading to graduate degrees in oceanography and ocean engineering. The joint degrees awarded are single documents issued by both institutions. Jointly constituted committees make all decisions of substance in the program from admissions to degree granting. The Joint Committee for Marine Geology and Geophysics (JCMG&G) oversees the Joint Program for Marine Geology and Geophysics (JPMG&G). It is composed of staff members of the Department of Geology and Geophysics at WHOI and of the Department of Earth, Atmospheric and Planetary Sciences at MIT. JCMG&G acts on behalf of the entire JPMG&G Faculty and oversees the overall academic progress of each Student in the program. The administration of the MIT-WHOI Joint Program is a cooperative effort between members of Massachusetts Institute of Technology and Woods Hole Oceanographic Institution. (<https://mit.who.edu/about/administration/>).

3. Requirements for the Ph.D. Degree

There are certain minimum requirements for the doctoral degree in JPMG&G that a Student is expected to fulfill. These requirements are as follows:

- Take and satisfactorily complete a program of academic subjects that meet the course requirements. Courses that meet these requirements are approved by JCMG&G. Other courses will be selected by the student and their Advisors to deepen and broaden their knowledge base.
- Select, conduct research on, and prepare scientific papers on two General Examination

Projects.

- Pass a General Examination based upon general knowledge, course preparation, and the content and presentation of the two research papers.
- Present a Thesis Proposal based upon proposed thesis research, after which the student will be admitted into candidacy for a Ph.D. degree.
- Successfully prepare and defend a doctoral dissertation based upon original and independent research.

Graduate Students are expected to keep JCMG&G apprised of their progress throughout their career through annual submission of the *MG&G Student Progress Report* (Appendix I), followed by annual in-person meetings with JCMG&G. and additional in-person meetings with JCMG&G as needed. In addition, students will communicate with JCMG&G through approval of committees and submission of milestone items such as the Application to Admission to Candidacy. Additional in-person meetings with JCMG&G should occur as needed.

4. Academic Advising and Oversight

4.1. Advisors

Advisors have broad responsibilities for a Student's overall academic and research progress. It is essential that a Student and their Advisor set up a schedule for regular interaction. Pre-General Examination Students will have one primary Advisor (or Advisors, referred hereinafter as Advisor) at WHOI or at MIT to complete their first General Examination Project, and a second General Examination Project Advisor at WHOI or at MIT to complete their second General Examination Project —see *Guidelines for Selecting General Examination Projects*, below. As long as the General Examination Projects are approved by JCMG&G (during Year 1), both Advisor could be at WHOI, or at MIT. Most Students enter the program with one primary Advisor (either at WHOI or at MIT) to work on their 1st General Examination Project and identify a second Advisor for their 2nd General Examination Project during Year 1. The primary responsibility of the Advisors is to guide the Student's academic program, help define, conduct, and obtain support for research for the General Examination Projects and thesis project(s). An Advisor's communication with JCMG&G is also essential. Progress of Students should be reported as requested by JCMG&G, including annual submission of the *MG&G Advisor's Report on Student Progress* (Appendix II) by all Advisors.

4.2. Education Coordinator

The Education Coordinator is a member of the Department of Geology and Geophysics at WHOI. The role of the Education Coordinator is to strengthen the quality and continuity of the education program within MG&G by serving as a source of information and advice to both Students and Advisors. The Education Coordinator is available to talk with Students and Advisors about any aspect of the education program or the graduate school experience. The Education Coordinator has many specific duties including (1) providing information to Students on curriculum matters, WHOI and MIT policies and regulations, and sources of research funding; and (2) acting in cooperation with Advisors, JCMG&G, Academic Program Office (APO) at WHOI and the Joint Program office at MIT to help resolve academic or interpersonal conflicts, and to refer Students to appropriate resources when personal problems affect their ability to participate effectively in the program. The Education Coordinator is an *ex officio*, voting member of

JCMG&G.

The current Education Coordinator is listed here: <http://mit.whoj.edu/education-coordinator>

4.3. Joint Committee for Marine Geology and Geophysics

JCMG&G is responsible for oversight of all aspects of the graduate program in MG&G, including admissions, review of Students' progress, oversight of General Examinations, committee membership approval, acceptance of final drafts of dissertations, defining and implementing rules presented in the handbook, etc. In particular, JCMG&G is responsible for the following:

- Reviewing the progress of each Student in the JPMG&G yearly. Before these meetings, the Education Coordinator will request and collect (in conjunction with the Student Affairs Officer at WHOI and the MIT JP Administrator) Student Progress Reports from the Student and their Advisor, including second General Examination Project Advisor (if applicable). During these annual meetings, JCMG&G will discuss with the Student their research progress and important milestones for the upcoming year (e.g., General Examination; course requirements; Thesis Proposal, Thesis Defense; career plans etc.).
- Approving a curriculum that meets the course requirements for each Student, particularly the appropriateness of previously unapproved courses to meet the data analysis class requirement.
- Reviewing and approving the topics of the two General Examination Projects to be presented by the Student in the General Examination.
- Approving proposed members of the Student's General Examination Committee, Thesis Proposal Committee, Thesis Committee, and Thesis Defense Chairs.
- Ensuring that General Examinations are conducted in a fair and consistent manner.
- Deciding, on the basis of the Student's academic standing, course preparation, Application for Admission to Candidacy, and performance on the General Examination and Thesis Proposal presentation, whether the Student will be admitted to candidacy for the doctoral degree.
- Evaluating the time needed for revisions following the Thesis Defense based upon Thesis Committee memo. If requested revisions are longer than 2 weeks, JCMG&G will evaluate requests for time needed to complete revisions. The JCMG&G Chair accepts the final thesis on recommendation of the Thesis Committee and Advisor.
- Reviewing petitions and deciding on the basis of a Student's demonstrated progress (or lack thereof), whether the Student should be considered for continued enrollment and financial support in the Joint Program in consultation with APO, the MIT JP Director, and MIT's Office of Graduate Education.
- Defining and implementing rules and guidelines presented in the handbook, in consultation with APO (e.g., Associate Dean and/or Dean) and/or JP Faculty when relevant, and revising the handbook accordingly.

Current JCMG&G members can be found here: <http://mit.whoj.edu/curriculum-committees>

4.4. Joint Program Education Offices

Results of meetings, examinations, etc. where decisions are made affecting the Student's

graduate career should be documented in writing and sent to the JCMG&G Chair, the Education Coordinator, the Associate Dean, and copied to the *Joint Program Education Offices* at WHOI and MIT (which in this document include the Student Affairs Officer at WHOI, Registrar at WHOI, and the MIT JP Administrator).

Members of the current *Joint Program Education Offices* at WHOI and MIT are listed here: <https://mit.who.edu/about/administration/>.

4.5. Switching Advisors

A Student or the Student's Advisor may recommend a change of Advisor for a variety of reasons, such as the departure of the Advisor to another institution, a shift in research interests, or an ineffective Student/Advisor relationship. Generally, switching Advisors should involve discussion with the Education Coordinator, who can facilitate discussions with the initial Advisor, help the Student to identify a new Advisor, and provide guidance toward developing a transition plan. As soon as it is clear that an Advisor switch is desired, the WHOI Dean and/or MIT JP Director (and Associate Deans/Directors when necessary) must be consulted, either directly by the Student or through the Education Coordinator, in order to help with the transition plan. The transition plan will consider how best to wrap up the research the Student has done with the initial Advisor, as well as the timing of the move to the new Advisor's lab. In cases where advising shifts between WHOI and MIT, it is necessary to notify both the WHOI Dean and the MIT Director of the MIT/WHOI Joint Program. Once a new Advisor who is committed to taking on and finding funding for the Student has been identified, and once a transition plan is worked out by all parties and APO, the Student should email the JCMG&G Chair for review and official approval of the change by JCMG&G. JCMG&G will work with the Student and new Advisor if any adjustments to the timeline are warranted. For Students who have already advanced to candidacy, JCMG&G will consult with the Student and new Advisor and will determine whether the change will result in a substantial shift in research focus. If so, the Student would need to prepare and present a new Thesis Proposal. The second Thesis Proposal presentation would be reduced in scope and length to focus on thesis-specific questions.

All changes to a student's advisor status, including addition of a new co-advisor, must be approved by JCMG&G and APO.

5. Responsibilities

Students and Faculty both have important responsibilities. For a complete list of responsibilities, consult and review <https://mit.who.edu/academics/responsibilities/>

6. Progressing towards the Doctoral Degree

Normal residence time in the Joint Program is 5 years. The following table (Table 1) shows the schedule that Students are expected to meet to fulfill their requirements in the JPMG&G. Details on key events (General Examination, Thesis Proposal, Thesis Defense) are presented in the sections that follow.

Table 1: Schedule for Students in JPMG&G

Year	Fall	Spring/Summer	Summer
1	Classes/research (typically start 1 st General Examination Project) Week after Thanksgiving , meet with JCMG&G	Classes/research In May (last full week of classes in the Spring Semester), meet with Ed Coordinator By June 1st , identify 2 nd General Examination Project and submit General Examination Project Summaries to JCMG&G	Research
2	Classes/research Week after Thanksgiving , meet with JCMG&G	Classes/research In May (last full week of classes in the Spring Semester), meet with Ed Coordinator	Research By July 31st submit proposed membership of the General Examination Committee to JCMG&G By August 31st , submit Application for Admission to Candidacy 4 weeks before presentation, meet with the Chair of General Examination Committee 2 weeks before presentation, send General Examination material to committee
3	Research By September 30th , take General Examination By November 1st , submit proposed membership of the Thesis Proposal Committee to JCMG&G Week after Thanksgiving , meet with JCMG&G 2 weeks before presentation, submit Thesis Proposal, and inform JCMG&G Chair and Ed Coordinator of date/time. Before Dec 31st , Thesis Proposal presentation	Research In May (last full week of classes in the Spring Semester), meet with Ed Coordinator	Research
4	Research Sept-Oct , meet with Thesis Committee Week after Thanksgiving , meet with JCMG&G	Research March-April , meet with Thesis Committee In May (last full week of classes in the Spring Semester), meet with Ed Coordinator	Research
5	Research Sept-Oct , meet with Thesis Committee Week after Thanksgiving , meet with JCMG&G	Research 2 months before the defense, meet with Thesis Committee 2 months before the defense, submit name of Defense Chair to JCMG&G for approval 3 weeks before the defense, submit copies of the defendable draft Thesis Defense	

Year 1

- At start of the year (June or September), meet with Advisor to discuss expectations for research projects and classes for the first two years. These expectations will be discussed and reviewed with JCMG&G during the first annual meeting (week after Thanksgiving).
- Identify two research projects as required for the General Examination.
- The first General Examination Project will likely be performed with the primary WHOI or MIT Advisor, and is typically more substantial than the second project.
- In consultation with their Advisor, Students should use the IAP period of their 1st year to connect with other faculty members interested in becoming Advisors for their 2nd General Examination Project. Some second General Examination Projects will be advertised by WHOI and MIT Faculty on the APO website by December 1st each year, but Students are encouraged to reach out to any WHOI or MIT Faculty to develop second projects. The second project will generally be more limited in scope, unless the Student and Advisors have agreed that the Student should spend equal amounts of time on both projects. However, such an agreement should not result in delaying the General Examination.
- Submit the General Examination Project Summaries to JCMG&G before June 1st of Year 1.
- The General Examination Project Summaries will be used by JCMG&G to determine how well the projects meet at least three of the four criteria for General Examination Projects or whether the Student/Advisor need to propose different projects (see *Guidelines for Selecting General Examination Projects* below).

Year 2:

- Meet with JCMG&G the week after Thanksgiving to discuss any issues or questions.
- Submit proposed membership of the General Examination Committee to JCMG&G for approval by July 31st, and at least 2 months before the examination.
- Submit Application for Admission to Candidacy by August 31st, and at least 2 weeks before the General Examination.
- Submit research papers to the General Examination Committee at least 2 weeks before the General Examination.
- Take the General Examination by September 30th at the latest.

Year 3

- Meet with JCMG&G the week after Thanksgiving to discuss any issues or questions.
- Submit proposed membership of the Thesis Proposal Committee to JCMG&G for approval by November 1st, and at least 1 month before the presentation.
- Schedule and complete the Thesis Proposal presentation before Dec 31st.

Years 4 and 5

- Meet with Thesis Committee in Year 4 and Year 5, in September- October and March-April (twice a year in Year 4 and 5).
- Meet with JCMG&G the week after Thanksgiving.
- Conduct proposed thesis research.
- Submit the name of Thesis Defense Chair to JCMG&G for approval two (2) months before the scheduled defense.
- Submit a complete draft of the thesis to all committee members, including the Chair, and receive their comments and their approval for submittal of the defendable draft and scheduling the defense, *before* the thesis is scheduled and the defendable draft submitted.
- Submit copies of the defendable draft to the Thesis Committee and Thesis Committee chair, and to the Academic Programs Office at WHOI and the EAPS departmental office at MIT, three (3) weeks before the defense. The Student, in consultation with the Advisor and committee, also needs to schedule the defense with the Academic Programs Office at WHOI and the Joint Program Office at MIT at least three (3) weeks prior to the defense. It is both the Student and the Advisor's responsibility to ensure that the defense is arranged and advertised.

- Complete the Thesis Defense.
- Submit final Thesis, typically 2 weeks after the defense if no extensive revisions.

Note that all deadlines are hard deadlines and will be enforced 1) for homogeneity of standards, and 2) for JPMG&G Student cohorts to progress at a similar pace to other WHOI departments and EAPS MIT department. In exceptional personal circumstances, Students, in consultation with their Advisor, can request extensions to JCMG&G. See *Memos and Petitions* to JCMG&G for details on documentation to provide.

7. Curriculum - Years 1 and 2

Students entering the Joint Program typically have a clear idea of who will be their primary Advisor. If this is not the case, the entering Student should discuss options with the Education Coordinator or members of JCMG&G, who can recommend Advisors at MIT and WHOI. Before registration for each semester, the Student will meet with their Advisor and formulate a program of courses appropriate for the Student's background and research interests.

There are three required courses in the Marine Geology and Geophysics program:

- 12.710 Geological Oceanography. This course presents core background material that all graduate Students are expected to know in the disciplines of solid-earth geophysics, geochemistry, sedimentology and stratigraphy, coastal processes, and climate. Barring conflicts, it is suggested that the Student take this class during their first Fall semester.
- 12.703 Presenting Scientific Research. This course gives Students instruction and practice in oral and poster presentation of scientific results.
- A data analysis class. As examples, the following courses have been approved by JCMG&G to meet this requirement:

6.100B : Introduction to Computational Thinking and Data Science

IDS.131: Statistics, Computation and Applications

OEB 137: Experimental Design and Statistics for Ecology (Harvard)

1.715: Environmental Data Analysis

12.444: Matlab, Statistics, Regression, Signal Processing

12.714: Computational Data Analysis

12.747: Modeling, Data Analysis and Numerical Techniques for Geochemistry

12.805: Data Analysis in Physical Oceanography

12.864: Inference from Data and Models

Other classes that could meet the Data Analysis requirement should be selected in consultation with the Advisor, and sent for approval to JCMG&G. To approve a class not listed here, the Student should send a request to the Chair of JCMG&G with an explanation why this course meets their academic needs, a course description, and ideally a recent syllabus.

These are by no means the only classes the Student is expected to take. The recommended course load is 2–3 per semester in Years 1 and 2, although this is flexible depending on the needs of the Student.

8. General Examination Research - Years 1 and 2

8.1. Guidelines for Selecting General Examination Projects

For the General Examination in MG&G, Students are required to present the results of two independent research projects in both written and oral form. The idea of the two independent research projects is that Students are exposed to more than one research project (or approach) to provide breadth in scientific background and an opportunity to explore different types of research. The JCMG&G strongly recommends that the two projects are scientifically and methodically distinct. Generally, the first General Examination Project is more substantial (advised by the primary Advisor), and the second General Examination Project is more limited in scope (advised by the second General Examination Project Advisor). However, Students and both Advisors may prefer to split the time more equally between projects at their discretion. Neither of these projects need to be ready for publication before the student takes their General Examination before September 30th of Year 3; the examination will focus on research capacity, and independent thinking and intellectual breadth are evaluated for both projects when deciding the outcome of the examination. Students interested in getting access to prior successful General Examination papers should contact the Joint Program Student Representative.

General Examination Projects must satisfy at least three of the following criteria:

- **Represent two different fields in Marine Geology & Geophysics**

The various fields represented in Marine Geology & Geophysics include geophysics, tectonics, volcanology, paleoceanography and climate, petrology and geochemistry, geobiology, and coastal processes. JCMG&G encourages Students to select General Examination Projects from two of these fields. It is also acceptable to choose a General Examination Project from a different discipline of Oceanography (e.g., Physical Oceanography or Marine Chemistry).

- **Involve different approaches to the solution of problems**

It is also important to gain awareness of and ability in the use of different methodologies when solving scientific problems. Possible approaches include the development of theory, collection and analysis of field data, and experimental studies in the laboratory. Some studies use a combination of two or more of these approaches, but typically the emphasis of a study will be based on results from one of these techniques, with the two projects clearly using distinct approaches.

- **Be supervised by two different Advisors**

Scientists have different approaches to their science. In addition, scientists use different techniques in writing up the results of their research. It is therefore beneficial for a Student to have substantive interaction with two different Advisors.

- **Be conducted at the two different Institutions**

The MIT and WHOI institutions also are different in many ways, including the breadth and depth of particular disciplines and cultures within departments and research groups. Joint Program Students have the unique opportunity to conduct research at both institutions, and hence it is advantageous for a Student to work with Advisors at the two different institutions.

8.2. Presentation of General Examination Projects

The Student should prepare General Examination Project Summaries for JCMG&G's review of the proposed General Examination Projects (to be sent to JCMG&G Chair before June 1st of Year 1). The document should contain 1) Names of the proposed projects, 2) Advisor(s) for each project, 3) a one paragraph summary of each General Examination Project and 4) an explanation of how the two projects meet at least 3 of the four criteria for General Examination Projects. The project summaries should not be abstracts of completed research, but rather ideas for planned research. Each project summary paragraph should describe a) the scientific background and scientific question(s) to be addressed, b) the analytical, field, numerical, instrumental, and/or experimental

methods that the Student anticipates learning during the project, and c) the expected products of the project (data type, new instrument, models/codes etc.). JCMG&G will use this document to assess whether the two projects meet the General Examination Project criteria, in particular whether the topics and methods are sufficiently different.

8.3. General Examination Papers Content

Each of the two research papers that constitute part of the General Examination should not exceed 20 pages of double-spaced 12-point font text but can be shorter (references excluded). A maximum of 10 figures is permitted in each paper (in addition to a maximum of 20 pages of text). Please be certain to stay within these length requirements. Given the General Examination deadline described below, it is not expected that the research papers will be manuscripts ready for submission to a journal for publication; rather, they are to be research papers of high quality that show innovative thinking and an ability to conduct independent research and present the results coherently. Results presented in the second paper may not be as substantial as the ones presented in the first paper, if the Student has spent significantly less time on the second project.

Candidacy, the years of the Ph.D. program following successful completion of the General Exam, is typically the most transformative period for a graduate Student, and completing the General Exam on time maximizes this important experience.

8.4. Note for Students Entering the Joint Program with a M.S. degree

Students entering the Joint Program with a M.S. degree or equivalent experience in a related field may be able to submit their M.S. thesis or previous research work as one of their General Examination Project and, if appropriate, move the General Examination up to the start of their 2nd year.

8.4.1. Submitting research performed for a M.S. thesis as a General Examination Project

It is the responsibility of the Student's Advisors to review the M.S. thesis and make a recommendation to JCMG&G concerning its disposition. Possible recommendations include:

- *The work is sufficient and meets the standards of a General Examination paper in JPMG&G.*

If approved by JCMG&G, the Student will work with their Advisors to ensure that the General Examination Papers content and format guidelines are met on schedule for the General Examination. It should be noted that JCMG&G will judge the second proposed General Examination Project on the basis of the criteria outlined in the section General Examination Research – Years 1 and 2. Under these circumstances, it should be possible for the Student to accelerate the timing of the general examination (see below).

- *Additional work is required to make it a suitable General Examination Project.*

The Student will follow the guidelines in section General Examinations Research – Years 1 and 2, and submit an abstract for the proposed additional work.

- *The topic or scope of work is insufficient or inappropriate for a General Examination paper.*

The Student will be expected to conduct two independent research projects.

Note that even if a M.S. or equivalent research project is accepted and defended as a General Examination project, this research cannot be used as a thesis chapter if it has been published as a component of a degree at another academic institution.

8.4.2. Moving the General Examination up to the start of the 2nd year

In some cases where a Student has already had considerable previous course work and is completing only one new research project for their General Examination, they may wish to complete the General Examination at the start of the 2nd year. Students should submit a request for approval to JCMG&G that includes a letter of support from their Advisors.

9. The General Examination Procedure

A checklist to help with organization is provided in Appendix III and all steps are detailed below.

9.1. Schedule of the Examination

All Students are expected to take their General Examination by September 30th at the latest (very beginning of Year 3). A Student may take their General Examination earlier if they and their Advisors agree that the Student is prepared.

9.2. General Examination Committee

A Student's General Examination Committee will consist of the Advisor, second General Examination Project Advisor, one or two specialists (faculty members) in appropriate fields selected by the Student and the Advisors, and to provide for uniformity of standards, the committee must include a member of JCMG&G. The Chair of the General Examination will be chosen by the Student in consultation with their Advisors, but they should be someone other than the Advisor and second General Examination Project Advisor. At least one member of the committee (Advisor, second General Examination Project Advisor, Chair, JCMG&G member, and/or specialist) must be from MIT (note that the same person can fulfill several criteria at a time). The Student needs to submit a memo to JCMG&G Chair for JCMG&G's approval of the General Examination Committee and Chair by July 31st of Year 2, and at least 2 months before the examination.

9.3. Preparations for the General Examination and Submission of the Application for Admission to Candidacy

At least four weeks before the General Examination, the Student will meet with their Advisor, their second General Examination Project Advisor, and the Chair of the Examination to discuss the expectations for the Examination.

At least two weeks prior to the General Examination, and before August 31st of Year 2, the Student will submit an Application for Admission to Candidacy. This Application includes the Student's curriculum vitae, a summary of subjects taken since their start in the JPMG&G, grades obtained (past and present), research interests/accomplishments, a list of the two research papers that will be defended in the General Examination, the topic of the proposed thesis research, and the name(s) of the proposed Thesis Advisor(s). The Application should bear the approval (via signature) of the Student's Advisors. A more complete summary of material to be included in the Application is listed in Appendix IV. The Application should be submitted simultaneously to the JCMG&G Chair, Education Coordinator, Joint Program Education Offices at WHOI and MIT, and to the members of the Student's General Examination Committee.

At least two weeks before the General Examination, the Student, in consultation with the Advisor, second General Examination Project Advisor, and the committee will schedule the date, time, and meeting facility for the examination, and transmit this information to the JCMG&G Chair, Education Coordinator, and to the Joint Program Education Offices at WHOI and MIT. Note that because two projects will be presented, the JPMG&G General Examination takes on average three hours — be sure that all committee members have scheduled sufficient time for the examination.

At least two weeks before the General Examination, the Student must submit complete copies of the two research papers to the members of the General Examination Committee and to the Joint Program Education Offices at WHOI and MIT.

9.4. Criteria for evaluation of the general examination

The general examination is passed when the following criteria are met:

- The Student demonstrates that they have obtained a depth of familiarity with both their research projects.
- The Student demonstrates a breadth of knowledge in topics related to their projects and generally in the

field of Marine Geology and Geophysics.

- The Student has acquired and can utilize a multi-faceted analytical skill set to critically assess scientific problems and to arrive at sensible conclusions.
- The Student shows promise of independence, including, but not limited to, 1) the formulation and investigation of interesting research questions or sub-questions, and 2) an evaluation of the state of knowledge and potential future directions related to their research topic(s).

9.5. Conduct of the General Examination

Before the start of the Examination, there will be a brief meeting of the Committee, during which the Chair will discuss the format of the Examination and the background of the Student. The General Examination is typically three hours long. It consists of two ~20–30-minute presentations, each describing one of the General Examination Projects. Each presentation is followed by ~30 minutes of questions from the Committee (~1 hour total per project). After both projects are presented and discussed, an additional ~30 minutes of questioning on background knowledge will be conducted based upon the course work and research the Student has completed to date.

Interested MIT faculty and WHOI Education Assembly members who have read the Student's two research papers may attend a Student's General Examination with prior approval of the Committee Chair and in consultation with the Student. These individuals may observe the Examination and ask questions about the General Examination Projects at the invitation of the Committee Chair but these individuals will not be present when the General Examination Committee votes and finalizes its decision.

It is the responsibility of the Chair of the Examination to ensure that the Student is examined thoroughly, yet fairly. The Chair must ensure that sufficient time is allocated for questions on both research papers and on background knowledge. It is left to the discretion of the Chair to decide when to cut off questions from a particular examiner or the entire Committee.

Following the General Examination, the Student will leave the room and the Committee will deliberate on whether the Student has demonstrated the background knowledge and ability to conduct doctoral-level research. The following procedure will be used:

Immediately after the Student leaves the room and before discussion begins, each Committee member will independently write down a grade (scale defined in Appendix V) for each of the Student's research papers and background knowledge and give this to the Chair

The Chair will then make these grades known to the entire Committee and will lead a discussion regarding the Student's performance. Following this discussion, each Committee member will then write down a final grade for each of the two papers and background knowledge. The Chair will collect these grades and recapitulate a summary opinion.

Possible recommendations of the General Examination Committee include:

- *The Student proceeds to the Thesis Proposal presentation.*
- *The Student must repeat part of the Examination.*
- *The Student can choose to complete an M.S. degree and leave the Joint Program.*
- *The Student must leave the Joint Program without a degree.*

9.6. Reporting of the General Examination

The examination results will be written down by the Chair using the General Examination form (Appendix V). The Chair will obtain the signatures of all Committee members on this completed form and will transmit it, together with any specific written comments of individual Committee members to the JCMG&G Chair with copies to the Joint Program Education Offices at WHOI and MIT. The Chair of the committee will also transmit a separate memo of the examination to the Student. The memo will not include the grades, but a summary opinion on performance, feedback on projects and background knowledge, and advice from the committee for the student moving forward, with a copy to JCMG&G Chair, the Student's Advisors, the Education Coordinator, the Associate Dean, and the Joint Program Education Offices at WHOI and MIT.

10. The Thesis Proposal presentation - Fall of Year 3

A checklist to help with organization is provided in Appendix VI and all steps are detailed below.

10.1. Thesis Proposal Committee Approval and Scheduling of the Presentation

The presentation of the Thesis Proposal should occur at the latest by December 31st of Year 3, or earlier. The Committee consists of 4 to 6 members, including at least one staff/faculty member each from MIT and WHOI (there is no requirement for a JCMG&G member), and at least 2 members who have not been involved in advising or co-advising the Student since their start in the program. Members of the Student's Thesis Proposal Committee are likely to constitute the Thesis Committee, but if gaps in expertise are identified at the Thesis Proposal presentation stage, additional Thesis Committee members should be considered. Thesis Proposal and Thesis Committee members from outside institutions are acceptable and it is recommended to have at least one external member. The Chair of the Thesis Proposal presentation will be an individual familiar with the Student's field of research, but they should be someone other than the Advisor and second General Examination Project Advisor. By November 1st of Year 3, and at least four weeks before the Thesis Proposal presentation, the Student should submit the proposed membership and Chair of the Student's Thesis Proposal Committee to JCMG&G Chair for approval by JCMG&G.

Preparation for Thesis Proposal presentation

Four weeks before the Thesis Proposal presentation, the Student, in consultation with the Advisor and Thesis Proposal Committee, should schedule the date, time, and place of the Presentation and transmit this information to JCMG&G Chair and Education Coordinator.

10.2. Submission of the Thesis Proposal

At least two weeks prior to the Thesis Proposal presentation, a Thesis Proposal no longer than 10 pages (references excluded) of 12-point font, double-spaced text, and containing no more than 10 figures (in addition to the 10-page text limitation), will be submitted to the Thesis Proposal Committee and to the Joint Program Education Offices at WHOI and MIT. The Thesis Proposal should succinctly outline the following: (1) the proposed research plan, including anticipated Thesis chapters, (2) background information, (3) the merit and importance of the proposed research (how it will lead to new discoveries or fundamental advances in marine geology and/or geophysics), (4) the proposed plan for conduct of the research, and (5) a general statement about the anticipated results. The proposal should be accompanied by a statement outlining the source of funding for the project. Students interested in getting access to prior successful Thesis Proposals should contact their Joint Program Student representative.

10.3. Conduct of the Thesis Proposal presentation

The Thesis Proposal presentation typically lasts 1–2 hours and is not an examination. This presentation serves as a preliminary meeting of the Thesis Committee, providing the Student with the opportunity to prepare and present the research topics and broad plan for thesis research. The format is a ~30-minute presentation by the Student of future directions for research followed by discussion and suggestions from the committee. As an alternate format, the Student may also choose to present each anticipated Thesis chapter individually, followed by scientific discussion relevant to that specific chapter. The logistics of completing the thesis in a timely manner, including funding sources and feasibility with proposed deliverables, will also be reviewed. This discussion can consider the scientific merit, originality, and viability of the proposed research, the adequacy of the student's background for the proposed research, and the likelihood that the necessary resources (financial, logistical, intellectual) will be available for the research.

Interested MIT faculty and WHOI Education Assembly members who have read the Thesis Proposal may attend a Student's Thesis Proposal presentation and, at the invitation of the Committee Chair, ask questions and participate in the discussion. After completion of the discussions, the Student will leave the room, and the committee will discuss the presentation and research plan. After discussion, the committee will have a vote on

whether it recommends whether the Thesis Proposal is acceptable or must be modified, and whether the Student's background is suitable for the proposed work. Afterwards, the Student will return and the committee will summarize their conclusions and recommendations in discussion with the Student.

10.4. Reporting of the Thesis Proposal presentation

After the presentation, The Chair will write, with approval from the committee, a letter to JCMG&G Chair, with copies to the Joint Program Education Offices at WHOI and MIT, that summarizes the results of the Presentation and includes the committee's decision on the Thesis Proposal. The Committee Chair will also transmit a written account of the results to the Student with a copy to JCMG&G Chair, the Student's Advisors, the Education Coordinator, the Associate Dean, and the Joint Program Education Offices. If the Thesis Proposal needs modification, the Committee is expected to work with the Student to revise their plan, and the letter should include a timetable for modification. An acceptable plan must be developed within a month after the presentation, and by January 31st of Year 3. Once the Committee agrees that the revised Thesis Proposal is acceptable, then the Chair should write a letter to JCMG&G, with copies of the Joint Program Education Offices at WHOI and MIT, informing them of the Committee's approval. If the Student's background is considered inadequate, the means for overcoming these limitations should be specified in the letter.

10.5. Admission to Candidacy

Following a Student's completion of the Thesis Proposal presentation, JGMG&G will review the Student's course preparation (including the required course requirements), Application for Admission to Candidacy, and results of the General Examination and Thesis Proposal presentation. If each of these elements for admission to candidacy has been completed satisfactorily, JCMG&G Chair will admit the Student to candidacy for the doctoral degree and will so inform the Student, Advisor, Associate Dean, Education Coordinator, and the Joint Program Education Offices at WHOI and MIT, in writing. If a Student fails to gain admittance to candidacy, the JCMG&G Chair will transmit a written statement to the Student, Advisor, Associate Dean, Education Coordinator, and the Joint Program Education Offices at WHOI and MIT, recommending that the Student pursue an M.S. degree or that their graduate Student status be terminated.

11. Thesis Research - Years 3, 4, and 5

11.1. Thesis Committee Membership

Members of the Thesis Committee will typically be the members of the Student's Thesis Proposal Committee. If the Thesis Committee composition is different from the Thesis Proposal committee (e.g. if gaps in expertise have been identified or other reasons), or changes at any point before graduation, the Student should request approval from JCMG&G *as soon as a change is considered*. Requirements for the Thesis Committee are the same as for Thesis Proposal committee.

A Student's Thesis Committee acts as an Advisory body during the course of the Student's dissertation research, monitors the Student's research for satisfactory progress, and examines the Student on that research at the time of their Thesis Defense. It is the responsibility of the Thesis Committee to assess the Student's progress and provide advice to guide the Student through the research project.

11.2. Thesis Committee Meetings

The post-graduates Student is expected to schedule a Thesis Committee meeting every March/April and September/October of Year 4 and 5, before they meet with JCMG&G the week after Thanksgiving.

11.3. Thesis Content

In general, a thesis consists of five parts:

- Abstract
- Historical review and background of the problem
- Chapters that develop the original contribution toward the solution of the problem
- Final summary of the Student's work and its significance
- Bibliography

The Student is encouraged to incorporate, as part of their Chapters, published manuscripts or manuscripts that either have been prepared or submitted for publication, provided that they are partly or entirely their original contribution. If the paper has been published and copyrighted, a waiver of the copyright must be submitted with the thesis.

The general expectation is that the Thesis will contain at a minimum three chapters of original scientific research whose findings can be properly evaluated for scientific merit by the Thesis Committee. At least three of the chapters should be of breadth and quality that they could be submitted as publications to peer-reviewed journals. This is broad and aspirational expectation, detailed information about the requirements for preparation and submission of the thesis are given in two booklets: "Specifications for Thesis Preparation" which describes the MIT requirements, and "WHOI Specifications for Thesis Preparation" which describes the Joint Program requirements. Both booklets are available at the Joint Program Education Offices at WHOI and MIT.

12. The Thesis Defense - Year 5

A checklist to help with organization is provided in Appendix VII and all steps are detailed below.

12.1. Approval of the Thesis Defense Chair

At least two months in advance of a Student's Thesis Defense, the Advisor, after consultation with the Student, should identify a Chair of the Thesis Defense who will then must be approved by JCMG&G. The Chair of the Thesis Defense is an individual who is not a member of the Thesis Committee, but who is cognizant of the Student's research field. The Chair reads the thesis and acts as a full committee participant in the Thesis Defense.

12.2. Committee Review of the Defendable Draft

Prior to the Student's submission of the defendable draft and the Student's scheduling of the defense, all committee members, including the Chair, must receive a complete draft of the thesis. The committee must be given the opportunity to provide comments and suggestions to the Student, which the Student can then incorporate into their defendable draft. Before the submittal and scheduling may take place, the Student and Advisor must certify on the Doctoral Dissertation Defense Notice form that each committee member has approved submittal of the defendable draft and scheduling of the defense.

12.3. Scheduling of Thesis Defense

At least three weeks prior to a Student's Thesis Defense, the Student, in consultation with the Advisor and the Thesis Committee, will schedule the defense and inform the Academic Programs Office at WHOI and the Joint Program Office at MIT of the date, time and meeting facility for the defense, the thesis title, and the composition of the Thesis Committee and the Chair of the Defense. The Academic Programs Office and Joint Program Office will then publicly advertise the defense.

12.4. Submittal of the Defendable Draft

At least three weeks prior to the Defense, the Student must submit a defendable draft of the final thesis, which will then be available to interested members of the faculty at MIT and WHOI. The Student should submit copies of their defendable draft to the Academic Programs Office at WHOI and the EAPS departmental office at MIT, and to each member of the Thesis Committee. The Joint Program Offices will invite the staff and faculty of the two institutions to the Thesis Defense via public notice.

12.5. Conduct of the Thesis Defense

In some instances, it may not be possible for all members of a Student's Thesis Committee to be present for or assist remotely to the Thesis Defense. These individuals should be provided with a copy of the final thesis at the same time as other committee members (i.e. at least three weeks before the Thesis Defense), and they should submit written comments on the thesis for consideration by the full committee at the time of the Thesis Defense.

The Thesis Defense consists of two parts: (1) a public presentation (normally about 45-50 minutes long) of the results of part or all of the thesis research, with a brief public question and answer period (10-15 minutes long) presided over by the Thesis Defense Chair, and (2) a private defense of the research results, also presided over by the Thesis Defense Chair (normally 1-2 hours long). Interested MIT faculty and WHOI Education Assembly members who have read the thesis may attend the private defense and ask questions of the Student and participate in discussions following the examination. However, these individuals will not be present when the Thesis Committee votes and finalizes its decision.

Following the period of questioning in the private defense, the Student will retire from the room and the Thesis Committee will consider its recommendation. Each committee member will first write down their recommendation (pass, conditional pass, fail) and give it to the Chair. The Chair will record these results, make them known to the full Committee, and lead a discussion on Committee recommendations. Following this

discussion, each Committee member will give the Chair their final vote. The Chair will record the final vote, together with comments, qualifications, and Committee recommendations, on the *Thesis Defense Form* (Appendix VIII) and obtain the signatures of all Committee members on the form. Successful defense of the thesis requires unanimous approval by the Thesis Committee.

12.6. Reporting of the Thesis Defense

Following a successful defense, the Chair of the Thesis Defense will transmit the Committee's approval in writing to the JCMG&G Chair, the Education Coordinator, the Associate Dean, and the Joint Program Education Offices at WHOI and MIT, requesting that the Student be recommended to the Faculty and Staff of the Joint Program for conferral of the doctoral degree. The Chair of the Defense should also transmit an account of this recommendation to the Student and Advisors.

If the Student does not defend their thesis successfully, the Thesis Defense Chair will similarly transmit this result in writing. If the Thesis Defense results in a conditional pass, the Student will be required to correct deficiencies in their dissertation research and/or thesis and then obtain final approval from the Thesis Committee. The method and schedule whereby the deficiencies are to be corrected will be specified by the Thesis Defense Chair in writing to the Student, to JCMG&G, and to the Joint Program Education Offices at WHOI and MIT. When the deficiencies are corrected to the satisfaction of the entire Thesis Committee, that Committee will so specify in a written memorandum from the Chair of the Committee to JCMG&G (with copies to the Student and Joint Program Education Offices at WHOI and MIT), recommending the candidate for conferral of the doctoral degree. The memorandum of final approval must be signed by all members of the Thesis Committee.

12.7. Submission of the final Thesis

The submission of the final Thesis usually occurs, and is expected, within 2 weeks after the defense assuming no extensive revisions. The final Thesis should be submitted to the Joint Program Education Offices at WHOI and MIT, Associate Dean, and Education Coordinator. In the unusual case that the revisions requested by the Thesis Committee are anticipated to take longer than 2 weeks, the Student, in consultation with their Advisor, can request more time to JCMG&G to complete the revisions.

13. Memos and Petitions to JCMG&G

Memos and petitions to JCMG&G requesting such things as committee membership approval, extensions on deadlines, or changes in course requirements must be submitted in writing to the Chair of JCMG&G.

In general, any petition for a waiver of specific degree requirements, or for an extension of time and financial support to complete degree requirements must fully document the justification for the proposed change or extension and must be accompanied by a supporting statement from the Student's Advisor. Petitions that deal with changing degree requirements at specific dates (e.g. extensions) must be received by the Chair of JCMG&G **at least four weeks prior to the dates of the proposed change.**

Petitions to extend the time for completion of an examination must include the following: (1) a statement of the exceptional circumstances that justify an extension, (2) a firm schedule stating when the examination will be taken, (3) the source of support during the time of extension, and (4) the approval (via separate memorandum) of the Student's Advisor. An extension of the General Examination will not affect the timing of the Thesis Proposal presentation, which must be completed by December 31st of Year 3, or in exceptional personal circumstances only, by the end of the sixth academic semester.

Petitions to extend the time for completion of degree requirements beyond the end of the fifth full year must include (1) a summary of progress to date, (2) justification for the delay, (3) an outline of the components of the thesis with a schedule for completion of each component, and (4) the date when the thesis will be submitted. A Student should very carefully assess these factors and decide on a timetable with their Advisor. The petition should be approved by the Advisor in a supporting memorandum, which should also state the source of the Student's continuing financial support. Requests for extensions beyond the end of the fifth full year are considered on a semester-by-semester basis and must be submitted **by May 15th and November 15th** for Fall and Spring semester requests, respectively.

JCMG&G will approve or deny petitions after careful consideration and after consultation with the Student's Advisor. Extensions beyond the fifth year require approval from APO. The petition may be disapproved and/or financial support terminated if there is inadequate justification for the extension or unsatisfactory progress. If the petition is denied, the Student must either complete the requirements on schedule or withdraw from the program. In some circumstances, the Student may be given the option of completing an M.S. degree.

14. Residence Time/Support

Graduate Student financial support will, as a general rule, terminate (1) effective the day the final, revised thesis is submitted to Joint Program Education Offices at WHOI and MIT, (2) at the end of the term in which the five-year nominal appointment is completed, or (3) at the termination date determined in response to any petition the Student submits. Under no circumstances can a Student receive graduate Student funding after their final thesis is turned in. If a Student petitions JCMG&G and is allowed an extension into a sixth year, financial support may be continued at the discretion of their Advisor, or at the discretion of APO/MIT Joint Program if Education funds are needed. Request for financial support for a seventh year is almost always denied.

15. Consultation Resources for Students

Students are encouraged to talk to people about any difficulties they experience. A Student's Advisor, the Education Coordinator, or fellow Students may help, if they know the Student is having difficulty. Other individuals available for consultation are the EAPS Department Chair (MIT), the members of the JCMG&G committee, the Geology and Geophysics Department Chair (WHOI), the Joint Program Dean of Graduate Studies (WHOI), the Joint Program MIT Director (MIT), and the Associate Dean of Graduate Studies at WHOI. The Title IX officer and director of Human Resources at WHOI are also available to help the Student. The GradSupport office within MIT's Office of Graduate Education is available for consultation with Students, and their staff are well-positioned to refer Students to other resources within MIT. Any of the individuals noted above can help a Student find professional help if it warranted. Individuals initiating an inquiry or complaint will not be reprimanded or discriminated against.

16. Requirements for a Master of Science Degree

Although there is no formal program resulting in an M.S. Degree in Marine Geology & Geophysics, the decision that a Student should terminate their studies in the Joint Program with an M.S. degree can be made for a variety of reasons (e.g. a Student's personal reasons for not proceeding to a Ph.D.; unsatisfactory performance in formal classes, failed General Examination, etc.). The point at which this decision is made will depend on each specific case; however, Students should typically plan to complete the requirements for a Master's degree within a year of the decision.

The requirements for a Master's Degree are as follows:

- Completion of at least 66 units of formal subjects (exclusive of thesis units). These will include the two subjects that are required of all Students in MG&G, for which a grade of B or better is required, as well as elective subjects recommended by the Student's Advisor's and JCMG&G. It is expected that, in most cases, much of this course work will have been completed prior to the decision that a Student will terminate with a Master's Degree.
- Completion, and oral presentation of, an acceptable Master's thesis, based on original research by the Student. The Master's thesis must make an original contribution to a particular field of study and will likely be based on one of the General Examination Projects that have been approved by JCMG&G, and on which the Student has already made significant progress.

16.1. Conduct of Master's Degree Research

As soon as the Student has determined a research topic through discussion with their Advisors, a Thesis Committee consisting of at least 3 members will be formed. The Student will submit a short abstract of the proposed thesis and Thesis Committee members to JCMG&G for approval. This Committee will include, if possible, at least one staff/faculty member each from MIT and WHOI. While the Student will work with one (or two) Advisor(s), the Thesis Committee will act as an Advisory body during the course of the Student's research. The Student will keep all members apprised of their progress.

The M.S. thesis will consist of:

- Abstract
- Historical review and background of the problem
- Presentation of the original research and its contribution toward solution of the problem
- Summary
- Bibliography

16.2. Conduct of the M.S. Thesis Presentation

A public thesis presentation provides an opportunity for the Student to communicate the results of their research and brings closure to the scientific process. The thesis must be submitted to the Thesis Committee **at least two weeks** prior to the public presentation. In consultation with the Advisor and Committee, the Student will schedule the presentation and inform the Joint Program Education Offices at WHOI and MIT of the date, time and location. The Joint Program Education Offices will then advertise the presentation. It is the Advisor's responsibility to ensure that the Presentation is arranged and advertised.

The presentation will be Chaired by a non-Advisor member of the JP Faculty, and will consist of two parts: (1) a public presentation (typically ~45 minutes long) of the results of the research, followed by a brief public question and answer period; and (2) an informal, private discussion of the research results between the Student and the Thesis Committee. Other MIT faculty and WHOI Education Assembly members who have read the thesis may also participate in the private discussion, but do not participate in the Thesis Committee's deliberations on the acceptability of the thesis. Following the private discussion, the Student will retire from the room and the

Thesis Committee will determine the acceptability of the thesis and recommend any changes. Once any recommended changes/ revisions have been completed, the Student's Thesis Advisor will sign the thesis signifying its acceptance.

Following a successful defense, the Chair of the M.S. Thesis presentation will transmit the Committee's decision in writing to the JCMG&G Chair, the Education Coordinator, the Associate Dean, and the Joint Program Education Offices at WHOI and MIT.

17. Appendices

Appendix I: JPMG&G Student Progress Report

Appendix II: JPMG&G Advisor's Report on Student Progress

Appendix III: General Examination checklist

Appendix IV: Guidelines for Application for Admission to Candidacy

Appendix V: General Examination form

Appendix VI: Thesis Proposal presentation checklist

Appendix VII: Thesis Defense checklist

Appendix VIII: Thesis Defense Form

Appendix I: Marine Geology and Geophysics Student Progress Report

Name: Date:

When did you join the Joint Program (month and year)?:

Advisor(s):

Status (please check one and give details requested):

_____ **First year in program.**

Have you discussed the criteria and expectations for first versus second General Examination Project as described in the latest handbook? (yes or no)

_____ **Second year in program.** Give titles of General Examination Projects and Advisors:

Confirm that the General Examination Projects have been approved by JCMG&G last June (yes or no)

Project 1 Title:

Advisor(s):

Project 2 Title:

Advisor(s):

_____ **Third year in program.**

Date of General Examination (deadline September 30th):

Date of Thesis Proposal presentation (deadline Dec. 31st):

Thesis proposal committee members:

_____ **Fourth or fifth+ year in program.** Expected completion date of thesis:

List Thesis Committee Members:

Date of your last committee meeting: *Year 4 and 5 have 2 recommended meetings per year (March/April and Sept/Oct)*

Comments on timeline:

How often do you meet with your Advisor(s)? How do you meet? Do you also have lab group meetings? Paper reading groups?

Below list courses you took over the past year (if applicable), what grades you received, and how the courses were (or were not) useful for your academic development:

Have you taken (or enrolled in) the following required courses?

<input type="checkbox"/> 12.710 Geological Oceanography	Semester:	
<input type="checkbox"/> 12.703 Presenting Scientific Research	Semester:	
<input type="checkbox"/> Data Analysis Class	Semester:	Course:

Describe your research activities over the past year:

Are you satisfied with your progress? Is there anything you need help with?

External Factors: If you wish, please use this space to describe how external events have affected your ability to meet your professional goals during this last year (since last time you met with JCMG&G):

**Please share and discuss this report with your Advisor(s).
Your Advisor(s) should share their report with you.**

This document will also be seen by all members of the Joint Committee for Marine Geology and Geophysics and representatives of the Academic Programs Office and MIT counterparts, but otherwise held in confidentiality. Note that if there are concerns you are not comfortable discussing with your Advisor, these can be raised verbally in the meeting. If such issues exist, we also recommend that you reach out individually to the Education Coordinator or Associate Dean, or other resources such as MIT's Office for Graduate Education, Department Chairs, and other members of the Academic Programs Office.

Sign here that you have discussed this self-evaluation and your Advisor's evaluation with you Advisor(s):

Signature: Date:

Appendix II: Marine Geology and Geophysics Advisor's Report on Student Progress

Advisor Name:

Date:

Student Name:

Student Status (please check one and give details requested):

 First year in program.

Have you discussed the criteria and expectations for first versus second General Examination Project as described in the latest handbook? (yes or no)

 Second year in program.

Confirm that the General Examination Projects have been approved by JCMG&G last June (yes or no)

 Third year in program.

Date of General Examination (deadline September 30th):

Date of Thesis Proposal presentation (deadline Dec. 31st):

 Fourth or fifth+ year in program.

Expected completion date of thesis:

Date of Student's last committee meeting: *Year 4 and 5 have 2 recommended meetings per year (March/April and Sept/Oct)*

Comments on timeline:

Primary Advisor / Advisor of 1st generals project:

Describe below your Student's educational and research activities over the past year (e.g., course work, field work, analyses completed, papers presented at meetings, manuscripts submitted for publication, etc.).

Do you feel that your Student is making reasonable progress in the program?

Do you think it is necessary for you to meet with JCMG&G?

Additional comments from co-Advisor / Advisor of 2nd generals project: (Name of co-Advisor: _____)

**Please share and discuss this report with your Student.
Your Student should share their self-assessment with you.**

This document will also be seen by all members of the Joint Committee for Marine Geology and Geophysics and representatives of the Academic Programs Office and MIT counterparts, but otherwise held in confidentiality. Note that if there are concerns that you feel uncomfortable sharing in this document, please reach out to the Education Coordinator, JCMG&G Chair, or Associate Dean.

Sign here that you have discussed this evaluation and the Student's self-evaluation with your Student:

Signature: **Date:**

Appendix III: General Examination Checklist

Target Examination Date: _____

Use your projected examination date to fill in target dates in checklist below. Note that the General Examination should be taken **by September 30th of Year 3 at the latest**.

	Date	
<input type="checkbox"/>	(Year 1)	<p>Submit Project Summaries to JCMG&G for approval <i>Before June 1st in Year 1</i> Consider submitting early drafts to JCMG&G before this date for feedback Email: JCMG&G Chair</p>
<input type="checkbox"/>	(Year 2)	<p>Submit General Examination Committee for JCMG&G approval <i>Before July 31th in Year 2, and 2 months before General Examination</i> Email: JCMG&G Chair</p>
<input type="checkbox"/>	(Year 2 or Year 3)	<p>Meet with General Examination Chair and Advisors <i>Four weeks before the General Examination</i> Short meeting to set up expectations and procedures Discuss Examination format: in-person, hybrid, or remote</p>
<input type="checkbox"/>		<p>Submit Application for Admission to Candidacy and General Examination Papers <i>Two weeks before the General Examination</i> -Appendix III contains information needed in the Application Email: JCMG&G Chair, Joint Program Education Offices at WHOI and MIT, and the members of the student's General Examination Committee, cc: Education Coordinator -The Student must submit complete copies of the two research papers to the members of the General Examination Committee and to the Joint Program Education Offices at WHOI and MIT.</p>
<input type="checkbox"/>		<p>Schedule Date, Time, and Location of the Examination <i>Two weeks before the General Examination</i> Make clear to the committee that the Examination will last ~3 hours Book a physical room and prepare for remote options If using remote options, contact Information Services at this time for help Email: General Examination Committee, JCMG&G Chair, Joint Program Education Offices at WHOI and MIT (and Committee members), cc: Education Coordinator</p>
<input type="checkbox"/>		<p>Conduct General Examination</p>

Appendix IV: Guidelines for Application for Admission to Candidacy

The Application for Admission to Candidacy should be submitted to the Joint Program Education Offices at WHOI and MIT, JCMG&G Chair, Education Coordinator, and members of the student's General Examination Committee. The Application must bear the approval of the Student's Advisor via their signature.

The Application should include the following:

Brief Curriculum Vitae

List of Advisors

List of subjects taken (course number, name), instructor, and grade. Core courses should be so designated.

Dates of waivers received from JCMG&G (if any) to change core curriculum.

List of papers published and papers in press, with copies of the abstracts of each.

Titles and abstracts of the two research papers completed for the General Examination.

Membership of the General Examination Committee.

Potential Thesis Committee members.

Brief description of proposed thesis research

Signature of Advisor(s)

Appendix V: General Examination Form

Name of Candidate: ___ Examination Date: ___

	Initial Grade			Final Grade		
General Examination Committee Members	Paper 1	Paper2	Background Knowledge	Paper 1	Paper 2	Background Knowledge
Chair:						

Grade Range: **3** Superior **2** Satisfactory **1** Deficient **0** Fail
(repeat some parts of exam)

Passing grade must be equal to or greater than 2, and grades can be decimals

Results of Examination: ___ Pass ___ Fail

Comments:

Recommendation of the General Examination Committee

- _____ Student proceed to Thesis Proposal presentation
- _____ Repeat Examination: Research Paper(s)
- _____ Complete M.S. degree
- _____ Terminate graduate-Student status
- _____ Other (describe in full below)

Date: _____

Signed by: _____, Chair

Appendix VI: Thesis Proposal Presentation Checklist

Target Presentation Date: _____

Use your projected presentation date to fill in target dates in checklist below. Note that the Thesis Proposal must be taken **by December 31st of Year 3 at the latest**.

	Date	
<input type="checkbox"/>		<p>Submit Thesis Proposal Committee Membership for JCMG&G Approval <i>Before November 1st in Year 3, and four weeks before the Presentation</i> Email: JCMG&G Chair</p>
<input type="checkbox"/>		<p>Schedule the Thesis Proposal Presentation <i>Four weeks before the Presentation, schedule presentation date with Thesis Proposal committee</i> Establish Presentation format: in-person, hybrid, or remote Email: JCMG&G Chair, cc: Education Coordinator</p>
<input type="checkbox"/>		<p>Submit the Thesis Proposal <i>Two weeks before the Presentation</i> Email: Joint Program Education Offices at WHOI and MIT and the Thesis Proposal Committee.</p>
<input type="checkbox"/>		<p>Conduct Thesis Proposal</p>

If the Thesis Committee will differ from the Thesis Proposal Committee, request approval of new committee *as soon as a change is considered*. A request should be send to the JCMG&G Chair.

Appendix VII: Thesis Defense Checklist

Target Defense Date: _____

Use your projected defense date to fill in target dates in checklist below. Note that the Thesis Defense should be taken **in the Spring of Year 5**, with the final Thesis submitted by early May to be on the June graduation list (see the MIT academic calendar for dates). If this date cannot be met, you must request approval for an extension from JCMG&G at least **four weeks** before this date (i.e. early April for a standard schedule).

	Date	
<input type="checkbox"/>		<p>Submit to be on Appropriate MIT Degree List <i>Semester before defense</i> Email: Joint Program Education Offices at WHOI and MIT</p>
<input type="checkbox"/>		<p>Submit Thesis Defense Chair for JCMG&G approval <i>Two months before Thesis Defense</i> Thesis Defense Chair is <i>not</i> a previous member of the Thesis Committee Email: JCMG&G Chair</p>
<input type="checkbox"/>		<p>Committee Review of the Defendable Draft Allow the committee members to comment and provide suggestions <i>before</i> submittal of the Defendable Draft Student and Advisor fill out Doctoral Dissertation Defense Notice form</p>
<input type="checkbox"/>		<p>Schedule Date, Time, and Location of the Examination <i>Three weeks before the Thesis Defense</i> Make clear to the committee that the Examination will last ~2+ hours Book a physical room and prepare for remote options If using remote options, contact Information Services at this time for help Email: Joint Program Education Offices at WHOI and MIT, Thesis Defense Committee</p>
<input type="checkbox"/>		<p>Submittal of the Defendable Draft <i>Three weeks before the Thesis Defense</i> Email: Joint Program Education Offices at WHOI and MIT and Thesis Defense Committee</p>
<input type="checkbox"/>		<p>Conduct Thesis Defense</p>
<input type="checkbox"/>		<p>Complete Revisions and Hand in Thesis Within 2 weeks after the defense Email: Joint Program Education Offices at WHOI and MIT, Associate Dean, Education Coordinator</p>

Appendix VIII: Thesis Defense Form

Name of Candidate: ___ Examination Date: ___

Names of the Thesis Defense Committee Members	Initial Grade on Thesis Defense	Final Grade on Thesis Defense
Chair:		

Grading is Pass or Fail

Results of Thesis Defense:

Candidate recommended for doctoral degree: _____

Candidate recommended for doctoral degree with qualifications (describe below): _____

Fail (describe below): _____

Other (describe below): _____

Comments/Qualifications (explain specifically how and when qualifications are to be met):

Date: _

Signed by: _____, Chair

