

Oceanography Graduate Handbook

for GOC/GAC discussion March 10, 2017


Disclaimer. The guidelines in this handbook supplement, but do not, and cannot, reduce the requirements listed in the rules and regulations published in the Graduate Studies Calendar of Dalhousie University. As such, this document adds further requirements that students must accomplish in order to complete a degree program in Oceanography. Such additional prerequisites are permitted by Graduate Studies. In the event of a real or perceived conflict in such stipulations, Graduate Studies ([FGS](#)) requirements and rules shall prevail.

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1 Glossary of acronyms and terms

The following list explains some acronyms and special terms used in this document.

- “CRN” refers to a Course Registration Number. For example, the Physical Oceanography core class, listed as OCEA 5120 in the University Calendar, has CRN 12070. Consult the Registrar’s website¹ for more information.
- [DalOnline](https://dalonline.dal.ca) is the gateway online system (at <https://dalonline.dal.ca>) for student-university interaction.
- “External” {write a few lines here, with the 3 types discussed in the meeting of 20160527}. 
- [FGS](#) stands for Faculty of Graduate Studies.
- [NSERC](#) stands for Natural Science and Engineering Research Council.

2 General Program Requirements

2.1 Registration

[1] Graduate students must maintain their registration in all three terms of each year in their program, except in cases where a formal [Leave of Absence](#) has been approved by the Faculty of Graduate Studies. This involves registering for a “course” named “Registration Course–Graduate” (designated REGN 9999, and also called a “fee-generating course”), as well as either “Masters Thesis” (OCEA 9000) or “PhD thesis” (OCEA 9530); see the Registrar’s website² for more information, including the relevant Course Registration Numbers. It is critical to register for these courses in time, since failure to register at least 1 month prior to the beginning of a term will result in non-payment of scholarships and stipends.

{DK: somewhere hereabouts, insert the diagram I made of the timeline for MSc and PhD}

[2] If OCEA REGN 9999 is not added for each term, graduate students are not considered to be registered. Failure to register at least one month prior to the beginning of each term will result in non-payment of scholarships and stipends.

[3] Students who fail to register within the approved deadlines will be considered to have [lapsed registration](#). Such students will not be permitted to submit a thesis, nor will they receive any services from the University during that academic term. Students who allow their registration to lapse will be considered to have withdrawn and will be required to apply for readmission³.

2.2 Courses

[1] In addition to ~~the artificial courses listed in the previous section~~, students take conventional courses, chosen in consultation with their supervisors, and pursuant to the requirements set out in section 4.1 or section 5.1 for MSc and PhD students, respectively.

[2] Within the Department of Oceanography, courses are designated as either “core” or “non-core.” The [core classes](#) are Biological Oceanography (OCEA 5140), Chemical Oceanography (OCEA

¹https://dalonline.dal.ca/PROD/fysktime.P_DisplaySchedule?s_term=201710,201720&s_subj=OCEA&s_district=100

²<http://www.dal.ca/faculty/gradstudies/currentstudents/registration.html>

³<http://academiccalendar.dal.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=58&chapterid=2678&topicgroupid=10848>

5130), Geological Oceanography (OCEA 5110), and Physical Oceanography (OCEA 5120). These are broadly based courses that are intended to help students gain a ~~wide~~ understanding of the major areas of oceanography. They are offered every year, typically with Physical and Chemical in the ~~September~~ term, to set the stage for Geological and Biological in the ~~January~~ term. Note that these courses are cross-listed to 4th year classes at the Undergraduate level, and there are circumstances in which they may be waived for Dalhousie students who have taken them at this lower level (see Section 4.1 for MSc and Section 5.1 for PhD).

[3] The non-core classes tend to be more advanced and specialized. They include Fluid Dynamics (OCEA 5311), Time Series Analysis (OCEA 5210), Ocean Dynamics (OCEA 5221), Estuary, Coast and Shelf Dynamics (OCEA 5222), Numerical Modelling (OCEA 5220), Ocean Waves (OCEA 5223), Introduction to Acoustical Oceanography (OCEA 5250), Advanced Chemical Oceanography (OCEA 5290), and Advanced Marine Particles (OCEA 5293). Not all of these are offered every year. Details of offerings are available in the departmental office and at the Registrar's website⁴.

[4] Students select courses in consultation with their ~~supervisors~~, with the approval of members of their ~~Advisory Committee~~. Students must register for the 5000 stream of courses ~~that are cross-listed at the 4000 and 500 levels~~ (see Section 4.1 or 5.1 for notes on the case in which 4000-level classes were taken previously) prior to the registration deadline. See the Graduate Studies Academic Calendar⁵ for deadlines.

[5] A ~~Graduate Student Program Form~~ must be submitted to the ~~Graduate Coordinator~~ within one month of the start of your program. Students must submit a ~~Graduate Student Program Update Form~~ to the ~~Graduate Secretary~~ when a decision to make changes to course requirements is made. Graduate Student Program Forms can be downloaded from the FGS website⁶. Failure to submit a ~~Graduate Student Program Form~~ within the stated timetable can result in the assessment of additional fees for courses not included in the program requirements, or affect the ability to graduate.

[6] FGS Regulations⁷ stipulate that graduate students must achieve a grade of B- or higher in all classes required as part of their degree program. The only grade that can be assigned below a "B-" is an "F". Any student who receives an F will be withdrawn from the Graduate Program and must apply for re-admission. Such a student may apply, in writing, to the department for immediate reinstatement; see FGS Regulations, section 5.4.1: Readmission of Students⁸. Reinstatement to a program after a failing grade must be supported by the ~~Graduate Coordinator~~, and must be approved in writing by the Faculty of Graduate Studies. If readmitted, any subsequent "F" will result in a final program dismissal. Any academic withdrawal and reinstatement will be recorded on the student's official transcript.


⁴https://dalonline.dal.ca/PROD/fysktime.P_DisplaySchedule?s_term=201710,201720&s_subj=OCEA&s_district=100

⁵<http://academiccalendar.dal.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=58&chapterid=2677>

⁶<http://www.dal.ca/faculty/gradstudies/currentstudents/forms.html>

⁷<http://academiccalendar.dal.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=58&chapterid=2678&topicgroupid=10850>

⁸<http://academiccalendar.dal.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=58&chapterid=2678&topicgroupid=10848>

[7] Classes approved by the Department and FGS (after examination of class descriptions { who approves these? I've done that as the professor for my own course. Is that the rule, or the habit?}) can be taken at other universities as part of the graduate degree program, provided the class is not available at Dalhousie; see FGS Regulations, section 7.6.6: Letters of Permission⁹. The Letter of Permission, available at the FGS website¹⁰, must be completed and submitted to the Graduate Coordinator in advance. Such approval will not be given retroactively. {NB: need to check with Lori on what we have done in the past, and what FGS or the registrar says we must do now.}

2.3 Thesis proposal

[1] See sections 4.3 and 5.4 for requirements in the MSc and PhD programs, respectively.

2.4 Sea time

[1] The Department of Oceanography has a longstanding tradition of requiring its graduate students to go to sea on research cruises as part of their degree requirements. This tradition meets several objectives:

- It exposes students of all backgrounds and research interests, and to the rewards and challenges of gathering data at sea.
- It offers the opportunity to network with other scientists in a unique and stimulating environment.
- It provides practical education about how to solve problems that arise when outside assistance is not readily at hand.
- It emphasizes the importance of practicing expeditionary behaviour whereby adherence to safe procedures and maintenance of clear and open communication are paramount.

[2] Arrangements to meet the sea time requirement are the responsibility of the student in consultation with the supervisor. Financial costs associated with meeting the sea time requirement should be borne either by the supervisor, a travel grant, or an outside investigator funded to participate in the research cruise. By convention, “sea time” means spending 3 or more nights at sea on a research vessel that is conducting active research. Students are required to submit a Sea Time Form to the Graduate Secretary after completion of this requirement, and the Curriculum Committee must approve completed forms.

[3] In a limited set of extenuating circumstances, students may have the sea-time requirement waived and replaced with commensurate experience. For example, students facing physical or mental challenges to working at sea, students with extensive experience at sea prior to coming to Dalhousie, or students with demanding nearshore/intertidal field research projects that limit time available to go to sea may be granted a waiver of the sea-time requirement. To apply for a waiver, the student composes a letter to the Curriculum Committee stating the reason for the request and proposing commensurate replacement experience. An accompanying letter supporting the student's request must be composed by the supervisor and signed by the Advisory Committee. The decision to grant or deny the request for a sea time waiver is the responsibility of the Curriculum Committee.

⁹<http://academiccalendar.dal.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=58&chapterid=2678&topicgroupid=10850>

¹⁰<http://www.dal.ca/faculty/gradstudies/currentstudents/forms.html>


2.5 Seminars

[4] Students are required to attend the general [departmental seminars](#) and to attend, and participate in, the specialty seminars in their field of ~~interest~~. Students who are unable to attend seminars regularly must have the specific agreement of their [Advisory Committee](#) that this requirement is waived and this must be communicated to the departmental office in a written memo signed by the [supervisor](#). It is important to note that materials presented in these seminars may form part of the questions for the PhD Qualifying Examination (Section 5.3) and the [PhD Thesis Proposal Defence](#) (Section 5.4).

2.6 Status

[1] Any change in status, such as transfer from MSc to PhD (see Section 4.8), a leave of absence, and entrance to another degree program must be recommended by the [Advisory Committee](#) to the [Graduate Oversight Committee](#). Final approval for a change in status will be made by the [Graduate Oversight Committee](#), which will meet as required to review these requests. Students should consult the Graduate Secretary regarding the required documentation.

2.7 Annual progress report

[1] According to [FGS](#) regulations, students must submit an [Annual Progress Report Form](#) each year, one month prior to the anniversary of their admission date. Failure to submit this report will result in delays in registration and funding. This report is submitted by the student through [DalOnline](#), with that system later prompting the [supervisor](#) at  when the [Graduate Coordinator](#) for approval. The system relies on emails, so students are advised

[2] In addition to the above, students must submit a [Supplementary Program Report Form](#) each year. A blank version of this document is available from the [Graduate Secretary](#). This form is a way to record accomplishments, in more detail than would be used in a CV, and students are advised to keep this up to date.

2.8 Time limits for completion of degrees

[1] Graduate students have a maximum period of time within which to complete their graduate program, 4 years for MSc and 6 years for PhD. Extensions may be granted by FGS on the recommendation of the department, along with a satisfactory Progress Report¹¹.

3 Supervision

3.1 Supervisor

[1] The Supervisor provides direct supervision of the student's research and is expected to

- Advise the student on the choice of a research topic, on the possible directions to emphasize during the work, and the point at which it should be concluded.
- Supervise the research, as well as the preparation of the proposal, progress reports and thesis.
- Ensure that the resources necessary to the thesis project are made available and that any necessary skills are acquired by the student.

¹¹<http://academiccalendar.dal.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=58&chapterid=2678&topicgroupid=10850>

- Assess the student's progress, evaluating strengths and weaknesses.
- Provide current updates of progress to the student's file.
- Ensure that the student is funded
- Select thesis examining committee members (following the guidelines for composition of the various examining committees).

[2] A [supervisor](#) is changed only with the approval of the Department. This may arise by mutual agreement within the advisory committee or at the request of the student (to either the [Graduate Coordinator](#) or the Chair of the Department).

[3] In order to take advantage of the special expertise and facilities available, the role of [supervisor](#) is not restricted to regular faculty members of the Department; see the [FGS](#) website¹² for details. However, students who have a [supervisor](#) who is not a full time faculty member in the Department of Oceanography, must also find a regular member of the department who can act as a [internal supervisor](#). The responsibilities of an [internal supervisor](#) include:

- Advising on academic requirements, course load, waiver of courses, general departmental affairs, etc.
- Ensuring that the student has suitable office and laboratory space.
- In consultation with the student, selecting a [supervisor](#) and [Advisory Committee](#) appropriate to the student's research interests (~~In many cases the chair will also be the supervisor.~~) ~~{who is the chair?}~~
- Ensuring that adequate reports and records of committee meetings are kept and submitted to the appropriate departmental files, and that necessary decisions as to the academic program, (e.g. thesis proposal), are made on an appropriate time-scale.
- Assessing the progress of the student both in academic work and research.

3.2 *Advisory Committee structure*

[1] Advisory committees are formally sub-committees of the Department appointed both to provide expert advice to students and to evaluate and report on student progress. Members of [Advisory Committee](#) must either hold faculty positions at Dalhousie University, or have an adjunct status registered with [FGS](#). The [Advisory Committee](#) structure differs for MSc and PhD, as explained in Sections 4.2 and 5.2, respectively.

[2] The [Advisory Committee](#) must be formed within one month of the start of the student's program, and ~~it~~ may be changed through the progress of a student's program. The [supervisor](#) chooses committee members, in consultation with the student.

[3] Students must inform the department of [Advisory Committee](#) structure (and any changes to that structure) by filling out a [Graduate Student Program Form](#) and submitting it to the [Graduate Secretary](#).

¹²<http://academiccalendar.dal.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=58&chapterid=2678&topicgroupid=10852>


3.3 Advisory committee meeting schedule

[1] There must be no less than two advisory committee meetings held per academic year¹³, but meetings may be more frequent, as required by the student and/or supervisor. It is the responsibility of the student to ensure that committee meetings are held. The **supervisor** will ensure that brief minutes of these meetings are recorded and are filed with the **Graduate Secretary**.

[2] {DK to GOC: my notes suggest deleting this paragraph and the itemized list below it, but now I think it should be kept. Do others agree to keep it?} Following approval of the thesis proposal by the **Advisory Committee**, the student should have several meetings in addition to the regular committee meetings as follows:

- An interim progress meeting to verify that the research is on track.
- A final progress meeting at which the committee agrees that sufficient research has been conducted, and that thesis writing may proceed.
- Individual meetings with advisory committee members to receive input on drafts or chapters.
- A meeting at which the advisory committee agrees that the thesis is defensible and that a defence may be scheduled. Alternatively, the advisory committee may request further revision prior to approving a defence.

[3] At several points in a student's program the approval of the advisory committee is essential:

- Initial discussion of proposed research; this should occur as early as possible in the student's program.
- Approval of research plan and direction for thesis proposal (see sections 4.3 and 4.4. <DK to GOC: my notes suggest deleting this item, but I suggest keeping it. OK?>  << vote
- Acceptance of a thesis proposal.
- Change of status, such as advancement to the PhD program (see section 4.8).
- The acceptance of the thesis, in final form, as being ready for defence.

4 MSc program requirements

4.1 MSc course requirements

[1] Students must complete OCEA 5000 and an additional 6 credit hours from core courses, namely OCEA 5110, OCEA 5120, OCEA 5130 and OCEA 5140. (Students who took the core classes at the 4000 level as undergraduates, having achieved grades of "A" or "A+" need not to take them again at the 5000 level.) In addition to the above, additional courses may be required to strengthen a student's background; the **supervisor** and **Advisory Committee** advises on this matter.

[2] Any student who anticipates a transfer from the MSc program to the PhD program should complete the course-work and other requirements as listed in the PhD program requirements (see Section 5).

4.2 MSc Advisory Committee structure

[1] As noted in Section 3.2, the **Advisory Committee** must be formed within one month of the start of the student's program. This committee consists of at least three members. There must be two

¹³<http://academiccalendar.dal.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=58&chapterid=2678&topicgroupid=10852>

full-time faculty members (with [FGS](#) status) from the Oceanography Department. If a regular faculty member serving on the committee leaves the Department, reducing the number of regular members to below two, then a replacement with another regular faculty member must be made. At least one of the members of the [Advisory Committee](#) should be from a sub-discipline other than the student's own.

4.3 MSc thesis proposal

[1] MSc students are expected to produce an approved [thesis proposal](#) within one year of enrolling in the program.

[2] This document serves primarily as a well-reasoned course of action, and not as an exhaustive literature review nor as a deeply detailed description of methods. This should be under fifteen pages of text, double-spaced and inclusive of diagrams and citations. <<DK to GOC: I made the length more specific. OK?>>

<< vote

[3] The [proposal](#) is developed in consultation with the [supervisor](#) and [Advisory Committee](#). The scope of the research should be such that the program can be completed within one year.

[4] Students may be required to defend their thesis proposals, at the discretion of their [Advisory Committee](#). Such defences normally occur during a meeting of the [Advisory Committee](#), unlike in the PhD case, where they are public events.

[5] The [supervisor](#) will notify the Oceanography Office that the [proposal](#) requirement has been satisfied and a copy of the approved proposal, signed by both student and [supervisor](#), must be placed on file with the [Graduate Secretary](#).

4.4 MSc thesis

[1] The MSc thesis requirements are subject to detailed regulations of the Faculty of Graduate Studies¹⁴.

[2] The MSc thesis should report original research and be in a satisfactory and consistent literary form. Faculty of Graduate Studies thesis formatting requirements are available on their website¹⁵.

[3] The oral defence of the thesis is open to all members of the department and to other interested persons. Notices of the thesis defence, including an abstract, will be posted and distributed by the [Graduate Secretary](#) to all members of the Oceanography Department.

4.5 MSc examining committee

[1] It is the [supervisor's](#) responsibility to select the examining committee members, following the committee structure guidelines. The defence may not proceed in violation of the below composition of the examining committee due to short-term absence of committee members.

[2] The examining committee will consist of a minimum of 5 members: {DK: I'll look up the FGS rules to check that what is written below is OK. I'll also add a link to the site where FGS gives those rules.}

¹⁴<http://academiccalendar.dal.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=58&chapterid=2678&topicgroupid=10853>

¹⁵<http://academiccalendar.dal.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=2&chapterid=399&topicgroupid=1435>

- 3 members of the advisory committee
 - Supervisor(s)
 - Full-time department faculty member
 - One other member
- Departmental Representative, who chairs the meeting (without asking questions or voting on the outcome) and writes a report on the outcome. This person must be a regular faculty member, and not a member of the [Advisory Committee](#). (The [Graduate Secretary](#) consults with the [Graduate Coordinator](#) on the selection of the Departmental Representative, who is often a member of the [Graduate Oversight Committee](#).)
- External examiner from outside the advisory committee¹⁶

4.6 MSc thesis defence timeline


[1] Prior to proceeding with scheduling the defence, the thesis (in essentially final form) should be distributed to the [supervisor](#) and committee to be reviewed for suitability and final approval. {DK: I will check into whether FGS has a timeline, and refer to it here, if so.}

{If the list below is on the FGS website, then I think we should just refer to that. It is difficult having to keep a lot of text synchronized with FGS, and it is very problematic if the rules drift apart.}

- Six weeks prior to defence:
 - Have a format review done by FGS before the thesis is distributed to your examining committee {why “before”? I don’t think committee members care, and they might appreciate having more time to read.}
 - Submit an MSc Examination Information Form to the Graduate Secretary
 - Submit a Thesis Binding Submission Form and payment to the [Graduate Secretary](#)
 - Submit an electronic copy of the abstract to the Graduate Secretary
 - Provide copies of the thesis to the [supervisor](#) for distribution to the examining committee {DK: this seems crazy to me. There are similar rules for PhD, with the [Graduate Coordinator](#) being told to distribute; I’ve not seen that done once in 30 years}
- Four weeks prior to defence:
 - Notify the [Graduate Secretary](#) of any Audiovisual requirements
- Ten working days prior to defence:
 - Submit a printed copy of the thesis to the [Graduate Secretary](#)
- Following a successful Defence:
 - Have Examining Committee Members sign the signature page. {Does such a form still exist?}
 - Submit required changes to the [supervisor](#) within the specified timeframe.
 - Have a final format check of the thesis done by FGS.
 - Electronically submit the final version of the thesis via DalSpace¹⁷.
 - Submit original completed forms to FGS (National Library of Canada Form, Title Page of Thesis, Signature page with original signatures, Copyright Page, Ethics Pages (if applicable), Student Contribution to Manuscripts (if applicable)).

¹⁶Adjunct professors may fulfill the requirement of an external examiner.


¹⁷<http://dalspace.library.dal.ca/>

- Submit final copies of thesis to the [Graduate Secretary](#) for binding (include copies of the signed signature page, and the Copyright Page with original signatures). {DK to GOC: my notes say to delete this whole section. But I wrote “probably chop” instead of “chop” so we should revisit this. My vote today would be to delete this, and to refer to FGS rules, to avoid problems that arise when rules drift apart.} 
- Complete the [FGS](#) Exit Survey

4.7 MSc thesis defence outcome

{DK to GOC: my notes say to delete this whole section. But I wrote “probably chop” instead of “chop” so we should revisit this. My vote today would be to delete this, and to refer to FGS rules, to avoid problems that arise when rules drift apart.}

[1] Outcomes: All theses are either approved or not approved. The categories are:

- Approve as submitted
- Approved pending corrections and a clear timetable for completion (normally within one month) 
- Rejected but with permission to re-submit a revised thesis for re-examination with a clear timetable for completion (within one year)
- Rejected outright

[2] A simple majority determines the outcome, based on all the examiners except the Departmental Representative, who will vote only in the event of a tie.

[3] Following the defence, the candidate will receive a letter from the Chair of the examining committee indicating the nature of any corrections to be made and the time frame within which they are to be completed. In the event of an unsuccessful defence, an explanation of the negative outcome is provided. A copy of the report will be provided to the [Graduate Secretary](#).

4.8 Transfer to PhD

[1] An MSc student may transfer to a PhD program without completing a MSc. Students wishing to transfer [should](#) provide a letter to their advisory committee stating the reason for the transfer, and justification that they are qualified for the PhD program. A one-page explanation is sufficient. The student's [Advisory Committee](#) is required to meet, and the [Advisory Committee](#) may recommend advancement to the PhD program. A letter from the [supervisor](#), noting the date when the [Advisory Committee](#) met and justifying the advancement of the student to the PhD program, should then be submitted to the [Graduate Secretary](#) for discussion by the [Graduate Oversight Committee](#), which makes the decision on whether the student can transfer. Once this approval is granted, the students must fill in a [Graduate Student Program Update Form](#)¹⁸ to indicate the change of program.

[2] Students anticipating a transfer from MSc to PhD should take the required core courses and take the qualifying examinations (see Section 5.3) in the first year following completion of those required core classes. {DK to GOC: I may have mangled the timing here, in my edits. Let's discuss, please.}

¹⁸https://www.dal.ca/content/dam/dalhousie/pdf/fgs/currentstudents/Graduate_Student_Program_Update_Form.pdf

5 PhD program requirements

5.1 PhD course requirements

[1] Students must complete at least 12 credit hours at 5000-level or higher of OCEA courses (OCEA OCEA 5000 does not count towards this requirement), 9 of which from core courses, i.e. OCEA OCEA 5110, OCEA OCEA 5120, OCEA OCEA 5130, and OCEA OCEA 5140. For students with an MSc from Dalhousie Oceanography, core courses taken at MSc level can be waived{Q for LL: is the word “waive” correct? And what is the procedure?} for the PhD requirement. For students with an MSc from other departments or institutions: core course equivalencies will be assessed on a case-by-case basis{Q: assess whom?}. Additional courses may be required to strengthen a student's background.<<DK to GOC: I removed “in basic science” from A text, since it doesn't mean much and is incorrect, since the courses are often advanced. OK?>>.

<< vote

[2] Courses are chosen in consultation with the [Advisory Committee](#). The various sub-disciplines have individual course requirements, some of which exceed the minimum requirements, as explained below.

[3] The normal course requirements for a PhD in Biological Oceanography are:

- Core Classes: Biological Oceanography (OCEA 5140), Chemical Oceanography (OCEA 5130), and Physical Oceanography (OCEA 5120).
- A minimum of one other half-credit class drawn from Geological Oceanography (OCEA 5110) or a suitable Atmospheric Science course.<<DK to GOC: I propose deleting Atm OK?>>.
- Other classes, as required by the [Advisory Committee](#).

<< vote

[4] The normal course requirements for a PhD in Chemical Oceanography are:

- Core Classes: Chemical Oceanography (OCEA 5130), Geological Oceanography (OCEA 5110), Physical Oceanography (OCEA 5120), and Biological Oceanography (OCEA 5140).
- ~~Advanced Chemical Oceanography (modular) (OCEA 5290). {5290 not offered since 2007/9}~~
- Other classes, as required by the [Advisory Committee](#).

[5] The normal course requirements for a PhD in Geological Oceanography are:

- Core Classes: Geological Oceanography (OCEA 5110) and two other Core Class.
- Other classes, as required by the [Advisory Committee](#).

[6] The normal course requirements for a PhD in Physical Oceanography are:

- Core Classes: Physical Oceanography (OCEA 5120) and two other Core Class.
- Advanced Classes: Fluid Dynamics (OCEA 5311), Time Series Analysis (OCEA 5210), Ocean Dynamics (OCEA 5221), Estuary, Coast and Shelf Dynamics (OCEA 5222).
- Other Classes, as required by the [Advisory Committee](#), e.g. Numerical Modelling (OCEA 5220), Ocean Waves (OCEA 5223), Introduction to Acoustical Oceanography (OCEA 5250), Advanced Marine Particles (OCEA 5293).

5.2 PhD committee structure

[7] The Advisory Committee must be formed by October 1st of the first year of study.{Need to restate in terms of months in program.}



[8] The PhD **Advisory Committee** consists of at least four members. There must be two full-time faculty members from the Oceanography Department (not Adjunct-Professors) {Need new wording on adj-prof} on the **Advisory Committee**. If a regular faculty member serving on the committee leaves the department, a replacement with another faculty member must be made.

[9] One member will be from another sub-discipline, and it is desirable that at least one member of the committee be from outside the Department.

5.3 PhD Qualifying Examination

[1] The PhD Qualifying Examination (PhD Qualifying Examination, henceforth) is an oral examination based on a reading list tailored to the PhD candidate's general research area. It is a Department process, not a Supervisory Committee process. The Department delegates its administration to the regular Professors in the student's subdiscipline(s). (If the student is co-supervised by an Adjunct Professor or a cross-listed Professor, then that individual also takes part in the PhD Qualifying Examination.)¹⁹

[2] The PhD Qualifying Examination should be completed between months 9 and 12 of the PhD program. Students who have transferred from the MSc program should take the QE within 12 months of their transfer.²⁰

[3] The details and timing are as follows.

1. The Candidate prepares a 1 to 3 page <<DK: there has been some discussion (by BB and DK) of shortening this further, even to just keywords or a few sentences. I propose to put a flag in the document to invite discussion. OK?>> summary of their general research interests << vote and forwards it to their Supervisor for approval. The summary is intended to guide faculty members in compiling a reading list.
2. The Supervisor forwards the summary to faculty members in the student's subdiscipline(s), along with a request that they, and the Supervisor, each provide one or two papers (book chapters are also acceptable) to make up a reading list that is relevant to the summary. The list should not contain anything written by a member of the Examining Committee. <<DK to GOC: if we don't agree on this, there should be an indication of this in the document, to invite wider opinions.>> At least three faculty members, including the supervisor, must contribute << vote to the reading list. The list must contain between 4 and 6 papers²¹. The suggested papers must be forwarded to the Supervisor within 2 weeks of the request.²²
3. The supervisor vets the papers to ensure appropriateness, and then distributes the list to the Candidate and the relevant faculty.²³





¹⁹DK: do I have this exception correct?

²⁰DK: did we say that exceptions could be granted by the CurrComm?

²¹DK: I wrote in "6" here ... I don't recall if we set a limit, and I've seen more than 6, but I don't want us sliding into a system where every prof gives 2 papers so we can have 10 papers in total, potentially

²²I don't understand this forwarding.

²³DK to GOC: we need to discuss whether the supervisor vets the papers, and also who organizes the whole procedure. I could see an argument that papers be sent to the Graduate Secretary for organization, and that seems to be the practice in ChemOce. But of course the Graduate Secretary cannot vet papers. And I don't think we can ask the Graduate Coordinator to vet them, either. So there is an open question of whether, or how, to decide on appropriateness. In the days of "old comps" there was a committee, but the work was 5X less in scope since students wrote common exams.

4. The qualifying exam must be held within 6 weeks of the reading list being distributed.
5. It is the responsibility of the **supervisor** to form the Examining Committee and schedule the exam. The committee must include a Chair drawn from the ~~student's subdiscipline(s)~~, at least three members of the subdiscipline, including the **supervisor**, and an External Examiner drawn from the Oceanography faculty outside the sub-discipline(s) and preferably in a sub-discipline closely related to the candidates research interests. *In exceptional circumstances an External from outside the department may be nominated by the **supervisor**. The nomination must be approved by ~~at least three BO faculty members~~. The nominee must have no conflict of interest with the Candidates research programme.*²⁴ 
6. The form of the Examining Committee must be approved by at least three members of the subdisciplinary faculty no later than ~~3~~ weeks prior to the date of the exam. Once approved, the **supervisor** forwards the research summary, the reading list, and these guidelines to the External Examiner and to the Chair. The External is not required to read the listed papers.²⁵ *«Does the external provide a paper? I think there is a lot of merit in that, and I vote “yes”.»*  vote
At the same time, the Candidate is advised of the committee membership.
7. The Chair moderates the exam (see guidelines below) and does not participate in questioning. Ideally, the exam will last no longer than 1.5 hours. The exam begins with a 20-minute presentation by the Candidate who will attempt to demonstrate an understanding of the concepts and contents of the papers, perhaps highlighting common threads or links to the rest of the literature ~~or the student's plans~~, as appropriate.
8. The committee then questions the Candidate about oceanography and topics related to the Candidate's research interests where the entry points into questions and discussions are to be based on the reading material that was provided to the Candidate and Candidate's presentation. ~~The exam is not about the proposed research.~~ 
9. Upon the completion of questioning, the committee meets *in camera* to agree on the exam outcome and recommendations to the Candidate and their **Advisory Committee**, as appropriate.
10. The possible outcomes of the Qualifying Examination are:
 - (a) The candidate passes, without extra conditions.
 - (b) The candidate passes, but is informed of weaknesses that should be addressed during the PhD work, in the form of courses, audits, or directed studies.
 - (c) The candidate is required to take a written examination where in the format and time line for the exam will determined by the examining committee while meeting *in camera*. This examination will be based on the topics that arose during the oral examination and will not exceed three hours.
 - (d) The candidate is transferred to, or continued in, the MSc programme. *«DK to GOC: I added this, based on discussions with BB and others about the fact that this is a formal examination, and we had no “failure” mode. OK?»* 
11. The possible outcomes of a followup written examination are: « vote


²⁴I think the highlighted text should be deleted.

²⁵Is anyone “required”? My impression, having been at a lot of these, is that examiners often have not read the other papers, especially if they are specialized (which I think is a mistaken choice of paper, but that's just my own view).

- (a) The candidate passes without extra conditions.
 - (b) The candidate passes, but is informed of weaknesses that should be addressed during the PhD work, in the form of courses, audits, or directed studies.
 - (c) The candidate is transferred to, or continued in, the MSc programme.
12. The Chair shall report in writing to the Department Chair and the [Graduate Coordinator](#) to summarise the procedure and outcome of the exam. Copies of the report will be forwarded to the Candidate and the Examining Committee.
- [4] Guidelines for the Chair of PhD Qualifying Examinations.

- The Exam:

- Introduce the Candidate, the External and the Examining Committee as needed.
- Summarise exam procedure: presentation, questioning, in camera meeting, decision and recommendation.
- Keep presentation by the Candidate to 20 minutes; at 25 min warn a cut off.
- Announce the questioning order, beginning with External and ending with [supervisor](#).
- Limit the examination to two rounds of questioning, the second shorter than the first.
- Keep questioners on time, with 10 minutes (15 minutes for the External Examiner) on the first round, and less on the second round.
- Keep notes on the time used by questioners.
- Do not let questioners go astray—keep everyone on track.²⁶
- Discourage ~~too much~~ discussion back and forth between members of the Examining Committee; questions should be directed at the student and the student should be permitted to respond.
- Do not allow the [supervisor](#) to answer questions directed at student.
- Keep the process just, calm and professional.
- The entire exam should last no longer than 4.5 hours. <<DK to GOC: we should use history to guide this. And a nominal calculation is: 20 min + 10min/examiner*5examiner+10min/discussion yields over 2 hours even with just for one round. I propose we state 2.5 hours for the non-in-camera part . OK?>>
- Keep notes on significant issues during questioning.


 << vote

- The *in camera* meeting:

- Remind the Examining Committee of the Defence outcome options (see above).
- Ask for recommendation and comments from the External first.
- Ask remainder of the Committee, in order of questioning, for their recommendation and comments.
- Encourage either a unanimous decision, or at least a consensus one. In the case of a split decision, the Chair casts the deciding vote.²⁷
- Keep notes on significant issues that should be included in the report sent to the Chair and the departmental [Graduate Coordinator](#).

- The Report:

²⁶I don't know what this means, or how to accomplish it

²⁷DK to GOC: note that I say the chair can cast a deciding vote. The point is we cannot have a non- outcome. This is an examination; after all, and students cannot be told that the professors cannot decide whether they pass or fail.

- The examination Chair shall submit a written report to the Chair of the Department and the departmental [Graduate Coordinator](#). The report shall include a written description of the procedure and outcome of the exam and associated recommendations. The report shall be included in the Candidate's departmental file.

5.4 PhD thesis proposal and defence

[1] PhD students are expected to complete the [thesis proposal](#) and examination of the proposal within 20 months of enrolling in the graduate program.

[2] In order to proceed with the [proposal](#), the student will have completed the required first year courses, have a named [supervisor](#) and [Advisory Committee](#), and received approval from the [supervisor](#).


[3] The requirement consists of a written [thesis proposal](#) and a public oral defence. The written proposal will include an overview of the research topic and relevant background material, and a plan for carrying out the PhD research. The oral portion is a defence of the proposal, including other relevant areas of Oceanography. The topics covered in the defence may relate not just to the planned research, but also to wider oceanographic issues, as deemed appropriate by the defence committee.

[4] The defence is open to attendance by all interested persons, except for the in-camera portion in which the decision is made by the examining committee. Notices of the thesis proposal defence, including an abstract, will be distributed to all members of the Oceanography Department and will be posted.

5.4.1 Examining committee

[1] The examining committee is selected by the [Advisory Committee](#), and consists of members from that committee, external members, and a departmental representative. The [Graduate Secretary](#) will arrange for the Departmental Representative (normally the [Graduate Coordinator](#) or a designate).

[2] The Chair of the PhD proposal defence is independent of the examining committee. The Departmental Representative ~~normally~~ performs this duty.

[3] Students must make the proposal available in the Department of Oceanography office at least 10 working days prior to the oral defence. [«DK to GOC: I think we should have a form for this. OK?»](#) The proposal typically receives input from the [supervisor](#) or others prior to its submission.  [vote](#) Approval from the [Advisory Committee](#) is required to proceed with the oral defence.

5.4.2 Proposal timeline

[1] It is the student's responsibility to initiate the proposal process and develop the proposal in coordination with the [supervisor](#) and [Advisory Committee](#). Two terms are more than adequate to complete this requirement. The scheduling of the proposal defence should be planned well in advance so that it can be carried out prior to the 20th month of the program.

[2] There is no restriction on early completion of the proposal and oral exam (e.g. in the summer between first and second years or fall term of second year).

[3] Because the proposal is a formal requirement of the Department, it carries the same weight as courses, thesis defence, etc. Failure to complete the proposal within the required time frame reflects poorly on the student and can endanger standing in the program.

5.4.3 Proposal outcome

[1] Based on both the written proposal and oral defence, the [supervisor](#) will notify the [Graduate Secretary](#), [Graduate Coordinator](#), student, and examining committee in writing of one of the four possible outcomes:

- Continuation in the PhD program
- Permission to re-defend
- Transfer to the MSc program
- Withdrawal from the program

[2] Revisions, and/or a re-defence must be completed prior to the end of the exam period in the winter term. Following the defence, a copy of the approved proposal must be placed on file in the Oceanography office.

5.5 PhD thesis

[1] The expectations of a PhD thesis, and the procedures relating to its defence, are laid out in [FGS](#) documents²⁸. In addition, students are expected to give a Departmental Seminar on the thesis topic, after successful completion of the thesis examination.

6 Financial support

[1] Dalhousie Graduate Fellowships will normally be provided for two years for an MSc student and four years for a PhD student.

[2] Scholarship support is provided directly to some students by the Natural Sciences and Engineering Research Council ([NSERC](#)), the [Killam Foundation](#) through Dalhousie, by companies, and by other agencies, both national and international. Students are encouraged to apply for external support whenever possible.

[3] Full-time students without such special scholarship support are usually awarded Dalhousie Graduate Fellowships from funds that come mainly from individual faculty members' research grants, with a ~~minor~~ contribution from [FGS](#).

[4] Students may also receive extra support by taking on a teaching assistantship, or by demonstrating in undergraduate laboratories.

[5] Students should discuss any additional ~~jobs~~ with their [Advisory Committee](#) to ensure that the time commitments outside the Department are not excessive, and do not interfere with program expectations. (The university also imposes limits on external commitments.)

[6] Graduate students are eligible to apply for one [travel grant](#) per degree at Dalhousie (Master's or Doctoral) through the [FGS](#)²⁹. Applications must be submitted through the [Graduate Secretary](#) at least one month prior to the date of travel. Students must be registered in a graduate program at the time of application and at the time of the conference. In order to be eligible, students must present a poster of paper based on the results of their graduate thesis research at a national or international scholarly meeting or conference. ~~Departmental approval must be given to these applications~~³⁰.

²⁸<https://www.dal.ca/faculty/gradstudies/currentstudents/thesesanddefences.html>

²⁹FGS Conference Travel Grant Application Form and Guidelines .

³⁰~~DK to LL: do we actually approve the~~ 

7 Intellectual Property and Conflict of Interest

[1] Section VI of the FGS calendar³¹ lays out guidelines on [intellectual property](#), [conflict of interest](#), [intellectual honesty](#), [plagiarism](#), [scholarly integrity](#), etc., and students are expected to be familiar with and follow these policies.

8 Procedures for Student Academic Appeals

8.1 Introduction

[1] The procedures detailed below will be followed in cases where a student wishes to appeal an academic procedure, other than a grade, on the set of criteria detailed in section 8.2. (Grade appeals are handled by the University's Registrar.)

[2] The regulations and procedures given below cover appeals launched by both undergraduate and graduate students in the Department of Oceanography at Dalhousie University.

[3] These procedures do not apply to labor disputes between an employee (be that person a student, post-doc, etc.) and an employer (faculty, staff) in regard to working conditions. Persons wishing to dispute a labor condition should consult either the Chair of the Department and/or their union agreement, if applicable, or the laws governing labour relations in Nova Scotia and the procedures detailed therein.

[4] These regulations do not apply if the cause of the dispute centers on discrimination based on gender, race, nationality, sexual orientation, gender identity, official language, or disability. The complainant in such cases must contact the Dalhousie Office of Human Rights, Equity & Harassment Prevention for procedures in such cases. Nor are these regulations applicable to cases of sexual harassment, assault, criminality, etc., where Dalhousie Security or Law Enforcement should be involved.

[5] There are no appeals on admission decisions, including transfers to the PhD program.

8.2 Basis for an Appeal

[1] The procedures below apply to the administration of qualifying and preliminary examinations, comprehensive examinations, thesis proposal defenses, and Master's thesis defenses. Results (grades) of such examinations cannot be appealed as oral portions cannot be regraded.

[2] Appeals related to Doctoral defenses must be directed to Faculty of Graduate Studies in the first instance.

[3] Appeals of course examination grades (re-grading) are direct through the University Registrar's Office.

[4] The grounds for appeal are limited to the following. For all these grounds, the onus is on the appellant to prove, through factual documentation, that such conditions existed.

1. Procedural Unfairness. (This means that the method used to administer the academic process, e.g., an exam, was unreasonably and inherently stacked against any person attempting the process. Note: exams and their content, in and of themselves, are not procedurally unfair.

³¹<http://academiccalendar.dal.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=58&chapterid=2678&topicgroupid=10849>

Differences in how an exam is administered between the sub-disciplines in the Department also does not constitute unfairness, as long as the method is applied consistently within that sub-discipline.)

2. Bias. (This means that the process was conducted in such a way as to disadvantage the particular appellant, relative to other persons undertaking the same process.)
3. Irregularity in Procedure. (This means that the process did not follow the procedures set in the regulations and guidelines governing the actions of the Department and its faculty.)
4. Inappropriate or Unfair Expectation(s). This means that the deliverable of the process could not reasonably be expected of a person who undertakes assiduously, genuinely, and accurately the steps leading to completion of that process.)

[5] A written appeal must be submitted to the Chair of the Department of Oceanography within 30 days following the event or circumstances being appealed.

[6] The appeal submission must include:

1. A description of the exact nature of the appeal, including a summary of events and chronology
2. Specific details of the alleged unfairness, bias or irregularity, and any other relevant consideration or information
3. The requested resolution of the appeal, which is limited to a reasonable academic action(s).

[7] The submission of an appeal will engender the following actions by the Chair of the Department:

1. The Chair will contact both the appellant and the person responsible for the process being appealed to see if an informal resolution is first possible, and
2. Failing an informal resolution, the Chair will constitute an Ad Hoc Appeal Panel for that specific appeal. The nature of and procedures for that Panel are detailed below in section 8.3.

[8] Decisions of the Ad Hoc Appeal Panel are forwarded to the Chair, who will communicate the decision in writing to the appellant.

[9] Decisions of the Ad Hoc Appeal Panel are subject to further appeal to the Faculty of Science (undergraduates) or the Faculty of Graduate Studies (graduate students), or Senate, as regulations in those administrative units specify.

8.3 The Ad Hoc Appeal Panel

[1] Decisions on appeals are made by an Ad Hoc Appeal Panel.

[2] The Panel does not have fixed membership. Instead, it will consist of ~~three~~ faculty members, chosen on a fixed rotating basis from all the faculty in the Department. The professor(s) responsible for the process being appealed will be excluded. For graduate students, the student's ~~supervisor~~ or co-supervisors, or for undergraduates, the student's honors supervisor (if applicable) will also be excluded from the list.

[3] An appropriate graduate student (for undergraduate appeals) or Post-doctoral fellow (for graduate appeals) will constitute the fourth and final member of the Panel. Any student on the Panel will not have a personal or academic conflict of interest with respect to the appellant. For undergraduates, the student will be chosen from ~~the graduate students~~. For graduate students, the ~~student member~~ will be chosen from the ~~Post-doctoral Fellows~~, without conflict of interest.

~~[4] The Panel will examine the appeal and determine if a *prima facie* case exists for the appeal. (*Prima facie* in this context means the appeal document contains sufficient evidence to support the stated claim.) If such a case exists, then the Panel will convene a formal Appeal Hearing at the first opportunity when all involved, i.e., appellant, the faculty member who owns the process, and the Panel members can meet to hear verbal arguments on the appeal, but preferably within three weeks of constitution of the Panel. If there is no *prima facie* case, the Panel will inform the Chair and the appeal will be dismissed at the Departmental level.~~

[5] If a Hearing is convened, the Panel will choose a Chair who will control and direct all communication.

[6] The Chair of the Panel will make the faculty owner of the process aware of the appeal and provide, in a timely manner, a copy of the appeal document to the process-owner (faculty member).

[7] Before the Hearing, the process owner will provide the Panel with a written rebuttal to the appeal within 5 working days of the appeal being received. (Exceptions will be made to accommodate persons being at sea or subject to other serious limitations in availability.) The Panel will forward that rebuttal to the appellant.

8.4 The Appeal Hearing

[1] The Hearing will adhere to the following steps:

1. The Chair of the Panel will direct the flow of the Hearing, making sure both parties are properly heard, and directing questioning;
2. The Chair of the Panel will first invite the appellant to present and explain their case; this will be followed by an invitation to the faculty member owner for a rebuttal;
3. Neither the appellant nor the owner can ask questions during these presentations; however, any Panel member may interrupt the presentation to ask questions;
4. At the end of the presentations, the appellant will be invited to direct questions to the faculty owner for the purpose of seeking clarifications (only); after that is completed, the faculty owner will be invited to do the same; the Panel members may interrupt these questioning sessions at any time to ask their own questions; the Chair of the panel will ensure that this questioning remains civil and on topic;
5. At the end of the questioning, the Chair of the Panel will ask the appellant and faculty owner to leave and convene an *in-camera* discussion of the presentations and Appeal Document, the Panel will decide on the validity of the appeal and of requested resolution.

[2] The Chair of the Panel will communicate, in writing, the decision of the Panel within 3 working days (except for serious time conflicts such as noted those mentioned at 8.3.7 above).

[3] In an appeal process, the student has the right to representation. The student is required to inform the Chair of the Panel, in writing, if s/he will have a representative at the appeal, or intends to call witnesses.

[4] Witnesses may be called by either party, but only if those witnesses can testify about direct knowledge of the matter. No character or indirect testimony is permitted. The Panel Chair must be informed 72-hours before a Hearing if a witness(es) will be called, along with that person's


identity and significance to the Hearing. The Chair of the Panel will then inform the other party of the witness(es).

[5] No persons providing solely moral support can be present at a Hearing. A person providing aid to someone with a disability is permitted, as is a translator, but such persons cannot testify at a Hearing.

8.5 *Supplementary Points*

[1] The Ad Hoc Appeal Panel has no jurisdiction to hear student appeals on a matter involving a requested exemption from the application of Departmental, Faculty or University regulations or procedures, except when irregularities or unfairness in the application thereof is alleged. This means that only procedural issues, and not the merits of the regulations, are subject to appeal.

[2] The Ad Hoc Appeal Panel may not render decisions counter to Departmental, Faculty or University regulations, nor can it make decisions that go beyond strictly academic matters, e.g., financial or administrative. If the requested resolution contains such points, these must be ignored and dismissed.

[3] Matters involving allegations of “failure to supervise” by a graduate student will be referred directly to the Faculty of Graduate Studies for resolution. 

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