IMBRSEA THESIS WORK

Thesis Guidelines Thesis Evaluation Thesis Timeline

This document provides an overview of all thesis regulations, documents and procedures that are implemented for the IMBRSea Master Programme

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1. THESIS WORK - AN INTRODUCTION

Thesis work is an integrated part of the IMBRSea Master Programme and is credited for 30 ECTS. All students are doing thesis work during their fourth semester (starting after finishing the courses at the third semester University) in one of the member institutes of the network (main or associated).

During thesis work students are focusing on a specific subject for a certain amount of time. The students work independently albeit under supervision of a thesis supervisor and promoter (promoter can be the supervisor). During thesis work, students are able to apply techniques and knowledge they gained during the courses in the three previous semesters. The final product is a written report stating the main results presented in a scientifically correct way. Thesis students also present and discuss their results on a thesis symposium.

2. THESIS WORK - TIMELINE OVERVIEW *

*exact timing is subject to change on a yearly basis

November Academic year 1:

- Partners of the IMBRSea network are invited to send updated research lines in which they would like to receive thesis students to the IMBRSea coordination office (see section 3).
- Thesis research lines are checked and approved by the programme board and bundled in a Thesis Research-line catalogue.

• January Academic year 1:

 The Thesis Research-line catalogue is provided to the students which enables them to find a thesis topic that matches their interest. Students will contact potential thesis supervisors and negotiate a topic.

May/June Academic year 1:

- Students submit a thesis project to the coordination office making use of an electronic form available on the electronic thesis platform (Matix -www.thesis.ugent.be). Thesis project descriptions include a title, an abstract, a work plan, contact details of supervisor and promoter and an agreement of the promoter to welcome the student for the particular thesis subject.
- Students can submit thesis topics at a non-IMBRSea partner, only after approval by the IMBRSea programme board. Therefore, students have to contact the IMBRSea coordination office before May of year 1, in order to discuss the feasibility of the topic, the partner, and other potential issues.
- The following timelines apply for the submission of thesis topics:
 - <u>15th of May of semester 2</u> (for thesis topics hosted by institutes that are not a partner of the IMBRSea consortium yet)
 - <u>15th of June of semester 2</u> (for thesis topics hosted by institutes that are already a partner of the IMBRSea consortium)

• June Academic year 1:

- Research projects are checked during the programme board organized during the annual symposium. Projects can be approved, rejected or conditionally approved. In the last cases students will get time until end of August to formulate a new project or to improve the original topic.
- During the annual symposium, students prepare one slide introducing their proposed thesis subject. The aim of the slides is to inform fellow students about the different topics that will be studied and to give them the chance to discuss and interact (for instance about techniques that will be used during the thesis work).

July-August Academic year 1:

- Depending on the selected thesis topic, students have the possibility to prepare the thesis work by collecting samples, literature study, first practical work,... In this case the coordination office will be informed about these stays in order to ensure insurance regulations are taken care off.
- January-June Academic year 2:
 - Students work full-time on the thesis project at the respective thesis institute.
- March Academic year 2:
 - By the end of March (semester 4), each promotor/supervisor provides the name of 2 independent thesis evaluators who will read and evaluate the thesis.
- June Academic year 2
 - By the end of the first week of June (the exact date may change yearly) students submit the thesis in electronic and paper format to the IMBRSea coordination office.
 An online thesis submission form will be made available. Upon submission, students

- receive an email of confirmation. Students who did not manage to submit the thesis by the deadline have a second opportunity in early August. Note that only students submitting the thesis in June, are eligible for IMBRSea performance awards (Best thesis prize and Carlo Heip award for most deserving student).
- Week 2 & 3 of June: The coordination office sends the thesis and thesis evaluation forms to the thesis evaluators. Each thesis is evaluated by 2 evaluators. The thesis supervisor is invited to evaluate the work performance of the student. All evaluations are collected at the coordination office. At the end of week 3, students will receive written feedback from each of their 2 evaluators in an anonymous way.
- Week 4 of June: All students come together during the thesis symposium. At this symposium each thesis is presented through an oral presentation followed by a public debate including the thesis evaluators and the public present in the room. In case evaluators cannot be present physically, interaction is possible through Video Conference. All the presentations are also recorded and broadcasted in real time.
- End of week 4 of June: The IMBRSea examination board uses all presentation and thesis feedback reports to assign a final score. This score will appear on the diploma.

Remarks:

- Students who do not submit the final thesis in June also give a presentation during the thesis symposium and will receive a score for this presentation. This presentation score will be taken into account for the calculation of the final thesis score.
- Students submitting their thesis early August will go through the same evaluation process as
 described earlier: Two independent evaluators will read and evaluate the thesis. Depending
 on the rules of the host institute, an extra thesis presentation may be organized locally. By
 mid-September a final thesis score is awarded based on the reports of the readers and the
 earlier presentation during the annual symposium.

3. THESIS GUIDELINES

3.1 Publication of Research topics for theses on IMBRSea website

- Each year, thesis research lines are collected by the Coordination office. On the online thesis platform (Matix -www.thesis.ugent.be) research lines from IMBRSea Partner Universities and IMBRSea Associated Partners will be posted.
- Each research line must be documented with the following information:
 - 1. Host organisation
 - 2. Title
 - 3. Contact person for this research line
 - 4. Short description of the thesis research lines
 - 5. Language requirements
 - 6. Specific competences required
 - 7. Location where the thesis research will take place
 - 8. Accommodation possibilities
 - 9. Any additional costs to be covered by the student

3.2 Responsibilities of thesis (co-) promoter / thesis supervisor

• Promoter :

- o professor or post-doc (depending on the local regulations of the host institute)
- o member of the host institute of the students (IMBRSea partner: main or associated)
- fully responsible for the implementation of the thesis work (can be a supervisor as well)

• Supervisor (s):

- at least 3 years of relevant scientific experience
- o does not have to (but can) be a member of the host institute
- o responsible for the daily follow up of the thesis
- <u>Co-promoter</u>: if applicable,
 - this can be any person relevant for the thesis at the professor or post-doctorate level (can be a supervisor as well)
 - o does not have to (but can) be a member of the host institute

3.3 Preparation of the Thesis

• IMBRSea students can start with the preparation of the thesis (literature study, introduction, collection of samples,...) during semesters 2 and 3. However, this must not interfere with the other courses planned in these semesters. In principle, semester 4 (January to June) is fully available for the thesis preparation and thesis submission. Therefore, these activities have to be supervised by the thesis promoter/supervisor. The students, stimulated by their supervisors, will organise their thesis work in a way that enables them to submit the thesis

in the first session exam period (June). Only with motivated exceptions, thesis submission is possible in August (for concrete dates see end of this document)

• During thesis work, all students are insured against the consequences of physical accidents and against liabilities towards third parties, via the insurance of Ghent University.

3.4 Thesis format

The thesis must be written in English, and should have the format of a scientific publication. Contents:

- Executive Summary (max 400 words)
- Abstract (max 200 words)
- Introduction & Aims
- Material and Methods
- Results
- Discussion
- Conclusion
- Acknowledgements
- References

3.5 Remarks on the thesis format

The expected level and quality of the thesis should equal a scientific publication in a peer-reviewed journal. This means that the thesis is not evaluated on the basis of the number of pages, but much more on the basis of quality and conciseness of the work.

The Executive *Summary* (400 words) contains a summary of all relevant information documented in the thesis (introduction, M&M, Results, Conclusion).

The Abstract (200 words) is conform the summary but without detailed information about methods end results.

The *Introduction* should contain the state of the art of the subject, with references to relevant recent literature; when the thesis is part of a broader research project, the content of the project can be mentioned as well.

The Aim of the thesis is presented clearly (if opportune together with the working hypotheses, which have to be discussed in "Discussion" and "Summary").

The *Material & Methods* section contains the design of the research: e.g. experimental design, area description, sampling methods, analysis methods, statistical design and methods,...

The *Results* section gives an overview of the most important data, both in written text, figures and tables. All the raw data have to be added in annex and be sent in a digital format (CD/DVD, USB, shared cloud space). Copies of the data will be archived at the VLIZ (Flanders Marine Institute – Data Centre). The data have to be presented in a logical order; each table, figure,... must be attended by a legend which contains all necessary information to understand the table or figure

The *Discussion* section offers a critical analysis of the interpretation of the data, compared to the available literature.

In the Conclusions, a brief summary of the main findings (original data, lesson learned,...) is given.

The Acknowledgements refer to the funding agencies, field workers,...

The *Reference list* is limited to the literature cited within the text.

3.6 Data ownership

- All data belong to the institute of the thesis promoter/supervisor according to the data
 policy between the collaborating institute partners. Depending on this data policy,
 IMBRSea students might send their thesis in for publication to a peer-reviewed journal
 (only after consultation with the thesis promoter).
- The IMBRSea coordination office is not responsible for any eventual conflicts within this context.
- Each thesis should contain the following phrase on the inside of the front page: 'No data can be taken out of this work without prior approval of the thesis promoter / supervisor (*)'

(*): this has to be discussed beforehand by the promoter/co-promoter and the thesis supervisor

3.7 Plagiarism

Plagiarism is considered to be a form of fraud and an irregularity within the IMBRSea study programme. To commit plagiarism is to present (parts of) a source as original and your own, without adding any acknowledgements. It can relate to different forms of production, such as texts (written, oral), images (photographs, film, graphs, diagrams, figures, etc.), databases, ideas,... When fraud is detected in the Master Thesis, the full examination board of IMBRSea will discuss and decide about the consequences for the student.

3.8 Data policy

- All thesis output will be archived on the Marine Data Archive (MDA). This archive was
 developed by VLIZ to provide a backup and storage system for files (data, metadata,
 graphics,...) related to marine sciences and if required, to be able to share them within a
 context with other scientists. All files stored in the MDA 'shared', are restricted within the
 context and data can only be used conform the data policy of this context.
- The Data Policy-document will be generated after the thesis has been submitted completely. The student and the thesis promoter will receive a completed and signed copy after submission.

3.9 Thesis Presentation/Defence

- <u>End of June</u>: IMBRSea students will present the results of their thesis work during the IMBRSea annual symposium, to be organized by one of the IMBRSea partner universities. Students give an oral presentation (15 minutes), followed by a discussion.
- If the thesis is not submitted during the first session exam period of the second master year, the thesis can be submitted in August. However, students (and supervisors) will be strongly encouraged to finalise the thesis by June.

4. THESIS EVALUATION

4.1 General information

- The Thesis manuscript counts for 75 % of the final grade; the oral presentation for 25%.
 In case students finalise their work in August, they have to present the status of their progress of the thesis in June. Even if results are still missing, the 'oral' part of the presentation will be graded (final grading on the thesis will only take place when the thesis work has been finalized).
- The full thesis has to be submitted in PDF file to the IMBRSea coordination office.
- The student has to submit two hard copies of the thesis to the IMBRSea coordination office. The hard copies have to be sent at the latest on the day of the submission deadline (postmark counts).
- The Examination/Reading Committee of the thesis consists of two members, of which at least one member must belong to one of the IMBRSea consortium partners. The two readers must belong to different institutions.
 - The thesis promotor and supervisor evaluate the performance of the student during the thesis research period.
 - When accepting an IMBRSea thesis student, the thesis promotor (and supervisor)
 agrees to act as reserve reader for the IMBRSea programme in case a designated
 reader does not comply. In case the promotor would have to act as a reserve
 reader, this will be for another student than the one they are supervising.
 - The thesis promoter/supervisor proposes a possible composition of the Examination Committee by the end of <u>March of semester 4.</u>
 - The examination committee for each thesis has to be approved by the IMBRSea programme Board by the end of <u>May of semester 4.</u>

The readers should have a Ph.D. or at least 3 years of relevant scientific experience.

4.2 Evaluation criteria

Following aspects are evaluated (including their respective weight in the score):

• Written report :

o Title, Abstract, Summary: 10 %

Introduction, Background and context: 15 %

Methods: 15 %Results: 20 %

Discussion: Interpretation within the research context: 30 %

Layout: 10 %

• Oral presentation :

Visual appearance : 20 %

Content: 30 %Presentation: 30 %

o Contextual awareness and critical thinking: 20 %

In the scoring table below the score band from "insufficient" to "excellent" is explained for each of the above listed aspects.

Thesis Content:

날	Grade and score band (out of 20):						
Element	Weight	Insufficient	Sufficient to Satisfactory	Good	Very good	Excellent	
H	5	0-<10	10 - 13	14-15	16 - 17	18 - 20	
Title, Abstract and Summary	10%	Omission of either Abstract or Summary.	Executive summary repeats the Abstract without discernment. Main conclusions are incompletely presented. Purpose is not clear. Ill- focussed summary and/or abstract.	Abstract and summary present the main conclusion from the study. The purpose of the study (i.e. hypothesis, objectives, questions) is specifically stated. Summaries complicated by inclusion of much superfluous material.	As for Good, but description includes some material of little relevance.	As for Very good, but only material of particular relevance are summarised. Indicative of highly developed skills in discerning and summarising the salient outcomes.	
Introduction: Background and context	15%	No reference to relevant literature. No evidence of library skills. Presents insufficient understanding of the question. Aims and hypotheses are not stated.	identify the topic but with little prioritising. Sparse or irrelevant referencing. Little evidence of library	Description of topic demonstrates an acceptable grasp of the subject material. Evidence of a reasonable familiarity with the relevant literature. Presents a proposal for new research, but indicates limited evidence of capacity for original and logical thinking.	Demonstrates strong grasp of the subject matter. Comprehensive referencing indicating discerning research of the topic. Identifies the strengths and limitations of previous work, and presents a logical progression to the research topic. The aims and significance of the new work are clearly stated. Displays some original insights and capacity for creative and logical thinking	Displays strong ability to organise, analyse and express ideas and arguments in an original, sophisticated and discriminating manner. Mastery of the subject matter is demonstrated through an interesting and complex account of the significance of the research topic, and the importance of the questions posed. Richly supported by relevant citation. Indicates a foretaste of an original contribution.	
Methods	15%	Poor analytical skills. Methods are used inappropriately for the particular research question. Formulaic application of methods demonstrates very poor understanding of the procedures used. Level of detail is insufficient to allow a reader to repeat the procedure.	Materials and Methods are presented without context. Methods are sometimes used inappropriately for the particular research question. Formulaic application of methods demonstrates little understanding of the procedures used. Sufficient detail is presented to allow repetition of the procedure	Sufficient detail is presented to allow repetition of the procedure. Materials and Methods chosen are presented in cortext. Appropriateness of the methods chosen is established. Use of the methods is mainly correct.	As for Good, but methods are consistently used correctly. Succession of methods employed demonstrates a clear understanding of strengths / limitations of each procedure.	As for Very good, but also demonstrates innovative adaptation of methods and procedures, as appropriate to the peculiarities of the research question. Selection and adaptation of methods indicates highly-developed analytical capacity.	
Results	20%	Results of marginal relevance predominate. Enrors in the presentation of results. Random and undisciplined demonstration of the results. Limited structure.	Tables & Figures are presented without context. Some superfluous results are included. Errors in the presentation of results. Presentation of results demonstrates only a basic understanding of relevance to the topic. Unde	Appropriate Tables & Figures are presented. Important results are highlighted in the text of the Results section. Correct presentation of Tables & Figures (e.g. Title, axis labels, units given, appropriate captions). Few factual errors in the presentation of the results. Intellectually competent interpretation of gesults.	As for Good, but without errors in the interpretation of results Presentation is distilled to exclude superfluous results Logical sequence to presentation demonstrates a well-developed capacity to analyse issues, organise material, and present results clearly and cogently.	As for Very good, plus capacity for critical analysis is surther demonstrated through presentation of the results in a manner that builds the scientific argument. The results section establishes the basis for discussion without itself becoming discursive.	
Discussion: Interpretation within the research context	30%	Failure to place the topic in context resulting in a largely irrelevant discussion. Inadequate knowledge displayed related to the research question(s). Very serious ornissions / errors in logic and/or major inaccuracies included in interpretation.	Some relevant points presented, but discussion is descriptive rather than argumentative / analytical. Basic or confused grasp of the context. Somewhat lacking infocus and structure. Conclusions are not well argued or poorly substantiated. Lacking evidence of capacity for original and logical thirking.	Basic contextual understanding indicating average critical awareness and analytical skills. Pros and cons are recognised but without resolution, ideas are stated rather than developed and are insufficiently supported by evidence and relevant citation. A convincing scientific argument is not made. Weak conclusion or jumps to a conclusion.	Context well understood. Research outcomes are placed within the scientific cortext. Well supported by syrthesis of evidence and relevant citation. Uses appropriate structure to resolve issues in a convincing argument. Conclusions are balanced and well-reasoned.	Displays penetrative insight, originality and creativity to make original arguments in ownwoice. Arguments are amply supported by evidence and relevant citation, reflecting deep and broad knowledge and critical insight. Evidence of extensive reading demonstrated through discerning selection and synthesis of relevant literature. Conclusion generates original issues for subsequent study.	
Layont	10%	A random layout/ underdeveloped structure. Insufficiently planned. Lack of clarity. Confused expression. Poor spelling and grammar.	Ineffective presentation. References incorrectly formatted. Report not completely written in accordance to standard scientific practice. Little evidence of proof reading.	Report written according to standard scientific practice. Most references are correctly formatted. Writing of sufficient quality to corvey meaning but some lack of fluency and command of suitable vocabulary. Few typographic errors.	As for Good, but with consistently correct referencing format, and clear evidence of proof reading.	Presentation indicative of an excellent ability to organise, analyse and present arguments fluently and lucidly with a high level of critical analysis. Strong evidence of care in presentation. Free of grammatical errors and typographic errors. Scholarly prose and writing style.	

Presentation:

Element	Weight:	Grade and score band (out of 20): Insufficient	Sufficient to Satisfactory	Good	Very good	E xc ellent
<u>8</u>	Vei					
ш	>	0 - <10	10 - 13	14 - 15	16 - 17	18 - 20
Visual appearance	20%	Poor planning, organisation and flow-logical order is not clear. Text size is too small to view comfortably by a conference audience. Graphics/media are not used, OR, superfluous, irrelevant graphics/media are used. Too muchtext The slides demand an overwhelming amount of reading, OR, Not enough text: The audience cannot readily understand the relevance of the graphics/media. Many errors in gramm ar, punctuation, and spelling.	Title poorlyrefined, not explicitly informative of topic. Presentation is not immediately visually appealling or engaging. Unnece sary graphics/media are included, complicating the interpretation of crucial ideas. Little logical order is apparent in the organisation and flow. Maintext size is OK, but some text remains too small to read by a conference audience. Use of Text, Graphics and Media are somewhat out of balance. Limited evidence of proofreading-Many errors remain in gramm ar, punctuation, and spelling.	■ Inbmative title presents the main argument of the presentation. ■ Overall appearance is visually appealing and interesting. ■ Organisation and floware implicit. Headings or other devices imply organization and flow. ■ All text is easy to read by a conference audience. ■ Text, Graphics and Media are well-balanced. ■ Graphics and Media generally relate to the text and oral presentation. ■ There is evidence of some proof reading, but several errors remain in grammar, punctuation, and spelling.	annual, to proceed an game one order, in	As for Very good, and: Appropriate and relevant audio- issual aids are used to enhance vi- presentation. Visual appearance indicates an exceptional ability to organise and present information for oral presentation. There is strong evidence of care presentation, prose and writing sty Free of grammatical & typograp errors.
Content	30%	Author is not identified. Does not clearly identify the question being addressed. The aims of the project are not identified. Irrelevant information is included. Basic understanding of the topic is not demonstrated.	Author identification is incomplete: There is insufficient information presented to contact the author. Concept and ideas are loosely connected, but the content lacks clear transitions, flowand organisation. Enough information is presented to identify the question but little critical awareness of the cortext is displayed. The aims of the project are identified, but only implicitly. Important details are omitted, OR, There are so many details that the main idea is lost.	Author identification is complete: There is sufficient information to contact the author without further research. Content is mostly presented in a logical sequence and generally very veil organised. The objectives of the project are identified. Main conclusions or assertions are made, but only implicitly.	As for Good, and: A strong grasp of the research question is demonstrated. The objectives of the project are identified explicitly. Main conclusions or a ssertions are made explicitly.	As for Very good, and: The organisation is logical: a de foworfideas links one section to the rest. The relevance and importance of the project objectives are made extremely clear. Key assertions or conclusions as given prominence, yet the presentation is tree of unnecessar detail.
Presentation	30%	Presentation is grossly too long OR too short. Audience cannot understand presentation because there is no logical sequence of information. Oten insufficient on loud. No eye contact with the audience, speaker reads of note cards or directly from the screen.	Presentation is made within a minute of the allotted time. Audience has difficulty following presentation because the sequence is disjointed. The significance and relevance of the project are mertioned without emphasis. Mostly presented facts with little or no imagination. Sometimes inaudible, OR too loud. Little eye contact with audience, speaker often reads from the screen	Presentation is made within the allotted time. Audible and clear articulation but not polished. Presentation follows a logical sequence which the audience can follow. The presentation was reliant on notes, OR made to the screen rather than to the audience.	As for Good, and: Articulation is audible and clear, with some erthusiasm or expression. The audience was engaged with eye contact and energy -infrequent reading or use ornotes. Props used during presentation sometimes aid understanding.	As for Very good, and: Oral presentation was logical, crand persusative. The audience was engaged with eye contact and energy -the presenter was not reliant on notes. Relevant props always aid the presentation.
Contextual awareness and critical thinking	20%	The context of the topic is not presented resulting in a largely irrelevant presentation. Inadequate knowledge displayed related to the research question(s). Yery serious omissions / errors in logic and /br major inaccuracies included in the presentation. Response to questions demonstrates poor preparation and articipation, and a poor grasp of information: student cannot answer questions about subject.	Some relevant points presented, but the presentation is descriptive rather than argumentative /aralytical. Basic or confused grasp of the confext. Somewhat lacking in focus and structure. Conclusions are not well argued or poorly sub-stantiated. Response to questions demonstrates little preparation or anficipation: Student is uncomfortable with information & can only answer rudimentary questions.	indicating average critical awareness and analytical skills. I cleas are stated rather than developed and are insufficiently supported by evidence from the research context. Response to questions demonstrates some preparation and anticipation Student is at ease with expected answers to all questions, but	outcomes are placed within the scientific context. • Well supported by synthesis of evidence and relevant citation. • A convincing argument supports sound conclusions. • Response to questions demonstrates good preparation and	Displays penetrative insight, originality and creativity. Use of evidence and relevant contextual reference demonstrates deep and broad knowledge and critical insight. Response to questions demonstrates substantial preparatarticipation, knowledge of the subjand its cortext. Substantial preparatarticipation, knowledge of the subjand its cortext. Substantial substantial substantial preparatarticipation, knowledge of the subjand its cortext.

5. Agenda for thesis submission and defense for cohort 2018

5.1 First session exam period

- Manuscripts of the thesis (in pdf format) should be submitted to the IMBRSea coordination office by June 5th, 2020, 4 pm (CET). Guidelines on the submission procedure will be communicated by May 11th, 2020.
- Thesis presentations for the oral defense must be submitted by the 15th of June 2020.
- Oral presentation and defense is organized on June 22-26, 2020, during the Annual Symposium.

5.2 Second session exam period

- Manuscripts of the thesis should be submitted by August 3, 2020, 4 pm (CET).
- Oral presentation of the preliminary results of the thesis presented on June 22-26, 2020, during the Annual Symposium (together with all first session students).