

Information for Masters Students 2012

Welcome to the Masters program in the School of Earth Sciences!

A Masters degree allows you to build on your formal undergraduate training through advanced level coursework and, in particular, an extended research project.

Some introductory notes regarding the Masters program:

- Duration :** Two years full-time (200 points); four-years part-time
- Start of Course:** Masters Department Introductory talk at 10.00am on Wednesday Feb. 1, 4th floor tea room. **NOTE:** There will be a couple of short courses during the first two weeks, times and locations to be announced. There will also be a First Aid course on Friday, February 3rd in the Skeats lab. Keep the first couple of weeks free.
- Makeup of Masters:** Coursework (75 points) and a research project (125 points), consisting of a literature review (5%), an oral presentation (5%) and a thesis (90%).
- Supervision:** Your supervisor(s) are central to your Masters: they are there to help you! Talk to them! If additional problems arise – scientific, financial, personal, or whatever – the Masters Coordinator, the School Manager, the Head of School and other staff members will also be happy to help you.
- Success in Masters:** Organisation, hard work and good humour!

Good luck in your Masters!

Kevin Walsh
Masters Coordinator

Course Components

The assessment of the Masters year involves three components:

Coursework – 75 points: You will be assessed on 6 Masters subjects, consisting of an appropriate mix of VIEPS and/or MTEC level courses, professional subjects and 3rd-year subjects (see <http://www.earthsci.unimelb.edu.au/~kwalsh/info.htm> for further information). Decide on these in conjunction with your supervisor(s) and enroll in your courses as soon as possible. Coursework is to be completed as early as possible, to allow you to focus your attention on your research project. Consult with your supervisor.

The Masters coordinator will send you instructions regarding which University of Melbourne subjects to enroll in to satisfy the University's coursework requirements, depending on which VIEPS and MTEC subjects you select.

Research Project – 125 points: The Thesis is the most important product of your Masters. Among other things, the preparation of the Research Report will involve careful planning of what you wish to present and how you discuss and interpret your findings. Clear identification of objectives, evaluation of the methodologies adopted and critical appraisal of the results obtained form important aspects of a successful Report. More information can be found at www.earthsci.unimelb.edu.au/honours, under "Information for Current Students".

Your first task will be to complete a literature review, which will count for 5% of your research project mark. This component consists of a critical review of relevant literature for your research project. It should indicate how your research relates to the literature, and include a plan showing what your research will involve and why. More information is provided at the Earth Sciences Honours/Masters website (www.earthsci.unimelb.edu.au/honours), under "Information for Current Students".

Submit three copies in the format described in Appendix 1, to the School Office. For full-time students, the deadline for this will be **June 1, 2012**. For part-time students, consult with your supervisor and a deadline will be negotiated with the Masters coordinator. Late submission of your Literature Review will normally attract a penalty of 5% of the mark per day. If there is good reason for lateness (e.g. ill health), get your supervisor to inform the Masters Coordinator in writing prior to your submission date.

Marked literature surveys are usually handed back in August. You have the right to request additional feedback on your survey in addition to your mark. Contact the Masters coordinator in this case.

Your next task will be to compile your thesis. Appropriate material from your Literature Review may be incorporated into your thesis; for example, the Review may form the basis of the Introduction and/or of Chapter 1 in the thesis.

Use appendices to the thesis to provide source material for completeness: for example, the source and structure of meteorological data, description and location of specimens, computer programs, data tabulations and additional graphical presentations.

The typical deadline for the Masters thesis will be in mid-October of 2013 for full-time students starting in February 2012. Late submission will normally attract a penalty. If there is good reason for lateness (e.g. ill health, equipment failure), get your supervisor to inform the Masters Coordinator in writing prior to your submission date.

Integral parts of the Masters year include:

Oral Presentation: You will give a 20 minute formal presentation of your research results to the School later in the Masters program, usually in mid- to late September of your 2nd year (for students starting in semester 1). This will comprise 5% of your mark and detailed feedback on your performance will be provided.

First Aid: Students undertaking field work in remote locations will be expected to take a First Aid Course in February. For mid-year start students, consult with your supervisor about arranging this.

Four Wheel Drive Course: This will be arranged for students who need this capability for field trips. You will need written permission from your supervisor. Consult the Masters coordinator for further details.

Literature Searching and Citing: A short course will be given on this topic early in the Masters year. All students are strongly advised to attend, depending on their existing background. Mid-year start students should consult with the Masters coordinator if they wish to arrange a course.

General Introduction to Computing Facilities: A short introduction to the available computing facilities will be given early in the Masters year.

Graphics: A short course on graphical file formats and elementary graphics using Adobe Illustrator will also be given early in the year.

Introduction to Unix computing: A short course will be given on this for those who anticipate using the Unix computing environment. Ask your supervisor if this is relevant.

Map course: There will be a brief introduction to available map resources, both in hard copy and online, given early in the Masters year.

Fortran: After the honours literature survey deadline passes, a short course will be given for those who plan to use the Fortran programming language.

How to write a thesis course: This will be given in June each year. It is compulsory for honours students, but Masters students are welcome to attend also.

Seminars: You are expected to attend research seminars and special lectures given in the School during the year, as they are considered part of the Masters course. This is important, as seminars are an excellent way to find out about the latest results (and use them in your work!).

General Information

E-mail: You should check your University e-mail address regularly (i.e. at least daily) for important announcements.

Your whereabouts: Keep the School informed of your whereabouts by notifying your supervisor, whether you are in the field, at another institution or away sick.

Safety: Take care in all laboratory and field work and all safety measures indicated must be followed. **All students will be required to undergo a general safety induction.** This is done by your supervisor (or the Masters coordinator if your supervisor is away) at the start of the year, and you will not be given keys until it is completed and the signed safety induction forms handed into the 4th floor office. For specific equipment, you may be required to undergo other safety inductions. Talk to your supervisor about this.

Access to School Facilities

Keys and access: You will be issued with keys after you give your credit card details to the office staff and hand in to the 4th floor office the signed safety induction forms. Keys permit access to the building outside normal hours and to your Honours/Masters room (see School Office to obtain keys). Entry to other rooms (e.g. computer and analytical laboratories) will be arranged as required.

Honours/Masters rooms: The main honours room is on the 4th floor at the north-east corner. Each student will be issued with a locker for storing non-valuable personal items. There are also desks and tables, as well as a printer and some computing facilities. Some Masters students will be accommodated in the Masters room on the south-west corner of the 3rd floor, but these will usually be second-year Masters students. Room and desk assignments will be made at the beginning of the year by the Masters coordinator and students will be notified. Carrels in the centre of the room will be allocated to students at the beginning of the year, with Masters students getting first preference.

Analytical Facilities: Before you can use the analytical facilities, you will need to be familiar with the theory and applications involved. Contact your supervisor for an introduction to these facilities. There will be a certain sum of money available through your supervisor to cover the cost of your analytical work, whether it is undertaken within the School, within VIEPS or elsewhere, but consult with your supervisor before commencing any costly analytical work.

You are advised to commence your analytical work as early as is practical.

If your supervisor is unavailable and you have a query about the availability of analytical facilities, you are welcome to talk to the Head of the School.

Thin Sections: You will be expected to make all your own thin sections; assistance in getting started with this will be provided.

Maps: Maps from the School collection are available on loan for up to two weeks. Maps required for a longer period should be purchased after consultation with your

supervisor. An extensive map collection is also available at the University's map library (<http://www.lib.unimelb.edu.au/collections/maps/>).

Drafting: Appropriate drafting software, such as Illustrator and Freehand, is available for use on the School computing systems.

Printing: Black-and-white printing is free. There are several printers located around the department, including in the large PC lab on the 3rd floor. Colour printing is not free and must be paid for, usually by you or your supervisor. Consult with your supervisor before using the colour printers. There is an A4 colour printer and an A0 (large poster-sized) colour printer in the Earth Sciences Office. The A0 printer costs about \$20 per page.

Stereoscopes: Several large stereoscopes and lights are available for use in a School laboratory. You must provide your own small stereoscopes for field use.

Meteorological and Climatological data sets: You have access to the large collection of meteorological and climatological data on compact disc, Video-8 tapes and other media (see Ian Simmonds).

Word and Image Processing: General access computer facilities are provided in the PC Lab. There are also Unix-based workstations available in the Unix lab, and in the Visualisation lab. All of these facilities are on the 3rd floor. Desk assignments in the Unix lab and Vislab are made by the Masters coordinator.

Computer Accounts: Almost all students will require an account on the departmental computing system. You will need to fill out the "Declaration for Use of Computing Facilities" form in your package and return it to Doug Morrison.

Past Honours Reports: Honours reports (whose format is similar to that of Masters' theses) from previous years may be borrowed from the Library for a maximum of two weeks and must not be taken out of the building. Student card must be left as security.

Fieldwork: A School vehicle is available only if it is funded by your supervisor. Camping and field equipment are not provided.

Photocopying, Stationery and Outgoing Mail: Photocopying is provided by the School, and each Masters student will be issued with a pin number for use with the photocopier on the 3rd floor in the PC lab. Incoming mail and messages will be placed in the Honours/Masters pigeon holes near the tea room. Outgoing mail and stationery are not provided by the School.

Laminating: Some laminating facilities are available with the School; contact the School Office.

Appendix 1

Format for Literature Review/Project Proposal and Thesis (see also document overleaf)

- The literature review/project proposal is the task formerly known as the literature review. The format includes not only a critical review of past work, but also an outline

of your proposed project, including a description of the approach that you will use to achieve your project aims. The 'Literature Review' should be preceded (in order) by a title page with a full project title and author's name and the following statement: "Masters Literature Review submitted as part of the M.Sc. degree in the School of Earth Sciences, University of Melbourne", along with the date of submission. Then should follow a page with the (signed) statement "I certify that this Literature Review contains less than 4,000 words", as well as a Table of Contents, giving details of text, figures, tables and appendices, with page numbers. The introductory pages, figure and table captions, the content of tables, the list of references, as well as the appendices, do not count towards the 4,000 words. For more information, including the approved organizational structure of the literature review and project proposal, see <http://www.earthsci.unimelb.edu.au/%7Ekwash/info.htm>. It is important that you adhere to this organizational structure.

- The Thesis should be presented in the following order. First should be a title page with the full project title and author's name and the following statement: "Masters Research Report submitted as part of the M.Sc. degree in the School of Earth Sciences, University of Melbourne", along with the date of submission. Then comes a page with the (signed) statement "I certify that this Thesis contains less than 25,000 words, Acknowledgements, Abstract (less than 250 words), and Table of Contents, giving details of text, figures, tables and appendices, with page numbers. Succeeding this is the main body of the text, which should not exceed 25,000 words, followed by the list of references. The introductory pages, figure and table captions, the content of tables, the list of references, as well as the appendices, do not count towards the 25,000 words. The Report should contain the maps (see Appendix 2), photographs and other figures which are necessary for the proper discussion of your results.
- Reports must be presented on A4 size paper. Text is to be printed on one side of the paper only, leaving at least a 35mm left-hand margin for binding and other margins of acceptable size. Reports must be presented in 12 point Times font with 1 ½ line spacing.
- All pages, including pages with tables, figures, etc, should be numbered consecutively. You are required to submit three copies of your reports. These should be presented in folders that will be supplied by the School Office; the pages should *not* be hole-punched or bound.
- Oversize climatological or geological maps, geological sections or other large figures should be placed (folded up) at the end of the report. List contents on the outside of the pocket and after folding, mark each figure title clearly on its outside, along with your name. These figures should be listed in the Table of Contents along with the figures in the text.
- All diagrams must be clearly and distinctly labeled. It is recommended that the final height of the letters should not be less than 2-3 mm and that any symbols should be of the solid type with distinctive shape: circle, triangle, star, etc.
- Line drawings, photographs, maps, etc, should all be referred to as Figures, given an appropriate figure number and caption, and numbered consecutively through the report.
- Use SI units where possible (but kbar or hPa are acceptable for pressure). Other units may be added in brackets, if necessary.

- References in the text to published work should include the author's name and year of publication. The list of references should be in the form used by Australian Journal of Earth Sciences (this journal is held in the Earth Sciences Library).
- Any work or results presented in the report, and not personally done by you, must be duly noted in the text where they occur, as well as in the acknowledgements.

Appendix 2

Preparation of Maps

- Give title and make clear the type of map (e.g. factual or interpretive).
- Include a Legend and use standard symbols for geological and geographical features (hand-books available in map room).
- On meteorology or climatology maps display the continental boundaries and lines of latitude and longitude, where appropriate.
- Present scale as a representative fraction (e.g. 1:20,000) and also a bar scale.
- North direction (indicate both grid and magnetic north) where appropriate.
- Date of compilation and compiler's name. Indicate draftsperson's name if not same as compiler.
- Locality map showing area in relation to surrounding areas or adjacent maps
- Sources of information, including the source of the base map.
- Reliability diagram and methods used, e.g. air photograph interpretation, traverse, detailed mapping.