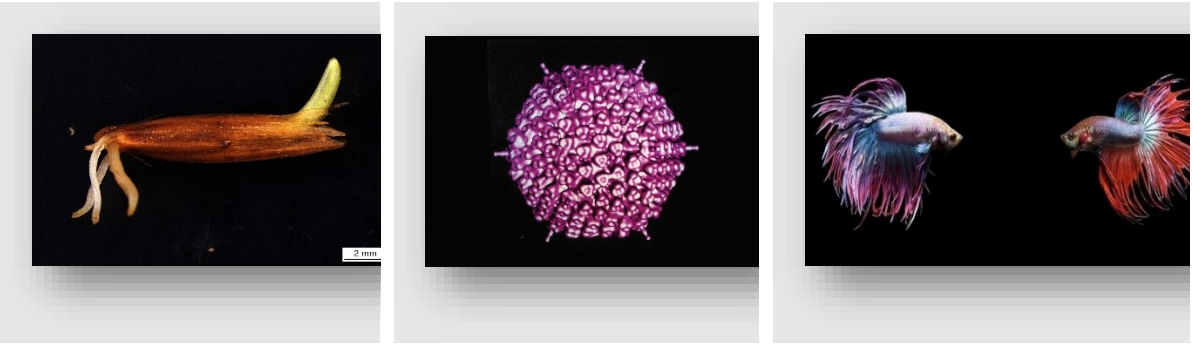
DEPARTMENT OF BIOLOGICAL SCIENCES

MASTERS BY RESEARCH STUDENT GUIDE

2024-25



Contents

Welcome from the Programme Directors

Welcome to Royal Holloway and welcome to the Masters in Biological Sciences Research.
The course aims to give training in the skills needed to become an independent researcher while engaging in a one-year research project in your chosen field. The research project affords a chance for you to make a genuine contribution to research while research skills classes in terms 1 & 2 are aimed at teaching the key skills for a successful career in research. Equally, those skills that you will acquire here are valuable in any career. The ability to plan, organise and manage your own project; to work as part of a team; to present your work and to explain its importance; to network and make key contacts with the field; and to communicate effectively with your peers throughout the rest of the global community are all skills of great value in any career.

As well as starting a new course, you are joining the research community at the Department of Biological Sciences. Several of the research skills classes are shared with PhD students too and there are also opportunities to get involved in School-level committees. On a more informal level the Department as a whole usually holds a number of social events throughout the year. The Department also hosts visiting seminar speakers who are leaders in their field throughout the teaching terms.

We hope you will find the course to be both stimulating and enjoyable.

Dr Paul Devlin (Programme Director)

Dr Alberto Malerba (Deputy Programme Director)

Please read this handbook in conjunction with

College PGR Student handbook – Can be found under the "PGR student handbook" tab on the Doctoral School micro site
The Department Health and Safety Handbook - Can be found on the MSc Moodle page
PGR Academic Regulations and Code of Practice (including responsibilities of students and supervisors) – Can be found under the "Research degree regulations and code of practice" tab on the Doctoral School micro site

The Course

The main aim of your postgraduate Masters course is to obtain the degree of MSc, an important qualification for future employment in scientific or other careers. But the course is also training in transferable and specialist skills which will enable you to assume the role of independent research workers at the highest level. More particularly, postgraduate training aims to develop your ability to plan and to carry to completion a well-conceived programme of research directed towards a given objective. While the essential nature and purpose of postgraduate study is to provide an opportunity to make an original contribution to research, a thorough grounding in modern research techniques forms an integral part of the training.

In summary

- To provide training in the key generic skills required to be a scientific researcher.
- To provide advanced training in a specialised branch of biological sciences research.
- To ensure familiarity with a range of transferable advanced research skills.
- To provide practice in communicating results of research both by oral presentation and by preparation of a thesis or draft scientific paper.

Before you begin

We hope that you will enjoy the Department induction that is shown on your Department timetable. Having attended this you will need to:

Meet with your supervisor and

- Complete the **project registration form**. This should be completed using the link on Moodle **within 2 weeks of induction (9th October)**.
- Discuss any additional training needs you may have
- Familiarise yourself with the regulations, and the safety handbook.
- **Complete the ethics approval form** with your supervisor.
- **Complete a project risk assessment** with your supervisor.

All research projects must have a completed risk assessment and any requirements for ethical approval must have been assessed. Your supervisor will need to have signed off on both documents before you begin. Please keep a copy of both documents for your records. A copy of all project risk assessments should also be kept with the central repository of safety documents that your supervisor is required to maintain for your research group.

All of the documents referred to above can be found in the MSc in Biological Sciences Research Moodle page.

NB – Department alarm bell testing takes place on **Thursdays at 11 am**. Any other time you hear the fire bell, please follow evacuation procedures detailed in the safety induction and in the Departmental safety handbook.

Training

The Department has developed a set of training modules for students to enhance their skills useful to their future careers. Some of these modules will require the completion and submission of course work by students. If there is need for additional training, discussion between you and your supervisor will enable you to decide upon what additional training could be offered for the coming year.

Taught modules for the MSc course are built around five key components of research skills and knowledge:

- personal research skills
- information technology
- data acquisition, management and analysis
- communication and presentation of results
- obtaining research funding

These are covered in more detail below

The project supervisor

Each student is allocated a supervisory team, which will include as a minimum two members: a principal (first) supervisor and either a second supervisor or an advisor. Your Advisor is an additional source of pastoral support. Advisors are not expected to have expertise in the student's research area or to offer guidance on academic work but has an essentially pastoral role. (If you have more than one supervisor it is not compulsory for you to appoint an Advisor)

Your Project Supervisor will oversee your progress. In most cases students are happy with the supervisory relationship. However, there are occasions where for some reason the supervisory relationship does not work and breaks down. If this happens, you should speak as soon as possible with the Programme Director or your Advisor to see whether the problem can be resolved informally, e.g. through mediation. You should not wait until after you have received your final degree results to raise the matter as it is very difficult for the College to resolve such matters or take remedial action at that point.

The Research Project

You will have already agreed on a research project as part of the application process

Throughout your study here, it is expected that supervisors and students will discuss a student's progress informally on average once every 2 weeks. It is likely that discussions will be much more frequent during the very early and final stages of a student's work. You shouldn't feel that your contact with your supervisor should be limited to these formal meetings. Do take advantage of you supervisor's experience. It is an independent research project but an important part of that is seeking advice when you need it. Based on their experience, your supervisor may be able to see potential pitfalls or offer tips and tricks for any new technique that you try.

Please make sure you keep records of your discussions with your supervisors.

Please make sure you receive feedback on your final written report at least two weeks before the submission deadline. This means handing in a complete draft at least 3 weeks before the deadline to allow your supervisor time to read this. If you are aware they will be absent, arrange this at a mutually convenient time.

The project is, hopefully, the most enjoyable part of the course and may even be the basis of a future career. Outside of the training requirements, students are expected to spend all of their working week on the research project. A very important part of research is being aware of the existing work in your area and so this includes reading around your project and attending seminars when not actually in the lab/field. As well as acquiring knowledge, thoroughly reading papers and attending talks by others is, more than anything else, the best way to learn the skills of presenting of your work. This will not only make it much easier to prepare your thesis and talk for the end of the course but it will also make you very employable.

The research you do during the year will be written up and submitted to examiners, who determine whether you pass or fail the course. You can submit your final written assessment as 1) a thesis or 2) a paper and literature review. Talk to your supervisor about which might be best for your project. The thesis should be 15,000- 20,000 words excluding the references list. If you are submitting a paper and a literature review rather than a thesis, this should be made up of your paper (according to the instructions to authors) and a literature review of around 10,000 words.

Do also remember, of course, that you will be part of a research team with your supervisor and other lab members and it is important to make sure you contribute your fair share of any group chores.

Lab books

Having an up-to-date lab book is essential for any scientist. You are required to keep a lab book as it is imperative that your supervisor can monitor and follow up your progress as well as ensuring that data is original. Your supervisor will provide guidance on their preferred method of keeping a lab book. They will monitor and provide feedback on your lab book keeping and will be asked to take this into account when giving the supervisor mark at the end of the year which contributes to your final coursework mark (more detail below).

Key milestones in the course

In addition to the Research skills classes and coursework detailed below, there are several key milestones in the course with specific deadlines (details of each can be found below)

9th October – completed project registration form on Moodle

End of Jan – 4 month report to you supervisor

Mid Feb – 4 month review meeting with your supervisor and advisor

End of March – practice 10 minute presentation to your supervisor / research group

Easter vacation – Postgraduate Symposium (PowerPoint presentations and Poster display)

Easter vacation – Submit your symposium poster for printing

End of May – draft materials and methods to your supervisor

End of July – Selection of Examiners

22nd September – Submission of your thesis

Department Safety

See the Department Safety Handbook

At the start of the programme you will attend a session of safety in the lab and field. Please familiarise yourself with the Department safety Handbook which can be found on the MSc Moodle page.

The Department Health and Safety Coordinator is Ms Elaine Turton and the Radiation Supervisor is Mr Chris Gerrish. All incoming radioactive materials must be registered by the Radiation Supervisor

Students are responsible for the general cleanliness of their own apparatus and working areas in the laboratory including shelves, benches and cupboards. An effort should also be made to respect communal space and equipment and to ensure that damage is not caused to the latter through incorrect usage. All equipment malfunctions, however trivial, must be reported immediately to Mrs Elaine Turton in (room 5-13). A failure to do so could result in costly damage and/or serious safety problems

Lone working policy and procedures

Both the College and Department have 'Lone and Out of Hours Working Policies and Procedures'.(LWP1) These can be found on the course Moodle page. Alternatively, they can be found in your Supervisor's safety folder the 'technical' folder on the shared drive.

Lone working is defined as working during either normal working hours at an isolated location within the normal workplace or when working outside of normal hours. In the policy, normal

working hours have been defined and activities identified as low, medium or high risk when conducted on isolation.

It is likely that most activities will take place on College premises. However, the principles contained in the above section will apply to **students undertaking duties off campus**.

Students will only be permitted to work in the lab alone after completion of a declaration by your supervisor confirming you have received the required training, are competent to work alone, and following the lone working risk assessment for the research being carried out. The lone working declaration can be found on Moodle. This should be completed and handed to Elaine Turton after which time access to the building out of hours will be activated

Any health and safety concerns should be brought to the attention of the Departmental Health and Safety Coordinator or the College Health and Safety Office.

Department Visiting Researcher Seminars

The Department invites a number of visiting Research Seminar Speakers each year. These will take place on most Wednesdays during term time at 1 – 2 pm. Emails will be sent to confirm details.

Training in Research Skills

Term 1		
Experimental Design and some pitfalls you can avoid	Compulsory	No
Demonstrator training	*Optional*	*No*
Complete Moodle "Quiz on Plagiarism" (See MSc Moodle Page)	Compulsory	No
Introduction to statistical tests and critical analysis of results (in R studio)	Compulsory	**Yes (10%)**
Writing literature reviews	Compulsory	No
Two sample analysis (various types of t-test)	Compulsory	No
Office skills for researchers	Compulsory	No
Planning your career including "Should I do a PhD?"	Compulsory	No
Univariate and Mulitvariate ANOVA	Compulsory	No
Research ethics in Biosciences	Compulsory	No
Literature retrieval and organising citations	Compulsory	No
Safety and good practice in the lab and field	**Compulsory**	**Yes (Formative)**
Quality Assurance in Biosciences Research	Compulsory	No

Term 2		
Correlation and simple regression	Compulsory	No
Effective Teamwork	Compulsory	No
Simple Regression II	Compulsory	No
Attracting funding – grant applications and commercialisation	Compulsory	No
Multivariate regression		No
Databases for Biologists	Compulsory	No
Multivariate Analysis (PCA)	Compulsory	No
Giving a talk at a conference	**Compulsory**	**Yes (30%)**
Writing Scientific Papers	**Compulsory**	**Yes (10%)**
Preparing and Presenting a Poster	**Compulsory**	**Yes (20%)**

The outline objectives for the taught sessions are detailed below.

MODULE **Compulsory**	**GENERIC LEARNING OUTCOMES:** **At the end of the module students should be able to:**
Safety and good practice in the lab and field	Have a clear understanding of safety and good practice in laboratory and field; to complete a risk assessment
Plagiarism quiz	Define plagiarism and define different types of plagiarism; explain the importance of referencing; develop strategies to avoid plagiarism in your own work.
Experimental Design and some pitfalls you can avoid	Develop valid experimental designs and to understand when results are significant.
Office Skills for Researchers	Create large indexed documents in Microsoft Word; implement advanced methods for working with data in Microsoft Excel
Writing literature reviews	Systematically review the literature and synthesize results from different studies on the same topic
Bioethics	Be aware of the ethical implications of research subject, conduct and funding; determine whether research is bioethical or not; be able to consider the stakeholders of research.
Databases for biologists	Understand the interdependence of databases and experimental science; describe the different types of data found in some common databases resources; understand what bioinformatics is and why it is important; explain how to locate and extract data from key databases.
Literature retrieval and organising citations	Be aware of what information resources the library has; what the best way is to find information on these library resources; what to do if you can't find a full text article; how to manage your references.
Preparing and presenting a poster	Prepare a poster that will attract attention at a conference
Giving a talk at a conference	Enhance the impact of a talk at a conference
Quality assurance in the biosciences	Understand what quality assurance is; understand why we need it; understand how we can implement it.
Writing scientific papers	Understand the key features of a good scientific paper
Introduction to statistical tests and critical analysis of results (in R studio)	Load data, conduct basic statistical analyses and simple graphs in R.

Planning your career including "Should I do a PhD?"	Develop their understanding of careers both inside and outside science, and how to make career choices; start exploring their skills, values, and motivation; begin coming up with ideas and exploring the options after the MSc by research, including looking at doctoral study if interested
Attracting funding – grant application and commercialisation	Provide an overview of how to seek and achieve funding for research projects; understand of how to protect your research outputs and how to be able to capture income from industry once the Intellectual property has been protected
Two sample analysis (various types of t-test) & Univariate and Mulitvariate ANOVA	Have a clear understanding of testing data, from manipulative studies; compare two or more samples to objectively ascertain any differences.
Correlation and simple regression & Simple Regression II	Understand how to conduct linear regressions, correlational analyses and more advanced plots in R
Multivariate regression & Multivariate Analysis (PCA)	Gain an overview of the use and interpretation of some common additional statistical techniques.

Compulsory modules cover generic skills of importance in biosciences research and **must** be attended. Optional modules cover widely used bioscience research skills, but which are specific to particular sub-areas of research. By agreement with your supervisor, you may also take additional optional modules from the Research Development Programme via the Doctoral School micro site.

Department taught modules are delivered mostly at the beginning of terms 1 & 2.

Modules with coursework show in **bold** on your Department timetable.

Department attendance requirements

You are expected to attend at least 80% of the timetabled sessions.

This 80% attendance is a requirement for completion of the course as it ensures that you have met the learning outcomes of the course

There will be a paper register at all sessions. It is your responsibility to locate and sign this. If you do not sign the register this will be recorded as an 'unauthorised absence'.

If you cannot attend for any reason such as a conference or sickness, you must notify the Masters Administrator, Lynne White (lynne.white@rhul.ac.uk) by email before or on the day the session is scheduled. If by the time the register arrives back with the Masters

Administrator you have not signed this and not notified the Masters Administrator the reason for your absence, this will be registered as an unauthorised absence.

Please do not make personal appointments on days when you have a timetabled session.

Moodle (virtual learning)

All material from the taught sessions can be found in Moodle. At the start of the year you will need to access Moodle. As a Masters student you should be auto-enrolled on the Moodle course. If you experience any access problems, contact the Masters Administrator, Lynne White (lynne.white@rhul.ac.uk).

This will give you access to

1. taught session notes
2. coursework instruction
3. coursework submission sheets
4. other useful documents and links

The Moodle course can be found here
https://moodle.royalholloway.ac.uk/course/view.php?id=4297

You will submit your poster file via Moodle so please see the instructions listed there nearer the time.

Timetable

Full year timetable
This can be found on Moodle. It includes information on coursework. If there are any changes to this, the Masters Administrator will inform you by email and the latest version will be updated in the link above. Teaching room info will be added at the start of each term.

College downloadable timetable for the current term
The college timetable is accessible and will give you details of where and when your taught sessions will be as well as the name of the session and lecturer

https://intranet.royalholloway.ac.uk/students/study/timetable/your-timetable.aspx

There are notes in this link on how to use and download this timetable to a smart device. If you have any queries relating to the use of this version of the timetable please contact student-enquiries@royalholloway.ac.uk

The timetable is based on normal term time teaching. Masters teaching continues out of these term dates. To view out of term teaching weeks on the online calendar select 'all weeks'

Check your online timetable regularly as sometimes changes may be made at short notice.

Coursework

There are a few assessed pieces of coursework associated with the taught classes. Along with

the marks for your poster and presentation (see below), overall supervisor mark and lab book mark, **you are required to pass with an average of 50% overall in order to be able to submit your final thesis**.

The weighting for these components is as follows

Introduction to statistical tests and critical analysis of results (in R studio)	10%
Writing Scientific papers coursework	10%
Symposium PowerPoint Presentation	30%
Symposium Poster	20%
Supervisor Assessment	30%

You must also complete the online quiz on plagiarism in term 1.

Submitting your course work

With the exception of your poster, coursework is due **one week after being set in the session**.

All work is to be submitted via a Turnitin link on the relevant section of the Moodle site no later than 4.30pm on hand in day.

Remember to include your name on your course work.
Any work handed in within 24 hours of the deadline will receive a 10% deduction from your mark. Anything later than this will be awarded zero unless extenuating circumstance are submitted to the Masters Administrator **in advance** of the hand in date.

Poster
Your poster for the symposium in should be submitted in advance via Moodle. Moodle contains instructions on how to do this. Please note that the poster session is delivered some time before the submission date of your poster file to allow time for printing and, therefore, there will be no extensions permitted to this date.

Final thesis submission
Your final thesis submission is explained later in the handbook.

Coursework Return

All marks and feedback on coursework will be returned via Turnitin on Moodle 2 weeks after submission. On some occasions this can take longer.

4 month review

By 31st January, all full time MSc by Research in Biological Sciences students are required to submit to their Supervisor and Advisor a short 4 month report of 5 or 6 pages. For part time students the timing of the preliminary report will be decided on an individual basis but must be within 8 months.
This should be based upon discussions with your Supervisor and reading of relevant published literature. The report should be submitted to your supervisor.

The report should include the following:
(a) The aims and specific objectives of your project (a testable hypothesis is expected).
(b) A brief but focused introduction supported by reference to relevant literature.

(c) The methods you intend to use and why.
(d) A presentation and discussion of any early results.
(e) A brief discussion of how the work will proceed, with a particular emphasis on experimental priorities.
(f) An outline dated schedule for beginning/completing the various stages of a student's research work.

In preparing reports, study examples of papers and successful theses, and take into account the following points which will form good practice for the formatting expected for your final thesis:

1) Reports should be word processed and presented in a formal scientific style, as in scientific papers. It should be free from colloquialisms (e.g. didn't and it's). Aim to be both precise and concise.
2) A systemic citation of the bibliography should be provided. In preparing lengthy documents such as thesis, an alphabetical system based on the first named author is probably easier to manipulate than a numerical system.
3) Data should be presented either in tables or in graphical form, in such a way that important aspects and outcomes being discussed in the associated text are clearly displayed. Appropriate statistical analyses should be carried out.
4) Each table and figure should be numbered, have a clear title, and be fully labelled. For instance, there must be an unambiguous way of identifying every track in a gel. The legend should contain a key to all labels and symbols used, as well as outline information on the samples and methods used. Consult theses and papers for examples of good practice.
5) Provide page numbers, number sections and sub-sections, and provide a contents page.

The 4 month report forms an integral part of your project. Your submission will allow us to check on your progress with your research, and to provide help and guidance with it. This will not however form part of your final assessment.

If you are planning to submit your final thesis in the format of a literature review and paper (see below), ideally at this stage it would be worth discussing with your supervisor to find a target journal for your final report. Please visit the instruction for authors of the target journal and try to prepare your report in a way that will follow the instructions.

Following submission of the report, the supervisor, advisor and student should hold a review meeting to discuss the project. Your supervisory team will be looking to see that you have a strong grasp of the literature relevant to your research project and good understanding of the theoretical background to your project and the chosen methodology.

A brief review form will be completed to record the outcome: The 4 month review form is available on Moodle and should be completed by the supervisor. A copy of the responses will automatically be sent to the student and advisor. If there are any discrepancies on the form when you receive the automated email, please email Lynne.white@rhul.ac.uk the correction required and copy in your supervisor and advisor.

These tasks are designed to ensure that our students become independent, aware of the demands and also to ensure that there is a well-designed project available to the students. Please keep in mind that in research, things do not necessarily go as planned and halfway through, there might be a need to change direction, depending on the data.

10 minute talk to supervisor and Group

Before the end of March you will give a preliminary 10 minute oral presentation to your supervisor's research group. This will enable you to practice your speaking technique and gain feedback from your supervisor. This preliminary presentation is not assessed, but provides feedback on your performance.

Please complete the online form by the end of March to confirm that this has been done. A notification will be sent to your supervisor.

Postgraduate symposium – Poster and presentation to the Department

In the Easter vacation, you will give an oral presentation of up to 15 minutes (target 15 minutes) with 5 minutes for questions, giving an outline plan of you research project and results so far. This will be presented as a conference talk to a critical, but friendly, audience of staff and other post-graduate students.

Internal assessors will judge the quality of your oral presentation and feedback on your performance will be provided. You should prepare your presentation well in advance, beginning after the taught module on presenting a talk. You should also ensure that your project supervisor has the opportunity to review your talk and suggest ways in which it can be improved. The criteria for assessment for the oral presentation are found on the relevant section of the Moodle page.

Preparing for the oral presentation

You will be given the opportunity to practice in the lecture theatre in the run up to the presentation day so take this opportunity if you can – a sign up sheet for timeslots will be available on Moodle closer to the time. You can familiarise yourself with the acoustics, equipment and uploading your file to the computer. A digital laser pointer can also be made available.

Instructions to presenters

- Your presentation should last 15 minutes plus 5 minutes for Q&As. You will receive a warning from the programme director when there is one minute left to go.
- You will present to a Department audience ranging from your supervisor, peers, PhD students Academics and Research staff. You may mark each other but the official recorded mark is awarded by academic staff.
- You are expected to attend for the whole day on the day of your presentation.
- Please try to make use of the practice session(s) so you are familiar with the lecture theatre set up.
- Arrive in plenty of time to upload your presentation at the start of your session and be seated 10 minutes before the start of the day.

Symposium Poster

You will have attended a session on creating and presenting a poster in the second term. You will then be given time to progress with your project and data collection before you are asked to submit a poster file for printing. The Masters Administrator will arrange printing of your poster so long as you upload the file to Moodle in the correct format: **A1, PDF** and **portrait** layout. Full instructions on how to prepare, create and upload the poster file are included on the session notes in Moodle. In summary.

This should be **portrait** layout, in **PDF** format and for printing size **A1**

Given the time required for us to print the poster in-house there will be **no** extensions to the submission date. After this date, you will need to print the poster privately at your own expense.

Draft Methods

Before the end of May. The Materials and Methods should be in the format of the final thesis submission that you will prepare (see below). If you are planning to submit your final thesis in the format of a literature review and paper, you should discuss with your supervisor a target journal and use the instructions for authors to guide you in preparing the Materials and Methods.

The best criterion for a well-written 'Materials & Methods' section is that a reasonably knowledgeable colleague could repeat your experiments after reading the description.

- Good sub-headings help with layout and are helpful for those skimming through the material and methods to identify aspects of experimental detail.
- Don't embellish: if not relevant, omit
- Do not need to describe in detail statistics used (but check journal instructions)."

As with the 10 minute presentations, you will receive specific formative feedback on your Materials and Methods from your supervisor.

This will not form part of your assessment, but will be used as a check that you are making satisfactory progress with your project

You should complete the online form by the end of May to confirm that this has been done. A notification will be sent to your supervisor.

Examiner Nomination

Prerequisite for the submission of a [thesis] OR [paper and literature review]

In order to submit your [thesis] OR [paper and literature review] you MUST have completed and passed the taught element of the programme with a 50% average overall.

The entry and examination process

For full details including a guide for candidates please see - The Masters by Research Examination process:

https://intranet.royalholloway.ac.uk/doctoral-school/pgr-student-lifecycle/masters-by-research-examination-process.aspx

In July you will need to talk to your supervisor about this process as they will need to nominate 2 examiners and complete the **examiner nomination form** which is also available from the above address.

Examiner information

Be sure to complete the "Reason for recommendation and expertise" section for each examiner

The external examiner should be external to the University of London unless due to the nature of the project this is not possible. In this case justification should be added to the entry form.

The internal examiner can be from Royal Holloway or any other College within the University of London and can be the project supervisor.

Remember

To indicate on the entry form if you are submitting an **alternative format** to a theses i.e. a paper and literature review

The completed and signed form should be sent to the **programme director** (not the Departmental PGR lead) for approval. The programme director will then send on to the School Director of PGR Education.

Communication with Supervisor – Pre-holiday season (July)

Given the thesis/draft paper is due for submission in mid-September (a time when many staff are away or on leave) it is important that by the beginning of July you have discussed availability of your supervisor in July, August and September. You need to have submitted drafts of your thesis to them for feedback before they take leave. Set targets dates for submission of your drafts and agree dates for feedback with your supervisor. The final thesis should not be submitted if it has not been seen at any stage by your supervisor. Remember your supervisor will also need to sign your declaration of the number of words form.

The supervisor assessment

A significant part to your training is your performance in the laboratory / field and data processing. Your performance in these areas is not always represented in the results produced. Thus, your supervisor will also provide a performance assessment based on your ability to master required techniques, communicate your efforts and troubleshoot technical

problems. They will also provide an assessment of your record keeping throughout the year. This mark, along with marks for coursework through the year, contributes to your in-course assessment.

Submission of your final thesis/draft paper

Once again visit the Doctoral School web pages to familiarise yourself with the exam process

https://intranet.royalholloway.ac.uk/doctoral-school/pgr-student-lifecycle/masters-by-research-examination-process.aspx

This covers

- Dissertation and project requirements
- How to enter for the examination
- How to submit your theses/paper
- The assessment process
- The award process

Submitting a thesis

The written thesis should provide evidence of:

(a) INTRODUCTION: synthesise knowledge from the subject or discipline and apply it to YOUR research question, hypothesis and aims

(b)) MATERIALS AND METHODS: A detailed description of the materials used (supplier, catalogue number) and a detailed description of the method: that a reasonably knowledgeable colleague could purchase the appropriate materials and repeat your experiments after reading the description.

c) RESULTS: demonstrate the capacity to carry out an independent research project using appropriate research methods. You should show evidence of clear analysis of the results of the project. Please ensure high quality figures and tables

(e) DISCUSSION: provide a reasoned and coherent account of the main findings and their significance

It is essential to display good presentation and referencing skills. Provide a critical discussion of relevant major theories, debates and concepts.

If you choose to hand in a single thesis, this should be between 15,000 and 20,000 words which also does NOT include the reference list in the word count.

Formatting your thesis for submission

For full details about thesis format, please see the section on “Submitting your Masters by Research dissertation” at the link below
https://intranet.royalholloway.ac.uk/doctoral-school/pgr-student-lifecycle/masters-by-research-examination-process.aspx

Formatting a draft paper and literature review for submission

Most of the online material relates to submission of a thesis. Remember, if you are submitting a paper and a literature review this should be made up of your paper (according to the

instructions to authors) and a literature review of around 10,000 words. The combined count for a paper and literature review should be 15-20,000 words

When submitting a paper rather than a thesis, the paper should be targeted at a specific journal, and formatted according to the 'instructions to authors' for that target journal. There is no particular format for the literature review. If you are submitting a paper, it is good to start talking to your supervisor early about which journal would be appropriate, such as in the four month review meeting.

The expectation is that the "original paper" should not be less than 5,000 words (excluding supplementary information, references). It is normal to expect some overlap in the introduction of the paper and the lit review but please try to avoid copy pasting as this will not be seen favourably. It is also recommended that you present the literature review before the paper but this is not a formal requirement.

Additional questions regarding 'journal' details for draft paper submissions may be clarified by your supervisor.

Final submission of your thesis/draft paper

The final date is made know to you at the beginning of the year, throughout and on the Department timetable.

An electronic copy of the dissertation should be emailed to doctoralschool@royalholloway.ac.uk (except in cases where agreement is in place for a restriction of access for reasons of confidentiality, commercial sensitivity or patents).

A Declaration of number of words form, signed by the candidate and the supervisor, should be submitted with the dissertation.

Random submission of theses to Turnitin

To help deter plagiarism, it is College policy to select a random sample of final research degree theses for submission to the plagiarism detection software, Turnitin, before the examination process is initiated. Exemptions are in place for theses covered by commercial confidentiality agreements. Turnitin reports are reviewed by the Director of Graduate Studies in your department. Should concerns be raised you will be notified by the department.

Examination

If both examiners have accepted our invitation by the time you submit the dissertation, the Doctoral School will send the electronic copy to them. Your examiners are expected to examine your work and return their final reports to the Doctoral School within 6 weeks of dispatch. If this is not possible because of their commitments, we will let you know when you can expect to hear the result.
It is expected that an oral examination (viva) would not normally be required for a Masters by Research. However, the examiners do have the option to request this if deemed appropriate. A viva is a requirement if the examiners are considering a 'Resubmission' or a 'Fail' outcome. This may be held online.
If an oral examination is required:

- this will be organised by the candidate's supervisor.

- the candidate must bring a (electronic) copy of the dissertation with them which is identical in format to the dissertation submitted to the department for assessment.

Outcome of the Masters by Research examination

For first submissions, there are 3 possible outcomes:

- Pass
- Pass with corrections within 6 weeks
- Resubmission within 6 months - a viva is required before this outcome can be handed

The taught components must be passed in order to qualify for the award.

a) If your examiners decide you should complete some minor corrections before the Masters by Research can be awarded, the Doctoral School will contact you upon receipt of your outcome to inform you. The Doctoral School will confirm your 6-week deadline and the nominated examiner to check your corrections, as well as forwarding your list of amendments.

   NB. Please note that if your supervisor was your internal examiner, they won't be in charge of checking your corrections.

   By your deadline, please forward your amended dissertation to your nominated examiner with an accompanying document explaining how you have undertaken the corrections (copying in the Doctoral School and your supervisor).

   Your examiner is expected to confirm whether you have completed all the necessary corrections to their satisfaction within 2 weeks. If they are unable to do so, the Doctoral School will let you know when to expect to hear their decision.

   If, after minor corrections, the dissertation still fails to meet the requirements of the Masters by Research degree, the examiners will normally recommend offering the candidate the option to resubmit the dissertation within 6 months for a second and final time.

b) If your examiners are considering a resubmission as an outcome, then we will contact your supervisor so that they can organise a suitable time for the viva. NB. the viva will be recorded.

   If following the viva your examiners decide to ask for a resubmission, your outcome will be sent to the Director of Postgraduate Education in your School for approval. If they approve, then we will inform you of the outcome officially, confirming your 6-month deadline.

   By your deadline, please forward your amended dissertation to your nominated examiner with an accompanying document explaining how you have undertaken the corrections (copying in the Doctoral School and your supervisor). A resubmission fee of £155 will be charged.

   Following resubmission, the following outcomes are available to the examiners:

   - Pass
   - Pass with corrections within 6 weeks
   - Fail - a viva is required before this outcome can be handed

Students who fail to submit or resubmit the dissertation by the required deadline will normally have their registration with the College terminated. The College Board of Examiners will not follow the formal warning procedure.

For more-scientific questions, your supervisor is the only person who can answer but, of course, in terms of what to include goes, we are also assessing how well you can judge what the key facts are.

Assessment Outcome

Please note that the letter that you may receive stating 'pass subject to….' IS NOT CONFRIMATION OF YOUR FINAL AWARD and winter graduation tickets should not be requested at this point.

Award outcome and notification

- On confirmation from the examiners that the requirements of the Masters by Research dissertation have been met and that the taught components have been passed, the examiners' reports on the candidate's dissertation will be sent first to the Director of Postgraduate Education in the School of Life Sciences and the Environment for approval of the award.
- The date of the award is the 1st of the month following the Director of Postgraduate Education's approval.
- The candidate will receive an award letter and a copy of the examiners' final joint report on their dissertation.
- The degree certificate should be issued within 3 – 6 months of the award date.
- To be eligible to attend the Winter Graduation ceremonies, you should have a 01 November award or earlier. To be eligible to attend the Summer Graduation ceremonies, you should have a 01 June award date or earlier.

Additional Useful Information

Making a purchase for your project

It is quite likely that you will need to make purchases to support your project during your year as a student. Purchasing is organised through our Purchasing Officer

When placing an order you need to complete **the Purchase Request Form**. This should be forwarded to your supervisor for approval before being emailed to BioSciencesOrdering@rhul.ac.uk attaching a quotation and or COSHH document if applicable. All hazardous chemical require an accompanying COSHH form (see your supervisor).

Purchase Request Form				
Date:			Order #:	
Suppliers Name:				
Suppliers Code			Quote Ref #:	
Suppliers Address:				
Telephone:		Is this a source of Radiation?		n
Fax:		Is the top copy of the official order needed?		NO
E-Mail:				

It's important that this section is completed in full and correctly to avoid your order being delayed. You will need to add the supplier's full name and address as some of our suppliers have more than one address. For example, Thermo Fisher (Unity), Thermo Fisher Scientific (Thermoelectron) and Thermo Fisher Diagnostics (Oxoid). They are all the same supplier but all have a different address and offer different products. No abbreviations for example, NEB - New England Biolabs UK Ltd.

Are any of the following Chemicals with one or more R numbers? For those with an R number please provide COSHH form

When an order requires a COSHH form, attach the document to the same email as the order form.

Quantity	Size	Catalogue #	Description	Unit Price	Cost
				Net:	£0.00
				Delivery Charge:	
		Is this order VAT Exempt?	NO	VAT:	£0.00
				TOTAL:	£0.00

As much information is needed in this section to assist the Purchase Administrator in ordering the correct item / product. Incomplete or incorrect details will also delay your order. The Cost column will automatically calculate the total of your order and work out the VAT. If your supervisor is VAT Exempt, add YES in the box provided, It will automatically enter the value of £0.00.

Sub-Project	Account	Percentage	Est Cost
		100%	
	TOTALS:	**100%**	**£0.00**

Your supervisor will provide you with one of their Sub-Project codes and an account code. The Sub-Project code informs the accounts department where to deduct the money. The account code is a four digit number. The item you are purchasing will determined which code you will use. For example Chemicals & Gases will be 6110 and Equipment purchase – Laboratory will be 6120. If an order needs to be split between different codes, you will need to complete the percentage column with a % split.

Requested by:		Lab:	
To be collected by:		Tel Extention:	
Authorised by:		E-Mail:	
Items For Teaching:			
Course #:			
Project Supervisor:		Project Student:	

This section will need to be completed with the name of the person who is requesting the order as well as supervisors name as authorisation. The number of the lab you are working in and the extension number in case of any problems with your order.

If you require a Purchase Order (PO) number to order online. For example, primers from Sigma Aldrich Ltd. It's important that you give the supplier our PO number so your goods and their invoice can easily be tied up together.

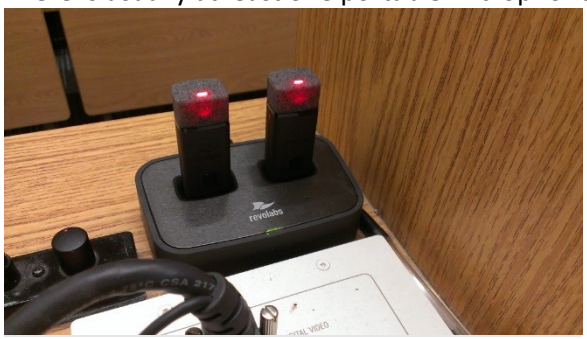
Operation of presentation equipment in lecture rooms

MSc Oral presentation File upload

- Ensure the lecture room PC is switched on
- The course lead will need to log in
- Insert memory stick into USB port and wait for the device to be recognised
- If not already there, create a folder on the desktop called **Oral presentations**
- Save your file to this folder – file name **YOUR NAME**

Using the microphone.

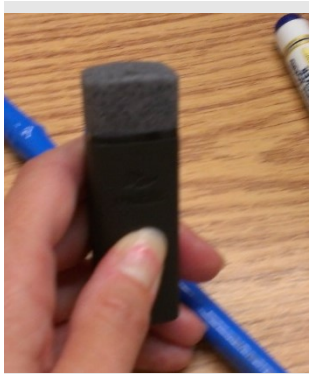
There is usually at least one portable microphone in a charging unit.



These can be clipped to a pocket or shirt.

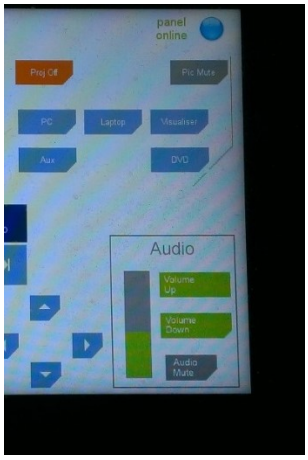
To use the portable microphone

Remove from the charging unit and gently press the black button in the centre



The light will change from red to green and the microphone is then in use.

To adjust the volume



Tap the green volume up and down buttons accordingly

Help yourself to the water during your presentation

A pointer device will be made available to you

You will receive an email within a couple of weeks of the presentations giving a breakdown of your mark.

Masters Student Checklist

Please use this as a reminder of targets you have to meet throughout the year.

Target Date	Action	Completed (✓)
9th October	Department registration and optional modules form to Masters Administrator	
End of Jan	4 month report handed to supervisor	
Mid Feb	4 month review Supervisor to send completed form to Programme Director for signature Cc Masters Administrator	
31st March	10 minute presentation to lab group Email Masters Administrator to confirm this has taken place	
31st May	Draft methods to supervisor for feedback Cc Masters Administrator	
Easter vacation (see timetable)	Upload poster file to Moodle	
Easter vacation	Masters Symposium - 15 minute talk to Department	
Mid July	Submission of examiner nomination to Programme Director. Cc Faculty Masters Administrator	
22nd September	Submission of thesis/draft paper etc to the Doctoral School	