

**SOCRATES THEMATIC NETWORK
AQUACULTURE, FISHERIES AND AQUATIC RESOURCE MANAGEMENT
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**LIFELONG LEARNING PROGRAMME
ERASMUS
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Report on **MSc thesis survey and recommendation**

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WPI.6 DELIVERABLE: MSc THESIS SURVEY AND RECOMMENDATIONS

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GENERAL ASPECTS

Generally the thesis is conceived as the **personal work of one single student**. If – exceptionally – two or more students are allowed to do thesis work on the same topic, there should be sufficient differentiation, ensuring that each student can submit a thesis of his/her own. This differentiation could for example be obtained when different aspects of a same research problem are addressed by the respective students. Anyhow this differentiation should be reflected in the (different) thesis title.

The thesis work mostly corresponds with a fixed **number of ECTS** in the whole of the Master programme. Often 30 ECTS (seldom less) is allocated to the thesis work. In some programmes, however, it amounts up to 45, 60 or 90. In a minority of programmes the number of ECTS can be differentiated, depending on the total work load inherent to the thesis subject.

There is no uniformity whatsoever among the various Master programmes as to the **financial aspects** of the thesis work; only in few cases the programme receives money from the university per student; also only in few cases university money is allocated for experiments and/or study trips related to the thesis work. Often these costs are supposed to be paid from the student's grant (of any kind), from the budget of the external project the student's research work is (made to) fit(s) in, or from whatever overall Master programme fee. As a general rule, the various programmes are obliged to use a flexible *ad hoc* approach to finance thesis work.

THE FORMAL PROCEDURES

The formal procedures allowing the selection and fulfillment of a thesis subject by the student show some degree of variation among the respective programmes; nevertheless there are a number of constant elements common to all programmes surveyed.

The procedure for **assigning a subject to a student** generally includes a number of successive steps:

- a list of possible thesis subjects with corresponding potential supervisors is drafted; sometimes students are also given the possibility of suggesting a subject themselves;
- students express their interest in one or more subjects;
- students are linked to a subject by the programme organizers;
- thesis subjects and students are formally approved by a programme and/or faculty/institutional committee.

Generally the various steps described above are allotted a specific timing within the overall time frame of the academic year. In most cases the procedure is run only once per batch of students; sometimes, however, there is more than one moment in the curriculum for the student to sign up for his/her thesis work.

As for the **administrative formalities**, at some stage of the procedure described above nearly all programmes require a form to be filled in, stipulating the identity of the student, the (tentative) thesis title or subject, and (minimally) the supervisor/promoter. Depending on the programme, additional information needs to be given: e.g. the project plan; the identity of the examination committee etc. Assignment of a thesis to a student always has to pass through a formal approval process at the level of the department organizing the programme and/or of a faculty board.

Depending on the programme, **additional documents** may be required in between initialization and finalization of the thesis, and there is no uniformity whatsoever in this respect among the programmes surveyed. Additional separate documents required may be:

- a thesis contract when the thesis is started (describing e.g. concrete project plan and time schedule);
- forms related to practical agreements or to good practice in the work place (e.g. use of equipment; safety rules; warrant for damage or loss of laboratory properties...);
- anti-plagiarism form;
- progress forms (see further);
- registration form when submitting the thesis;
- form related to defence;
- form on confidentiality (on a case-by-case basis, or alternatively as standard procedure);
- form when extended submission deadline is required; if such extension is possible, the programme generally has a formal procedure, which includes approval of the extension (again at the level of the programme director and/or of the faculty). In all cases a maximum period is set for extension, which is generally in the order of a few months.

THE PRACTICAL WORK

The **time allocated for thesis work** varies substantially among the programmes; it is generally in the order of 6-12 months, but can amount up to a total of 2 years of work.

In most programmes the student can perform research work at the **industry**; in such case generally an additional local tutor/supervisor from the industry is appointed (generally pending approval at the level of the programme organizers and/or the faculty), but it is always the university supervisor/promoter who ensures the overall quality of the work. As for any thesis subject, work in the private sector needs to follow the standard procedure (documents, approval..., see above) in place.

Though work at the industry is thus (at least theoretical) commonly within the possible contours of thesis work, only few programmes/universities utilize for this purpose a **specific protocol or**

agreement stipulating the responsibilities and rights of the respective partners (student, hosting private partner, university). In the case of work at the industry, issues such as ownership of data and confidentiality (see further) are generally felt of particular importance, but there is no uniformity among the programmes on how these aspects are dealt with: they may be addressed in the protocol mentioned above, or – in the absence of such document – may be the subject of a separate formal or informal agreement.

Also thesis work in **another institution than the home university, or abroad**, is possible in nearly all programmes, at least for e.g. field experiments or specific experimental work. For this purpose, often existing network links or exchange mechanisms (e.g. Erasmus) are used. Depending on the local situation (available infrastructure, geographical location) or on the research subjects inherent to specific programmes, such outplacement of students for thesis work is quite exceptional, or on the contrary rather common. Like for industry work, a local supervisor/tutor is appointed (following the standard procedure), though again the final responsibility remains with the supervisor of the home university.

The **progress realized by the student** is monitored in various ways by the respective programmes, varying from loose and informal contacts with the supervisor to a highly formalized procedure. Programmes where there is no formal arrangement whatsoever are few.

Some programmes use a 'roadmap' indicating which progress should be achieved by the student at various moments in time (though this document has no official value, and is only for informal use); other programmes require the student to report periodically on his/her progress by using more or less standard documents which require some form of approval by the supervisor and/or programme director. In a unique case where there may be a substantial geographical distance between student, supervisor and/or programme director, an electronic learning environment is being developed into a traceable tool for monitoring and documenting progress.

Irrespective of the formal procedure in place, the supervisor is normally expected to have regular meetings with the student to check for his/her progress.

The results of the survey suggest that, however, there is no clear system of **sanctioning** applied by the programme organizers in case the student fails to comply with the rules, except for termination of the thesis work and exclusion of the student from the programme, which is only imposed in exceptional cases. In this context it is noteworthy that the general student's attitude and motivation may be a factor which is taken into account (either explicitly or implicitly) during the final evaluation of the thesis work (see further).

THE MANUSCRIPT

A **monograph** is generally expected to be the written reflection of the thesis work. This document should generally follow a set of rules, imposed by the programme and/or the faculty, concerning format-related characteristics, such as recommended size, frontispice, lay-out, scientific presentation, literature references etc. Some programmes provide for very detailed guidelines, in others they are minimalistic.

Writing the thesis work in the form of one or more **publications as an alternative to the monograph** is exceptional and most programmes do not provide in this option in their thesis procedure (sometimes it is even practically impossible due to the limited time allowed to the student for thesis work and writing). Nevertheless it is not uncommon that students are encouraged – depending on the quality and the nature of the research work done – to write their monograph into

a publication (generally with co-authorship of university and/or other supervisors/tutors) after their defense.

The programmes' **language** policy for the thesis is characterized by pragmatism and flexibility. Usually the thesis should be written in the language of teaching of the programme, which is the national language or (if it's not) English. If the rule prescribes the national language, it is sometimes possible to write the thesis in English (or another foreign language), especially e.g. when the student is foreign, if the thesis work has been done (partially) under foreign supervision and/or abroad, or if members of the examination committee are foreign. If the thesis is in the national language, generally a Summary/Abstract is provided in English (and/or in another foreign language, relevant for the work). If, alternatively, the thesis is to be written in English (in a non-English speaking country) a Summary/Abstract in the national language is generally obligatory.

The various programmes display a high heterogeneity in terms of **data management and IP-related issues**. Only very few programmes have a standard procedure for saving the experimental data in standard lab books and/or electronic databases. The IP policy of the programme is commonly imposed by university rules, which may imply that:

- data are owned by the student;
- data are owned by the department/university;
- data are owned by the institute/private partner (co-)hosting the student's work;
- data are owned by the public or private body financing (part of) the student's work;
- combination of any of the above:
 - as a standard practice;
 - on a case-by-case basis (e.g. depending on the location/host/sponsor of the thesis work).

Depending on the situation (e.g. when collaborating with private partners) IP rights of the research work (which affects amongst others the possibility of publication of thesis work) are often contractually established in the corresponding standard agreement (see above).

Often (but not always) the programmes foresee for a procedure when **confidentiality** of data resulting from thesis work is wanted. There is however, large variation in the administrative formalities inherent to this procedure and also in its modalities and practical consequences; e.g. confidentiality may include suspension of public defense, non-public archiving of thesis manuscript etc. In any case it suspends broader dissemination of the thesis work (e.g. by peer-reviewed publication, oral presentations at conferences etc.). If such procedure exists, confidentiality is often limited to a period of 3 years, although some programmes utilize longer periods (5, 10 years).

Few programmes only provide for a very specific confidentiality procedure, e.g. in case thesis work is in the process of being written into a publication; in such case the thesis can be considered as confidential until the work has been published, and the thesis is provisionally removed from access in public libraries. In a minority of programmes confidentiality is explicitly impossible: research work which could likely have a confidential component is explicitly rejected as possible thesis subject, turning confidentiality into a non-issue.

Due to the rapid ICT developments and especially the facilities offered to the student (e.g. for a literature search) by the internet, there is a growing awareness among programme organizers of the risk of **plagiarism** in thesis writing. There is a gradual tendency among programmes (albeit it at different pace) to include clauses against plagiarism in their rules for thesis work (for instance by obliging the student to sign an anti-plagiarism form as part of the procedure linked to admittance to thesis work) and to incorporate some plagiarism check (in one way or another) as standard part of thesis evaluation. It is expected that this tendency will further increase in future.

THE EVALUATION

Most programmes foresee more than one period (2-3) in the course of the academic year when thesis defence can be organized. Often these periods are linked to the timing of the examination periods.

All programmes specify a **deadline** for the thesis to be submitted, which is a fixed number (in the order of 2-6) of weeks before the formal defence.

All programmes organize a **formal public defence**, in which the candidate **orally** presents his/her work in front of a **jury** in the presence of an audience, followed by some form of discussion or **interrogation**. At the end of the process, the jury **evaluates** the thesis work by assigning scores to:

- the written part;
- the oral presentation of the work;
- the oral discussion/questioning of the student.

Some form of deliberation is always inherent to the process.

The **jury** is composed of minimally 2, but generally more members:

- thesis work supervisor(s)/promoter(s) ;
- external evaluator(s) (named jury members, dissertation commissioners etc...); often faculty members; when the student has done thesis work in the industry or at a research institute, generally this partner is also represented by a jury member

The jury may further be composed of other members, such as:

- chairman of examination committee (which is considered to observe if the correct procedure is respected);
- secretary of examination committee;
- external evaluator which has no affiliation with programme, faculty, university, place where thesis work has been performed.

These members may be (co-)organizers of the programme, faculty members, or others; in most cases at least one of these members is considered as **impartial external evaluator** as he has and had no formal nor informal link whatsoever with the thesis work performed by the student. Nearly all programmes include such an impartial jury member in the composition of their juries.

Generally all jury members entitled to give scores have received and are supposed to have read the thesis beforehand. Often they are supposed to hand in their scores (to the secretary; to the secretariat of the programme; to the faculty secretariat...) for the manuscript a certain period (in the order of days) before the actual defence.

The **maximum duration** of the presentation and the discussion is generally fixed; this may vary from a minimum of e.g. 15 min oral presentation + 10 min questioning, up to a total of 2 h. The discussion round may thus vary from minimal questioning to detailed interrogations where a variety of aspects of the student's knowledge, related to his thesis work, is assessed.

Deliberation is always closed to the public. Faculties impose calculation rules (from rather simple up to complex formulas) for coming to a final score. These rules specify the differential weight assigned to :

- the marks set by the various categories of jury members (e.g. supervisors/promoters versus others);
- marks given for e.g. the research work done, the written part, the presentation, the discussion, non-tangible factors such as working attitude etc.



Commonly heavy emphasis is laid (e.g. in the order of up to 66-90 % of total scores) on the quality of the written part when evaluating the thesis work. Depending on the prevailing rules, space may be given to the jury members to deviate from the arithmetic score, based on deliberation and generally upon consensus. The possibility for majority voting (e.g. on refusal of the manuscript) is in very few programmes provided for.