

## Essay Curricular unit: 2018-2019

### Goals

The essay aims are:

- to develop research skills, such as literature search, knowledge of the state of the art of the proposed topic, critical assessment of existing results, and identification of outstanding problems;
- to provide the student the first contact with the possible topic of the thesis, under the guidance of a supervisor, by developing a thesis proposal, but still without a firm commitment, either to the topic, or to the student-supervisor collaboration.

### Output

The student should produce a written report in the form of a topical review, with a research plan, 30 pages maximum, and defend it in a live presentation of no more than 20 minutes including at least 5 for questions. These times are indicative and can be changed depending on the number of presentations.

### Written report

The report must be written in English, and take the form of a brief review of the proposed topic, with the identification of open issues and problems, together with a research proposal. It should clearly communicate the intended goals, their relevance, the method(s) of approach, and the specific contribution it intends to bring to the state-of-the art. It should be readable and convincing to informed non-specialists in the specific topic addressed.

A possible organization (to be adapted as required) is as follows.

#### 1 . Introduction

Give a concise and direct executive summary, with a general outline providing context and broad motivation.

#### 2 . State of the art review

Demonstrate knowledge and understanding of the current state-of-the art. Comment on existing methods and/or results. A critical outlook will be valued.

#### 3 . Research Proposal

State clearly, and justify, intended goals of the research, in the light of the state-of the art review. Reader should be made aware of the innovative aspects of the proposal. Indicate initial methods of approach, and outline your research plan: experiments, calculations, techniques to master, etc.

#### 4 . References

Present the bibliography of the works cited in the text . Use one of the standard formats.

Regardless of the complexity and detail of the proposal keep in mind the "5wh" Rule "5wh": what, why, who, when, where, how.

## Public presentation

It should be delivered in English and the presentation and questions should not exceed 25 minutes including at least 5 for questions, preferably 10. Be direct and non-evasive in your answers.

## Rules, Procedures and evaluation

1. The report should be written in English, A4 paper, 11pt font, 1,5 spacing, in the style of a scientific paper, between 15 and 30 pages long, including references.
2. The document should be submitted electronically, as a single pdf file.
3. The Essay supervisor should send the Scientific Committee a one page assessment (max), commenting on the students degree of autonomy in the essay curricular unit.
4. The oral presentation will last 15 minutes, and is followed by a 10 minute question/answer time by the evaluation panel.

The essay grade is decided by an evaluation panel of 3 MAP-fis staff members appointed by the Scientific Committee. The evaluation panel will decide the grade base on the following criteria:

1. Formal quality of the report: structure, clarity and conciseness, readability, correct referencing;
2. Depth of state-of-the-art review; relevance of references, critical outlook, understanding of current methods and/or results;
3. Clear statement of the goals of research plan, their relevance in the context of current state-of-the art , and the feasibility of the plan.
4. Quality of the presentation and ability to answer questions, concisely and convincingly.