UGR 2001-3001–UCM
Undergraduate Research
MARBLE

Fall 2017

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Aims of the UCM Undergraduate Research Project: MARBLE

MARBLE – what used to be called PEERS - is the university-wide undergraduate research-based learning program and it stands for Maastricht Research Based Learning project. MARBLE students at UCM can participate in all MARBLE activities that are happening university wide. While Research Based Learning (RBL) is not by definition limited to any particular level of education, MARBLE focuses on the undergraduate level of higher education. As such, it combines two fundamental ideas about learning and research. First, that a research-based approach enhances the learning experience, and second, that research has no inherent characteristic that should confine it to the graduate level only. MARBLE consists of undergraduate research projects exploring new ways of research based learning. The overall objective of the undergraduate research projects offered at UCM is to prepare students for graduate research by introducing them to relevant knowledge and educating them in relevant skills. The projects will emphasize the ability to, individually and in collaboration with others, identify and formulate academic problems, and to select and apply relevant research methodology accordingly. In addition to developing skills and knowledge proper, MARBLE also aims at reinforcing the awareness of how academic work relates to society: how it may respond to trends and issues in society, and how it may initiate new ideas.

Undergraduate research and other modules offered at UCM will mutually affect each other: research topics may evolve out of other courses or projects, just as new topics *for* such projects may emerge from the undergraduate research projects; undergraduate researchers may become experts to be consulted by ThinkTank or Conference groups. In this manual Undergraduate Research Projects are further referred to as MARBLE.

Learning outcomes

On the basis of the general aim, the following learning objectives have been formulated for the project in its entirety. At the end of this project, students:

- have attained a level of knowledge regarding their topic that allows them to understand and participate in graduate level research;

- have attained a similar level in skills relevant to their topic, such as formulating a problem/research question/thesis, data selection and analysis, conceptual interpretation, etc.;

- can explain how their research relates to theory (derives from, results into);

- can explain the social relevance of their research;

- have acquired the necessary skills to appropriately present their results (in writing/publishing, at a conference, etc.);

- have developed skills for collaborating in a research group;

General position within the UCM curriculum

The undergraduate research based learning program MARBLE is embedded in the UCM curriculum using the available structure of the skills and projects. MARBLE research projects are spanning a whole semester, substituting 2 skills trainings/learning communities and one project and thus yield 10 ECTS each.

Period 4	ECTS	Period 5	ECTS	Period 6	ECTS
Course	5	Course	5	Project	5
Course	5	Course	5		
Skills	2,5	Skills	2,5	Total PEERS	10

Students are encouraged to opt for a trajectory that eventually contributes to their Capstone. We expect some students to even continue writing their Masters theses and PhDs related to their topics of undergraduate research at Maastricht University.

MARBLE aims at attracting motivated students in their 2nd and 3rd year. For second year students, MARBLE substitutes skills and projects at 2000-level (course code UGR2001); for third year students at 3000-level (UGR3001). PEERS cannot replace Capstone.

Format

In the MARBLE program, individual students or small groups of students conduct research under the guidance of a senior researcher employed at Maastricht University. During the project, specific skills will be explained and elaborated on by the MARBLE supervisor at the appropriate time, such as problem analysis, proposal writing, data collection and analysis, and reporting and presenting results. The MARBLE undergraduate research projects are designed as one-semester projects, carrying 10 ECTS. As a guideline, MARBLE students are expected to spend 10 hours per week on average on their project. Students who are interested and who qualify may be allowed to extend their undergraduate research career, by following more than one semester of undergraduate research.

MARBLE students and supervisors have a shared responsibility to make their MARBLE project a success.

Organization of MARBLE research meetings

Supervisors are asked to contact their student(s) in the first week of the semester and arrange for a first face-to-face meeting. We recommend that there will be regular, possibly bi-weekly, meetings in which the conception of the research projects as well as the work progress will be discussed. Furthermore, students are asked to write a **research plan/proposal** that should be finalized by the **end of the first period**. The proposal will not be graded, it should, however, be reviewed by the supervisor and subsequently discussed with the student. In addition, we suggest that the student will turn in, at least, **one draft** of the final paper **by the end of period**

2. Again, this is not graded, but should be reviewed by the supervisor and discussed with the student.

Throughout the semester there will be two joint meetings with all UCM PEERS students. The **first meeting** will be held in period 1 and will, tentatively, take place on Wednesday, March 8 at UCM. This is when every student is expected to present their research plans in the form of a poster presentation. The **second meeting** will take place in week 3 or week 4 of period 3. This is when students will present the results of their research projects. We will reserve one or two days for this **MARBLE Undergraduate Research Symposium**.

All joint meetings are mandatory for students!

Assessment

At the end of a MARBLE semester, students will have to produce a final product. This end product, set by the supervisor, may take many forms – e.g., an article/essay, a policy plan, a documentary movie – and is assessed by the supervisor. In most cases, however, it will be a paper or a research report. The paper should be approximately 5000 words long, if no other arrangements have been made with the supervisor. Additionally, students will publically present the final outcomes of their research in the **MARBLE Undergraduate Research Symposium**. We will schedule 30 minutes for every presentation, this includes questions from the audience. The presentations will be co-assessed by the PEERS supervisors and one of the UCM MARBLE coordinators. **The end product/final paper counts for 80% of the final grade; the presentation 20%.** In case the MARBLE supervisor is unable to attend the final presentations of their students, we kindly ask them to send a substitute expert, i.e. someone from your department who can grade the presentations.

It may be noted here, that some supervisors may want to include the assessment of practical (lab) skills when for instance, conducting empirical research, into the final grade. If this is the case, then this should be discussed with the student at the beginning of the semester.

Undergraduate Research Conferences

We encourage UCM PEERS students to present their final product at an undergraduate research conference. This, of course, should be discussed with your PEERS supervisor beforehand. It is possible to apply for a travel grant to the MARBLE program, in order to finance such a trip.

Here are two links to undergraduate research conferences in the UK and the Netherlands:

The British Conference of Undergraduate Research (BUCR):

http://www.bcur.org/bcur-17/

The Student research Conference in the Netherlands:

http://www.studentresearchconference.nl/

Contact for MARBLE UCM

The UCM MARBLE coordinators are available for questions, clarifications, conflicts and possible problems any time during the semester. Please do not hesitate to contact us.

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Appendix – Poster instructions

At larger academic conferences, in addition to presentations using things like PowerPoint or other visual tools, there are often specific 'poster presentations' as well. These poster presentations are academic presentations in which images, graphs, text, statistics, etc. are placed on a poster in order to explain a research project. At real conferences, these usually present the outcomes of a certain research project.

For our first collective MARBLE meeting, you are asked to create such a poster. However, since you will be at the start of (a section of) a new research project (i.e. the research you will execute during the MARBLE project) instead of its finish, your poster needs to focus on the basic questions, theories, methodologies, and planning for the project. In other words, it should be a visual presentation of your research project in all its facets.

Basic requirements for the poster

- ❏ It needs to include your research question, and if applicable, sub-questions and hypotheses.
- ❏ It needs to include the methodological approach, also outlining concrete steps in the research.
- ❏ It should include some of the major theoretical and/or empirical ideas that underpin your research. This may include earlier research done within or outside of the project you are currently part of.
- ❏ The poster should 'speak for itself', though <u>you will have an opportunity to explain your poster</u> further in a brief presentation.

Pay attention to the layout of your poster (tip: Powerpoint can be a convenient program to use if you're new to this), think carefully about where you put which information (and that it's readable), and which content to include or omit. Several examples will be circulated on EleUM for reference, and you can find some practical suggestions here: <u>http://writing.wisc.edu/Handbook/presentations_poster.html</u>. Additionally, searching Google Images (e.g. "research proposal poster") for examples should provide some inspiration.

Practicalities: what to hand in in, and how

Upload your poster on EleUM by the deadline that is communicated, and make sure that you bring a printed copy to the poster session.

We will use the actual poster itself during our poster presentations. **We recommend using A2 size paper, or at least A3.** This is how A2 compares to the 'default' A4 paper size: