

1
2
3
4
5
6
7
8
9
10
11

Master's programmes Earth Sciences

MSc Research

GEO4-1520

12
13
14
15

Objectives

16
17
18
19

The MSc Research represents the culmination of the Earth Sciences Master's programmes. When conducting MSc research, the student demonstrates skills to pursue independent research and shows advanced knowledge in the field of the MSc programmes. These skills include:

- preparing and initiating a research project;
- analysing and processing data;
- writing and presenting a research report.

20
21
22
23
24
25

The student demonstrates the capability to apply and to integrate advanced knowledge in order to interpret scientific results and to answer research questions. The MSc research project includes a critical study of the relevant scientific literature, and application of the information collected to accomplish the research objectives.

26
27
28
29
30
31
32
33
34
35
36
37
38
39
40

The MSc research is mandatory for all Earth Sciences students and encompasses a credit load of a multiple of 7.5 EC between 30 EC (minimum requirement) and 45 EC (maximum). The duration should reflect the working time required for establishing the database for the project and is not associated with profundity. This implies that the same assessment criteria apply for MSc theses irrespective of duration. The MSc research encompasses a written report (MSc thesis) and an oral presentation, both obligatory in English. The thesis should – in principle – contain material of publishable quality. MSc Research projects can be carried out in collaboration with other students, but only under the condition that each student works on an individual problem statement and that the individual performance (and individual thesis) of each student can be properly judged by the supervisor.

41
42

Pre-requisites

43
44
45

The pre-requisites guarantee a competent starting level for the student on the aspects of research capabilities and general and specialist knowledge.

46
47
48
49
50
51

To start with MSc research a student should have obtained at least 30 ECTS credits of theoretical first year MSc courses (GEO4-...) from the relevant programme. Usually, the student has completed more theoretical courses within his/her personal programme, established earlier in consultation with the programme leader.

52 **Finding a suitable MSc Research topic**

53

54 There are different ways to find an MSc Research project. MSc Research projects
55 offered by staff from the Department of Physical Geography are published on
56 Blackboard and on the student website in February. Students can contact the
57 staff member who offers the project for further information and application. For
58 projects at the Department of Earth Sciences, students are encouraged to take
59 the initiative in contacting academic staff members of the department about
60 possible research topics. The topic should fit within or should have strong links
61 with one of the Earth Sciences programmes. The topic could be theoretical or
62 practical, could include fieldwork and/or lab-work and/or computer-based
63 simulation/modelling. The Graduate School of Geosciences does not provide any
64 financial compensation for the research components. Nevertheless, costs (e.g.
65 fieldwork or laboratory analyses) may be reimbursed by the research group or
66 external funds.

67

68 Together with the staff member, who is also the intended supervisor of the MSc
69 project, the student defines and delineates the thesis topic.

70

71

72

73 **Supervisors and reviewers**

74

75 Typically, the member of the permanent scientific staff of the department of Earth
76 Sciences or Physical Geography staff member with whom the student has defined
77 the research topic will act as first supervisor and examiner/reviewer of the MSc
78 Research project. The daily supervision can be delegated to a qualified expert
79 from outside the departments. For example, when the MSc research project is
80 performed at another academic or non-academic institution, a staff member at
81 the host institution may act as daily supervisor. Nevertheless, the permanent
82 staff member from the department of Earth Sciences or Physical Geography
83 remains responsible as examiner, i.e. he/she is the primary responsible for the
84 supervision and grading of the MSc research project (thesis and oral
85 presentation). The daily supervisor then acts as secondary reviewer of the thesis
86 and presentation. Postdocs and PhD-candidates may also be involved in the daily
87 supervision and can act as second supervisors and reviewers.

88

89 If the project has only one supervisor, a second reviewer must be found in
90 consultancy with the first supervisor. The second reviewer should be an expert in
91 the field of the research topic.

92

93 If the second reviewer is not a permanent staff member of the department of
94 Earth Sciences or Physical Geography, the qualifications of the intended second
95 supervisor will be evaluated for their expertise by the Teaching Institute Earth
96 Sciences during the registration procedure (see below). This may cause a slight
97 delay in the approval of the MSc research project. If the Teaching institute does
98 not give consent with regards to the second supervisor, both the student and first
99 supervisor will be informed. They will then be asked to find an alternative second
100 supervisor.

101

102 If the MSc Research project is graded with a final result of 8.5 or higher, a third
103 reviewer will be necessary. Further details about the role and tasks of the third
104 reviewer will be given below.

105

106 **Research activities and final products**

107

108 An MSc Research project encompasses a variety of research activities that are
109 necessary to achieve the research objectives, including literature review, data
110 collection (for example through field observations, sampling, or measurements,
111 laboratory experiments and analysis, or computer modelling), data analysis,
112 thesis writing. The nature of the research activities within the project and the
113 associated time investment are discussed and agreed upon with the first
114 supervisor before the actual project starts. Writing an extended research proposal
115 based on literature review may also be part of the research activities.

116

117 The final products of the MSc Research project include at least a written MSc
118 thesis and an oral presentation. There are no strict rules with regards to the MSc
119 thesis, except for that it must comply with the basic rules for scientific writing and
120 scientific integrity. A guide for scientific writing is available at the Earth Sciences
121 skills website (<https://skillsearthsciences.sites.uu.nl/writing/>). Furthermore, the
122 assessment criteria can be found on the rubric/assessment form available in the
123 Msc thesis Blackboard community.

124

125 The oral presentation (thesis talk or colloquium) about the MSc Research project
126 has a typical duration of 20-30 minutes (45 minutes including questions and
127 answers) and is scheduled near the end of the project in consultation with the
128 supervisors and reviewers of the project and the secretary of the department of
129 the Department of Earth Sciences or Physical Geography, who will make a room
130 reservation and takes care of including the presentation in the thesis talk
131 calendar (see Thesis talks Blackboard Community). A guide for scientific writing is
132 available at the Earth Sciences skills website
133 (<https://skillsearthsciences.sites.uu.nl/presenting/>).

134

135 Apart from the written thesis and oral presentation, the final products of the MSc
136 Research product may include other relevant outcomes of the project, such as
137 datasets, computer models (scripts or executables), whether or not included as
138 appendices of the written thesis. If relevant, the delivery of these final products
139 should be discussed and agreed upon between student and the supervisors.

140

141

142

143 **Administrative procedure**

144

145 Apart from the different research activities and steps to achieve the objectives of
146 the MSc Research project (e.g., literature review, fieldwork, labwork, data
147 analysis, computer modelling, thesis writing), which will be discussed with and
148 monitored by the supervisors, the MSc research project encompasses a series of
149 administrative steps for registration and monitoring purposes as part of the
150 quality assurance of the Earth Sciences master programmes. For this, the Osiris-
151 Case digital platform is used.

152

153 To formally start an MSc research project, the student starts an Osiris case by
154 taking the following steps:

155

156

157

158

159

- Log in to Osiris Student
- Click *Cases*
- Start a new case
- Click *Thesis and graduation*
- Click *GEO MSc Thesis Earth Sciences programmes*

160 The entire case encompasses the following phases from registration/application to
161 final assessment:

- 162
- 163 • Registration of the project
- 164 • Submission of change request (optional)
- 165 • Submission of thesis for assessment/grading
- 166 • Grading of the thesis
- 167

168 The role, tasks, and responsibilities of the student, the first supervisor, and
169 second reviewer in these phases will be further elucidated below.

170
171
172

173 **Registration of the MSc Research project**

174

175 If the student and supervisor agree upon the MSc research project, it needs to be
176 registered and submitted for approval to the Teaching Institute, before the
177 project is started. An MSc thesis project agreement form needs to be filled out,
178 signed and submitted in Osiris Case. A template of the agreement form can be
179 found at the end of this document.

180

- 181 • Log in to *Osiris Student*
- 182 • Got to *GEO MSc Thesis Earth Sciences programmes*
- 183 • Start a new case
- 184 • Read the instructions carefully
- 185

186

187 The agreement form contains the following information:

188

189

- 188 • **Personal data of the MSc student**
- 189 • **Title of the project**

190

The title should reflect the topic of the study, which must be related to the
191 Earth Sciences master programme.

192

- 192 • **Name of the first supervisor (examiner).** The first supervisor (examiner)
193 must be a permanent staff member of the Department of Earth Sciences or
194 Physical Geography.

195

- 195 • **Name of the second reviewer.** The second reviewer should be an expert in
196 the field of the research topic.

197

- 197 • **ECTS credits**

198

The study load of project can be 30, 37.5, or 45 ECTS credits

199

- 199 • **Project description**

200

The project description briefly describes the aims and objectives of the
201 project and the approach taken / methods applied to achieve these
202 objectives.

203

- 203 • **Project schedule**

204

The time planning must be consistent with the number of ECTS credits; 1
205 week (40 working hours) corresponds to 1.43 credits. The length of the
206 project has to be planned in a way that public holidays are excluded in the
207 calculation of the total number of working hours.

208

The project schedule also includes dates of meetings with the supervisor(s)
209 and should indicate when the supervisor is not accessible for longer time
210 periods.

211

Furthermore, milestones to evaluate the progress of the project, for
212 example, accomplishment of the required data set, handing in of the first

213 draft version and final version of the MSc thesis, and the grading of the
214 project etc. are defined.

215 • **No-go criteria,**

216 The no-go criteria define the minimum progress a student has to achieve
217 within about 6 weeks after the start of the project. It is strongly
218 recommended that the no-go criteria comprise a more extensive research
219 project proposal including a literature review and detailed time planning.
220 After about 6 weeks after the start of the project, a meeting with the
221 supervisor is scheduled and the progress of the student is evaluated in view
222 of the no-go criteria. If the student fails to meet these criteria, the
223 supervisor can decide to discontinue the MSc Research project, implying that
224 the student has to start a new MSc Research project.

225

226 Some of the above information also needs to be filled in on the Osiris Case
227 webpage for administrative and archiving purposes.

228

229

230 If the project involves fieldwork, a signed *Declaration regarding safety and*
231 *behavior during excursions and fieldwork* must also be uploaded. The form and
232 the related safety regulations and guidelines can be obtained/downloaded from
233 the Master Earth Sciences Thesis Blackboard community
234 (<https://uu.blackboard.com/>). Note that assessing the risks of the planned MSc
235 fieldwork and discussing these risks with the student is the task of the supervisor
236 and part of the safety procedure. Because of insurance purposes and to get a
237 quick overview of the students abroad in emergency situations, it is required and
238 obliged to register your stay abroad in the framework of your studies. This is
239 achieved by following the next steps:

- 240 • Log in to *Osiris Student*
- 241 • Click the *Buitenland/Stay abroad* button on the Osiris homepage
242 A new tab opens in your browser; make sure pop ups are allowed
- 243 • In this new window, log in again for an overview of your Stay abroad
244 application
- 245 • Click *Contact information*
- 246 • Add the address or addresses you will be staying during your study abroad
247 period

248

249

250 After submission of the above application in Osiris Case, the Teaching Institute
251 will check whether it is complete and correct, whether the first supervisor and
252 second reviewer possess the required qualifications, and whether the number of
253 EC credits corresponds to the time planning of the MSc Research project. If the
254 application does not pass these criteria, the student and supervisor will be
255 informed and receive information about the next steps to be taken to fulfil the
256 requirements. If the application passes these criteria, the Teaching Institute will
257 approve the project and the student and first supervisor will receive a
258 confirmation message that the MSc Research project has been registered. Then
259 the student can start the actual project.

260

261 **Submission of change request (optional)**

262

263 During the MSc project, it is expected that the student does all in his/her power
264 to fulfill the commitments agreed on in the MSc agreement and to ensure the
265 progress of the project as planned.

266

267 If a change in plans occur, the student must inform and discuss this with the first
268 supervisor. This applies to the following situations:

- 269 • The MSc research project will be extended in size (number of EC credits)
- 270 • The end date of the MSc Research project will be postponed by more than
271 four weeks due to personal circumstances.

272

273 If the first supervisor agrees, the student submits a change request in Osiris Case
274 by taking the following steps:

275

- 276 • Log in to *Osiris Student*
- 277 • Got to *GEO MSc Thesis Earth Sciences programmes*
- 278 • Click the *Submit a change request* tab
- 279 • Read the instructions carefully

280

281 The change request must be justified and an updated version of the agreement
282 form including an updated time planning, which has been signed by both the
283 student and the first supervisor, must be uploaded. The student and first
284 supervisor will be informed whether the change request has been approved by
285 the Teaching Institute. Note that delayed completion of the MSc thesis without
286 approval may lead to its rejection.

287

288

289

290 **Submission of first version for feedback**

291

292 When the student has finished the first version of the thesis, he/she submits the
293 document to the first supervisor by email for feedback as agreed in the
294 agreement form. Note that during this phase, communication between student
295 and supervisor takes place via email and thus not via Osiris Case.

296 The first supervisor provides this first version with adequate, sufficient and
297 constructive comments/feedback that helps the student to improve the quality of
298 the thesis. Feedback may also be provided by the second reviewer instead of or in
299 addition to the first supervisor's review, if the second reviewer has been more
300 intensely involved in the daily supervision of the project than the first supervisor.

301

302

303

304 **Submission of final version for assessment/grading**

305

306 The student implements these comments and prepares a revised, final version of
307 the MSc thesis. After implementation of the comments, the student submits
308 his/her final version of the thesis in Osiris Case for assessment. For this, log in to
309 Osiris Student, go to *GEO MSc Thesis Earth Sciences programmes*, and click the
310 appropriate tab to upload the thesis.

311

312 Since the uploaded version thesis will be graded, the student is urgently
313 requested to double check whether the correct version is uploaded. The uploaded
314 version will be automatically checked for plagiarism using Ouriginal. It is not

315 necessary to upload the additional outcomes such as datasets or computer
316 models in Osiris Case.

317

318 The supervisor and second reviewer will then assess and grade the thesis using
319 the standard MSc Thesis Rubric Earth Sciences (see the Master Earth Sciences
320 Thesis Blackboard Community for a pdf copy of this assessment form).

321

322

323

324 **Assessment/grading of the MSc research project**

325

326 The assessment of the MSc research project consists of three components: the
327 MSc thesis, the oral presentation, and the process. The assessment of the MSc
328 thesis counts 70% towards the final grade of the MSc Research project, whereas
329 the oral presentation counts 10% towards the final grade. The assessment of the
330 execution of the project (process) makes up the remaining part (20%) of the final
331 assessment of the MSc research project.

332

333 If the final grade is 8.5 or higher, or if the final grade is less than or equal to 6.0
334 and greater or equal than 5.5, a third reviewer is required, who supports this final
335 result. This third reviewer a) should be an expert in the field of research covered
336 by the thesis; b) should not have been involved in any way in the graduation
337 project and/or writing stage; c) may be a university lecturer from outside Utrecht
338 University. The third reviewer is expected to provide a short, written statement,
339 in which he/she declares that the written argumentation in the evaluation form
340 justifies the final result. The third reviewer also needs to sign the
341 rubric/assessment form. It is the task of the first supervisor to request for this
342 statement and to upload this statement in Osiris Case together with the thesis
343 assessment form with signatures from all reviewers.

344

345 After the thesis has been graded the first supervisor uploads the signed rubric
346 form in Osiris Case. The student will then receive a message that the thesis has
347 been graded and the result and rubric form can then be viewed in Osiris Case.
348 The first supervisor ensures that the assessment and submission of the final
349 grade and assessment form in Osiris Case takes place within 10 working days
350 after the submission date of the final thesis version, as agreed in the agreement
351 form.

352

353 If the final result is less than a 4.00 (before rounding), the student has failed for
354 the MSc Research project. The Osiris Case will be closed and the student should
355 start an entirely new MSc project for graduation. If the final result is insufficient
356 (but at least a 4.00), the student will get one additional opportunity to submit a
357 revised version as a supplementary test. The first supervisor/examiner
358 determines which revisions are needed and establishes the deadline for
359 submission of the additional revised version. The student uploads the revised
360 version of the MSc thesis only when the first supervisor agrees that it can be
361 submitted for grading. If the revised version is graded as sufficient, the final
362 grade of 6.0 for the MSc Research Project will be recorded in Osiris.

363

364 If the final result is 5.50 or higher, this will be registered as final grade in Osiris.
365 As soon as the final grades have been registered in Osiris, the case will be closed,
366 but the student will receive a follow-up invitation/request to upload the final
367 version of the thesis for archiving and possible publication. For this, a new case
368 will be started. When uploading the thesis, the student may choose whether and

369 when to make the MSc thesis publicly available. If this option is selected, the
370 Utrecht University Library will take care of making the thesis publicly accessible.
371 As a result, the thesis can eventually be found in search systems such as Google
372 (Scholar) and WorldCat.

373

374

375

376

377 Version: February, 2023

378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419

Template agree form

MSc Research project (GEO4-1520)

Name:

Student number:

E-mail:

Telephone (optional):

1st supervisor:

2nd supervisor /reviewer :

ECTS Credits:

Title:

Project description

Aims:

Approach/methods:

Schedule

Date / Period	Activity
	Go / no go date
	First version of report submitted
	Final version of report submitted
	Final grade established

Go / no go criteria:

Signatures