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1 Introduction

The literature study is an important part of the Master's programs. The literature study involves different aspects and skills of scientific research, such as literature search strategy, critical evaluation and interpretation of presented data, report writing, and oral presentation. The regulations outlined below describe, in chronological order, the process of completing the literature study. The various phases of the process (see Chapter 3) will be supported by forms provided on www.med.vu.nl/en/Students/Forms/. The student is responsible for finding a suitable location/supervisor for the literature study and for the timely completion of all forms (including signatures).

Required forms
- Digital approval form:
  www.formdesk.com/vuamsterdam/approvalform_minor_major_ECRO_2014
- Literature Study Portfolio consisting of:
  - Survey Outline (A2)
  - Literature Study Evaluation (B2)
- Digital assessment form:
  www.formdesk.com/vuamsterdam/Assessment_form_internships_SMS

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2 General information

2.1 Length and credits
A literature study is an important part of the Master's programs. The literature study is rewarded with 9 ECTS (European Credit Transfer System) and accounts for 6 weeks. To obtain the credits, the Literature Study Portfolio has to be successfully completed and graded (Chapter 4) within 6 months after the start of the literature study. If this requirement is not met, the literature study needs to be repeated with another subject.

2.2 Contents and requirements
Aim: The student is expected to learn to extract the main message out of a large number of publications and acquire an overview of the current knowledge of a certain research topic. A student is expected to learn to understand a research question, read relevant literature and make a timely survey of the literature including a critical evaluation of the publications. In addition, the student has to discuss his/her findings in an oral presentation.

To start a literature study, the student is required to:
1) have successfully passed the Minor internship.
2) have received approval for topic and supervisor by the Examiner Internships/Literature Studies (ILS) after filling out the digital approval form.

While it is allowed to do an internship and literature study within the same department, it is not allowed to do both on the same topic and/or under supervision of the same supervisor.

Preferably, the literature study is written in the format of a scientific review article, and at the discretion of the supervisor may be submitted as such to a scientific journal. However, in the latter case it should still be discernable what the contribution of the student was. The literature study has to be written in English and to receive the final mark an oral presentation is required. Duo literature studies are not allowed.

The topic of the literature study may be related to oncology/cardiovascular research. The literature study can be performed at any chosen national or international renowned institute, provided it is approved by the Examiner ILS.

Supplementary conditions
The tasks performed by the student during the literature study cannot be considered as a replacement of an employee of the supervisor's department.

2.3 Supervision and guidance
The following forms of supervision and guidance during the literature study can be distinguished:

Examiner Internships/Literature Studies
The Examiner ILS is responsible for the approval of the internship and the application of the correct procedures with regard to the grading process.
**Assessor/Supervisor**

The responsible assessor/supervisor of the literature study should be a PhD at the level of assistant professor (UD) and has to be approved by the Examiner ILS. The topic of the literature study has to be discussed with the student and within 2 weeks after approval the student needs to hand in an outline to the Master coordinator. This will facilitate the writing in a good structured way. The student should approach the assessor regularly to evaluate the progression and discuss possible adjustments to the study, accordingly. This should be done at least once during the writing. Commonly, a final report that will be assessed has been reviewed twice. Considering the relatively short time span to perform this literature study it is requested to edit the concept versions within 5 working days. When there are indications that the student will fail the literature study, the assessor needs to contact the coordinator of the Master program.

**VUmc Assessor**

Only for external literature studies a VU/VUmc assessor is asked to serve as backup for questions of the student and/or the assessor/supervisor. This VU/VUmc assessor needs to be invited by the student but has to be approved by the Examiner Internships/Literature Studies and has to be employed at least at the level of assistant professor (UD). The VU/VUmc assessor is responsible to benchmark and confirm the validity of the assessment done at the host institute.

**Independent Assessor**

The written report needs to be verified by an independent assessor. This is a person assigned by the Examiner ILS, and has to work at least at the level of assistant professor (UD). He/she will critically review the report and give a mark based on the report without considering the writing process.
### 3 Course of events during the literature study

Each student prepares a Literature Study Portfolio in which all required forms are present. The digital portfolio must contain the **Front page** and the **Survey Outline**. The **Literature Study Evaluation** must be filled in online on the webpage med.vu.nl/en. In addition, a **PDF** of the report has to be e-mailed to the Master coordinator. Only when the portfolio is complete will the student receive the credits for the literature study. The student is responsible for the timely completion (including signatures) of all forms. The portfolio must be e-mailed to the Master coordinator. The table below provides a time-line which the student has to follow to ensure successful completion of the literature study.

<table>
<thead>
<tr>
<th></th>
<th>Student</th>
<th>Assessor/Supervisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Month before start</td>
<td>Apply for approval by filling out the digital <strong>Approval Form</strong>.</td>
<td>Accept the digital <strong>Approval Form</strong>.</td>
</tr>
<tr>
<td>2. Within 2 weeks after start</td>
<td>Hand in the <strong>Survey Outline</strong> to the Master coordinator.</td>
<td>Correct the <strong>Survey Outline</strong>. Assess the <strong>Survey Outline</strong> using the Assessment form in the Literature Study Portfolio. Send a copy to the Master coordinator.</td>
</tr>
<tr>
<td>3. Progression consult (at least once during the writing procedure)</td>
<td>Adjust the literature study according to the assessor's comments.</td>
<td>Evaluate the progression of the student and discuss possible adjustments of the literature study accordingly.</td>
</tr>
<tr>
<td>4. End of the literature study</td>
<td>Give an <strong>Oral Presentation</strong>. Fill out the Online <strong>Literature Study Evaluation</strong>. Hand in a pdf of the <strong>Literature Study Portfolio</strong> together with a PDF of the <strong>Report</strong> to the Master coordinator.</td>
<td>Fill out the digital <strong>Assessment Form</strong>.</td>
</tr>
</tbody>
</table>

#### 3.1 Month before the start of the literature study

Before starting the literature study, a student always has to ask for approval of the Examiner ILS via a digital **Approval Form** provided in the following link: http://www.formdesk.com/vuamsterdam/approvalform_minor_major_ECRO_2014. Hand in the form well in advance to obtain approval in time. A literature study can only be started after approval of the Examiner ILS.

#### 3.2 Within 2 weeks after start

A student has to write a Survey Outline describing the content, structure and main objectives of the literature study. The Survey Outline has to be discussed with the assessor and handed in to the Master coordinator. The assessor has to give an assessment for the outline, which will account for 10% of the final mark. The assessor may use the assessment form found in the Literature Study Portfolio as a place-holder before filling out the digital assessment form.
3.3 Progression consulting
At least once during the writing procedure there has to be a progression consult of the student with the assessor. When the assessor has indications that the survey may be insufficient, the student in agreement with the assessor should set learning goals for improvement. A report of this reflection needs to be signed by both and handed in at the Master coordinator. It will be added to the Literature Study Portfolio.

3.4 End of the literature study
The final assessment will be completed in the presence of both the supervisor(s) and the student. Afterwards, the VUmc Assessor must validate the assessment forms and assess whether it is up to VU-standard. The digital assessment form can be found at:
www.formdesk.com/vuamsterdam/Assessment_form_Internships_SMS
This form consists of several criteria (see Appendix I and part 4. Literature study assessment) that reflect the Master program final qualifications.

After the assessment forms are filled out by the assessor, the student hands in the Literature Study Portfolio including two hardcopies of the report at the Student Service Desk and sends a PDF of the report to the Master coordinator.

To improve the quality of the literature study the student has to fill out the Online Literature Study Evaluation. This evaluation is also part of the Literature Study Portfolio. The evaluation can be found at: http://fd20.formdesk.com/onderwijscentrumVU/literature_study
4 Literature study assessment

For each part of the literature study a partial mark will be given based on specific criteria (See Appendix I). The final mark is calculated using the weight of 10%-20%-70% for the outline, the oral presentation and the final report, respectively.

When the average mark of any of the three assessment items of the literature study is insufficient (<5.5), the specific item that was insufficient should be redone. A maximum of 2 repeats is allowed for the presentation and the report.

4.1 Survey outline

After discussing the topic of study with the student and carefully explaining the objectives, the student should start with gathering literature and writing a preliminary outline of the report. This outline should give an indication that the student has understood the main objectives of the study and that the contents of the subsequent report covers the topic as expected by the assessor. This concept proposal is required since it is crucial for the whole writing procedure. Therefore it comprises 10% of the final mark.

4.2 Oral presentation

An oral presentation concerning the literature study will be given to the research group of the supervisor. Emphasis has to be given on the capability of the student to answer questions and discuss the topic. This part comprises 20% of the final mark.

4.3 Report

A report of the literature study will have the format of a scientific review, common in the field of research. The report will be written in English and should be at least 5,000 words, consisting of the following subjects:

− Abstract;
− Introduction/Background with the aim of the study;
− Literature review;
− Discussion with conclusions and recommendations;
− References.

When necessary, supplementary data can be described in appendices. Agreements have to be made concerning criticism and judging of the report (for guidance on the assessment criteria, see the Assessment Criteria supplement). The assessor will receive a concept report, and he/she should give it back to the student, complete with written critics within a few days, which will be discussed with the student. The concept report can only be corrected twice, before the final report is handed in.

The report has to be finished within 6 months after the start of the literature study. The final mark for the literature study will not be registered when the student fails to hand in a digital version of the Literatur Study and a complete Literature Study Portfolio. Since the report is the most important aspect of the end terms that need to be acquired during this part of the Master’s programs, it will comprise 70% of the final mark.

The report will be checked for plagiarism by the Master coordinator. The assessor can ask for a copy of this scan before submitting the digital final assessment form.
After scanning for plagiarism, the Examiner ILS will send the report to an Independent Assessor for a second assessment. When the mark is less than 1.0 point different between the independent assessor and the supervisor, the mark for the report will be the average of the two grades. When this difference is > 1.0 point, the report will be sent to a second independent assessor who will also assess the report and provide a mark. In this case the final mark will be the average of the three grades.
5 Additional information and guidelines

The performed literature study and the final report are at discretion of the host institution at which the placement is performed. When necessary, agreements about confidentiality can be made between internal assessors/examiners and external supervisors. The student can be co-author at the time of publication of his/her results, only if the results are sufficient.

Assessors are obliged to read and assess the full report. The student can be co-author at the time of publication of his/her results, when the supervisor deems the contribution sufficient.

The supervisor of the host institution will do all in his/her force to help the student to fulfil all components of the literature study assessment. Delay of any kind caused by the host institution is not appreciated. All Master students apply to the Vrije Universiteit Intellectual Property (IP) regulations (www.tto.vu.nl). If delay is expected because of IP questions the external supervisor is responsible for discussing the problem with the Master coordinator and Examiner internships/literature study in advance. Together, an appropriate solution will be discussed to minimize delay of the study program and risk for the host institution.

As stated above, there is a central registration, archive and accessibility to reports of internships and literature studies. These documents will be filed at a central place to be viewed in by next-generation Master students. Only after specific request of an assessor, it is possible not to file the report because of confidentiality of the data. This request has to be provided with a clear motivation.
### 6 Appendices

**Appendix 1: Assessment criteria literature study VUmc school of medical sciences**

This assessment matrix should be used as a guideline for literature study supervisors in the assessment of students enrolled in the VUmc School of Medical Sciences Master Oncology and Cardiovascular Research program.

<table>
<thead>
<tr>
<th>Survey Outline</th>
<th>Insufficient (&lt;5.5)</th>
<th>Sufficient (5.5-6.5)</th>
<th>Good (7.0-8.0)</th>
<th>Excellent (8.5-10)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Process of writing</strong></td>
<td>The student is not able to translate the results and literature into coherent and effective writing within the required amount of time. The student needs a lot of help in this process.</td>
<td>The student is translating the results and literature into coherent and effective writing within the required amount of time. The student needs some guidance.</td>
<td>The student easily and independently translates the results and literature into effective writing.</td>
<td>The students easily and independently translates the results and literature into effective writing on the level of a peer-reviewed scientific paper.</td>
</tr>
<tr>
<td><strong>Processing of literature</strong></td>
<td>The student is not able to gather and interpret the correct and relevant literature.</td>
<td>The student is able to gather and interpret literature relevant to his/her project.</td>
<td>The student is able to gather and interpret literature relevant to his/her project and put it into the context of other literature.</td>
<td>The student easily gathers and interprets relevant literature. He/she is able to discern the quality of papers accurately and has a good impression of the scientific consensus.</td>
</tr>
<tr>
<td><strong>Processing of results</strong></td>
<td>The student is incapable of interpreting the results and putting them in the context of relevant literature.</td>
<td>The student interprets the results sufficiently with the use of relevant figures and graphs. The student uses some relevant literature to support the results.</td>
<td>The student interprets the results accurately and uses figures and graphs to improve the report significantly. The student uses a variety of relevant literature to support and reflect on the results.</td>
<td>The student easily interprets the results and uses figures and graphs that are of high scientific standard. The students puts the results into context with the most relevant literature and accurately reflects on them.</td>
</tr>
<tr>
<td><strong>Overall concept</strong></td>
<td>The student is not able to write a coherent report with a clear structure. The student uses flawed arguments to assess the research question.</td>
<td>The student is able to write a coherent and structured report. The student uses sufficient arguments to assess the research question.</td>
<td>The student is able to write a coherent report with good structure. The student answers the research question using arguments supported by the results and literature.</td>
<td>The student writes an excellent, coherent report with great structure. The student is able to answer the research question fully by using a variety of arguments supported by his/her results and relevant literature.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Oral presentation</th>
<th>Insufficient (&lt;5.5)</th>
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<tr>
<td><strong>Presenting skills</strong></td>
<td>The presentation is clearly too long or too short and difficult to follow. The public does not feel engaged Insufficient use of audiovisual aids.</td>
<td>The presentation meets the time standard. Clear manner of presenting. Appropriate use of audiovisual aids.</td>
<td>The presentation meets the time standard. Enthusiastic and clear presentation style. Good use of audiovisual resources. The slides support the presentation.</td>
<td>The presentation meets the time standard. Clear presentation with informative slides. Lively and enthusiastically presented. The presentation is engaging for the audience.</td>
</tr>
</tbody>
</table>
### Presentation

| The structure is messy and cluttered. It lacks essential information. The argument is (sometimes) unclear. Little scientific justification. | Clear structure with introduction, methods, results and discussion. There is consistency. A clear overview of the research and the main results are given. Sufficient scientific justification. | Clear structure with introduction, methods, results and discussion. There is consistency. There is a good and clear overview of the research and the main results are well-discussed. The arguments put forward are logical, valid and scientifically substantiated. | Excellent structure with introduction, methods, results and discussion. There is consistency. There is a clear overview of the research and the main results are well discussed and placed in context by means of scientific literature. Arguments used are logical and valid. Clear conclusions and recommendations for future research are concrete and of high quality. |

### Discussion

| The student does not adequately address the questions from the audience. The answers are not clear and to the point. | Students answered questions from the audience and used his/her own data and scientific literature. The student gives adequate answers. | Students answered questions from the audience and used this as its own data and scientific literature. The student shows a good overview of the subject and put the questions in a broader context. | The student answers the questions from the public in a clear and appropriate manner showing an understanding of the subject and research field. The student carries out a lively discussion convincingly. |

### Report (writing process)

<table>
<thead>
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<th>Insufficient (&lt;5.5)</th>
<th>Sufficient (5.5-6.5)</th>
<th>Good (7.0-8.0)</th>
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<td>The student is incapable of interpreting the results and putting them in the context of relevant literature.</td>
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<td>The student interprets the results accurately and uses figures and graphs to improve the report significantly. The student uses a variety of relevant literature to support and reflect on the results.</td>
<td>The student easily interprets the results and uses figures and graphs that are of high scientific standard. The students puts the results into context with the most relevant literature and accurately reflects on them.</td>
</tr>
</tbody>
</table>
### Overall concept

| The student is not able to write a coherent report with a clear structure. The student uses flawed arguments to assess the research question. | The student is able to write a coherent and structured report. The student uses sufficient arguments to assess the research question. | The student is able to write a coherent report with good structure. The student answers the research question using arguments supported by the results and literature. | The student writes an excellent, coherent report with great structure. The student is able to answer the research question fully by using a variety of arguments supported by his/her results and relevant literature. |

### Report (content)

<table>
<thead>
<tr>
<th>Insufficient (&lt;5.5)</th>
<th>Sufficient (5.5-6.5)</th>
<th>Good (7.0-8.0)</th>
<th>Excellent (8.5-10)</th>
</tr>
</thead>
</table>

### Abstract/summary

| The summary is incomplete on one or more of the following: context, research question, methodology, results, conclusion. The findings answer the research question insufficiently. | The summary is understandable and contains all the components in a logical order: context, research question, methodology, results and conclusion. The findings answer the research question adequately. | The summary contains all the components in a logical order: context, research question, methodology, results and conclusion. The findings answer the research question in a good, clear way. | The summary shows the essence of the research carried out and is easy to follow regardless of the literature study report. The research is summarized well. The summary includes a brief description of the context, research question, methodology, results and conclusion. The findings answer the research question in an excellent, clear manner. |

### Introduction

| The student formulates a research question, however, it is not clearly formulated and not clearly defined. Background information and scientific/social importance of the investigation are insufficient and are not described coherently. The introduction does not fully connect to the research questions. The student only uses few references. | The relevance of the research questions, the background, and the scientific/social importance of the research are described. The student sufficient scientific references. The introduction is a coherent whole, but remains somewhat superficial. The introduction is (almost) constructed according to the funnel model (from wide to narrow). | The student uses relevant scientific literature to introduce and support, the background information, scientific/social importance and the research question. This leads to new insights and the student ends up with a clear and defined research question. The introduction follows the funnel model (from wide to narrow) correctly. | The introduction consists of an in-depth analysis of the problem using relevant scientific credentials of high quality. This thorough analysis opens up new insights and logically follows the research question. The research question is clear and defined. There is great consistency in the text. The introduction is deepening, but also gives an overview of the study area. The introduction follows the funnel model (from wide to narrow) in an excellent manner. |

### Discussion/Conclusion

| The discussion is incomplete and does not contain all the essential elements as mentioned above. There is insufficient reference to relevant scientific literature. The conclusions give no or only partially answer to the research question. | The discussion includes all essential elements such as mentioned above. Adequate scientific references are used. The research question is sufficiently answered but the discussion is somewhat superficial. | The discussion includes all essential elements as mentioned above and describes them clearly. The student has sufficient knowledge to put the results in a broader context and makes good use of scientific literature. The research question is clearly answered. The student uses scientific references to reflect on their own research. | The student shows insight in the scientific field. Student presents a concise but complete evaluation of his / her findings in light of the theoretical background and recent scientific literature. Limitations are found and feasible solutions are proposed. The research question is coherently answered. |