NEW: RESEARCH TOPIC ORIENTATION (0.5 EC→instead of 1 EC as mentioned in Osiris)

Course Code: 202100256 - Part of Module 11

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Aim

The aim of this course is to practice reading and discussing scientific literature relevant to a selected research question. Ideally, this question relates to the Bachelor thesis research question, though this is not required. The supervisor provides **2–4 papers**, and the student prepares for an oral discussion about the key concepts, methods, and findings. This course serves as an introduction to the topic and preparation for the Bachelor thesis.

Learning goals

- Based on a research question, the student can comprehend scientific literature relevant to the topic.
- The student can summarize and orally discuss the main contributions, methodologies, and insights from the selected literature.

Assessment

The Bachelor thesis supervisor (assistant/associate/full professor) evaluates the oral discussion as **pass** or **fail**. In case of a fail, the student is granted one additional opportunity to redo the discussion after receiving feedback.

Expected output: Oral discussion

The output of this assignment is an oral discussion meeting with the supervisor.

- The supervisor provides **2–4 papers** relevant to the topic.
- The student prepares by reading and summarizing the key ideas.
- During the meeting, the student discusses the papers' content, relations between the papers, and relevance to the chosen research question or project.
- The supervisor uses this meeting to determine pass/fail.

Assignment – regular version, connected to BSc thesis

1. Find a chair for your research.
2. Select an assignment and formulate a research question, to be approved by the Bachelor thesis supervisor.
3. Read the **2–4 papers** provided by the supervisor.
4. Prepare for the oral discussion by making notes and summaries.
5. Participate in the oral discussion with your supervisor.
6. Supervisor records the pass/fail and emails the result to modulesupport-ee@utwente.nl.
7. In case of failure, the student gets a single opportunity to redo the discussion after feedback.
8. A second failure requires switching to the non-standard version.

Already finished M12? – non-standard version

Students unable to link this assignment to their Bachelor thesis must complete a non-standard version.

- A staff member provides a distinct research question or design goal.
- The supervisor provides **2-4 papers**.
- The student prepares and completes an oral discussion on these papers.

Practical guidelines

- For students taking the course as part of M11, the deadline for completing the oral discussion must align with the module schedule. (to be determined each year)
- Students taking the course separately must agree on a deadline approximately **3-6 weeks** after receiving the papers.
- Supervisors provide pass/fail and feedback within **10 working days to the Module support email address**.
- In case of a fail, the student gets **10 working days** to prepare for the second attempt.

Late submission

- If the discussion happens **X** days after the agreed deadline and results in a fail, the student gets **(10 – X)** working days to prepare for the second attempt.
- Missing the revision deadline results in a definitive fail and the student must redo the entire assignment with a different topic.

Background M11 & M12

The last two modules of the Bachelor Electrical Engineering prepare you for several important aspects of your future work: being able to design and implement an electronic system, to both work alone and as a member of a team, and set up and answer a (scientific) research question through a controlled cycle shown below.

1. Context and problem statement
2. Research question or design goal
3. Literature research
4. Experimental setup and execution
5. Presentation and analysis of results
6. Discussion of results
7. Conclusion, including answers to the research question, and future work

This structure resembles a typical research paper; many other structures and versions exist. The steps may be different in the field of your topic, e.g. in design-based projects. Also, it tends to be an iterative process as a research question can be refined based on the outcome of experiments.

The output of this cycle is a scientific product, like a paper, report or thesis. In a typical Bachelor thesis, the context and the problem are specified upfront and the research question or design goal will also be determined to a large or even full extent as Bachelor assignments are often rooted in ongoing research programs within a chair.

One of the aspects that clearly links the professional design team effort approach in Module 11 to the scientific individual effort in Module 12 is reading scientific literature to discover, use and build upon what already has been done in the context of the problem you want to address. Reading early will save you time later as you are better equipped during the project execution phase.

This 0.5 EC literature-orientation assignment supports this process by having you read a small selection of supervisor-provided papers and discuss them orally, helping you to understand the context of your topic and preparing you for the Bachelor thesis.

Estimated effort (0.5 EC = 14 hours)

Activity	**Hours**
Lecture / introduction	1
Searching group/project	2-4
Reading 2–4 papers (approx. 2–3 hours per paper)	4–10
Preparing notes for discussion	1–2
Oral discussion	0.5

Total ≈ 14 hours
Hours are estimates.