

# *TU-L0000 Research Methods in Industrial Engineering and Management*

## **SYLLABUS**

1.9.2022

Instructor's contact information	Course information
Henri Schildt <a href="mailto:henri.schildt@aalto.fi">henri.schildt@aalto.fi</a> X211 in Ekonominaukio 1 No office hours, as agreed via e-mail	Level: PhD students 2022, 1 <sup>st</sup> and 2 <sup>nd</sup> period (6.9. – 1.12.2022) English Primary course website (MyCourses):
<b>Course coordinator:</b> TBD	

### **1. OVERVIEW**

The course serves as an introductory course to research methods in industrial management and to successfully carrying out one's PhD dissertation. The course is designed to assist the student in making sense of four key questions concerning the methodology of a successful PhD dissertation: 1) What constitutes a good research problem; 2) what are the criteria for scientific knowledge, fit to be used in solving one's research problem; 3) what kinds of research designs can be used to produce such knowledge; and 4) how to report findings in order to make a scientific contribution.

### **2. PREREQUISITES**

There are no specific prerequisites for the course.

### **3. LEARNING OUTCOMES**

The participants will obtain a basic understanding of research methods and research design in the domain of management, including the knowledge of key ethical principles and skills related to designing research projects, conducting literature review, and publishing the findings. The course will also provide an understanding of key conventions, institutions, and processes of academic life.

### **4. ASSESSMENT AND GRADING**

The course is graded based on a pre-exam, individual pre-assignments, and the final assignment. The weights of different criteria are indicated below:

1. Pre-exam (20%)
2. Weekly individual pre-assignments (40%)
3. Final assignment (40%)

## 5. ASSIGNMENTS

All assignments are returned to the course learning space in Aalto MyCourses website.

### Pre-exam

Please see the instructions on MyCourses. The deadline for pre-exam is 9.9.2022 at 9pm.

### Individual pre-assignments

The individual pre-assignments are available in MyCourses and they are due by the end of Friday. Please note that the first pre-assignment is for session #2 (DL 16.9.).

### Final assignment

The final assignment asks students to answer three questions relating to the concept of scientific contribution, the choice of research methods in your thesis research, and general reflection on key learning from the course. The comprehensive guidelines will be available in MyCourses.

## 6. READINGS

The course readings consist mainly of articles and book chapters. While readings for specific sessions are announced separately, the students are asked to obtain the following book for the pre-exam:

**Smith, K. & Hitt, M. (eds). 2005. Great Minds in Management: The Process of Theory Development. Oxford University Press.**

*Please note that in the electronic (Kindle) edition of the book, the word **field** is systematically misspelled **Weld**. Similarly "fit" is sometimes misspelled "Wt".*

## 7 COURSE SCHEDULE

All teaching takes place in the room TU6 (Maarintie 8).

Session	Date	Topic	Lecturer
#1	6.9.	Course kick-off – what is theory?	Henri Schildt
	<b>13.9.</b>	-- no session --	
#2	20.9.	Research design and theoretical contributions	Henri Schildt
#3	27.9.	Philosophy of social sciences – epistemology and ontology	Henri Schildt
#4	4.10.	How and why do a literature review	Barbara Burkhard
	<b>11.10.</b>	-- no session --	
#5	18.10.	Inference in quantitative research, basics of regression models	Mikko Rönkkö
#6	25.10.	Measurement and research design	Mikko Rönkkö

Session	Date	Topic	Lecturer
#7	1.11.	Writing for journals – argumentation and clarity	Henri Schildt
#8	8.11.	Formal models and simulations	Jens Schmidt
#9	15.11.	Research ethics	Antti Rousi, Enrico Glerean, & Annukka Jyrämä
	22.11.	-- no session --	
#10	29.11.	Academic careers and conferences	Henri Schildt

## 7. COURSE WORKLOAD

Classroom hours	36h
Class preparation & pre-assignments	43h
Pre-exam preparation	25h
Final reflection essay	31h
<b>Total</b>	<b>135h (5 cr)</b>

## 8. ETHICAL RULES

Aalto University Code of Academic Integrity and Handling Thereof>

<https://into.aalto.fi/pages/viewpage.action?pageId=3772443>

## 9. OTHER ISSUES

### Registration

Please register to the course through MyCourses. We will inform participants after we have graded the pre-exams.

### Mandatory participation

Students are allowed to miss two sessions without further repercussions. Third and fourth missed sessions carry heavy penalties to course grade. Students who miss more than four sessions cannot complete the course.

### Materials

All materials will be available in MyCourses.