Human Factors in Transportation

Code 8807974584

ECTS-Punkte 6

Präsenzzeit 3

Unterrichtssprache German or English

Dauer 1 Semester

Turnus jedes Sommersemester

Modulkoordinator Prof. Dr. Martin Baumann

Dozent(en) Lecturers of the Institute of Psychology and Education
possibly lecturers from the Engineering and Computer Sciences

Einordnung in die Studiengänge Psychologie M.Sc., compulsory elective, 2nd or 3rd semester (out of all modules in „Anwendungsfach“ modules with at least 12 CP each must be chosen from two of the following areas: „Klinische Psychologie“, „Gesundheit und Wohlbefinden“, „Personal- und Organisationspsychologie“, „Human Factors und Training“)

Cognitive Systems M.Sc., compulsory elective, 1st to 3rd semester

Vorkenntnisse Knowledge of General Psychology and Work Psychology according to the study program B.Sc. Psychology

Lernziele The students will gain in-depth insight into aspects of Human Factors research in the context of transport. After completing the course, they will be familiar with relevant theoretical concepts, empirical findings and specific methods from the field of Transportation Human Factors and will be able to apply them. That means they are capable of

• present and critically examine the current state of Transportation Human Factors research in different domains
• describe, explain and analyze key concepts and methodical approaches and to
categorize and evaluate them in terms of their fields of application
• describe successful solutions for dealing with practical problems of human-
technology interaction in the context of transport, explain their advantages and
disadvantages for different settings or users, and select suitable solutions for a
concrete application scenario
• select, apply, implement and adapt methodological approaches for the solution
of specific application problems
• develop, evaluate and prototype solutions for concrete problems of human-
technology interaction in the context of transport

Inhalt
During the course students will learn about transport-specific topics in the field
of Human Factors. Beside psychological aspects of the behavior of people in the
transport context, such as the perceptual processes during driving, understanding
of the situation, decision-making behavior or action execution, this also includes
methodical aspects of laboratory experiments via simulator investigations to
observation of natural driving behavior in real traffic. Finally, the interaction of
different road users with automation and technology in the context of transport will
be discussed. What effects does driver assistance have on the driving behavior
and how has the driver’s interaction with the driving automation to be designed to
avoid negative consequences? How can people with limited perceptive abilities be
supported in traffic?

A description of the respective topics of the individual events will be announced in
the LSF.

Literatur
Recommended basic literature:

Groeger, J. (2000). Understanding Driving: applying cognitive psychology to a


Additional literature (mainly in English) will be announced in the course.

Lehr- und
Lernformen
Compulsory Elective:

Course combination of at least 6 CP allocated to the module: Seminar or
research-oriented specialization in connection with research project with usually 6
CP each (3 SWS, Summer Term)

Arbeitsaufwand
Total Expenditure: 180 hours

Seminar and exercise: 30 hours attendance time

90 hours personal contribution (e.g. presentation, active teaching element, written
elaboration, etc.)

15 hours attendance exercise

45 hours personal contribution to the exercise (e.g. editing the exercise sheets,
preparation and follow-up of the exercise)
Or seminar with research-oriented specialization: 30 hours attendance time
90 hours personal contribution (e.g. presentation, active teaching element, written elaboration, etc.)
15 hours attendance time research project
45 hours personal contribution to the research project (e.g. implementation and evaluation of a short study)

Or research-oriented specialization with research project: 30 hours attendance time
90 hours personal contribution (e.g. implementation/evaluation of an empirical study and research report, etc.)
15 hours attendance time research project
45 hours personal contribution to the research project (e.g. implementation and evaluation of a short study)

**Bewertungsmethode**

**Notenbildung**
Die Modulnote entspricht dem Ergebnis der Modulprüfung.

**Grundlage für**
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