

# Human memory across the lifespan; development, learning and forgetting

## Aim of the course

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The course aims to give an integrative framework within which different research fields could connect to the current theories of memory research. Flexibly adapting the specific topics to the attendant students' interest, we plan to discuss the developmental, clinical, educational, and neuropsychological aspects of memory.

The required reading provides a common ground to start a discussion. Furthermore, the presentations chosen by the students show a specific question we discuss during the class.

### Learning outcome, competences

Knowledge:

- memory system and background processes
- research and testing methods of memory processes

Attitude:

- interdisciplinary approach
- sensitivity toward general theoretical questions

Skills:

- analytic thinking
- understanding the relevance of the experimental approach

## Content of the course

### Topics of the course

1. Introduction: what is memory?
2. Working memory: measurement techniques (development, education)
3. Procedural memory: conditioning, habits, implicit learning (clinical psychology, neuropsychology)
4. Declarative memory 1 – episodic memory (episodicity, mental time travel)
5. Declarative memory 2 – semantic memory (knowledge bases, expertise)
6. Retrieval: inhibition, source monitoring, forgetting
7. Autobiographical memory – self and memory
8. Self-narratives (life story) and memory processes
9. Motivated forgetting: trauma, memory recovery
10. Prospective memory: planning, ageing effects
11. Memory development: early memories, building the memory systems
12. Event cognition – understanding visual events, films
13. Memory deficits: amnesia, TBI, Alzheimer's disease

### Learning outcome, competences

- group discussion of the general question
- presentation by the students
- written assignment
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## Evaluation of outcomes

### Learning requirements, mode of evaluation, criteria of evaluation: requirements

- Students need to read the relevant chapter from the textbook for the class: each class starts with a group discussion of the topic (25 mins) (30%)
- Presentation of a topic (15 mins presentation and 30 mins discussion) (40%)
- Research plan of any topic related to memory processes (30%)

mode of evaluation: kollokvium

- aggregated score based on the three panels of the classes
- OR an oral exam (the reading list includes the presented articles)

criteria of evaluation

- the level of the acquire knowledge, activity, problem sensitivity, methodological sensitivity

## Reading list

### Compulsory reading list

- Baddeley, A., Eysenck, M. W., & Anderson, M. C. (2014). *Memory* (2nd edn). Hoboken: Taylor and Francis.

### Recommended reading list

- Baddeley, A., Allen, R., & Vargha-Khadem, F. (2010). Is the hippocampus necessary for visual and verbal binding in working memory? *Neuropsychologia*, *48*(4), 1089-1095.
- Baddeley, A. D., Kopelman, M. D., & Wilson, B. A. (Eds.). (2003). *The handbook of memory disorders*. John Wiley & Sons.
- Barclay, C. R. (1996). Autobiographical remembering: Narrative constraints on objectified selves. *Remembering our past: Studies in autobiographical memory*, 94-125.
- Conway, M. A. (2005). Memory and the self. *Journal of memory and language*, *53*(4), 594-628.
- Graf, P. (2002). *Lifespan development of human memory*. Mit Press.
- Kihlstrom, J. F. (2020). Varieties of recollective experience. *Neuropsychologia*, *137*, 107295.
- Marsh, E. J. (2007). Retelling is not the same as recalling: Implications for memory. *Current Directions in Psychological Science*, *16*(1), 16-20.
- Squire, L. R., & Zola-Morgan, J. T. (2011). The cognitive neuroscience of human memory since HM. *Annual review of neuroscience*, *34*, 259-288.