

# BMUH 557 Advanced Computer Architecture

<b>Course Code:</b>	BMUH 557
<b>UTAA Credit (Theoretical-Laboratory hours/week):</b>	3(3-0)
<b>ECTS Credit:</b>	6.0
<b>Department:</b>	Electrical and Computer Engineering
<b>Language of Instruction:</b>	English
<b>Level of Study:</b>	Graduate
<b>Offered Semester:</b>	Fall and Spring Semesters.

## Course Objectives

The course aims to teach fundamental ideas of logic design and computer architecture. Specifically, a knowledge of logic circuits, combinatorial and sequential circuit design, flip flops, MIPS ISA, verilog, and advanced design with a use case: simple computer architecture. Additionally, an insight on field programmable gate arrays (FPGAs) through design and programming is given

## Course Content

The course covers logic design basics, MIPS ISA, verilog, simple computer architecture, pipelining, virtual memory, caches

## Course Learning Outcomes

- 1-Learn undergraduate level logic circuits design and architecture
- 2-Design logic circuits
- 3-Learn MIPS ISA
- 4-Gain experience on verilog programming language and its use
- 5-Learn computer architecture over the simple computer