

ECE 9X00: Independent Study

(for undergraduate/graduate students (1,2 or 3 credits))

SPRING/FALL/SUMMER

Instructor:	Dr. Byeong Kil Lee
Class hours:	Individual meeting with students
Office:	AEC 304
Office hours:	Mon/Wed: 3pm-4pm or by appointment
E-mail:	blee@uccs.edu
URL:	http://faculty.uccs.edu/blee

**Course
Description:**

An opportunity for graduate students and undergraduate students (sophomore, junior and senior) to do independent, creative work in electrical and computer engineering, possibly including co-op (see co-op policy for details). Prer., Prior agreement on study program with faculty advisor.

**Topics to be
Covered:**

Introduction to research topics in microprocessor architecture area: **computer architecture**, **deep-learning-based intelligent computing (AI computing)**, application-specific embedded systems (mobile processors), **deep-learning architecture and acceleration**, cyber security, cyber-physical systems, workload characterization of emerging applications, data analysis, parallel computing and parallel architecture design, performance modeling, low power design, FPGA prototyping, and early-stage power estimation.

**Prerequisites
By topic:**

Computer Architecture, Deep learning, or programming skill (C/C++/Python/Verilog)

Textbook:

No textbook. We will use recently published papers

Grading:

- Literature survey report (20%)
- Idea proposal (10%)
- Modeling and simulation (30%)
- Final report (40%)

