The course has an open laboratory format. Groups of 1 to 4 students propose a project of their choosing (with the approval of the instructor). The project must be a digital system or a digitally-controlled system. The students design, build, test and document their hardware, and write, debug and document the corresponding software. Most projects include schematic capture, printed circuit board design and manufacture, use of scopes and logic analyzers, software development tools, in-circuit debugging, and so forth. Students will learn to use an ARM Cortex M0 microprocessor, around which they will build their project. Students must identify the appropriate hardware peripheral chips (with appropriate current ratings, speed, environmental ratings, and cost) that are required for their project besides the provided ARM processor. The ECE Electronics Services Shop, ECE Storeroom, and ECE Machine Shop are available to the students.

The ADSL has a strong community atmosphere; students provide help and encouragement to each other, in addition to the support provided by the TAs and instructor.

Students will demonstrate their projects at the ADSL Open House at the end of the semester. This event is open to the public, and constitutes the majority of the grade in the course. Students are also encouraged to show their work at Engineering Open House. A final report is due during finals week. The final report must include all information necessary to allow future students to further develop the project.

Students may wish to undertake projects that take more than one semester, with consent of instructor. Additional semester(s) of projects in ADSL will be approved based on the performance in the previous semester. In exceptional cases work in ADSL may develop into graduate thesis projects or graduate independent study projects. With consent of instructor, students may work in ADSL when registered in ECE 395, ECE 396, ECE 397, ECE 597, or ECE 599.

Our meeting for this semester is: **Tuesday at 4:00 PM in 2076 ECE Building (ADSL Lab)**

**Instructor**

Prof. Lippold Haken

Office: 3054 ECEB

Email: L-Haken@illinois.edu

**Teaching Assistants**

Graduate TA: Anil Agarwal (aragarw2@illinois.edu)

Undergraduate TA: Daniel Taki (dtaki2@illinois.edu)

**Course Policy**

You must log at least 6 hours (for 2 credit hours) or 9 hours (for 3 credit hours) in the lab every week! You are welcome to do homework in the lab or just hang out, but only log time actually spent working on your ADSL project. Never borrow chips or test equipment connected to other projects in the lab (please report any such problems; there will be serious consequences). Be interested and supportive of other people in the lab; think of ADSL as a “forced vacation” from your other school activities each week.

In the first week of the semester, decide on weekly lab times with your lab team. Upload your project proposals on the course website under “Fall 2018 Projects”, along with names and email IDs of all team members, goals for each round of demos, and your weekly lab times.