The purpose of the Internship/Coop experience is to provide a mechanism whereby students may obtain academic credit for professional experience in electrical or computer engineering in an industrial environment. Unlike a typical engineering course, the goal is not necessarily the attainment of technical skills, though that should occur during an internship, but, rather, the goal is to experience a working engineering environment as well as benefit the Employer. Through this experience students will come to understand some of the non-technical aspects of engineering practice, such as working within a team, as well as some of the non-tangible technical aspects of engineering practice, such as the real-world constraints encountered in the development of engineering projects.

The “Internship/Co-op Application Form” must have a description of the project and the deliverables attached. The project description may include items such as the following:

- A description of the work performed.
- A list of the expected outcomes of the work.
- A statement of the methodologies for achieving the outcomes.
- Schedules, time lines, work breakdown structures, and/or Gantt charts for measuring the progress and evolution of the project.
- A description of the deliverables.
- An agreement between the student and employer regarding the ownership of potential intellectual property generated by the student’s work.
- The nature of the agreement between student and employer regarding the compensation for additional work to be performed.

To ensure a suitable internship experience, students must define learning objectives to be accomplished during the internship period. These objectives, which should be both technical and non-technical, but which should not be menial or purely technician-level work, must be approved by the Employer and the ECE Internship/Coop Coordinator. These should reflect graduate-level learning, and should be related to the student’s area of study. Sample objectives follow. (The student must define objectives):

- Learn to communicate effectively with other technical employees, supervisors, and suppliers of the company.
- Understand and carry out the lab/test procedures used by the company.
- Learn about the application of real-time processing in the employer’s products.
- Learn about electronic components, their critical characteristics, and circuits in which they are used.
- Improve understanding of and become proficient with IDC standards for inspection of printed circuit board assemblies.
- Learn how the antenna design principles taught in coursework applies to the employer’s communication products.
- Learn to use AMI in-house tools for schematic capture and cell creation; learn basics of layout design and macro creation.
- Learn how optimal control theory applies to the employer’s robotic designs.
- Learn how to program in Pearl, the basics of the UNIX operating system, and how to use the VI text editor.
- Learn the strategies and techniques for test-time reduction to increase yield without compromising quality.
- Perform as a team member on a team in a project environment; learn how to communicate and solve problems in a team environment; learn how to take on responsibilities and find ways to get them done.
- Learn to program low-level software drivers for given hardware.
- Learn to read, understand, and apply technical documentation.
- Develop a work breakdown structure for the motor stations project.
- Gain an introduction to the natural gas industry; learn the history of the natural gas industry; learn the process of exploration, refining, transportation, and industry regulation of natural gas.

Unlike the objective examples in the Student Internship packet, you should write your objectives so that they are not just “tasks” to be done by a certain date.