

# **Degree Level Expectations for Graduates Receiving the Degree of Doctor of Philosophy**

## **Faculty of Applied Science and Engineering University of Toronto**

This degree extends the skills associated with the Master of Applied Science degree and is awarded to students who have demonstrated the following:

### **1. Depth and Breadth of Knowledge**

A thorough understanding of a substantial body of engineering or applied science knowledge that is at the forefront of their engineering or applied science discipline including, where appropriate, relevant knowledge outside the field.

### **2. Research and Scholarship**

(a) The ability to conceptualize, design, and implement research for the generation of new knowledge, applications, or understanding at the forefront of the discipline, and to adjust the research design or methodology in light of unforeseen problems;

(b) The ability to make informed judgments on complex issues in specialist fields, sometimes requiring new methods; and

(c) The ability to produce original research, or other advanced scholarship, of quality to satisfy peer review, and to merit publication.

### **3. Level of Application of Knowledge**

The capacity to

(a) Undertake pure and/or applied research at an advanced level;

(b) Contribute to the development of academic or professional skills, techniques, tools, practices, ideas, theories, approaches, and/or materials; and

(c) Exercise leadership in research innovation.

### **4. Professional Capacity/Autonomy**

(a) The qualities and transferable skills necessary for employment requiring the exercise of personal responsibility and largely autonomous initiative in complex situations;

- (b) The intellectual independence to be academically and professionally engaged and current;
- (c) The ethical behaviour consistent with academic integrity and the use of appropriate guidelines and procedures for responsible conduct of research; and
- (d) The ability to evaluate the broader implications of applying knowledge to particular contexts.

### **5. Level of Communications Skills**

The ability to communicate complex and/or ambiguous ideas, issues, and conclusions clearly and effectively in oral and written form.

### **6. Awareness of the Limits of Knowledge**

An appreciation of the limitations of one's own work and discipline, of the complexity of knowledge, and of the potential contributions of other interpretations, methods, and disciplines.

*Approved on March 8, 2011 by Faculty Council*