Course Outline

School: Energy
Program: Bachelor of Engineering in Electrical Engineering

ELEX 7880 & MECH 8260
Engineering Law, Ethics and Professionalism

Start Date:						**End Date:**			
Total Hours:	45	**Total Weeks:**	15			**Term/Level:**	8	**Course Credits:**	3.0
Hours/Week:	3	**Lecture:**	3	**Lab:**	0	**Tutorial:**	0	**Other:**	

Prerequisites
(* = may be taken concurrently)
(= must be taken concurrently)**

Course No.	Course Name
ELEX 3680	Introduction to Professional Engineering

In this program, this course is a Prerequisite for:
(* = may precede or be concurrent with)

Course No.	Course Name

■ Course Description (required)

This course addresses key issues in engineering law, ethics and professionalism. The course content promotes critical thinking about legal, moral, and ethical issues that electrical engineers face. Topics covered include contracts, torts, partnerships, liens, engineering liability, patents, copyrights, trademarks, hazards, standards, safety and legal and ethical concerns related to use of computer hardware and software. It also includes ethical principles in professional employment, engineering management, private practice, and consulting. It addresses the roles and responsibilities of the electrical engineer related to environmental stewardship, and the impact of electrical engineering practice on the environment. Finally, it covers the roles and responsibilities of professional engineering organizations, and the ritual of the calling of the Engineer.

■ Evaluation

Assignments	15%	*Comments*:
Term Paper	15%	The minimum passing grade is 50%.
Midterm	30%	
Final	40%	
TOTAL	100%	

■ Course Learning Outcomes/Competencies

Upon successful completion, the student will be able to:

1. Apply the Engineering Code of Ethics to typical ethical situations in industry, management, and private practice.
2. Assess the engineer's legal and ethical roles and responsibilities in relation to such items as design constraints, reliability, and conformance to standards, hazards, safety, liability, warrantees, guarantees, insurance, tendering, contract negotiation and contract administration.
3. Assess an engineer's responsibilities and ethical stance in relation to conflicting professional judgements about the impact of design, implementation or delivery decisions in engineering endeavours.
4. Describe contracts, torts, patents, copyrights, trademarks, incompetence, negligence; liability and responsibility in the context of their relevance to engineering practice.

5. Explain legal and ethical constraints affecting the use and licensing of computer software.
6. Explain differences between open-source, commercial, freeware and shareware licensing.
7. Interpret negligence scenarios and provide opinions on options for avoiding similar situations.
8. Examine case studies highlighting the role of the engineering professional associations in communication, investigation, and discipline to ensure public safety.
9. Appreciate the role of engineers in supporting sustainable development, environmental stewardship and ethical issues within various professional contexts.
10. Provide information on critical environmental and safety issues in the areas of electric and electromagnetic fields, radio frequency transmission, electrical power generation and consumer electronics.
11. Provide information on the role of standards and the associated accrediting bodies, such as CSA and UL, in protecting the public regarding safety, environmental issues, and the orderly advancement of the use of technology in society.
12. Identify areas of electrical engineering practice where environmental and safety issues could be improved upon, either with better practices or with different technology.
13. Identify situations where a professional engineer has an obligation to disclose instances of inappropriate engineering practice that contravene the legal and ethical responsibilities in the profession.
14. Patents and IP: purpose, pitfalls, classifications, ingredients, application process.

■ Verification

I verify that the content of this course outline is current.

Authoring Instructor _____ Date _____

I verify that this course outline has been reviewed.

Program Head/Chief Instructor _____ Date _____

I verify that this course outline complies with BCIT policy.

Dean/Associate Dean _____ Date _____

■ Instructor(s)

Bob Gill, P.Eng, FEC. (Electrical)

Office Location: SW1-3069 **Office Phone:** (604) 412-7582

Office Hrs.: As posted **E-mail Address:** bob_gill@bcit.ca

■ Learning Resources

Required: G.C.Andrews, "Canadian Professional Engineering and Geoscience: Practice and Ethics", 4th ed., Nelson, 2009

■ Course Schedule

Schedule

Week	Date	Topic – Part 1	Topic Part 2	Location	
1	1/8/2018	Introduction & Business Organisations	Starting a business	BCIT	M&E
2	1/15/2018	Software and Source Code	Computer and Internet Ethics	BCIT	M&E
3	1/22/2018	Sources of Law	Terminology	BCIT	M&E
4	1/29/2018	Contracts	Conflict of Interest	BCIT	M&E
5	2/5/2018	Tort	Conflict/Dispute Resolution	BCIT	M&E
	2/12/2018	Stat Holiday	Stat Holiday		
6	2/19/2018	Environmental Law and Liability	Environmental Law and Liability	BCIT	M&E
7	2/26/2018	Occupational Health and Safety	Occupational Health and Safety	Brian	M&E
8	3/5/2018	Intellectual Property	International Law	Cynthia	M&E
9	3/12/2018	**Spring Break M&E**	**Spring Break M&E**	M&E	M&E
10	3/19/2018	Midterm Exam	Midterm Exam	BCIT	M&E
11	3/26/2018	Employment Law	Employment Law	Guest	M&E
12	4/02/2018	APEGBC & Ethics – E. Schwartz	EIT Overview - Jason Ong	Guests	M&E
15	4/09/2018	Project/Term Paper Presentations	Project/Term Paper Presentations	BCIT	M&E

Additional topics we might also include (Time Permitting)

International Law	Differences between law in Quebec and rest of Canada
Judged or Jury hearings, Appeals	Sentencing and parole
Expert Witness Roles	Law enforcement officers and citizen's arrest
Maritime Law	International transport

■ Information for Students

(Information below can be adapted and supplemented as necessary.)

The following statements are in accordance with the BCIT Policies 5101, 5102, 5103, and 5104, and their accompanying procedures. To review these policies and procedures, please refer to: http://www.bcit.ca/about/administration/policies.shtml

Attendance/Illness:

In case of illness or other unavoidable cause of absence, the student must communicate as soon as possible with his/her instructor or Program Head or Chief Instructor, indicating the reason for the absence. Prolonged illness of three or more consecutive days must have a BCIT medical certificate sent to the department. Excessive absence may result in failure or immediate withdrawal from the course or program. Please see Policy 5101 — Student Regulations, and accompanying procedures: http://www.bcit.ca/files/pdf/policies/5101.pdf

Academic Integrity:

Violations of academic integrity, including dishonesty in assignments, examinations, or other academic performances are prohibited and will be handled in accordance with Policy 5104 — Academic Integrity and Appeals, and accompanying procedures: http://www.bcit.ca/files/pdf/policies/5104.pdf

Attempts:

Students must successfully complete a course within a maximum of three attempts at the course. Students with two attempts in a single course will be allowed to repeat the course only upon special written permission from the Associate Dean. Students who have not successfully completed a course within three attempts will not be eligible to graduate from their respective program.

Accommodation:

Any student who may require accommodation from BCIT because of a physical or mental disability should refer to BCIT's Policy on Accommodation for Students with Disabilities (Policy #4501), and contact BCIT's Disability Resource Centre (SW1-2300, 604-451-6963) at the earliest possible time. Requests for accommodation must be made to the Disability Resource Centre, and should not be made to a course instructor or Program area.

Any student who needs special assistance in the event of a medical emergency or building evacuation (either because of a disability or for any other reason) should also promptly inform their course instructor(s) and the Disability Resource Centre of their personal circumstances.

Assignments:

Late assignments, lab reports or projects will **not** be accepted for marking. Assignments must be done on an individual basis unless otherwise specified by the instructor.

Makeup Tests, Exams or Quizzes:

There will be **no** makeup tests, exams or quizzes. If you miss a test, exam or quiz, you will receive a mark of zero. Exceptions may be made for **documented** medical reasons or extenuating circumstances. In such a case, it is the responsibility of the student to inform the instructor **immediately**, and if feasible before the absence.

Course Outline Changes:

The material or schedule specified in this course outline may be changed by the instructor. If changes are required, they will be announced in class.