APPENDIX D: FACULTY OF SOCIAL SCIENCE AND HUMANITIES: NEW INITIATIVES

1. **Engineering and Public Policy -- joint proposal with Faculty of Engineering and Applied Science (FEAS)**
    - **Approved by FSSH Undergraduate Curriculum Committee October 22, 2013**
    - **Approval by FSSH Faculty Council November 12, 2013**

ENGINEERING AND PUBLIC POLICY

A COLLABORATIVE PROGRAM BETWEEN THE FACULTIES OF ENGINEERING AND APPLIED SCIENCE (FEAS) AND SOCIAL SCIENCE AND HUMANITIES (FSSH) -- PROPOSED FOURTH YEAR OF PUBLIC POLICY COURSEWORK FOR ENGINEERING STUDENTS

YEAR IV Public Policy Course Sequence

1. Introduction

Engineering and Public Policy (EPP) is an innovation to enhance the education of engineering students to a) understand the meaning of public policy in a democratic society, and b) as practicing professionals to better apply technology in an ethically and socially beneficial and just manner.

EPP as an academic field began in the early 1970s at Carnegie Mellon University (CMU), Pittsburgh, Pennsylvania -USA. CMU presently offers both undergraduate and graduate programs in EPP. In Canada a number of Universities offer EPP degrees but only at the graduate certificate and MA level (e.g. McMaster University, University of Toronto, University of British Columbia).

The Faculties of Engineering and Applied Science (FEAS) and Social Science and Humanities (FSSH) at the University of Ontario Institute of Technology are proposing a degree in Engineering and Public Policy at the undergraduate level. This collaborative effort capitalizes on existing courses and programs and requires no new resources.

The philosophy of the proposed program considers the dynamic nature of the engineering enterprise and the required engineering skills for the evolving 21st century. Engineering systems and related technologies that are created by engineers impact society significantly both positively and negatively and also, engineers must work within the framework defined by society in terms of policies and laws. Traditional engineering firms have required engineers to be equipped only with the basic science and engineering which are required to perform engineering tasks during the early part of the career. The majority of knowledge and skills related to public policy and law is gained through experience. Today, the evolving engineering market requires innovative engineering curriculum which covers more than basic engineering science and design. The proposed program will be integrated with engineering education such that students become aware of social implications and also, gain knowledge in public policy and law.

Degree requirements

2.a. Program Learning Outcomes

- Enhance the engagement of the engineering profession in the development of public policy;
- Train engineers for careers beyond traditional engineering.

2.b. Admission requirements

Admission requirements are in line with Faculty of Engineering and Applied Science Accreditation requirements.

Engineering and Applied Science students are eligible to apply to the EPP program in the second semester of their third year, for entryinto the program in their fourth year (after completing all third requirements for an engineering degree with a CGPA 3.0 or better. Pre-requisite: SSCI 1470U, Impact of Science and Technology on Society.

2.c. Program Structure

Engineering and Public Policy is a five year program. During the first three years the student is enrolled in Engineering courses (as required by their specific specializations). After students complete all requirement for the third year of engineering, students admitted into the EPP program would spend their fourth year at FSSH, where they complete a specified course sequence for students in the EPP program. The course choices (see below) are designed to enhance engineering students' ability to translate complex technical issues into a publicly accessible discourse and to communicate more clearly and proactively with public policy makers on the contributions of the engineering profession to public safety, health, well-being and economic growth.

The advantage and uniqueness of this program is that it enables students to integrate the knowledge gained during this Public Policy year into their regular undergraduate fourth engineering year (the fifth year of their study) particularly during their capstone course.

1st YEAR
2nd YEAR
3rd YEAR
4th YEAR Policy Studies Course Sequence
5th YEAR

2. Calendar Copy

xx. Program Information – Bachelor of Engineering (Honours) in Engineering and Public Policy Studies.

Engineering and Public Policy combines the fields of Engineering and policy studies in a unique and innovative undergraduate program. This interdisciplinary program helps engineering students to connect and translate complex technical issues to broader public policy concerns. The program emphasizes strategies for developing, implementing and designing a set of insights and skills that will help engineers better deal with issues of technology and social /public policy, and better exercise their ethical and social obligations as practicing professionals.

Students study the complete engineering program, and also gain essential knowledge in public policy and law. Students in this program take two semesters of Public Policy, Legal Studies, Political Science and Social Science courses for 30 credit hours after successfully completing the third year in Engineering. The regular fourth year of the engineering program is then taken in year five of the program.

xx. Admissions requirements
Applications to the Bachelor of Engineering and Public Policy will be accepted in the winter semester of student's 3rd year of study. A minimum CGPA of 3.0 is required to be eligible to apply to the program and to continue in the program. This program may have limited space and applications are considered on a competitive basis. Successful applicants will be notified by the Registrar's Office by the end of May after the term of application.

3. Engineering and Public Policy: Course Sequence

Pre-requisite: SSCI 1470U, Impact of Science and Technology on Society. All other course prerequisites will be waived for Engineering and Public Policy students.
[see Program map, Appendix A]

Year IV (30 Credit Hours)
Courses taken in the order they are scheduled
Required
POSC 1000U Political Science
SSCI 1200U Introduction to Social Policy
CDPS2200U Theories of Policy Analysis
CDPS2502U Community Development Policy
SSCI 3200U Public Administration
LGLS3520U Law and Technology
SSCI 4010U Policy Development

One of:
LGLS4070U Public Governance through Law; OR
LGLS 4040U Law and the Environment

Electives (Two of the following)
POSC 2000U Canadian Politics
LGLS2120U International Law
LGLS 2420U Canadian Human Rights Law; OR LGLS 3430U International Human Rights
CDPS3203U Urban Development
LGLS3310U Aboriginal Issues in the Law
CDPS3300U Building Sustainable Communities
CDPS 3100U Political Economy of Global Development
LGLS3530U Intellectual Property

Appendix A - Program Learning Outcomes

2.a. Program Level Learning Outcomes	**Program requirement(s) or segments of requirements, that contribute to this outcome**
1. Enhance the engagement of the engineering profession in the development of public policy.	POSC 1000U Political Science; SSCI 1200U Introduction to Social Policy; CDPS 2200U Theories of Policy Analysis; CDPS 2502UCommunity Development Policy; SSCI 3200U Public Administration; LGLS 3520U Law and Technology; SSCI 4010U Policy Development; LGLS 4040U Law and the Environment; LGLS 4070U Public Governance through Law
2. Train engineers for careers beyond traditional engineering.	Electives, two from the following electives: POSC 2000U Canadian Politics LGLS 2120U International Law LGLS 2420U Canadian Human Rights Law LGLS 3430U International Human Rights CDPS 3203U Urban Development LGLS 3310U Aboriginal Issues and the Law CDPS 3300U Building Sustainable Communities CDPS 3100U Political Economy of Global Development LGLS 3530U Intellectual Property