

**Royal Military College of Canada (Kingston)**  
**POE372 - Science, Technology, Politics, Society and the Environment (0.5 credit)**  
**POE374 - Science, Technology and Public Policy (1 credit)**  
**Fall 2021**

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Office hours on Zoom, Monday, Tuesday, Wednesday 1200-1300, and Friday 1300-1400, or any time by arrangement. Text (613)532-3002 to confirm.

### **Course descriptions**

These courses include a lecture component with quizzes and a final exam for a half credit intended for Engineering students and an additional seminar component with written assignments and additional readings for a full credit intended for any student (also open to engineering students on request).

### **POE372 - Science, Technology, Politics, Society and the Environment (0.5 credit)**

“This course introduces Science and Technology Studies (STS) and the ways in which STS researchers study how social, political, cultural, and material conditions shape scientific work and how science, in turn, shapes society. On the one hand, this course explores how methodological and substantive innovations from science and technology invigorate diverse social sciences and humanities disciplines. On the other hand, the course investigates the multiple effects of science and technology on global environmental change, particularly in terms of water and energy resources and sustainable development.” (RMC Calendar. 2-0-4. Two contact hours and four study hours per week for a 13-week semester)

POE372 is an alternative to HIE289 and meets the requirement for a half credit course that links science and technology to society, politics, and the environment. Students enrolled in POE372 are welcome to audit POE374 seminars.

### **POE374 - Science, Technology and Public Policy (1 credit)**

“It is widely understood that science and technological innovation are deeply linked to economic growth in a society and its corresponding ability to generate societal well-being. Thus, one could say that the public role of science is increasingly growing. This course will examine the public policy behind and the government's role in the science and technology innovation system and address questions that will explore the relationship between scientific research and political decision-making. The course will provide students with: a background on the science and technology policy environment; a multidisciplinary toolkit for thinking about science and technology policy and an understanding of the “social science” aspect of science and technology policy.” (RMC Calendar. 3-0-6. Three contact hours and six study hours per week for a 13-week semester)

## **Learning Objectives**

*“An ability to analyze social and environmental aspects of engineering activities. Such ability includes an understanding of the interactions that engineering has with the economic, social, health, safety, legal, and cultural aspects of society, the uncertainties in the prediction of such interactions; and the concepts of sustainable design and development and environmental stewardship.”<sup>1</sup>*

Students will understand and apply key social science concepts and methods that link science and technology to politics and policy, society, economy, and security.

POE374 fits in the field of public administration or the stream “Canada” in the political science program. The three modules of the course address elements of human security, national security, and international security and are suitable as an elective course with military content for students in Military and Strategic Studies.

## **Course requirements and expectations**

All students must participate each week. POE372 (half-credit) students may post weekly questions and comments for participation points and will have the opportunity to practice for the module quizzes each week. There will be a quiz for each module (roughly every three weeks) which must be completed during the week in which it is posted. POE374 (full credit) students must participate in weekly seminars and submit written work on schedule. Written assignments must be peer-reviewed by assigned writing partners before final submission. POE374 students will be assigned roles in most seminars.

## **Absences**

Failure to participate online in any week will be considered an absence. Absences must be approved by the professor.

## **Academic Integrity**

Academic misconduct consists of any form of plagiarism, cheating, or violations of academic ethics, essentially seeking to pass someone else’s work as your own. Academic misconduct is a serious offence and violates CAF values. Consequences of academic misconduct can range from failing the course to expulsion from RMC. Students must complete the Moodle test on Academic Regulation 23 by week 2.

## **Required textbooks**

All required readings and lecture notes will be provided online through Moodle.

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<sup>1</sup> Canadian Engineering Accreditation Board, *A Guide to Outcomes Based Criteria for Visiting Team Chairs and Program Visitors*, Version 1.25, March 2015, p. 23.

**Course evaluation – POE372 (half-credit)**

- Online quizzes (one per module) – 40 percent
- Weekly participation online – 20 percent
- Final exam (short answer and essay) – 40 percent

**Course evaluation – POE374 (full credit)**

- Online quizzes (one per module) – 20 percent
- Weekly participation online – 10 percent
- Book review – 20 percent
- Written assignment – 50 percent
  - Proposal – 10
  - Annotated bibliography – 10
  - Final paper - 30

Experiential learning alternatives to traditional written assignments are available on instructor approval but must be confirmed with phased delivery dates before the end of the second week. One opportunity is to participate in the annual conference of the International Society of Military Sciences ([www.isofms.org](http://www.isofms.org)) which is hosted this year by RMC. See the instructor if you are interested.

**Course outline – elaborated on the course website**

Seminars will be either scheduled on video chat or asynchronous. Further details will be posted on the course website. Phone-in guests are anticipated for selected seminars.

Week	Modules	372/374 Lectures	374 Seminars
1.	Foundations	Science and technology; Politics and public policy; Environment and society; Growth and development	Planning written assignments and deadlines (VTC)
2.	Module 1: Descriptive models and analytical tools	Evidence-based technology policy	Evidence and policy
3.		Canada's innovation strategies	How consistent? How vulnerable?
4.		Decision-making processes in Ottawa	How does influence work?
5.	Module 2: Environment and Growth (International security)	Economic growth and the carbon economy	The growth challenge
6.		Climate change and environment	The climate challenge
7.		Slower by design or disaster	Capitalism: problem or solution?
8.	Module 3: Society and employment (Human security)	Technological advances and employment	Technology impact on society?
9.		Political choices: markets and planning	Policy impact on technology?
10.		Glassco, foreign investment and policy	Canadian policy options?
11.	Module 4: Procurement and defence (National security)	Canada's National Shipbuilding Strategy	Industrial infrastructure policies
12.		Next Generation Fighter Aircraft technology	Technological development policies
13.		Procurement processes	Cubicle warrior strategies
Exam review sessions will be provided on request. The exam will be held during the scheduled exam period.			

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