MASTER OF SCIENCE PHYSICS SPECIALIZATION IN SCIENCE, SOCIETY AND POLICY

Summary
• Degree offered: Master of Science (MSc)
• Registration status options: Full-time; Part-time
• Language of instruction: English

Most of the requirements of this program must be fulfilled in English. Research activities may be conducted in English or in French, or in both languages, depending on the main language of the professor and of the members of the research group.

• Primary program: MSc in Physics
• Collaborative specialization: Science, Society and Policy
• Program options (expected duration of the program):
  • with thesis, standard stream (6 full-time terms; 24 consecutive months)
  • with thesis, accelerated stream (3 full-time terms; 12 consecutive months)
• Academic units: Faculty of Science (https://science.uottawa.ca/en), Department of Physics (https://science.uottawa.ca/physics), Ottawa-Carleton Institute for Physics (http://ocip.ca).

Program Description
Ottawa-Carleton Institute for Physics

Established in 1983, the Ottawa-Carleton Institute for Physics (OCIP) combines the research strengths of the University of Ottawa and Carleton University. The Institute offers graduate programs leading to the master’s (MSc) and doctoral (PhD) degrees in Physics.

Research facilities are shared between the two campuses. Students have access to the professors, courses and facilities at both universities; however, they must enroll at the “home university” of the thesis supervisor.

Main Areas of Research
• Condensed matter
• High energy physics
• Biological physics
• Medical physics
• Photonics

Other Programs Offered Within the Same Discipline or in a Related Area
• Master of Science Physics (MSc)
• Doctorate in Philosophy Physics (PhD)

Fees and Funding
• Program fees:

The estimated amount for university fees (https://www.uottawa.ca/university-fees) associated with this program are available under the section Finance your studies (http://www.uottawa.ca/graduate-studies/programs-admission/finance-studies).

International students enrolled in a French-language program of study may be eligible for a differential tuition fee exemption (https://www.uottawa.ca/university-fees/differential-tuition-fee-exemption).

• To learn about possibilities for financing your graduate studies, consult the Awards and financial support (https://www.uottawa.ca/graduate-studies/students/awards).

Notes
• Programs are governed by the general regulations (http://www.uottawa.ca/graduate-studies/students/general-regulations) in effect for graduate studies.
• In accordance with the University of Ottawa regulation, students have the right to complete their assignments, examinations, research papers, and theses in French or in English.

Program Contact Information
Graduate Studies Office, Faculty of Science (https://science.uottawa.ca/en/faculty-services/graduate-studies)
30 Marie-Curie Street, Room 181
Ottawa, Ontario, Canada
K1N 6N5

Tel.: 613-562-5800 ext. 3145
Email: gradsci@uOttawa.ca

Twitter | Faculty of Science (https://twitter.com/uOttawaScience)
Facebook | Faculty of Science (https://www.facebook.com/uOttawaScience)

Admission Requirements
For the most accurate and up to date information on application deadlines, language tests and other admission requirements, please visit the specific requirements (https://www.uottawa.ca/graduate-studies/programs-admission/apply/specific-requirements) webpage.
To be eligible for the standard stream of the MSc, candidates must:

- Be the holder of a bachelor’s degree with a specialization, or a major in physics (or equivalent) with a minimum average of 70% (B).
- Demonstrate a good academic performance as shown by official transcripts, research reports, abstracts or any other documents demonstrating research skills.
- Meet the funding requirements.

Note: International candidates must check the admission equivalencies (https://www.uottawa.ca/graduate-studies/international/study-uottawa/admission-equivalencies) for the diploma they received in their country of origin.

- Have a good knowledge of either English or French and a good ability to write in English.

Applications are governed by the general regulations (http://www.uottawa.ca/graduate-studies/students/general-regulations) and do not guarantee admission to the program.

- The admission requirements listed above are minimum requirements and do not guarantee admission to the program.
- Admissions are governed by the general regulations (http://www.uottawa.ca/graduate-studies/students/general-regulations) in effect for graduate studies.

**Program Requirements**

**Master’s with Collaborative Specialization**

Students must meet the following requirements for the master’s with collaborative specialization. The units completed for the specialization count also towards the primary degree:

- Participation in the Institute’s seminar series is compulsory.

**Compulsory Courses (PHY):**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>9 optional course units in physics (PHY) at the graduate level</td>
<td>9 Units</td>
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</table>

**Compulsory Courses (ISP):**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Units</th>
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<tbody>
<tr>
<td>ISP 5101 Decision at the Interface of Science and Policy</td>
<td>3 Units</td>
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</table>

**Thesis:**

<table>
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<tr>
<th>Requirement</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>THM 7999 Master’s Thesis</td>
<td>3, 4, 5</td>
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</tbody>
</table>

**Note(s)**

1. The optional course units may be selected in related disciplines approved by the Department of Physics.
2. For students accepted into the accelerated stream, the number of courses to be completed while enrolled in the MSc is reduced to two.
3. Presentation and defence of a thesis on a research topic relating to science, society and policy, carried out under the supervision of a professor who is a member of the student’s primary program and/or of the collaborative program. The Science, Society and Policy Graduate Committee will determine whether or not the topic of the thesis is appropriate for the designation of “Specialization in Science, Society and Policy.” At least one of the thesis advisory committee members and thesis examiners must be recommended by the Science, Society and Policy Graduate Committee.
4. Students are responsible for ensuring they have met all of the thesis requirements (http://www.uottawa.ca/graduate-studies/students/theses).
5. In special circumstances, the thesis may not be required. In that case, the requirements of the MSc can be met by successfully completing 10 graduate courses at the 5000 level or above as well as a comprehensive examination. Participation in the Institute’s seminar series is also required. Note that students in the accelerated stream are not eligible to complete the MSc with coursework.

**Fast-Track from Master’s to PhD**

Students enrolled in the master’s program in Physics at the University of Ottawa may be eligible to fast-track directly into the doctoral program without writing a master’s thesis. For additional information, please consult the “Admission Requirements” section of the PhD program. Students in the accelerated stream of the MSc are not eligible for the fast-track to the PhD.

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Minimum Requirements
The passing grade in all courses is B. Students who fail two courses, or the thesis proposal, or whose research progress is deemed unsatisfactory must withdraw from the program.

Research
Research Fields & Facilities
Located in the heart of Canada’s capital, a few steps away from Parliament Hill, the University of Ottawa is among Canada's top 10 research universities.

uOttawa focuses research strengths and efforts in four Strategic Areas of Development in Research (SADRs):

• Canada and the World
• Health
• e-Society
• Molecular and Environmental Sciences

With cutting-edge research, our graduate students, researchers and educators strongly influence national and international priorities.

Research at the Faculty of Science
The Faculty of Science has become a true centre of excellence in research through its world-class professors as well as its programs and infrastructure in Biology, Chemistry, Earth Sciences, Mathematics and Statistics, and Physics.

The research accomplished by its 140 internationally recognized professors, its approximately 400 graduate students and its dozens of postdoctoral researchers and visiting scientists has positioned the Faculty of Science as one of the most research intensive science faculties in Canada. Our professors have received many international and national awards including three NSERC Gerhard Herzberg Gold Medal winners and numerous Fellows of the Royal Society of Canada.

The Faculty of Science, through its strategic use of infrastructure programs, hosts world-class Core Facilities and is at the leading edge for the study of Catalysis, Experimental and Computational Chemistry, Environmental Toxins, Nuclear Magnetic Resonance, Isotope Analysis, Molecular Biology and Genomics, X-Ray Spectrometry/Diffractometry, Geochemistry, Mass Spectrometry, Physiology and Genetics of Aquatic Organisms, and Photonics. The Faculty is also associated with the Fields Institute for research in mathematical science and the Centre de recherche mathématiques (CRM) at the Université de Montréal, providing a unique setting for mathematical research.

For more information, refer to the list of faculty members and their research fields on Uniweb.

IMPORTANT: Candidates and students looking for professors to supervise their thesis or research project can also consult the website of the faculty or department (https://www.uottawa.ca/graduate-studies/students/academic-unit-contact-information) of their program of choice. Uniweb does not list all professors authorized to supervise research projects at the University of Ottawa.

Courses
Not all of the listed courses are given each year. The course is offered in the language in which it is described.

Course codes in parentheses are for Carleton University. A 3-unit course at the University of Ottawa is equivalent to a 0.5-unit course at Carleton University.

PHY 5100 Solid State Physics I (3 units)
Periodic structures. Phonons and specific heat. Electron states and various methods of energy band calculation. Cohesion of solids. Electron-electron interaction. Optical properties. This course is equivalent to PHYJ 5401 at Carleton University.
Course Component: Lecture

PHY 5110 Solid State Physics II (3 units)
Elements of group theory. Measuring the Fermi surface. One electron dynamics. k-p method. Impurities. Quantum wells. Diamagnetism, paramagnetism and magnetic ordering. Superconductivity. This course is equivalent to PHYJ 5402 at Carleton University.
Course Component: Lecture

PHY 5112 Physics of Medical Imaging (3 units)
Physical foundation of, and recent developments in, transmission x-ray imaging, computerized tomography, nuclear medicine, magnetic resonance imaging, and ultrasound, for the imaging physics specialist. Imaging system performance: contrast, resolution, modulation transfer function, signal-to-noise ratio, detective quantum efficiency. Essentials of image display and processing. This course is equivalent to PHYS 5204 at Carleton University.
Course Component: Lecture

PHY 5130 Experimental Characterization Techniques in Materials Science, Physics, Chemistry, and Mineralogy (3 units)
Survey of experimental techniques used in materials science, condensed matter physics, solid state chemistry, and mineralogy to characterize materials and solid substances. Diffraction (X-ray diffraction, neutron diffraction...). Spectroscopy (infra-red spectroscopy, Raman spectroscopy, nuclear magnetic resonance, Mössbauer spectroscopy, electron spin resonance...). Microscopy and imaging (scanning electron microscopy, transmission electron microscopy, optical microscopy, magnetic resonance imaging...). Other analytic techniques (thermal analysis, wet chemistry, bulk thermodynamic properties, linear response and dc susceptibility...). This course is equivalent to PHYJ 5501 at Carleton University.
Course Component: Lecture

PHY 5140 Methods in Theoretical Physics I (3 units)
This course is equivalent to PHYS 5801 at Carleton University.
Course Component: Lecture

PHY 5141 Methods in Theoretical Physics II (3 units)
This course is equivalent to PHYS 5802 at Carleton University.
Course Component: Lecture

PHY 5161 Medical Radiation Physics (3 units)
This course is equivalent to PHYS 5203 at Carleton University.
Course Component: Lecture

PHY 5163 Radiation Protection (2 units)
This course is equivalent to PHYS 5208 at Carleton University.
Course Component: Lecture

PHY 5164 Medical Radiotherapy Physics (3 units)
This course is equivalent to PHYS 5206 at Carleton University.
Course Component: Lecture

PHY 5165 Radiobiology (3 units)
This course is equivalent to PHYS 5207 at Carleton University.
Course Component: Lecture
PHY 5166 Medical Physics Practicum (3 units)
This course is equivalent to PHY S 5209 at Carleton University.
Course Component: Lecture

PHY 5167 Advanced Topics in Medical Physics (3 units)
Topics may include medical imaging physics, cancer therapy physics, medical biophysics, or radiation protection and health physics. Topics vary from year to year.
Course Component: Lecture
Prerequisites: PHY 5161 plus, as appropriate to the topic offered, at least one of PHY 5112, PHY 5164, PHY 5165.

PHY 5168 Anatomy and Physiology for Medical Physicists
Overview of human anatomy and physiology as background for the application of physics to cancer therapy and medical imaging. Anatomy as depicted by imaging technologies such as CT, MRI, and radiography will be emphasized. Graded S (Satisfactory) or NS (Not satisfactory).
Course Component: Lecture
Prerequisite: Enrolment in the graduate field of medical physics.

PHY 5170 Advanced Quantum Mechanics I (3 units)
Review of operators, motion in a general field and angular momentum. Identical particles and exchange, two electron atoms, Hartree-Fock and statistical models of many particle systems. Angular momentum, Clebsch-Gordan coefficients and scattering theory.
Course Component: Lecture

PHY 5310 Advanced Optics and Photonics (3 units)
Introduction to laser physics: Optical resonators, light-matter interaction, basic operation of lasers, coherence, light control and manipulation, beam optics, Fourier optics. Guided wave optics: light propagation, allowed modes, dispersion. Courses PHY 5310, PHY 4310 cannot be combined for units. This course is equivalent to PHYJ 5310 at Carleton University.
Course Component: Lecture

PHY 5318 Modern Optics (3 units)
Electromagnetic wave propagation; reflection, refraction; Gaussian beams; guided waves. Laser theory: stimulated emission, cavity optics, gain and bandwidth, atomic and molecular lasers. Mode locking, Q switching. Diffraction theory, coherence, Fourier optics, holography, laser applications. Optical communication systems, nonlinear effects: devices, fibre sensors, integrated optics.
Course Component: Lecture

PHY 5320 Introduction to the Physics of Macromolecules (3 units)
The chemistry of macromolecules and polymers; random walks and the static properties of polymers; experimental methods; the Rouse model and single chain dynamics; polymer melts and viscoelasticity; the Flory-Huggins theory; the reptation theory; computer simulation algorithms; biopolymers and copolymers. This course is equivalent to PHYJ 5508 at Carleton University.
Course Component: Lecture

PHY 5322 Biological Physics (3 units)
Biological phenomena studied using techniques of physics. Key components of cells. Physical concepts relevant to cellular phenomena: Brownian dynamics, fluids, suspensions, entropy driven phenomena, chemical forces and self-assembly. Biological molecules. Enzymes. Molecular motors. Nerve impulses. Also offered, with different requirements, as PHY 4322. Courses PHY 4322, PHY 5322 cannot be combined for units. This course is equivalent to PHYJ 5322 at Carleton University.
Course Component: Lecture
Exclusion: PHY 4322.

PHY 5330 Fiber Optics Communications (3 units)
Course Component: Lecture

PHY 5331 Fiber Optics Fundamentals and Applications (3 units)
Fiber optics fundamental, Mach-Zehnder, Michelson, Fabry-Perot, Sagnac based interferometers and phase detections, intensity of wavelength modulated sensors. Principles of Rayleigh, Raman and Brillouin scattering and scattering in fibers, and their applications in distributed sensors. Principles of self-phase and cross phase modulation and four wave mixing in fibers, nonlinear fiber effect based demodulation system for fibers, sensors and device characterization. Birefringence and polarization based sensors and instrumentation. This course is equivalent to PHYJ 5331 at Carleton University.
Course Component: Lecture

PHY 5332 Nonlinear Optics (3 units)
Nonlinear optical susceptibility; wave equation description of nonlinear optics processes: second harmonic generation, intensity dependent refractive index, sum- and frequency-generation, parametric amplification; quantum mechanical theory of nonlinear optics; Brillouin and Raman scattering; the electro-optic effect; nonlinear fibre optics and solitons. This course is equivalent to PHYJ 5332 at Carleton University.
Course Component: Lecture

PHY 5333 Mode Locked Lasers (3 units)
Concept and realization of mode locking. Mode locked lasers including Q-switch. Ultrafast pulse generation and measurement. Soliton generation: dispersion and self-phase modulation. Applications to science and technology. This course is equivalent to PHYJ 5333 at Carleton University.
Course Component: Lecture

PHY 5340 Computational Physics I (3 units)
Course Component: Lecture

PHY 5341 Computational Physics II (3 units)
Interpolation, regression and modeling. Random number generation. Monte-Carlo methods. Simulations in thermo-statistics. Fractals, percolation, cellular automata. Stochastic numerical methods. Courses PHY 5341, PHY 4341 cannot be combined for units. This course is equivalent to PHYJ 5341 at Carleton University.
Course Component: Lecture

PHY 5342 Computer Simulations in Physics (3 units)
A course aimed at exploring physics with a computer in situations where analytic methods fail. Numerical solutions of Newton's equations, non-linear dynamics. Molecular dynamics simulations. Monte-Carlo simulations in statistical physics: the Ising model, percolation, crystal growth models. Symbolic computation in classical and quantum physics. This course is equivalent to PHYJ 5342 at Carleton University.
Course Component: Lecture

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<tr>
<th>Course Component</th>
<th>Course Title</th>
<th>Course Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>PHY 5344</td>
<td>Computational Physics (3 units)</td>
<td>Lecture</td>
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<tr>
<td>PHY 5347</td>
<td>Physics, Chemistry and Characterization of Mineral Systems (3 units)</td>
<td>Lecture</td>
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<tr>
<td>PHY 5355</td>
<td>Statistical Mechanics (3 units)</td>
<td>Lecture</td>
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<tr>
<td>PHY 5361</td>
<td>Nonlinear Dynamics in the Natural Sciences (3 units)</td>
<td>Lecture</td>
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<tr>
<td>PHY 5362</td>
<td>Computational Methods in Material Sciences (3 units)</td>
<td>Lecture</td>
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<tr>
<td>PHY 5363</td>
<td>Physical Applications of Fourier Analysis (3 units)</td>
<td>Lecture</td>
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<tr>
<td>PHY 5364</td>
<td>Nanotechnology and Modern methods in Biophysics (3 units)</td>
<td>Lecture</td>
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<tr>
<td>PHY 5368</td>
<td>Photons and Atoms (3 units)</td>
<td>Lecture</td>
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<tr>
<td>PHY 5369</td>
<td>Quantum Theory of Light (3 units)</td>
<td>Lecture</td>
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<tr>
<td>PHY 5370</td>
<td>Semiconductor Physics I (3 units)</td>
<td>Lecture</td>
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<tr>
<td>PHY 5381</td>
<td>Semiconductor Physics II: Optical Properties (3 units)</td>
<td>Lecture</td>
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<tr>
<td>PHY 5384</td>
<td>Physics of Fiber Optic Systems (3 units)</td>
<td>Lecture</td>
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</tr>
<tr>
<td>PHY 5386</td>
<td>Statistical Mechanics (3 units)</td>
<td>Lecture</td>
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PHY 5722 Physique biologique (3 crédits)
Volet : Cours magistral
Exclusion: PHY 4322.

PHY 5740 Physique numérique I (3 crédits)
Volet : Cours magistral

PHY 5741 Physique numérique II (3 crédits)
Volet : Cours magistral

PHY 5742 Simulations numériques en physique (3 crédits)
Un cours ayant pour but d'étudier la physique à l'aide d'un ordinateur dans des situations où les méthodes analytiques sont inadéquates. Solutions numériques des équations de Newton. Dynamique non-linéaire. Simulations de dynamique moléculaire. Simulations Monte-Carlo en physique statistique : modèle d'Ising, percolation, croissance cristalline. Calcul symbolique en physique classique et quantique. Les cours PHY 5742, PHY 5344 ne peuvent être combinés pour l'obtention de crédits. Ce cours est équivalent à PHYJ 5504 à la Carleton University.
Volet : Cours magistral

PHY 5781 Physique des semi-conducteurs II : Propriétés optiques (3 crédits)
Volet : Cours magistral

PHY 5922 Advanced Magnetism (3 crédits / 3 units)
Study of some of the experimental and theoretical aspects of magnetic phenomena found in ferro-, ferri-, antiferro-magnetic and spin glass materials. Topics of current interest in magnetism. This course is equivalent to PHYJ 5507 at Carleton University.
Volet / Course Component: Cours magistral / Lecture

PHY 5951 Physique de basses températures / Low Temperature Physics II (3 crédits / 3 units)
Volet / Course Component: Cours magistral / Lecture

PHY 5966 Physique nucléaire / Experimental Techniques of Nuclear and Elementary Particle Physics (3 crédits / 3 units)
Ce cours est équivalent à PHYS 5601 à Carleton University. / The interaction of radiation and high energy particles with matter; experimental methods of detection and acceleration of particles; use of relativistic kinematics; counting statistics. This course is equivalent to PHYS 5601 at Carleton University.
Volet / Course Component: Cours magistral / Lecture

PHY 5967 Physique des particules / Elementary Particle Physics (3 crédits / 3 units)
Ce cours est équivalent à PHYS 5602 à la Carleton University. / This course is equivalent to PHYS 5602 at Carleton University.
Volet / Course Component: Cours magistral / Lecture

PHY 6170 Advanced Quantum Mechanics II (3 units)
Systems of identical particles and many-body theory. Lattice and impurity scattering. Quantum processes in a magnetic field. Radiative and non-radiative transitions. Introduction to relativistic quantum mechanics. This course is equivalent to PHYJ 5703 at Carleton University.
Course Component: Lecture

PHY 6371 Topics in Mössbauer Spectroscopy (3 units)
Experimental techniques used to measure Mössbauer spectra. Physics of the Mössbauer effect: recoilless emission/absorption, anisotropic Debye-Waller factors, second order Doppler shifts, etc. Mössbauer lineshape theory with static and dynamic hyperfine interactions. Distributions of static hyperfine parameters. Physics of the hyperfine field, transferred and supertransferred fields, calculations of electric field gradients, etc. Applications of Mössbauer spectroscopy to various areas of solid state physics and materials science. This course is equivalent to PHYJ 5404 at Carleton University.
Course Component: Lecture

PHY 6382 Physics of Semiconductor Super Lattices (3 units)
Fundamental physics of two-dimensional quantized semiconductor structures. Electronic and optical properties of superlattices and quantum wells. Optical and electronic applications. This course is intended for students registered for the Ph.D. in semiconductor physics research. This course is equivalent to PHYJ 6406 at Carleton University.
Course Component: Lecture
Prerequisite: Advanced undergraduate or graduate course in solid state physics.

PHY 6650 Supraconductivité II (2 crédits)
Volet : Cours magistral
PHY 6782 Physique des super-réseaux à semiconducteurs (3 crédits)
Physique fondamentale des structures quantiques bi-dimensionnelles à semiconducteurs. Propriétés électroniques et optiques des super-réseaux et puits quantiques. Applications à l'électronique et à l'optique. Ce cours est destiné aux étudiantes et aux étudiants inscrits au doctorat en physique des semiconducteurs. Ce cours est équivalent à PHYJ 6407 à la Carleton University.
Volet : Cours magistral
Préalable : Cours sénior ou de niveau supérieur en physique de l'état solide.

PHY 6999 Project (6 crédits / 6 units)
Projet en physique dirigé par un professeur approuvé par le directeur des études supérieures et donnant lieu à la rédaction d'un rapport approfondi (30-40 pages approx). Noté S (satisfaisant) ou NS (non satisfaisant) par le directeur du projet et un autre professeur nommé par le directeur des études supérieures en physique. Le projet est normalement complété en une session. / Project in physics supervised by a professor approved by the director of graduate studies and leading to the writing of an in-depth report (approx. 30-40 pages). Graded S (Satisfactory) or NS (Not satisfactory) by the supervisor and by another professor appointed by the director of graduate studies in Physics. The project will normally be completed in one session. Volet / Course Component: Recherche / Research

ISP 5101 Decision at the Interface of Science and Policy (3 units)
This course explores a number of critical issues in the design and implementation of science (or, more generally, evidence)-based policy. Topics will include: the nature of scientific evidence; who has standing in the provisioning of scientific evidence; the science and non-science of risk assessment; ethical dimensions of policy design and implementation; the role of science in policy design and implementation; the policy making process; and science policy performance evaluation.
Course Component: Lecture

ISP 5102 Science and Technology Governance and Communication (3 units)
This course explores a number of critical issues in the governance of science and technology (S&T) in democratic societies, with particular emphasis on the Canadian context. Topics will include the following: the history of S&T governance and communication in both Canada and abroad; an overview of the Canadian S&T policy and regulatory landscape; the role of government, the private sector and civil society in S&T governance; policy and regulatory experiments in fostering innovation (and the success thereof); the evolution of public S&T communication strategies and governance of emerging technologies.
Course Component: Lecture

ISP 5103 Capstone Seminar in Science, Society and Policy (3 units)
Involves partnering with organization(s) working on an issue relating to science, society and policy. In consultation with a member of the organization, students analyze the issue and complete a written report, either singly or in interdisciplinary teams, under the direction of the seminar professor who is responsible for evaluating the report.
Course Component: Lecture

ISP 5501 Prise de décision à l'interface de la science et des politiques (3 crédits)
Ce cours approfondit un certain nombre d'enjeux critiques liés à la conception et à la mise en oeuvre de politiques scientifiques (ou, de façon plus générale, fondées sur des preuves). Les sujets abordés incluent les suivants : la nature de la preuve scientifique; qui a qualité pour fournir des preuves scientifiques; le côté scientifique et le côté non scientifique de l'évaluation des risques; les dimensions éthiques de la conception et de la mise en oeuvre des politiques publiques; le rôle de la science dans la conception et la mise en oeuvre des politiques publiques; le processus d'élaboration des politiques publiques; et l'évaluation du rendement des politiques publiques en matière de sciences.
Volet : Cours magistral
ISP 5502 Gouvernance et communication en science et technologie (3 crédits)
Ce cours approfondit un certain nombre d’enjeux critiques liés à la gouvernance des sciences et de la technologie (S et T) dans les sociétés démocratiques et, en particulier, dans le contexte canadien. Les sujets abordés incluent les suivants : l’histoire de la gouvernance et de la communication en sciences et technologie au Canada et à l’étranger; un aperçu du paysage réglementaire et politique canadien ayant trait aux sciences et à la technologie; le rôle du gouvernement, du secteur privé et de la société civile dans la gouvernance des sciences et de la technologie; les expériences relatives aux politiques et à la réglementation menées en vue de favoriser l’innovation (et leur réussite); l’évolution des stratégies de communication publique concernant les sciences et la technologie et la gouvernance des nouvelles technologies.
Volet : Cours magistral

ISP 5503 Séminaire d’intégration en science, société et politique publique (3 crédits)
Involves partnering with organization(s) working on an issue relating to science, society and policy. In consultation with a member of the organization, students analyze the issue and complete a written report, either singly or in interdisciplinary teams, under the direction of the seminar professor who is responsible for evaluating the report.
Volet : Cours magistral