

Area of Interest: Advanced Technology

Bachelor of Applied Computing (Co-op)

Degree

Program Code: 6530X03FWO

3 Years

Ottawa Campus

Our Program

This three-year Bachelor of Applied Computing degree program equips you with the skills and knowledge necessary for modern software development. You acquire innovative approaches to designing, developing and deploying a wide range of software solutions, while mastering essential concepts in programming, design, secure development, software engineering, cloud computing and artificial intelligence.

The program emphasizes industry best practices, equipping you with the skills to design, develop and maintain secure solutions across various technologies and platforms. Complementary courses in mathematics, communication and ethics provide a well-rounded education. Specialized courses allow you to explore advanced areas of software development, and the program's hands-on approach is reinforced by a capstone project in the final semesters, where you will develop software solutions for real-world problems. Two integrated four-month co-op experiences further enhances industry readiness.

As a graduate of this program, you will be well-prepared for careers in

- software design and development
- web application development
- quality assurance
- artificial intelligence/machine Learning development
- cloud computing
- DevOps
- other areas of computing

Employment

Graduates of the Bachelor of Applied Computing may find employment as a software developer, web developer, IT support specialist, mobile application developer, cloud solutions architect, business analyst, quality assurance tester, technical consultant, game developer, software tester, application support analyst, IT trainer/instructor or technical writer.

Learning Outcomes

The graduate has reliably demonstrated the ability to:

- Build, integrate, and maintain programming solutions and software systems to meet organizational requirements using industry best practices and appropriate methodologies, paradigms, and tools.
- Determine business requirements for software system specifications based on functional and non-functional requirements.
- Model, design, implement, and maintain complex data storage solutions that meet industry best practices and maintain rigorous security expectations.

- Evaluate security and risk using quality management principles and project management practices to support project development and completion.
- Lead teams in support of establishing and maintaining effective working relationships by applying concepts of group dynamics, organizational behaviour, and leadership theories.
- Interpret professional, ethical, and legal codes of practice required to be in compliance with legislation and professional standards.
- Communicate complex concepts to technical and non-technical audiences using written, oral, and graphical methods producing effective reports, presentations, design documentation, and instructions.
- Address individual needs for continuing education and professional development to maintain technical and professional competencies.
- Identify and apply discipline-specific practices that contribute to the local and global community through social responsibility, economic commitment and environmental stewardship.

Program of Study

Level: 01	Courses	Hours
CST3100	Introduction to Computer Programming	70.0
CST3101	Database Design Fundamentals	56.0
CST3103	Data Communication and Networking	42.0
CST3120	Software Development Industry: Roles and Practices	42.0
ENL1100	Communications and Academic Writing	42.0
MAT8003	Mathematics for Programming	42.0
Level: 02	Courses	Hours
CST3102	Programming	70.0
CST3121	Web Principles and Dynamic Websites	56.0
CST3122	Operating Systems for Developers	42.0
CST3123	Code Quality and Refactoring	42.0
PHI1000	Logic and Critical Thinking	56.0
Level: 03	Courses	Hours
CST3200	Back-End Design and Development	70.0
CST3201	Modern Front-End Development	56.0
CST3202	Software Architecture and Design	42.0
CST3203	Modern Storage Systems	42.0
DAT3100	Data Structures and Algorithms	56.0
GEP1001	Cooperative Education and Job Readiness	21.0
Level: 04	Courses	Hours

CST3220	Artificial Intelligence and Machine Learning for Software Developers	70.0
CST3221	Quality Assurance and Testing	42.0
CST3222	Software Engineering Principles	56.0
CST3223	Cloud Computing Fundamentals	56.0
CST3224	Secure Applications Development	42.0
GEP2001	Co-Op Job Search 1	10.0
Elective: choose 1 Courses		Hours
CUL4000	Global Citizenship	42.0
ENL2025	Interpersonal Communication	42.0
ENL4016	World Literature	42.0
ENL4100	Creative Writing	42.0
ENL4200	New Worlds and Alternative Realities: Speculative Fiction	42.0
ENL4300	The Brave New Worlds of Dystopian Fiction	45.0
FLS3101	French as a Second Language-Beginner 1	42.0
FLS3102	French as a Second Language-Beginner 2	42.0
GED2300	Indigenous Self-Representation in Contemporary Canadian Culture	42.0
GEO2300	Principles of Urban Planning	56.0
LAN3101	Spanish-Beginner 1	42.0
LAN3102	Spanish-Beginner 2	42.0
LAW2014	Law	42.0
PHI2000	Introduction to Research	42.0
PHI2002	Ethical Decision Making	42.0
PHI2004	Foundations of Social Science Research: Principles, Methods, and Actions	42.0
PHI4000	Philosophy and Popular Culture	42.0
PHI4002	The Philosophy of Drugs	42.0
PHI4003	The Philosophy of Love and Sex	42.0
PHI4004	Technology, Society and the Environment	42.0
PHI4100	Survival in the Information Age: Risk and the Media	42.0
PHY4000	Black Holes, Big Bangs and the Cosmos	42.0
PSI2000	Navigating Canada's Political Landscape	56.0
PSY2100	Introductory Psychology	42.0
QUA2000	Statistics	42.0

QUA2001	Statistics for the Social Sciences	42.0
SCI2000	Environmental Science	42.0
SOC2000	Introduction to Sociology	56.0
SOC2001	Anti-Racism: Theory and Practice	42.0
SOC4000	Criminology	42.0
SOC4001	Global Perspectives	42.0
Co-op: 01	Courses	Hours
WKT0009	Co-Op I	0.0
Co-op: 02	Courses	Hours
WKT0010	Co-Op II	0.0
Level: 05	Courses	Hours
CST3230	Capstone Project 1	42.0
CST3231	Navigating Legacy Systems	42.0
CST3232	Mobile Application Development	70.0
CST3234	Distributed and Scalable System	42.0
CST3235	Microservices Design and Development	42.0
Elective: choose 1 Courses		Hours
CUL4000	Global Citizenship	42.0
ENL2025	Interpersonal Communication	42.0
ENL4016	World Literature	42.0
ENL4100	Creative Writing	42.0
ENL4200	New Worlds and Alternative Realities: Speculative Fiction	42.0
ENL4300	The Brave New Worlds of Dystopian Fiction	45.0
FLS3101	French as a Second Language-Beginner 1	42.0
FLS3102	French as a Second Language-Beginner 2	42.0
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GEO2300	Principles of Urban Planning	56.0
LAN3101	Spanish-Beginner 1	42.0
LAN3102	Spanish-Beginner 2	42.0
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PHI2000	Introduction to Research	42.0
PHI2002	Ethical Decision Making	42.0

PHI2004	Foundations of Social Science Research: Principles, Methods, and Actions	42.0
PHI4000	Philosophy and Popular Culture	42.0
PHI4002	The Philosophy of Drugs	42.0
PHI4003	The Philosophy of Love and Sex	42.0
PHI4004	Technology, Society and the Environment	42.0
PHI4100	Survival in the Information Age: Risk and the Media	42.0
PHY4000	Black Holes, Big Bangs and the Cosmos	42.0
PSI2000	Navigating Canada's Political Landscape	56.0
PSY2100	Introductory Psychology	42.0
QUA2000	Statistics	42.0
QUA2001	Statistics for the Social Sciences	42.0
SCI2000	Environmental Science	42.0
SOC2000	Introduction to Sociology	56.0
SOC2001	Anti-Racism: Theory and Practice	42.0
SOC4000	Criminology	42.0
SOC4001	Global Perspectives	42.0
Level: 06	Courses	Hours
CST3300	Capstone Project 2	42.0
CST3302	Software Delivery and Release Management	56.0
CST3303	Ai Integration in Back-End Systems	42.0
CST3304	Performance Optimization in Distributed Architectures	42.0
Elective: choose 1 Courses		Hours
CUL4000	Global Citizenship	42.0
ENL4016	World Literature	42.0
ENL4100	Creative Writing	42.0
ENL4200	New Worlds and Alternative Realities: Speculative Fiction	42.0
ENL4300	The Brave New Worlds of Dystopian Fiction	45.0
PHI4000	Philosophy and Popular Culture	42.0
PHI4002	The Philosophy of Drugs	42.0
PHI4003	The Philosophy of Love and Sex	42.0
PHI4004	Technology, Society and the Environment	42.0
PHI4100	Survival in the Information Age: Risk and the Media	42.0

PHY4000	Black Holes, Big Bangs and the Cosmos	42.0
SOC4000	Criminology	42.0
SOC4001	Global Perspectives	42.0
CUL4000	Global Citizenship	42.0
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ENL4016	World Literature	42.0
ENL4100	Creative Writing	42.0
ENL4200	New Worlds and Alternative Realities: Speculative Fiction	42.0
ENL4300	The Brave New Worlds of Dystopian Fiction	45.0
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FLS3102	French as a Second Language-Beginner 2	42.0
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SOC4000	Criminology	42.0
SOC4001	Global Perspectives	42.0

Fees for the 2026/2027 Academic Year

Tuition and related ancillary fees for this program can be viewed by using the Tuition and Fees Estimator tool at <https://www.algonquincollege.com/fee-estimator>

Further information on fees can be found by visiting the Registrar's Office website at <https://www.algonquincollege.com/ro>

Fees are subject to change.

Additional program related expenses include:

- Textbooks cost approximately \$1,000 per year.

Admission Requirements for the 2027/2028 Academic Year

College Eligibility

- Ontario Secondary School Diploma (OSSD) or equivalent.
- Mature students are applicants who have not achieved the Ontario Secondary School Diploma (OSSD) or its equivalent and who are at least 19 years of age on or before the commencement of the program in which they intend to enroll. Mature students applying for Degree programs satisfy College Eligibility by having demonstrated academic abilities equivalent to those of Ontario high school graduates, verified by successful completion of at least one full-time term at the post-secondary level (minimum five courses taken concurrently in an academic program of study).

Program Eligibility

- Six Grade 12 University (U) or university/college (M) courses with a minimum 65% average including:
 - One Grade 12 U English course, with a minimum of 65%
 - One Grade 12 U Mathematics course, with a minimum of 65%
- Please note that mature students must meet the following subject-specific Program Eligibility requirements, either directly or through equivalencies:

Application Information

BACHELOR OF APPLIED COMPUTING Program Code 6530X03FWO

Applications to full-time day programs must be submitted with official transcripts showing completion of the academic admission requirements through:

ontariocolleges.ca
60 Corporate Court
Guelph, Ontario N1G 5J3
1-888-892-2228

Students currently enrolled in an Ontario secondary school should notify their Guidance Office prior to their online application at <https://www.ontariocolleges.ca/>.

Applications for Fall Term and Winter Term admission received by February 1 will be given equal consideration. Applications received after February 1 will be processed on a first-come, first-served basis as long as places are available.

International applicants please visit this link for application process information: <https://algonquincollege.my.site.com/myac360/s/>

For further information on the admissions process, please visit: Admissions - Registrar's Office <https://algonquincollege.com/ro/admissions/>

Additional Information

Algonquin College has been granted consent by the Minister of Colleges, Universities, Research Excellence and Security to offer this applied degree for a six-year term starting July 2, 2026. The College shall ensure that all students admitted to the above-named program during the period of consent have the opportunity to complete the program within a reasonable timeframe.

CO-OP INFORMATION

Co-operative education (Co-op) provides students with the opportunity to integrate classroom learning with real-world experience through paid, program related work terms.

Two academic terms before their first co-op work term, students must actively participate in and complete a self-directed co-op preparation course, including required readiness activities and workshops.

Students are responsible for conducting a guided, self-directed job search and securing approved, paid co-op employment related to their program of study. Co-op students compete for positions alongside students from Algonquin College and other Canadian and international colleges and universities. While Algonquin College's Co-op Career Centre supports students by developing co-op opportunities and providing guidance throughout the process, employment is not guaranteed.

Co-op work opportunities may require students to relocate. All costs associated with participation including travel, accommodation, work permits, visa applications, and other related expenses are the responsibility of the student.

Co-op work terms are typically 14 weeks in duration and are completed during academic terms when students are not enrolled in classes. For details about the number and timing of co-op work terms in your program, please refer to the Courses tab on your program's webpage.

Successful completion of all required co-op work terms listed on the program page is mandatory for graduation. Students are expected to remain on schedule and participate in co-op work terms as planned. Failure to complete a co-op work term as scheduled may result in an unscheduled break in studies, which can delay graduation and may have implications for immigration status for international students.

International students who experience an unscheduled break in studies due to academic progression issues beyond their control may be eligible for an authorized leave. In such cases, consultation with the International Education Centre is required before the scheduled start of the co-op work term to review potential academic and immigration implications.

International students are responsible for ensuring they meet all co-op work permit requirements before participating in a co-op work term. Additional information is available at: <https://www.algonquincollege.com/international/student-handouts>

For more information about co-op programs, expectations, and general and program specific co-op eligibility criteria, visit: <https://www.algonquincollege.com/coop-career-centre>

Course Descriptions

CST3100 Introduction to Computer Programming

The underlying technical core of business systems is an effective and efficient implementation of program code. Through technical introduction to the fundamentals of programming with Java, students develop concise, robust, and efficient code. Students examine the concepts of object-oriented programming and use pseudocode to provide a descriptive framework for algorithm development. Emphasis is on problem-solving and fundamental logic skills as well as documentation, both in-line and high-level, to underscore the importance of readability and maintainability. A key focus is top-down design, and effective testing and debugging techniques. To establish the necessary background, students learn to use an Integrated Development Environment (IDE), program development, implementation, and execution, as well as machine-level representation of data and common language control constructs.

Prerequisite(s): none
Corerequisite(s):none

CST3101 Database Design Fundamentals

Modern business systems rely on fast information storage, processing and retrieval for everyday operations and strategic decision-making. Storing data in well-structured and standard format is an important key towards achieving efficiency and speed. Throughout the course, students acquire a theoretical and practical understanding of database systems, types, design and applications. Course components consist of theoretical and hands-on design of databases based on industry standards, such as SQL. Industry case studies focus on data use, data security, cloud-based options, database design, implementation and normalization.

Prerequisite(s): none
Corerequisite(s):none

CST3102 Programming

The de facto development paradigm for mobile and enterprise systems is object based. This course explores the fundamentals of object-oriented design and programming. Students learn to create and manipulate reusable objects, encapsulate data and logic within a class, inherit one class from another and implement polymorphism and exception handling. Topics may include design patterns, Java APIs, J-Unit testing framework, graphical user interface fundamentals, and Generative AI.

Prerequisite(s): CST3100 and MAT8003
Corerequisite(s):none

CST3103 Data Communication and Networking

Business decision-makers increasingly demand and rely on immediate access to accurate and secure information. Students examine the concepts, components, implementation and operation of computer networks in personal area networks, local area networks, wireless networks, wide area networks, and on the internet. Knowledge of the communication layers is examined using the OSI reference model and in particular the TCP/IP protocol suite and Ethernet. Students evaluate risks, network security, vulnerabilities and mitigation strategies. Guided by sound theoretical knowledge, students also examine materials from the Cisco Network Academy Program CCNA Exploration Networking Fundamentals, CompTIA Network+ Certification as well as analyze industry case studies.

Prerequisite(s): none
Corerequisite(s):none

CST3120 Software Development Industry: Roles and Practices

This course explores the roles, methodologies, and practices within the software development industry. Students examine key roles in development teams, such as developers, UX/UI designers, and project managers, as well as the technologies used to build different types of applications. The course covers industry practices, project management strategies, version control, and collaborative workflows. Emphasizing teamwork, it also introduces emerging technologies and highlights their impact on modern software development and the evolving roles within the industry.

Prerequisite(s): none
Corerequisite(s):none

CST3121 Web Principles and Dynamic Websites

With the advancement of technology, most business applications are developed as "web applications". This course introduces the student to web application development in which websites and web interfaces are able to save data to databases to make web commerce possible and to make for a better user experience. Students apply best practices of user interface design to the development of web sites. Assignments illustrate the use of client-side scripting to validate web

forms. A server-side scripting language is used together with a database to implement data driven business solutions.

Prerequisite(s): none

Corerequisite(s):none

CST3122 Operating Systems for Developers

This course extends the students learning in operating systems and core services into more advanced areas and add common non-core services with a focus on system and service design. Students apply critical thinking to develop the design specification for infrastructure services to meet system requirements. Students also continue to build installation and configuration skills that have been previously introduced.

Prerequisite(s): none

Corerequisite(s):none

CST3123 Code Quality and Refactoring

This course focuses on best practices for writing clean, maintainable, and efficient code. Students use techniques for improving code readability, reducing complexity, and applying refactoring strategies to optimize existing codebases. The course emphasizes long-term code sustainability, covering principles of software design, modularity, and industry standards. Students gain the skills needed to maintain and enhance codebases with a focus on scalability, performance, and professional development practices.

Prerequisite(s): none

Corerequisite(s):none

CST3200 Back-End Design and Development

This course focuses on the design and development of back-end systems that support various types of applications, with an emphasis on enterprise-level solutions. Students integrate databases, file systems, and authentication protocols, as well as develop APIs and secure communication channels. The course covers key topics such as enterprise-level architecture, real-time data transfer, and effective back-end management practices. Students gain hands-on experience in creating scalable, secure, and high-performance back-end systems that can manage large-scale operations. The course prepares students to ensure security, performance, and reliability in enterprise environments while optimizing back-end systems for modern software applications.

Prerequisite(s): CST3102

Corerequisite(s):none

CST3201 Modern Front-End Development

This course introduces modern techniques for front-end web development. Students create dynamic, interactive user interfaces using modern frameworks, focusing on state management, component-based architecture, and routing. The course covers responsive design for various devices, UX design, accessibility best practices, and performance optimization techniques such as caching, code splitting, and lazy loading. Students also explore version control, bundlers, and web security, including authentication and authorization. By the end of the course, students build scalable, high-performance web applications with a focus on user experience and developer efficiency.

Prerequisite(s): CST3102

Corerequisite(s):none

CST3202 Software Architecture and Design

This course provides a comprehensive exploration of software architecture and design patterns, emphasizing practical applications and modern development practices. Students use foundational principles of software architecture, including strategies for designing scalable, maintainable, and adaptable systems. Key topics include architectural patterns, techniques for ensuring testability

and framework independence, and methods for developing robust, modular, and efficient software systems. Through hands-on exercises and real-world scenarios, students develop the expertise to design and build high-quality, sustainable software solutions optimized for performance and long-term success.

Prerequisite(s): none
Corerequisite(s):none

CST3203 Modern Storage Systems

This course focuses on modern storage technologies and their integration into complex software systems. Students explore various storage solutions, including NoSQL, distributed databases, and cloud storage. The course emphasizes modern techniques for querying and retrieving data efficiently. Students also study different data architectures and data integration strategies. Through practical exercises, students gain the skills to design and implement modern data storage solutions suitable for dynamic applications.

Prerequisite(s): CST3101
Corerequisite(s):none

CST3220 Artificial Intelligence and Machine Learning for Software Developers

This course introduces the fundamentals of artificial intelligence (AI) and machine learning (ML) for software developers. Students build a strong foundation in statistics, probability, and data analysis, essential for understanding AI and ML concepts. The course covers key AI and ML techniques, including supervised and unsupervised learning, classification, regression, clustering, and neural networks. Students gain hands-on experience with popular machine learning frameworks and tools, applying AI and ML methods to solve real-world problems. The course emphasizes integrating AI and ML into software development processes, focusing on practical and efficient solutions for dynamic applications.

Prerequisite(s): none
Corerequisite(s):none

CST3221 Quality Assurance and Testing

This course focuses on software quality assurance (QA) and testing techniques to ensure software reliability, performance, and overall quality. Students design and implement comprehensive test plans, conduct manual and automated tests, and apply industry-standard practices to detect and resolve issues. The course emphasizes testing strategies aligned with various software development methodologies. Students also explore testing tools and frameworks for both functional and non-functional testing, focusing on best practices for ensuring software quality.

Prerequisite(s): CST3123
Corerequisite(s):none

CST3222 Software Engineering Principles

This course explores the foundational principles and best practices of software engineering, focusing on designing, developing, and maintaining high-quality software systems. Students utilize essential concepts such as requirements analysis, software design, coding practices, testing, and maintenance. The course emphasizes modern methodologies, including Agile practices, to promote adaptability, collaboration, and efficiency in software projects. Through hands-on exercises and real-world scenarios, students apply engineering principles to develop reliable, scalable, and maintainable software solutions.

Prerequisite(s): none
Corerequisite(s):none

CST3223 Cloud Computing Fundamentals

This course introduces the fundamentals of cloud computing, including cloud service models, deployment models, and management strategies. Students design, deploy, and manage

applications in cloud environments, with a focus on leveraging cloud technologies to build scalable, flexible solutions. The course covers cloud security, cost management, and performance optimization, providing students with hands-on experience using popular cloud platforms. By the end of the course, students deploy cloud-based applications that meet security, scalability, and performance requirements.

Prerequisite(s): none
Corerequisite(s):none

CST3224 Secure Applications Development

This course provides an in-depth exploration of secure application development, focusing on the security responsibilities of developers across all layers of modern software systems, including back-end, front-end, and database components. Students identify and mitigate common vulnerabilities, such as SQL injection, cross-site scripting, and insecure authentication, while consolidating security knowledge introduced in other courses. Emphasis is placed on secure coding practices, risk assessment, and implementing best practices to protect applications against evolving threats. The course also covers secure design principles, industry security standards, and strategies to safeguard applications in dynamic and networked environments.

Prerequisite(s): none
Corerequisite(s):none

CST3230 Capstone Project 1

This course is the first of a two-part capstone experience where students tackle real-world problems through software development. Students identify a project, define its scope, and complete all preliminary work, including research, planning, and prototyping. The course focuses on creating initial iterations of the solution while emphasizing teamwork, effective communication, and project management skills to prepare for further development in the second course.

Prerequisite(s): CST3224
Corerequisite(s):none

CST3231 Navigating Legacy Systems

This course equips students with the skills to work effectively with legacy software systems. Students analyze and understand existing codebases, implement updates, and integrate new features while preserving the stability of older systems. Topics include debugging, refactoring, documentation, and modernizing outdated architectures. The course emphasizes maintaining system functionality and extending the lifespan of legacy applications in practical, real-world scenarios.

Prerequisite(s): CST3221
Corerequisite(s):none

CST3232 Mobile Application Development

This course introduces students to the principles and practices of mobile application development for both native and cross-platform environments. Students design, build, and deploy apps that leverage native device features while ensuring responsive, user-friendly experiences across a variety of platforms. The course covers key topics such as UI/UX design, back-end integration through APIs, data synchronization, and offline functionality. Students also explore secure coding practices and performance optimization, with a focus on using modern frameworks and platform-specific tools. By the end of the course, students create scalable, high-performance mobile applications that meet industry standards.

Prerequisite(s): CST3200 and CST3201
Corerequisite(s):none

CST3234 Distributed and Scalable System

This course explores the fundamental principles, tools, and techniques for designing and

implementing distributed and scalable systems. Students design robust applications that can efficiently scale across multiple servers or data centers, whether in cloud environments or on-premise infrastructure. Emphasizing both foundational and practical applications, the course covers the core concepts of distributed computing, scalability strategies, and the challenges associated with large-scale system design. Hands-on labs provide experience deploying systems in both local and cloud-based distributed architectures.

Prerequisite(s): CST3223
Corerequisite(s):none

CST3235 Microservices Design and Development

This course introduces students to the principles, architecture, and practical implementation of microservices. Students design, build, and deploy scalable, modular, and loosely coupled services that enable flexibility and rapid development in large-scale systems. Topics include microservices architecture, API design, service orchestration, data management strategies, and best practices for communication between services. Hands-on projects involve deploying microservices in both on-premise and cloud-based environments, helping students understand the advantages and challenges of each.

Prerequisite(s): CST3202
Corerequisite(s):none

CST3300 Capstone Project 2

This course is the second part of a two-course capstone sequence, where students complete the final implementation of their software projects. Building on the foundation established in Capstone Project 1, students refine their prototypes, integrate advanced features, and finalize their solutions. The course emphasizes iterative development, rigorous testing, deployment, and comprehensive project documentation. Students present and demonstrate their projects to faculty, peers, showcasing their technical expertise, problem-solving abilities, and collaboration skills.

Prerequisite(s): CST3230
Corerequisite(s):none

CST3302 Software Delivery and Release Management

This course covers the principles and practices of software delivery and release management. Students plan, coordinate, and execute software release pipelines using industry-standard tools and techniques. Key topics include version control, automated builds, testing, deployment, and continuous integration/continuous delivery (CI/CD). The course emphasizes structured release management strategies that minimize risks and ensure seamless transitions from development to production environments.

Prerequisite(s): none
Corerequisite(s):none

CST3303 Ai Integration in Back-End Systems

This course explores the integration of artificial intelligence (AI) technologies into back-end systems to enhance functionality, decision-making, and user experiences. Students design and implement AI-driven services, focusing on topics such as machine learning model integration, data pipelines, real-time AI processing, and API development for AI-powered applications. The course emphasizes practical skills for integrating AI with existing back-end infrastructure while addressing challenges such as scalability, performance, and ethical considerations.

Prerequisite(s): CST3220
Corerequisite(s):none

CST3304 Performance Optimization in Distributed Architectures

This course focuses on techniques and strategies for optimizing the performance of distributed systems and architectures. Students explore the challenges of latency, throughput, and resource

allocation in distributed environments, including both cloud platforms and on-premise data centers. Topics include load balancing, caching, data locality, concurrency management, and network optimization. Practical case studies and projects enable students to apply these concepts to real-world distributed systems, ensuring high-performance application design and operation in diverse hosting environments.

Prerequisite(s): none

Corerequisite(s):none

CUL4000 Global Citizenship

Informed citizens in today's world appreciate the meaning of civic life at the local, national and global level. Students reflect on and develop a personal awareness of the meaning of freedoms, rights and obligations in a diverse global community and consider the political, social and economic drivers that influence patterns of human behaviour and the health of the planet. Based on general principles of global citizenship, students look beyond national borders to assess personal responsibilities related to the health and well-being of the planet and inhabitants. Students critically evaluate information related to environmental and social health, equipped with attitudes and behaviours that foster global environmental and social responsibility.

Prerequisite(s): ENL1100 and PHI1000

Corerequisite(s):none

CUL4000 Global Citizenship

Informed citizens in today's world appreciate the meaning of civic life at the local, national and global level. Students reflect on and develop a personal awareness of the meaning of freedoms, rights and obligations in a diverse global community and consider the political, social and economic drivers that influence patterns of human behaviour and the health of the planet. Based on general principles of global citizenship, students look beyond national borders to assess personal responsibilities related to the health and well-being of the planet and inhabitants. Students critically evaluate information related to environmental and social health, equipped with attitudes and behaviours that foster global environmental and social responsibility.

Prerequisite(s): ENL1100 and PHI1000

Corerequisite(s):none

CUL4000 Global Citizenship

Informed citizens in today's world appreciate the meaning of civic life at the local, national and global level. Students reflect on and develop a personal awareness of the meaning of freedoms, rights and obligations in a diverse global community and consider the political, social and economic drivers that influence patterns of human behaviour and the health of the planet. Based on general principles of global citizenship, students look beyond national borders to assess personal responsibilities related to the health and well-being of the planet and inhabitants. Students critically evaluate information related to environmental and social health, equipped with attitudes and behaviours that foster global environmental and social responsibility.

Prerequisite(s): ENL1100 and PHI1000

Corerequisite(s):none

CUL4000 Global Citizenship

Informed citizens in today's world appreciate the meaning of civic life at the local, national and global level. Students reflect on and develop a personal awareness of the meaning of freedoms, rights and obligations in a diverse global community and consider the political, social and economic drivers that influence patterns of human behaviour and the health of the planet. Based on general principles of global citizenship, students look beyond national borders to assess personal responsibilities related to the health and well-being of the planet and inhabitants. Students critically evaluate information related to environmental and social health, equipped with attitudes and behaviours that foster global environmental and social responsibility.

Prerequisite(s): ENL1100 and PHI1000

Corerequisite(s):none

DAT3100 Data Structures and Algorithms

This course focuses on problem-solving and software design through efficient and effective data organization. Students explore, analyze, and implement advanced data structures, learning to select the most appropriate structure for various scenarios. The course covers algorithms for sorting, searching, and data transformation, emphasizing their efficiency, trade-offs, and impact on software performance. Through hands-on practice, students develop the skills to design optimized, scalable, and context-aware solutions.

Prerequisite(s): CST3101

Corerequisite(s):none

ENL1100 Communications and Academic Writing

Effective communication is an integral component of success in an academic setting. Students review communication theory and its connection to expository and argumentative writing. Frequent writing exercises and reinforcement of grammar rules encourage the development of content that is cohesive, well-organised, and correct. Through hands-on writing assignments and peer feedback, students focus on developing coherent writing and the expected argumentative structures of academic writing. Research skills are emphasized, including the ability to identify accurate and relevant information, as are proper techniques for documenting evidence and sources. New challenges presented to modern academics - such as the role of artificial intelligence - are addressed, and possible mitigation strategies are presented.

Prerequisite(s): none

Corerequisite(s):none

ENL2025 Interpersonal Communication

Effectively communicating with others, both professionally and personally, is an art that requires conscious development. Students address the techniques related to interpersonal communication challenges in the diverse workplace. Focus is on communication barriers, verbal and non-verbal communication, listening, team work, and relational dynamics. Through role play, analysis, and case studies, students engage in simulated and authentic interpersonal communication situations.

Prerequisite(s): ENL1100

Corerequisite(s):none

ENL2025 Interpersonal Communication

Effectively communicating with others, both professionally and personally, is an art that requires conscious development. Students address the techniques related to interpersonal communication challenges in the diverse workplace. Focus is on communication barriers, verbal and non-verbal communication, listening, team work, and relational dynamics. Through role play, analysis, and case studies, students engage in simulated and authentic interpersonal communication situations.

Prerequisite(s): ENL1100

Corerequisite(s):none

ENL2025 Interpersonal Communication

Effectively communicating with others, both professionally and personally, is an art that requires conscious development. Students address the techniques related to interpersonal communication challenges in the diverse workplace. Focus is on communication barriers, verbal and non-verbal communication, listening, team work, and relational dynamics. Through role play, analysis, and case studies, students engage in simulated and authentic interpersonal communication situations.

Prerequisite(s): ENL1100

Corerequisite(s):none

ENL4016 World Literature

Exposure to broad sources of literature promotes an open-minded perspective on today's global society and encourages an appreciation of diversity and human differences. In World Literature, students explore key literary works from around the world and examine the socio-historical and cultural contexts in which authors wrote and set these texts. Students learn to identify common themes and apply literary and cultural theory to these works towards expanding critical thinking skills and developing an analytical vocabulary. Through seminar presentations, group discussions, debates, journaling, and creative writing, students grapple with literary representations of social, political, and cultural issues from around the world, gaining an appreciation of what it means to be responsible global citizens and possess the ability to listen to, question, and value diverse perspectives.

Prerequisite(s): none

Corerequisite(s):none

ENL4016 World Literature

Exposure to broad sources of literature promotes an open-minded perspective on today's global society and encourages an appreciation of diversity and human differences. In World Literature, students explore key literary works from around the world and examine the socio-historical and cultural contexts in which authors wrote and set these texts. Students learn to identify common themes and apply literary and cultural theory to these works towards expanding critical thinking skills and developing an analytical vocabulary. Through seminar presentations, group discussions, debates, journaling, and creative writing, students grapple with literary representations of social, political, and cultural issues from around the world, gaining an appreciation of what it means to be responsible global citizens and possess the ability to listen to, question, and value diverse perspectives.

Prerequisite(s): none

Corerequisite(s):none

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Prerequisite(s): none

Corerequisite(s):none

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Prerequisite(s): none

Corerequisite(s):none

ENL4100 Creative Writing

Whether for personal or public consumption, many people enjoy writing short fiction to express their creative energy while improving upon their overall writing abilities. Working with professional short stories as models, students examine the stylistic components that contribute to the excitement, atmosphere, and overall readability of short fiction. Students share their work and provide formal feedback on the work of others.

Prerequisite(s): none

Corerequisite(s):none

ENL4100 Creative Writing

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Prerequisite(s): none

Corerequisite(s):none

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Prerequisite(s): none

Corerequisite(s):none

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Prerequisite(s): none

Corerequisite(s):none

ENL4200 New Worlds and Alternative Realities: Speculative Fiction

Speculative fiction gathers together all those works of fiction in which new worlds or alternative realities are envisioned. Within this category of prose, students have the opportunity to explore the various sub-genres that present readers with new ways of thinking about some of the issues that face society. Students also develop skills in critical analysis using a variety of approaches and methodologies from literary studies.

Prerequisite(s): none

Corerequisite(s):none

ENL4200 New Worlds and Alternative Realities: Speculative Fiction

Speculative fiction gathers together all those works of fiction in which new worlds or alternative realities are envisioned. Within this category of prose, students have the opportunity to explore the various sub-genres that present readers with new ways of thinking about some of the issues that face society. Students also develop skills in critical analysis using a variety of approaches and methodologies from literary studies.

Prerequisite(s): none

Corerequisite(s):none

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Prerequisite(s): none

Corerequisite(s):none

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Prerequisite(s): none

Corerequisite(s):none

ENL4300 The Brave New Worlds of Dystopian Fiction

Over the last century, dystopian fiction has become a remarkably popular genre in literature and film, particularly among young adults. Dystopian fiction often features oppressive totalitarian regimes, political dissent, environmental degradation and technological manipulation. In order to understand what a dystopia is, one must first understand what it is not. Through the study of representative works of literature and film, students examine the relationship between dystopic and utopic societies, and discover how dystopian fiction often functions as a creative outlet for authors and filmmakers to express the social, political, cultural, and technological anxieties of contemporary society. Students reflect on issues in the world around them, and develop an appreciation for how these concerns are mirrored in dystopian fiction.

Prerequisite(s): none

Corerequisite(s):none

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Prerequisite(s): none

Corerequisite(s):none

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Prerequisite(s): none

Corerequisite(s):none

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Prerequisite(s): none

Corerequisite(s):none

FLS3101 French as a Second Language-Beginner 1

The French language is an asset when communicating in the workplace. Students with no prior knowledge of French acquire basic forms and structures to interact and communicate in a simple way with French speakers. Class instruction and practice, repeated feedback, and exposure to a variety of language samples support students to gain basic oral expression and comprehension using simple phrases that develop vocabulary, pronunciation, and comprehension. Students begin to appreciate cultural and linguistic differences when French is used in the workplace.

Prerequisite(s): none

Corerequisite(s):none

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Prerequisite(s): none

Corerequisite(s):none

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Prerequisite(s): none

Corerequisite(s):none

FLS3102 French as a Second Language-Beginner 2

The workplace benefits from having professionals with knowledge of the French language. Students with basic knowledge of French gain more control over forms and structures to interact and communicate in a simple way with French speakers. Class instruction and practice, repeated feedback, and exposure to a variety of language samples provide students with opportunities to enhance their basic oral expression and comprehension using simple phrases that further develop

vocabulary, pronunciation, and comprehension. Students deepen their knowledge of cultural and linguistic differences of French in the workplace.

Prerequisite(s): none

Corerequisite(s):none

FLS3102 French as a Second Language-Beginner 2

The workplace benefits from having professionals with knowledge of the French language. Students with basic knowledge of French gain more control over forms and structures to interact and communicate in a simple way with French speakers. Class instruction and practice, repeated feedback, and exposure to a variety of language samples provide students with opportunities to enhance their basic oral expression and comprehension using simple phrases that further develop vocabulary, pronunciation, and comprehension. Students deepen their knowledge of cultural and linguistic differences of French in the workplace.

Prerequisite(s): none

Corerequisite(s):none

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Prerequisite(s): none

Corerequisite(s):none

GED2300 Indigenous Self-Representation in Contemporary Canadian Culture

Historically, Indigenous peoples and their cultures have been dramatically misrepresented and stereotyped in Canadian literature, music, visual arts, film, and television as a result of ongoing attempts to colonize, marginalize, romanticize, and assimilate them. Starting with an historical overview of the oppressive act of misrepresenting, appropriating, and stereotyping Indigenous peoples and their cultures in Canada, students explore how contemporary Indigenous artists have responded to these misrepresentations by subverting, critiquing, challenging, and changing the representations of Indigenous peoples and their cultures in their own artistic works. Significant works of contemporary literature, music, visual arts, film, and television created by contemporary Indigenous artists who give voice to their experiences in Canada serve as the basis for critical analysis and creative reflection on the processes of self-representation and cultural reclamation of Indigenous voices and identity in Canada.

Prerequisite(s): none

Corerequisite(s):none

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Historically, Indigenous peoples and their cultures have been dramatically misrepresented and stereotyped in Canadian literature, music, visual arts, film, and television as a result of ongoing attempts to colonize, marginalize, romanticize, and assimilate them. Starting with an historical overview of the oppressive act of misrepresenting, appropriating, and stereotyping Indigenous peoples and their cultures in Canada, students explore how contemporary Indigenous artists have responded to these misrepresentations by subverting, critiquing, challenging, and changing the representations of Indigenous peoples and their cultures in their own artistic works. Significant works of contemporary literature, music, visual arts, film, and television created by contemporary Indigenous artists who give voice to their experiences in Canada serve as the basis for critical analysis and creative reflection on the processes of self-representation and cultural reclamation of Indigenous voices and identity in Canada.

Prerequisite(s): none

Corerequisite(s):none

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Prerequisite(s): none

Corerequisite(s):none

GEO2300 Principles of Urban Planning

Increasingly cities and communities are feeling the pressure of expansion, and people from all walks of life feel disconnected from the processes, procedures, and decisions that are affecting everyday life. Students consider urban transformation with a focus on practicing sustainability by exploring innovations in land use, transportation, resource planning and economic development, resulting in employment opportunities, as well as healthy and vibrant cities. Students use local and regional activities as a starting point for developing a knowledge base for future social and community involvement. Research projects and assignments encourage students to identify the gaps between theoretical approaches to urban planning and the practical applications as evidenced in their local surroundings.

Prerequisite(s): none

Corerequisite(s):none

GEO2300 Principles of Urban Planning

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Prerequisite(s): none

Corerequisite(s):none

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Prerequisite(s): none

Corerequisite(s):none

GEP1001 Cooperative Education and Job Readiness

Students are guided through a series of activities that prepare them to conduct a professional job search and succeed in the workplace. Through a detailed orientation students learn the cooperative education program policies and procedures related to searching and securing a work term opportunity. Students identify their strengths and transferable skills and participate in workshop-style sessions that focus on cover letter and resume development, interview techniques and job search strategies. Students learn how to navigate a web-based resource centre, which is used to post employment and cooperative education job opportunities. Students reflect on workplace success, ethics and responsibilities.

Prerequisite(s): none

Corerequisite(s):none

GEP2001 Co-Op Job Search 1

Students are guided through a self-directed co-op job search using Algonquin's web-based resource centre, HireAC, as well as independent resources. Students will access information on key job search processes, including Co-op and Career Centre job search procedures and how to declare a self-developed job that meets co-op guidelines. Students will apply and further develop their knowledge on networking, interview techniques and job search strategies to improve their chances of success in securing co-op employment through a competitive job search process. Additional support is provided through individual coaching and group sessions, including job application reviews, mock interviews and assistance for students experiencing unique employment challenges.

Prerequisite(s): none

Corerequisite(s):none

LAN3101 Spanish-Beginner 1

The Spanish language is an asset when communicating in the workplace. Students with no prior knowledge of Spanish acquire basic forms and structures to interact and communicate in a simple way with Spanish speakers. Class instruction and practice, repeated feedback, and exposure to a variety of language samples support students to gain basic oral expression and comprehension using simple phrases that develop vocabulary, pronunciation, and comprehension. Students begin to appreciate cultural and linguistic differences when Spanish is used in the workplace.

Prerequisite(s): none

Corerequisite(s):none

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Prerequisite(s): none

Corerequisite(s):none

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Prerequisite(s): none

Corerequisite(s):none

LAN3102 Spanish-Beginner 2

The workplace benefits from having professionals with knowledge of the Spanish language. Students with basic knowledge of Spanish gain more control over forms and structures to interact and communicate in a simple way with Spanish speakers. Class instruction and practice, repeated feedback, and exposure to a variety of language samples provide students with opportunities to enhance their basic oral expression and comprehension using simple phrases that further develop vocabulary, pronunciation, and comprehension. Students deepen their knowledge of cultural and linguistic differences of Spanish in the workplace.

Prerequisite(s): none

Corerequisite(s):none

LAN3102 Spanish-Beginner 2

The workplace benefits from having professionals with knowledge of the Spanish language. Students with basic knowledge of Spanish gain more control over forms and structures to interact and communicate in a simple way with Spanish speakers. Class instruction and practice, repeated feedback, and exposure to a variety of language samples provide students with opportunities to enhance their basic oral expression and comprehension using simple phrases that further develop vocabulary, pronunciation, and comprehension. Students deepen their knowledge of cultural and linguistic differences of Spanish in the workplace.

Prerequisite(s): none

Corerequisite(s):none

LAN3102 Spanish-Beginner 2

The workplace benefits from having professionals with knowledge of the Spanish language. Students with basic knowledge of Spanish gain more control over forms and structures to interact and communicate in a simple way with Spanish speakers. Class instruction and practice, repeated feedback, and exposure to a variety of language samples provide students with opportunities to enhance their basic oral expression and comprehension using simple phrases that further develop vocabulary, pronunciation, and comprehension. Students deepen their knowledge of cultural and linguistic differences of Spanish in the workplace.

Prerequisite(s): none

Corerequisite(s):none

LAW2014 Law

The reach of the rule of law extends into our lives on a daily basis. As much as it is present in our lives, very few people are aware of the processes, procedures and theories that guide and underpin the development and maintenance of a functional legal system. With attention to key historical figures and events, students explore the scope, jurisdiction, and key concepts of the sub-disciplines within the field of law. Through an introduction to legal arguments and methodologies, students distinguish between various legal systems and wrestle with the difference between law and justice.

Prerequisite(s): none

Corerequisite(s):none

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Prerequisite(s): none
Corerequisite(s):none

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Prerequisite(s): none
Corerequisite(s):none

MAT8003 Mathematics for Programming

The core foundation of all computer science is mathematics. Students examine elementary discrete mathematics for computer science, knowledge that forms the basis of algorithm and data structure efficiency analysis. Emphasis is on mathematical definitions, proofs, and applicable methods. The topics include formal logic notation, boolean logic, simple logic gates, proof methods, induction, well-ordering, sets, relations, elementary graph theory, integer congruences, asymptotic notation and growth of functions, permutations and combinations, counting principles, discrete probability, linear algebra and matrix theory.

Prerequisite(s): none
Corerequisite(s):none

PHI1000 Logic and Critical Thinking

Logic and critical-thinking skills play an important role in both daily life and ongoing academic studies. As foundational skills, they support both the development and assessment of ideas, concepts and courses of action that are presented on a daily basis. Approaching the subject from both a practical and theoretical perspective, students hone their skills in analysis, argumentation, reasoning and persuasion. A range of topics and thinkers provide material with which students can exercise and apply their skills.

Prerequisite(s): none
Corerequisite(s):none

PHI2000 Introduction to Research

Academic research requires students to possess a fundamental knowledge of accepted methodologies and practices. An overview of the research process and tools prepares students to engage in scholarly work. Emphasis is on evaluation, selection and documentation of primary and secondary sources, as well as the development of a research project.

Prerequisite(s): none
Corerequisite(s):none

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Prerequisite(s): none
Corerequisite(s):none

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Academic research requires students to possess a fundamental knowledge of accepted methodologies and practices. An overview of the research process and tools prepares students to engage in scholarly work. Emphasis is on evaluation, selection and documentation of primary and secondary sources, as well as the development of a research project.

Prerequisite(s): none
Corerequisite(s):none

PHI2002 Ethical Decision Making

To avoid potential prosecution, companies and their employees are well-advised to engage in ethical decision-making practices in all business situations. Students examine ethical concepts and principles, compare a variety of ethical decision-making models and utilize these principles and models to make ethically sound decisions in a variety of contexts. Students also design a code of ethics, practice making ethically- based decisions and develop the analytical skills required to recognize, evaluate and resolve ethical dilemmas in the workplace.

Prerequisite(s): PHI1000
Corerequisite(s):none

PHI2002 Ethical Decision Making

To avoid potential prosecution, companies and their employees are well-advised to engage in ethical decision-making practices in all business situations. Students examine ethical concepts and principles, compare a variety of ethical decision-making models and utilize these principles and models to make ethically sound decisions in a variety of contexts. Students also design a code of ethics, practice making ethically- based decisions and develop the analytical skills required to recognize, evaluate and resolve ethical dilemmas in the workplace.

Prerequisite(s): PHI1000
Corerequisite(s):none

PHI2002 Ethical Decision Making

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Prerequisite(s): PHI1000
Corerequisite(s):none

PHI2004 Foundations of Social Science Research: Principles, Methods, and Actions

Fundamental understanding of research process, including knowledge of theoretical principles, methods and considerations for conducting well-grounded research, is an essential skill for practitioners in social fields of study. Through lectures, discussions and in-class activities, students explore the basics of empirical research design, research ethics, data collection, data analysis and dissemination of findings. Particular attention focuses on developing strong analytical and interpretive skills essential in the evaluation of research findings. Students work collaboratively to critically analyze a given research project.

Prerequisite(s): none
Corerequisite(s):none

PHI2004 Foundations of Social Science Research: Principles, Methods, and Actions

Fundamental understanding of research process, including knowledge of theoretical principles, methods and considerations for conducting well-grounded research, is an essential skill for practitioners in social fields of study. Through lectures, discussions and in-class activities, students explore the basics of empirical research design, research ethics, data collection, data analysis and

dissemination of findings. Particular attention focuses on developing strong analytical and interpretive skills essential in the evaluation of research findings. Students work collaboratively to critically analyze a given research project.

Prerequisite(s): none
Corerequisite(s):none

PHI2004 Foundations of Social Science Research: Principles, Methods, and Actions

Fundamental understanding of research process, including knowledge of theoretical principles, methods and considerations for conducting well-grounded research, is an essential skill for practitioners in social fields of study. Through lectures, discussions and in-class activities, students explore the basics of empirical research design, research ethics, data collection, data analysis and dissemination of findings. Particular attention focuses on developing strong analytical and interpretive skills essential in the evaluation of research findings. Students work collaboratively to critically analyze a given research project.

Prerequisite(s): none
Corerequisite(s):none

PHI4000 Philosophy and Popular Culture

Many facets of today's popular culture engage, directly or indirectly, with the concerns of a variety of philosophical traditions. Drawing on a number of examples, students explore both the way popular culture permeates and spreads through society and the way it interprets and presents philosophical questions. Students develop skills and techniques for assessing the soundness and validity of thought experiments.

Prerequisite(s): PHI1000
Corerequisite(s):none

PHI4000 Philosophy and Popular Culture

Many facets of today's popular culture engage, directly or indirectly, with the concerns of a variety of philosophical traditions. Drawing on a number of examples, students explore both the way popular culture permeates and spreads through society and the way it interprets and presents philosophical questions. Students develop skills and techniques for assessing the soundness and validity of thought experiments.

Prerequisite(s): PHI1000
Corerequisite(s):none

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Prerequisite(s): PHI1000
Corerequisite(s):none

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Prerequisite(s): PHI1000
Corerequisite(s):none

PHI4002 The Philosophy of Drugs

Drugs are everywhere: professionals prescribe them to us to make us "better"; we take them recreationally; we give them to our children, pets and other loved ones; we buy them on the streets and in grocery stores. What are "drugs"? Why are some drugs legal and others not? How do drugs get to market? What ethical issues are relevant in a global drug industry? Are current intellectual property regimes appropriate if the goal of drug research is to promote benefits to society? Students critically examine these, and other, questions through the lens of historical and contemporary ethical, philosophical and legal theories and arguments. Students engage in various peer-oriented learning activities throughout the course.

Prerequisite(s): none
Corerequisite(s):none

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Prerequisite(s): none
Corerequisite(s):none

PHI4003 The Philosophy of Love and Sex

Love and sex are central to the human condition, and have been topics of academic inquiry and controversy throughout history. Various practices surrounding love and sex are celebrated in Western culture, such as monogamy and marriage, while other practices, such as polygamy and pedophilia, are condemned. Why is this? Students critically explore these and other issues

surrounding love and sex using examples from popular music, movies and literature, framing those issues with the help of historical and contemporary philosophical theories and arguments. Students engage in various peer-oriented learning activities throughout the course.

Prerequisite(s): none

Corerequisite(s):none

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Prerequisite(s): none

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Prerequisite(s): none

Corerequisite(s):none

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Prerequisite(s): none

Corerequisite(s):none

PHI4004 Technology, Society and the Environment

Environmental issues have come to occupy a central place in the marketplace, politics, policy, and society at large. Owing largely to the many environmental consequences that have accompanied industrialization, we humans have been forced to rethink the complex relationship between technology, society and the environment. Students investigate philosophical concepts and theories surrounding technology, society and the environment including: the "naturalness" of technology, sustainability and animal rights. Students critically examine course material by focusing on questions such as: What is nature, and what role do/should humans occupy in it? What do we owe non-human organisms? What do we owe future generations? Students engage in various peer-oriented learning activities throughout the course.

Prerequisite(s): none

Corerequisite(s):none

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Prerequisite(s): none
Corerequisite(s):none

PHI4100 Survival in the Information Age: Risk and the Media

On an almost daily basis, the media, through its various outlets - television, radio, web sites, RSS, and podcasts - reports on issues that address our wellbeing. Through discussions, readings, and assignments, students enhance their ability to interpret and question information presented by the media by better understanding the inherent risks. Issues like alternative medicine (i.e. vaccinations) and socio-legal issues (i.e. bullying, hacking, surveillance, privacy) provide grounds for students to use principles from the social science as a means to think critically about real and perceived risks in daily life.

Prerequisite(s): PHI1000
Corerequisite(s):none

PHI4100 Survival in the Information Age: Risk and the Media

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Prerequisite(s): PHI1000

Corerequisite(s):none

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Prerequisite(s): PHI1000

Corerequisite(s):none

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Prerequisite(s): PHI1000

Corerequisite(s):none

PHY4000 Black Holes, Big Bangs and the Cosmos

The dynamic and exciting field of Cosmology outlines our current understanding of the Universe from its start, at the so-called Big Bang, through the ensuing 13 plus billion years to the present and beyond. Students learn how to discuss our present understanding of the three phases of the Universe as well as its five part make up, with matter making up only 4% of the whole. Students explain our knowledge of the various phases of evolution of the Cosmos and also the latest theories and experiments that are trying to address our uncertainties. Throughout the course, students evaluate and debate many of today's ideas and concepts revolving around cosmology.

Prerequisite(s): none

Corerequisite(s):none

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Prerequisite(s): none
Corerequisite(s):none

PSI2000 Navigating Canada's Political Landscape

A developed knowledge of government and politics is key to an effective participation in public life. Drawing on current events, students explore the societal, cultural and constitutional context along with the major political parties and institutions that shape the Canadian political landscape. Students develop skills and techniques that allow them to position politicians, parties, and policies, past and present, on the spectrum of political ideology and Canadian political traditions. Working together and individually, students analyze issues from the perspective of various political approaches.

Prerequisite(s): none
Corerequisite(s):none

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Prerequisite(s): none
Corerequisite(s):none

PSY2100 Introductory Psychology

With its applications to behaviour and personality, psychology extends its reach into many aspects of our personal lives. The broad applications of this social science in both an applied and

theoretical context are premised on a number of fundamental principles. Students explore historical breakthroughs that define the current boundaries of the discipline and interact with a number of the foundational concepts that resonate throughout daily life and popular culture. Students develop an introductory knowledge in the various schools of thought within the discipline.

Prerequisite(s): none
Corerequisite(s):none

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Prerequisite(s): none
Corerequisite(s):none

QUA2000 Statistics

Students explore fundamental statistical concepts and use statistical software to summarize, analyze and present both descriptive and inferential statistics. Topics include central tendency, variation, probability, central limit theorem, sampling, estimation, hypothesis testing and simple regression and correlation. These theoretical concepts are explained through practical examples from various sectors. Students develop the required background for further study related to research.

Prerequisite(s): none
Corerequisite(s):none

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Prerequisite(s): none

Corerequisite(s):none

QUA2001 Statistics for the Social Sciences

Professionals in the social sciences evaluate quantitative evidence to make decisions. In this course, students explore descriptive and inferential statistics used in social science research. Descriptive statistics are used to describe the data collected. Inferential statistics are used to determine if the data collected represents a population of interest and whether experimental results are significant and meaningful or simply due to chance. Students develop the skills to determine which statistics should be used with particular data types, analyze fundamental statistical problems, and interpret statistical findings. Individually and in groups, students use statistical software to analyze simulated and actual data sets to answer particular research questions and to report on their findings using standard social science tools. Emphasis is on the development of the critical thinking skills needed to understand and apply statistics for the social sciences.

Prerequisite(s): none

Corerequisite(s):none

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Prerequisite(s): none

Corerequisite(s):none

SCI2000 Environmental Science

Environmental science is an interdisciplinary study of how the earth works, human interaction with the earth and how to address the existing environmental problems. Students explore natural capital and the degradation. Students engage in case studies, critical thinking and analysis of alternatives in exploring solutions and trade-offs in trying to address degradation.

Prerequisite(s): ENL1100 and PHI1000

Corerequisite(s):none

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Prerequisite(s): ENL1100 and PHI1000
Corerequisite(s):none

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Prerequisite(s): ENL1100 and PHI1000
Corerequisite(s):none

SOC2000 Introduction to Sociology

When working with individuals and groups it is important to understand both the background and influences present. Students develop a familiarity with sociological theories and methodological approaches used to study individual and group behaviours. Students also examine variables that include culture, social class, race, and gender and how these variables may impact work with diverse individuals and groups.

Prerequisite(s): ENL1100
Corerequisite(s):none

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Prerequisite(s): ENL1100
Corerequisite(s):none

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Prerequisite(s): ENL1100
Corerequisite(s):none

SOC2001 Anti-Racism: Theory and Practice

Anti-racism is the practice of identifying, challenging, and changing the values, structures, and behaviours that perpetuate systemic racism. Students explore concepts of anti-oppressive practice, anti-racist pedagogy, diversity, and inclusion at the personal, societal, and institutional levels. Students develop an understanding of historical and present-day groups and figures that challenge oppressive structures in Canadian society. Through various learning activities and discussion boards, students will develop the necessary knowledge, attitude, and skills to become an authentic ally within society.

Prerequisite(s): none
Corerequisite(s):none

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Prerequisite(s): none
Corerequisite(s):none

SOC4000 Criminology

The interdisciplinary study of social science examining the individual and social aspects of crime is known as criminology. Students work through an introduction to the social science perspective on crime. Presentations, discussions, and assignments allow students to investigate the various theoretical positions related to crime and criminal behaviour. Working forward from the types and definitions of crime, students trace some of the links between government policy and the impacts of these policies on both society and the individual.

Prerequisite(s): none
Corerequisite(s):none

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Prerequisite(s): none

Corerequisite(s):none

SOC4001 Global Perspectives

Sociology, through its exploration of the organization of society and the connections between people and their surroundings, provides new ways of looking at the world. Using fundamental knowledge in the field of sociology, students analyze globalization and its impact on Canadian society. Students take opposing views to debate the opportunities and challenges that come with globalization.

Prerequisite(s): none

Corerequisite(s):none

SOC4001 Global Perspectives

Sociology, through its exploration of the organization of society and the connections between people and their surroundings, provides new ways of looking at the world. Using fundamental knowledge in the field of sociology, students analyze globalization and its impact on Canadian society. Students take opposing views to debate the opportunities and challenges that come with globalization.

Prerequisite(s): none

Corerequisite(s):none

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Prerequisite(s): none

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Prerequisite(s): none

Corerequisite(s):none

WKT0009 Co-Op I

The first co-op placement provides students with experiential opportunities within the field. Students attain entry-level positions that involve a variety of activities allowing application of

principles and concepts developed during previous study. Students returning from Co-op I bring additional practical considerations to subsequent study. Although centred with public and private organizations located in Eastern Ontario, co-op employment opportunities may be sought throughout Canada and abroad.

Prerequisite(s): CAD8202 and CST8203 and ELN8304

Corerequisite(s):none

WKT0010 Co-Op II

Co-op provides an experiential opportunity which is directly related to the field of study. The second work term centers on an expanded role with a higher level of responsibilities in the workplace. Students returning from co-op work term two contribute expanded knowledge and abilities to their program of study. Although centred with public and private organization located in Eastern Ontario, co-op employment opportunities are sought throughout Canada and abroad.

Prerequisite(s): WKT0009

Corerequisite(s):none