Honours Bachelor of Technology - Software Development (BSD)

Version 14

Published 12/2/2024 by Camille Davis Last updated 5/12/2025 7:31 PM by Mary-Jo Sallu

Program Overview:

This four-year honours bachelor degree will provide you with extensive knowledge and technical skills in software development languages. This program also covers topics in operating systems, web applications, multimedia interfaces, information security, databases, system analysis and design principles. You will also develop communication skills to effectively present technical ideas.

This program features a mandatory work term that helps you understand how to apply theoretical and practical knowledge in the software industry.

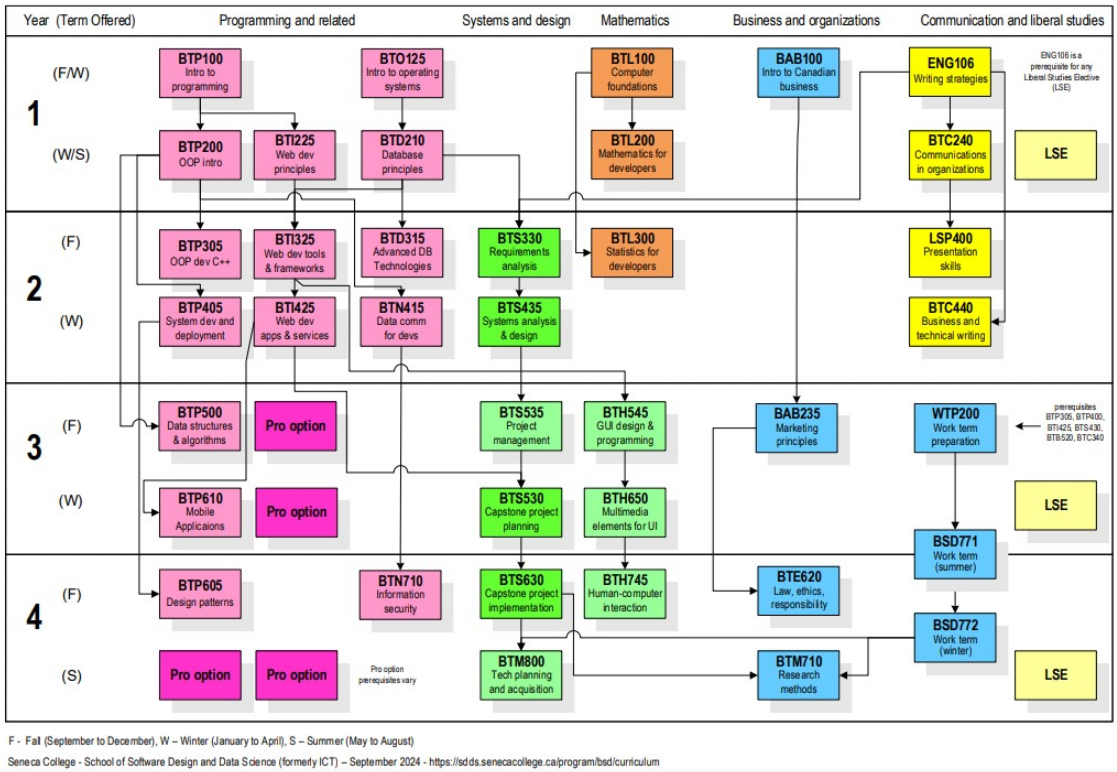
Mandatory Degree Co-op

A work experience that includes at least one term in a formal work environment. In most cases the work term(s) is a paid position that is completed between two academic semesters and requires a minimum of 420 hours of work. Students must be in good standing and meet all identified requirements prior to participating in the work experience. The successful completion of two co-op work terms is required for graduation. Eligibility for participation does not guarantee that a work position will be secured. Additional fees are required for those participating in the mandatory co-op stream regardless of success in securing a work position.

Program Code:	BSD
Credential Awarded:	Honours Bachelor of Technology - Software Development
Campus:	Newnham
Duration:	4 years (8 academic semesters)
Starts in:	January and September

Program Map

Software Development (BSD) Curriculum
Entry Date: September 2024 or later | Effective Date: September 2024



F - Fall (September to December), W – Winter (January to April), S – Summer (May to August)

Seneca College - School of Software Design and Data Science (formerly ICT) – September 2024 - https://sdds.senecacollege.ca/program/bsd/curriculum

Program Curriculum

Honours Bachelor of Technology - Software Development (BSD)

Semester	Course Code	Course Name	Pre-requisite	Delivery Mode	Offered
1	BTP100	Programming Fundamentals Using C	None	In Person	Fall / Winter
1	BTL100	Computer Fundamentals for Developers	None	In Person	
1	BTO125	Introduction to Operating Systems	None	In Person	
1	BAB100	Introdcution to Canadian Business	None	In Person	
1	ENG106	Writing Strategies	None	In Person	
2	BTP200	The Object-Oriented Paradigm Using C++	BTP100	In Person	Winter / Summer
2	BTD210	Database Design Principles	BTO125	In Person	
2	BTI225	Web Programming Principles	BTP100	In Person	
2	BTL200	Mathematics for Developers	BTL100	In Person	
2	BTC240	Interpersonal Communications in Organizations	ENG106	In Person	
2		***Liberal Studies Option*** *(Lower Level)*			
3	BTP305	Object-oriented Software Development Using C++	BTP200	Hybrid	Fall
3	BTD315	Advanced Database Technologies	BTD210	Hybrid	
3	BTI325	Web Programming Tools and Frameworks	BTI225	Hybrid	
3	BTS330	Business Requirements Analysis using OO Models	BTD210 **and** ENG106	Hybrid	
3	LSP400	Presentation Skills	BTC240	Hybrid	
3	BTL300	Statistics for Developers	BTL100	Hybrid	
4	BTP405	System Development and Deployment	BTP200	Hybrid	Winter
4	BTN415	Data Communications Programming	BTP200	Hybrid	
4	BTI425	Web Programming for Apps and Services	BTI325	Hybrid	
4	BTS435	System Analysis and Design(new)	BTS330	Hybrid	
4	BTC440	Business and Technical Writing	ENG106	Hybrid	
5	BTP500	Data Structures and Algorithms	BTP200	Hybrid	Fall
5	BTS535	Software Project Management(new)	BTS435	Hybrid	
5	BTH545	Principles of GUI Design and Programming	BTI325	Hybrid	
5	BAB235	Marketing Principles	BAB100	Hybrid	
5	***WTP200***	***Work Integrated Learning -*** *preparation course*	BAB100, LSP400, BTI425, BTP305	Online	
5		***Professional Option***		Faset Flex	
6	BTP610	Mobile Applications	BTI425	Hybrid	Winter
6	BTS530	Major Project - Planning and Design	BTI425 and BTS535	Hybrid	
6	BTH650	Advanced User Interface Design(new)	BTH545	Hybrid	
6		***Professional Option***		Faset Flex	
6		***Liberal Studies Option*** *(Upper Level)*			
	BSD771	***Work Integrated Learning - work term***			Summer
7	BTN710	Information Security	BTN415	Hybrid	

7	BTE620	Law, Ethics and Social Responsibility	BAB235	Hybrid	
7	BTS630	Major Project - Implementation	BTS530	Hybrid	Fall
7	BTH745	Human-Computer Interaction	BTH645 or BTH650	Hybrid	
7	BTP605	Design Patterns in the Enterprise	BTP405	Hybrid	
	BSD772	***Work Integrated Learning - work term***			Winter
8	BTM710	Research Methods	BTS630 and BSD772	Faset Flex	
8	BTM800	Technology Planning and Acquisition	BTS630 and BSD772	Faset Flex	
8		***Liberal Studies Option*** *(Upper Level)*			Summer
8		***Professional Option***		Faset Flex	
8		***Professional Option***		Faset Flex	

Sep-24

Program

Learning Outcomes:

As a graduate, you will be prepared to reliably demonstrate the ability to:

- Solve problems by designing, coding, testing, and implementing programs using several programming languages, at least one to a professional language-specific standard.
- Develop integrated systems of hardware and software, using current system development methodologies to fulfil the processing needs of a client.
- Use and configure several operating systems in the development and deployment of software at a professional level.
- Develop and deploy Internet-based applications using current technologies to meet client needs.
- Design databases and develop applications that process database contents using a DBMS and various programming languages, to current industry standards.
- Apply data communications, networking, and security concepts to the development of multi-site, multi-user systems, following relevant industry standards.
- Use effective written, oral, and visual communication skills to communicate with technical and non-technical audiences, at levels appropriate for a variety of business settings.
- Apply project management theory and techniques to the development of automated systems, using a basic understanding of business principles and practices.
- Work effectively and cooperatively as a team member in different roles and settings using appropriate technical and interpersonal skills, in the development of automated systems.
- Continue the life-long learning process of acquiring new skills and knowledge through formal and self-directed means using information and learning resources.
- Incorporate knowledge of organizational structure, management functions, business objects, and established practices in the design of business systems and software, including strategic planning and corporate objectives, administrative processes, human resources, accounting, marketing, and e-business.

Master Pathway Options

Master of Science in Information Security and Digital Forensics, Niagara University

Related Programs

Computer Programming & Analysis

Honours Bachelor of Commerce – Business Technology Management

Honours Bachelor of Information Technology – Cybersecurity

To learn more about the program, please visit the school's page. School of Computer Programming & Analysis

tags : bsd, degree, scpa