

BSD: Honours Bachelor of Technology – Software Development

Version 66

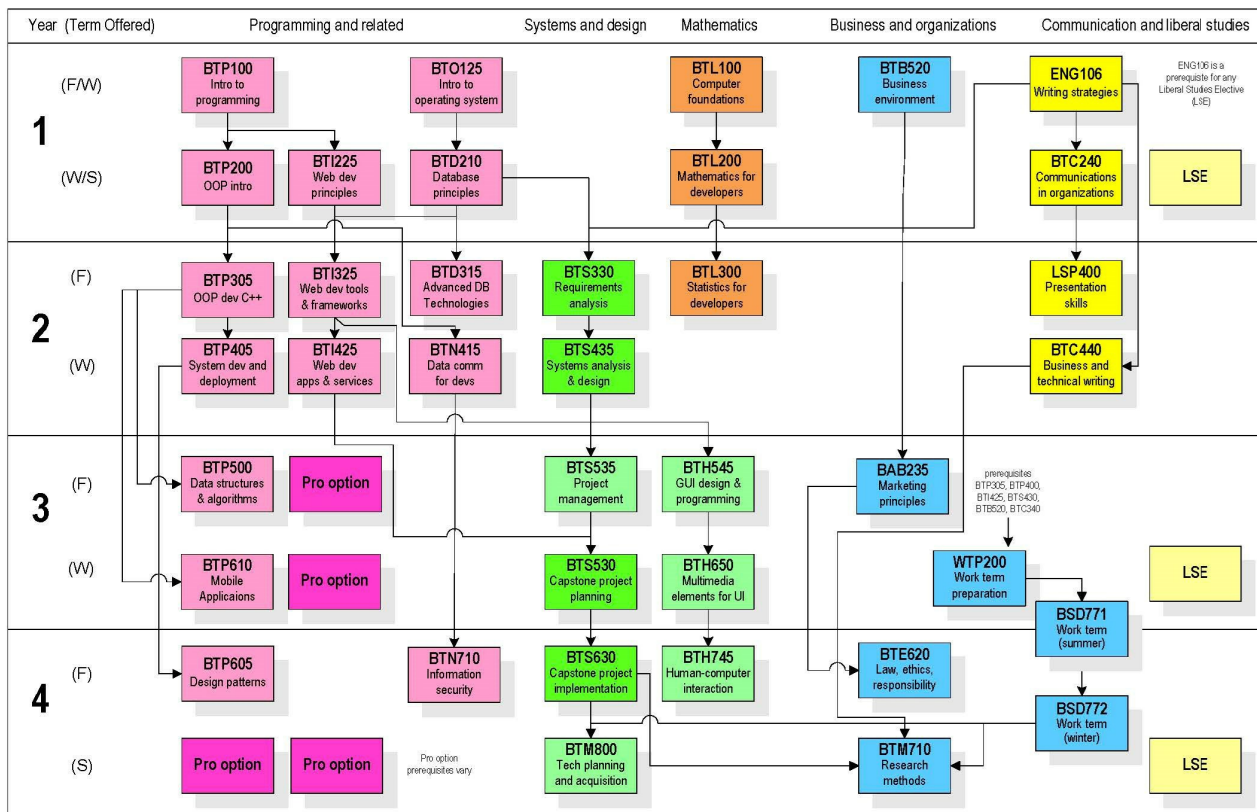
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Program Code:	BSD
Credential Awarded:	Honours Bachelor of Technology (Software Development)
Campus:	Newnham
Duration:	4 years (8 academic semesters)
Starts In:	January and September

Program Map

Software Development (BSD) Curriculum

Entry Date: September 2023 or later | Effective Date: September 2023



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) - February 2023 - <https://sdds.senecacollege.ca/program/bsd/curriculum>

Program Curriculum

Honours Bachelor of Technology - Software Development - BSD - 23-24

Semester 1 (Fall/Winter)		
Course Code	Course Name	Pre-requisite
BTP100	Programming Fundamentals Using C	None
BTL100	Computer Fundamentals for Developers(new)	None
BTO120	Operating Systems for Programmers - UNIX	None
BTB520	Business Environment	None
ENG106	Writing Strategies	None

Semester 2 (Winter/Summer)		
Course Code	Course Name	Pre-requisite
BTP200	The Object-Oriented Paradigm Using C++	BTP100
BTD210	Database Design Principles	BTO120

BTI225	Web Programming Principles	BTP100
BTL200	Mathematics for Developers (new)	BTL100
BTC240	Interpersonal Communications in Organizations	ENG106
	Liberal Studies Option (Lower Level)	N/A

Semester 3 (Fall)		
Course Code	Course Name	Pre-requisite
BTP305	Object-oriented Software Development Using C++	BTP200
BTD315	Advanced Database Technologies	BTD210
BTI325	Web Programming Tools and Frameworks	BTI225
BTS330	Business Requirements Analysis using OO Models	BTD210 and ENG106
LSP400	Presentation Skills	BTC240
BTL300	Statistics for Developers	BTL200

Semester 4 (Winter)		
Course Code	Course Name	Pre-requisite
BTP405	System Development and Deployment(new)	BTP305
BTN415	Data Communications Programming	BTP200
BTI425	Web Programming for Apps and Services	BTI325
BTS435	System Analysis and Design(new)	BTS330
BTC440	Business and Technical Writing	LSP400

Semester 5 (Fall)		
Course Code	Course Name	Pre-requisite
BTP500	Data Structures and Algorithms	BTP305
BTS535	Software Project Management(new)	BTS435
BTH545	Principles of GUI Design and Programming	BTI325
BAB235	Marketing Principles	BTB520
	Professional Option	N/A

Semester 6 (Winter)		
Course Code	Course Name	Pre-requisite
BTP610	Mobile Applications	BTI425
BTS530	Major Project - Planning and Design	BTI425 and BTS535
BTH650	Advanced User Interface Design(new)	BTH545
	Professional Option	N/A
	Liberal Studies Option (Upper Level)	N/A
WTP200	Work Integrated Learning - pre work term preparation	N/A

Summer Work Term		
Course Code	Course Name	Pre-requisite
BSD771	Work Integrated Learning - work term	N/A

Semester 7 (Fall)		
Course Code	Course Name	Pre-requisite
BTN710	Information Security	BTN415
BTE620	Law, Ethics and Social Responsibility	BAB235
BTS630	Major Project - Implementation	BTS530
BTH745	Human-Computer Interaction	BTH645 or BTH650
BTP605	Design Patterns in the Enterprise	BTP405

Winter Work Term		
Course Code	Course Name	Pre-requisite
BSD772	Work Integrated Learning - work term	N/A

Semester 8 (Summer)		
Course Code	Course Name	Pre-requisite
BTM710	Research Methods	BTS630 and BSD772
BTM800	Technology Planning and Acquisition	BTS630 and BSD772
	Liberal Studies Option (Upper Level)	N/A
	Professional Option	N/A
	Professional Option	N/A

Pro-Options		
Course Code	Course Name	Pre-requisite
DPI912	Sockets and Security: Python for Programmers	BTP305 and BTN415
DPS909	Topics in Open Source Development	BTP405 and BTI325
DPS911	Open Source Project	DPS909
DPS912	UNIX Systems Programming	BTP305
DPS941	Mobile Robotics Software Design	BTP305 and BTN415
DPS918	UNIX Bash Shell Scripting	BTI325
DPS920	Computer Vision	BTP500

DPS921	Parallel Algorithms and Programming Techniques	BTP305
DPS923	Mobile App Development - iOS	BTP305
DPS924	Mobile App Development - Android	BTP305
DPS926	Mobile App Development - Cross Platform	BTP305
DPS931	Game Engine Foundations	BTP305
DPS932	Game Engine Techniques	DPS931
DPS936	Game Content Creation	BTP305
DPS937	Game Development Fundamentals	BTP305
BDA420	High Performance Computing	BTD315
SEA100	Explorations of Artificial Intelligence	
BTM700	Emergent Technologies	
DPS955	Cloud Computing for Programmers	BTI425
DPS970	AI for Software Developers	BTL300

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.

Further Information About This Program from Seneca's Website

Pathways

tags : bsd, degree, sdds