

# SOFTWARE DEVELOPMENT (AAS)

(93 credits)

## Program Description

If you like working with technology, experimenting, and inventing creative solutions to complicated problems, software development may be the career path for you. At SPSCC, you'll be a part of a program developed with input from hiring managers and former students. Information technology is one of the strongest industries in the Puget Sound. You'll learn the skills that help you get the employment you need, all at a fraction of the cost of a programming "boot camp" or private institution.

We focus on the technologies demanded by local industries and government agencies, rather than abstract or theoretical teaching approaches. Employers recognize our students for having a solid foundation in both procedural and declarative programming, and for working on business support activities. In addition to technical skills, you will learn critical thinking and collaboration to understand the roles of developers and quickly move into the workplace as an effective employee.

The AAS in Software Development is for students interested in designing, building, and supporting software solutions to business problems. The degree covers local and web-based applications, as well as basic cloud-based deployment in languages like C# and JavaScript. This includes fundamental skills for working with web sites, database connectivity, and cybersecurity concepts. Students create a foundation for further training and will be able to use industry standard tools to gather and convey information.

Typical duties include some or all of the following: analysis of business needs and problems, design and/or coding of software solutions, application of industry standard tools and techniques for software development, and keeping businesses informed of current cybersecurity issues and alerts.

## Career Opportunities

Career opportunities typically begin as a computer programmer or web developer with possible future promotion to systems analyst and software engineer. Software development is a field with good opportunities for qualified persons in both government and private business.

- Software Developer
- Software Quality Assurance Analyst and Tester
- Web and Digital Interface Designer

## Outcomes

South Puget Sound Community College believes that all students need to develop a broad range of abilities that will not only make them more effective in their professional pursuits but will enhance their capacity to relate well to others in their daily lives.

After completing the Software Development program, the successful student will be able to:

- Plan, create, modify, and debug software solutions to problems using industry standard tools
- Present technical information to diverse audiences both orally and in writing
- Evaluate and apply technical information from a variety of sources
- Collaborate with diverse groups and individuals
- Describe information technology's role within an organization
- Explain general principles of the software development process
- Identify basic cybersecurity concepts
- Evaluate quantitative and symbolic data in translating user and organization needs into applications

The SPSCC college-wide abilities are embedded into each program:

- Effective Communication
- Information Literacy
- Analytical Reasoning
- Multicultural Awareness
- Social Responsibility

## Courses by Quarter

Students who place into precollege math should take AMATH 097 in quarter two to be ready for CIS 145 and 160. Students who place directly into MATH& 146 or PHIL& 120 and take it in quarter 2 will not need AMATH 097.

## Courses by Quarter

Code	Title	Credits
<b>Option 1: Fall Start</b>		
<b>Quarter 1</b>		
Transition Studies		
<b>Quarter 2</b>		
CCS 101	Pathways to Success	3
ENGL 090	Integrated Reading and Writing I	5
or ENGL 095	Integrated Reading and Writing II	
MATH 092	Mathematical Reasoning	5
or ABE 065	Contextualized Math II	
<b>Quarter 3</b>		
CIS 110	Programming Fundamentals	5
ENGL 098	Transitional English Composition	5
or ENGL& 101	English Composition I	
CMATH 146	Clippers Introduction to Statistics	7
<b>Quarter 4</b>		
CIS 160	Desktop Application Development	5
CIS 182	SQL Fundamentals	5
Select one of the following:		5
CMST& 210	Interpersonal Communication: Diversity	
CMST& 240	Intercultural Communication: Diversity	
PSYC 116	Psychology of Human Relations: Diversity	
<b>Quarter 5</b>		
CIS 166	Programming Business Objects	5
CIS 282	SQL Programming	5

CIS 195	Introduction to Cloud Computing	5
<b>Quarter 6</b>		
CIS 169	Requirements Analysis	5
CIS 185	HTML, CSS, Javascript	5
CIS 218	Powershell, Cybersecurity, Ethics	5
<b>Quarter 7</b>		
CIS 235	Rich Internet Applications	5
CIS 266	Introduction to Business Applications	5
CIS 287	Mobile Application Development	5
<b>Quarter 8</b>		
CIS 245	Business Information Systems	5
CIS 269	Software Maintenance	5
CIS 284	Web Application Development	5

**Code Title Credits**

**Option 2: Winter Start**

<b>Quarter 1</b>		
Transition Studies		
<b>Quarter 2</b>		
CCS 101	Pathways to Success	3
ENGL 090 or ENGL 095	Integrated Reading and Writing I Integrated Reading and Writing II	5
MATH 092 or ABE 065	Mathematical Reasoning Contextualized Math II	5
<b>Quarter 3</b>		
CIS 110	Programming Fundamentals	5
ENGL 098 or ENGL& 101	Transitional English Composition English Composition I	5
CMATH 146	Clippers Introduction to Statistics	7
<b>Quarter 4</b>		
CIS 160	Desktop Application Development	5
CIS 182	SQL Fundamentals	5
CIS 195	Introduction to Cloud Computing	5
<b>Quarter 5</b>		
CIS 166	Programming Business Objects	5
CIS 282	SQL Programming	5
CIS 185	HTML, CSS, Javascript	5
<b>Quarter 6</b>		
CIS 235	Rich Internet Applications	5
CIS 266	Introduction to Business Applications	5
CIS 287	Mobile Application Development	5
<b>Quarter 7</b>		
CIS 245	Business Information Systems	5
CIS 269	Software Maintenance	5
CIS 284	Web Application Development	5
<b>Quarter 8</b>		
CIS 169	Requirements Analysis	5
CIS 218	Powershell, Cybersecurity, Ethics	5
Select one of the following: 5		
CMST& 210	Interpersonal Communication: Diversity	
CMST& 240	Intercultural Communication: Diversity	
PSYC 116	Psychology of Human Relations: Diversity	

<sup>1</sup> Some students may place directly into MATH& 146  
 \* For 2024-2025, courses are on a modified schedule while we switch completely over to teaching the new course sequence. For 2024-2025 only, the following courses are offered: CIS 166 Spring only, CIS 185 Summer only, CIS 282 Spring only, CIS 169 Winter only, CIS 287 Spring only.

## Pathway Maps

South Puget Sound Community College has provided pathways and associated recommended courses for ease of student selection based upon a student's career interest. Please review the pathway maps for required and recommended courses.

**Software Development Pathway Map: Fall Start**  
Associate in Applied Science  
93 Credits

Qtr: 1	Qtr: 2	Qtr: 3	Qtr: 4	Qtr: 5	Qtr: 6	Qtr: 7	Qtr: 8	
Transition Studies	CIS 105 (Scr) Pathways to Success	CIS 110 (Scr) Programming Fundamentals Fall and Winter	CIS 160 (Scr) Desktop Application Development Winter and Spring	CIS 182 (Scr) SQL Fundamentals Winter and Spring	CIS 166 (Scr) Programming Business Objects Spring and Fall*	CIS 185 (Scr) HTML, CSS, Javascript Fall only	CIS 235 (Scr) Rich Internet Applications Winter only	CIS 245 (Scr) Business Information Systems Spring only
	ENGL 090 (Scr) Integrated Reading and Writing I ENGL 095 (Scr) Integrated Reading and Writing II	ENGL 098 (Scr) Transitional English Composition ENGL 101 (Scr) English Composition I		CIS 282 (Scr) SQL Programming Spring and Fall*	CIS 185 (Scr) HTML, CSS, Javascript Fall only*	CIS 266 (Scr) Introduction to Business Applications Winter only	CIS 287 (Scr) Mobile Application Development Spring only	
	Choose one (Scr) MATH 092 (Scr) Mathematical Reasoning or ABE 065 (Scr) Contextualized Math II	CMATH 146 (7cr) CLIPPERS Introduction to Probability and Statistics* Includes ability to complete: MATH 095 MATH 096 MATH& 146 *Some students may place directly into MATH& 146	Choose One (Scr): Human Relations/Diversity, Recommended CMST& 210 Interpersonal Communication: Diversity CMST 240 Intercultural Communication: Diversity PSYC 116 Psychology of Human Relations: Diversity	CIS 195 (Scr) Intro to Cloud Computing Spring only	CIS 218 (Scr) PowerShell, Cybersecurity, Ethics Fall only	CIS 287 (Scr) Mobile Application Development Winter only	CIS 284 (Scr) Web Application Development Spring only	

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**Software Development Pathway Map: Winter Start**  
Associate in Applied Science  
93 Credits

Qtr: 1	Qtr: 2	Qtr: 3	Qtr: 4	Qtr: 5	Qtr: 6	Qtr: 7	Qtr: 8
Transition Studies	CIS 105 (Scr) Pathways to Success	CIS 110 (Scr) Programming Fundamentals Fall and Winter	CIS 160 (Scr) Desktop Application Development Winter and Spring	CIS 186 (Scr) Programming Business Objects Spring and Fall*	CIS 235 (Scr) Rich Internet Applications Winter only	CIS 245 (Scr) Business Information Systems Spring only	CIS 169 (Scr) Requirements Analysis Fall only
	ENGL 090 (Scr) Integrated Reading and Writing I ENGL 095 (Scr) Integrated Reading and Writing II	ENGL 098 (Scr) Transitional English Composition ENGL 101 (Scr) English Composition I	CIS 182 (Scr) SQL Fundamentals Winter and Spring	CIS 282 (Scr) SQL Programming Spring and Fall*	CIS 266 (Scr) Introduction to Business Applications Winter only	CIS 269 (Scr) Software Maintenance Spring only	CIS 218 (Scr) PowerShell, Cybersecurity, Ethics Fall only
	Choose one (Scr) MATH 092 (Scr) Mathematical Reasoning or ABE 065 (Scr) Contextualized Math II	CMATH 146 (7cr) CLIPPERS Introduction to Probability and Statistics* Includes ability to complete: MATH 095 MATH 096 MATH& 146 *Some students may place directly into MATH& 146	CIS 195 (Scr) Intro to Cloud Computing Spring only	CIS 185 (Scr) HTML, CSS, Javascript Fall only*	CIS 287 (Scr) Mobile Application Development Winter only	CIS 284 (Scr) Web Application Development Spring only	Choose One (Scr): Human Relations/Diversity, Recommended CMST& 210 Interpersonal Communication: Diversity CMST 240 Intercultural Communication: Diversity PSYC 116 Psychology of Human Relations: Diversity

\* For 2024-2025, courses are on a modified schedule while we switch completely over to teaching the new course sequence. For 2024-2025 only, the following courses are offered: CIS 166 Spring only, CIS 185 Summer only, CIS 282 Spring only, CIS 169 Winter only, CIS 287 Spring only.