

## Bachelor of Applied Science Degree (BAS) APPLICATION DEVELOPMENT

### Program Planning Sheet (Scope & Sequence)

The BAS in Application Development is a degree is designed to prepare students for entry-level positions in software development careers by providing industry-relevant applied education in application development. Instruction focuses on current industry trends including web, cloud and mobile applications, as well as industry practices such as Agile and collaborative development. A strong emphasis on industry-based projects throughout the program will prepare graduates to meet current and future industry needs and emerging software trends.

#### Prerequisites for Admission:

- **Applicants must have an associate's degree (or equivalent credits) from a regionally accredited institution with a minimum cumulative 2.5 GPA and a 2.5 GPA or higher in all IT courses. Any General Education Requirements taken as part of the associate degree can be transferred in to the requirements below.**
- **The following courses are prerequisites (equivalent courses may be substituted):**

Example Course Numbers			PREREQUISITES	CREDIT HOURS
North	Central	South	PREREQUISITES – IT Courses:	
IT 102, IT 115, IT 162, CSC 110, CSC 142	CSC 110, CSC 142, ITC 110, ITC 115, ITC 172, or ITC 240	CSC 110, CSC 142, CTN 131	<b>Programming:</b> - 5 credits of Object-oriented programming strongly recommended	10
IT 125	ITC 220 or ITC 222	CTN 121	<b>Database Development / Programming in SQL.</b>	5
IT 111	WEB 110 or ITC 240	CTN 160	<b>Web programming / development</b>	5
			<b>PREREQUISITE – Gen Ed:</b>	
College Level Mathematics	College Level Mathematics	College Level Mathematics	<b>Quantitative/Symbolic Reasoning (QSR)</b> - College Level Mathematics	5
English / Communication Courses	English / Communication Courses	English / Communication Courses	<b>Communication Skills</b> - ENGL& 101	5

COURSE NUMBER	GENERAL EDUCATION/RELATED INSTRUCTION REQUIREMENTS (60 CREDITS MINIMUM)	LECTURE HOURS	LAB HOURS	CREDIT HOURS
	<b>**Typically 15 or more of the following credits must be completed before beginning AD-BAS degree**</b>			
	<b>Prerequisite Courses</b> - Communication skills (ENGL& 101) - College Level Mathematics	110		10
English / Communication Courses	<b>Communication Skills</b> - 5 credits in a composition, writing-intensive, or basic speaking skills course.	55		5
Any physical, biological, or earth sciences	<b>The Natural World</b> - At least one 5 credit lab class required. See list on page 4 for acceptable courses	Varies	Varies	10
Humanities	<b>Visual, Literary, and Performing Arts</b> - See list on page 4 for acceptable course ideas	110		10
Social Sciences	<b>Individuals, Cultures, and Societies</b> - See list on page 4 for acceptable course ideas	110		10
Other General Education Credits	<b>Gen Ed Courses suited for AD-BAS Degree:</b> - credits may be selected to best suit the needs of the baccalaureate program	165		15
<b>TOTAL</b>				<b>60</b>

COURSE NUMBER	DEGREE/CERTIFICATE REQUIREMENTS (CREDITS)	LECTURE HOURS	LAB HOURS	CREDIT HOURS
AD 300	- Component Software or CSC 143	55		5
AD 310	- Software Lifecycle	55		5
AD 315	- Discrete Mathematics	55		5
AD 320	- Web Application Development	55		5
AD 325	- Data Structures and Algorithms	55		5
AD 330	- Professional Communication in IT	55		5
AD 340	- Mobile Application Development	55		5
AD 350	- Relational Database Technology	55		5
AD 400	- Project Management in Software Development	55		5
AD 410	- Web Application Practicum		165	5
AD 420	- Cloud Computing – Software as a Service	55		5
AD 430	- Mobile Application Practicum		165	5
AD 440	- Cloud Computing Practicum		165	5
AD 490	- Internship – or – Capstone		275	5
<b>TOTAL</b>				<b>70</b>

COURSE NUMBER	ELECTIVES (CREDITS)	LECTURE HOURS	LAB HOURS	CREDIT HOURS
Varies	Includes any credits taken towards the associate degree and/or technology prerequisites	varies	varies	<b>50</b>
<b>TOTAL CREDITS FOR DEGREE</b>				<b>180</b>

**Suggested Sequence for the Full-Time Student:**

<i>Fall, year 1</i>	<i>Winter, Year 1</i>	<i>Spring, Year 1</i>
<b>Component Software (5) – AD 300 Or Programming II (5) – CSC 143</b> Prereq: Program entry	<b>Data Structures and Algorithms (5) – AD 325</b> Prereq: AD 300 or CSC 143	<b>Mobile Application Development (5) – AD 340</b> Prereqs : AD 320 & AD 325
<b>Software Lifecycle (5) – AD 310</b> Prereq: Program entry	<b>Relational Database Technology (5) – AD 350</b> Prereq: Program entry	<b>Web Applications Practicum (5) – AD 410</b> Prereqs: AD 320 & AD 310
<b>Gen Ed (5)</b>	<b>Web Application Development (5) – AD 320</b> Prereq: Program entry	<b>Discrete Mathematics (5) – AD 315</b> Prereq: Program entry
<i>Fall, Year 2</i>	<i>Winter, Year 2</i>	<i>Spring, Year 2</i>
<b>Cloud Computing – Software as a Service (5) – AD 420</b> Prereqs: AD 320, AD 325 & AD 350	<b>Professional Communication in IT (5) – AD 330</b> Prereq: Program entry	<b>Internship – or – Capstone (5) – AD 490</b> Faculty permission
<b>Mobile Application Practicum (5) – AD 430</b> Prereqs: AD 340, AD 320 & AD 310	<b>Cloud Computing Practicum (5) – AD 440</b> Prereqs: AD 420, AD 320 & AD 310	<b>Project Management in Software Development – AD 400</b> Prereq: Completed at least one practicum
<b>Gen Ed (5)</b>	<b>Gen Ed (5)</b>	<b>Gen Ed (5)</b>

**Potential Sequence for the Part-Time Student:**

<i>Fall, year 1</i>	<i>Winter, Year 1</i>	<i>Spring, Year 1</i>
<b>Component Software (5) – AD 300 Or Programming II (5) – CSC 143</b> Prereq: Program entry	<b>Web Application Development (5) – AD 320</b> Prereq: Program entry	<b>Web Applications Practicum (5) – AD 410</b> Prereqs: AD 320 & AD 310
<b>Software Lifecycle (5) – AD 310</b> Prereq: Program entry	<b>Data Structures and Algorithms (5) – AD 325</b> Prereq: AD 300 or CSC 143	<b>Gen Ed (5)</b>
<i>Fall, Year 2</i>	<i>Winter, Year 2</i>	<i>Spring, Year 2</i>
<b>Cloud Computing – Software as a Service (5) – AD 420</b> Prereqs: AD 320, AD 325 & AD 350	<b>Cloud Computing Practicum (5) – AD 440</b> Prereqs: AD 420, AD 320 & AD 310	<b>Mobile Application Development (5) – AD 340</b> Prereqs : AD 320 & AD 325
<b>Gen Ed (5)</b>	<b>Relational Database Technology (5) – AD 350</b> Prereq: Program entry	<b>Discrete Mathematics (5) – AD 315</b> Prereq: Program entry

<i>Fall, year 3</i>	<i>Winter, Year 3</i>	<i>Spring, Year 3</i>
<b>Mobile Application Practicum (5) – AD 430</b> Prereqs: AD 340, AD 320 & AD 310	<b>Professional Communication in IT (5) – AD 330</b> Prereq: Program entry Prereq: Program entry	<b>Internship – or – Capstone (5) – AD 490</b> Faculty permission
<b>Gen Ed (5)</b>	<b>Gen Ed (5)</b>	<b>Project Management in Software Development – AD 400</b> Prereq: Completed at least one practicum

# Areas of Knowledge Distribution Requirements for BAS degree

## VISUAL, LITERARY, AND PERFORMING ARTS (Humanities and Arts) 10 CREDITS

Art: ART &100, 101\*, 102\*, 103\*, 104, 105, 110\*, 111\*, 112\*, 113\*, 114\*, 115,\* 121\*, 122\*, 123\*, 163, 166\*, 170, 201\*, 202\*, 203\*, 205\*, 206\*, 207\*, 210\*, 211\*, 212\*, 213\*, 214\*, 215\*, 216\*, 217\*, 221\*, 222\*, 223\*, 251, 252, 253, 254, 255, 281\*, 282\*, 283\*, 284\*, 285\*, 290, 291  
 American Sign Language: ASL &121, &122, &123, 210, &221, &222, &223  
 Chinese: CHIN &121, &122, &123, &221, &222, &223  
 Communication: CMST &101, &102, 115, 145, 155, 175, 185, 195, 205, &210, 215, &220, &230, 235, 245, 255, 265, 275, 285, 295  
 Drama: DRMA &101, 103, 105, 108\*, 109\*, 110\*, 112, 114\*, 116\*, 120\*, 121\*, 122\*, 123\*, 131, 182\*, 204\*, 205\*, 206\*, 221\*, 222\*, 223\*, 284, 285, 286  
 English: ENGL 104, 109, &111, &112, &113, &114, 117, 151, 152, 153, 201, 204, 205, 214, 218, 219, &224, &225, &226, &227, &228, 231, 232, 233, &235, 240, 241, &244, &245, &246, 251, 252, 253, &254, &256, 257, 258, 259, 260, 263, 265, 266, 267, 270, 291, 292, 293

French: FRCH &121, &122, &123, 204, 205, 206, 212, &221, &222, &223, 231, 232, 233  
 German: GERM &121, &122, &123  
 Humanities: HUM 104, 105, 110, 115, &116, &117, &118, 120, 125, 130, 135, 140, 150, 160, 200, 210, 234, 261, 270  
 Italian: ITAL 121, 122, 123  
 Japanese: JAPN &121, &122, &123, &221, &222, &223  
 Journalism: JRN 101, 102, 103  
 Linguistics: LAN 101, 110  
 Literature: LIT 236, 238  
 Music: MUSC 100, &105, 106, 109, 110, 113, 116, 117, 119\*, 120\*, 125, 126\*, 127\*, 128\*, 130\*, 134 - 140\*, &141, &142, &143, 144\*, 145\*, 146\*, 147\*, 148\*, 150\*, 151\*, 156\*, 157\*, 158\*, 160, 161, 163, 164\*, 165\*, 166\*, 171\*, 172\*, 173\*, 182\*, 185, 204, 205, 213, 221\*, 222\*, 223\*, &231, &232, &233  
 Russian: RUSS &121, &122, &123  
 Spanish: SPA &121, &122, &123, &221, &222, &223, 236, 238  
 Vietnamese: VIET &121, &122, &123

## INDIVIDUALS, CULTURES, AND SOCIETIES (Social Sciences) 10 CREDITS

American Ethnic Studies: AME 150, 151, 160, 201  
 Anthropology: ANTH &100, &106, 113, &125, 130, 135, 201, &206, &210, 211, 212, 213, &216, &227, &228, 275  
 American Sign Language: ASL 120, 125  
 Biology: BIOL 150  
 Economics: ECON 100, 102, &201, &202, 240  
 Environmental Science: ENV 150, 160, 170, 200, 202, 206, 208, 214, 294  
 Environmental Science: ENV5 &101  
 Geography: GEOG 100&, 155, 200&, 205, 207, 230, 260  
 History: HIST 105, 106, 108, 120, &126, &127, &128, 131, &136, &137, 138, 140, 145, &146, &147, &148, 150, 191, 200, 208, 210, 211, 212, &214, &219, 221, 230, 241, 242, 251, 268, 269, 273  
 International Studies: ISP 101, 105, 110, 120, 160, 170, 201, 205, 210, 220, 234, 251, 255, 260, 261, 270

Philosophy: PHIL &101, 102, 110, 111, 118, 160, 215, 220, 240, 245, 250, 255, 267  
 Political Science: POLS &101, 111, 112, 170, &200, &202, &203, 205, 206, 213, 220, 255  
 Psychology: PSYC &100, 120, &200, 205, 207, 209, 210, 217, &220, 230, 235, 245, 250, 255, 257, 294  
 Religion: REL 150, 151  
 Sociology: SOC &101, 102, 105, 106, 107, 120, 130, 150, 170, &201, 220, 230, 245, 250, 253, 265, 275, 280  
 Social Science: SSC 101, 103, 187  
 Social Welfare: SWF 200  
 Women's Studies: WMN 140, 200, 205, 213, 257

## THE NATURAL WORLD (Natural and Physical Sciences) 10 CREDITS

You are required to complete 10 credits. At least five credits in physical, biological and/or earth sciences; five credits must be in a lab science (\*asterisked below).

Anatomy & Physiology: BIOL 128\*, &241\*, &242\*  
 Astronomy: ASTR &100, 102, 104, &110\*, 201  
 Biology: BIOL &100\*, 102\*, 106\*, 107\*, 109, 120\*, 125\*, 130\*, 150, &160\*, 161\*, 195, 196, &211\*, &212\*, &213\*, 228\*, 229\*, 239\*, &260\*, 282\*, 285\*, 286\*, 287\*, 290, SPS 201\*  
 Botany: BOT 110\*, 112\*, 113\*  
 Chemistry: CHEM 106\*, &110\*, &121\*, &122\*, &123\*, &131\*, &139, &161\*, &162\*, &163\*, 191\*, 192\*, 211\*, &241, &242, &243, &251\*, &252\*, 255, 256  
 Environmental Science: ENV 150, 160, 170, 201, 202\*, 203, 204\*, 205, 206\*, 208, 216\*, 221, ENV5 &101\*

Geology: GEOL &101\*, &103\*, 104, 105\*, 106, 108\*, &110\*, 111\*, &115\*, 118\*, 202\*, 207\*, &208\*  
 Health: HEA 125, 150, 160, 225, 228  
 Meteorology: MEY 100  
 Material Science: MSC 101  
 Nanotechnology: NANO 101\*  
 Nutrition: NTR 105\*, 150, 155  
 Oceanography: OCEA 100, &101\*  
 Physics: PHYS &100, 107\*, &114\*, &115\*, &116\*, &221\*, &222\*, &223\* Science: SCI 100, 101\*, 104, 107\*110\*, 111\*, 112\*, 113\*, 114\*, 115\*, 116\*, 117\*, 118\*, 119\*, 121\*, 129\*, 131\*  
 Sustainability: SUST 101

**Courses with “&” are associated with a new statewide common course numbering system.  
 Visit [www.seattlecolleges.edu/commoncoursenumbering/](http://www.seattlecolleges.edu/commoncoursenumbering/) for more information.**

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