

Bachelor of Applied Science Degree (BAS) APPLICATION DEVELOPMENT

Program Planning Sheet (Scope & Sequence)

The BAS in Application Development is a degree 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, data science 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	PREREQUISITE – IT Courses:	
CSC 110, CSC 142 IT 102, IT 161	CSC 110, CSC 142, IT 111, IT 211 IT 121, IT 122, IT 221 IT 161, IT 162, IT 163	CSC 110, CSC 142	Programming	10
IT 125	IT 120, IT 222, IT 223	N/A	Database Development / Programming in SQL	5
			PREREQUISITE – Gen Ed:	
Quantitative/Symbolic Reasoning Course	Quantitative/Symbolic Reasoning Course	Quantitative/Symbolic Reasoning Course	Quantitative/Symbolic Reasoning (QSR) - Statistics or Pre-Calculus Recommended	5
English / Communication Courses	English / Communication Courses	English / Communication Courses	Communication Skills - ENGL& 101	5

COURSE NUMBER	GENERAL EDUCATION/RELATED INSTRUCTION REQUIREMENTS (45 CREDITS MINIMUM)	LECTURE HOURS	LAB HOURS	CREDIT HOURS
	Typically 15 or more of the following credits must be completed before beginning AD-BAS degree			
	Prerequisite Courses <ul style="list-style-type: none"> - Communication skills (ENGL& 101) - Quantitative Symbolic Reasoning Course 	110		10
English / Communication Courses	Communication Skills <ul style="list-style-type: none"> - 5 credits in a composition, writing-intensive, or basic speaking skills course. 	55		5
Any Natural World Course (5 credits must be a lab)	The Natural World <ul style="list-style-type: none"> - At least one 5-credit lab class required. See list on page 4 for acceptable courses 	Varies	Varies	10
Humanities	Visual, Literary, and Performing Arts <ul style="list-style-type: none"> - See list on page 4 for acceptable course ideas 	110		10
Social Sciences	Individuals, Cultures, and Societies <ul style="list-style-type: none"> - See list on page 4 for acceptable course ideas 	110		10
Other General Education Credits	Gen Ed Courses suited for AD-BAS Degree: <ul style="list-style-type: none"> - credits may be selected to best suit the needs of the baccalaureate program 	165		15
TOTAL				60

COURSE NUMBER	DEGREE/CERTIFICATE REQUIREMENTS (CREDITS)	LECTURE HOURS	LAB HOURS	CREDIT HOURS
AD 311	- Intermediate Development 1	55		5
AD 312	- Intermediate Development 2	55		5
AD 323	- Data Engineering	55		5
AD 331	- Artificial Intelligence	55		5
AD 341	- Data Analysis	55		5
AD 350	- Database Technology	55		5
AD 351	- Application Design & Prototyping	55		5
AD 361	- Application Testing	55		5
AD 371	- Application Architecture	55		5
AD 381	- Application Security	55		5
AD 391	- Application Operations	55		5
AD 400	- Project Management in Software Development	55		5
AD 450	- Data Science Development	55		5
AD 490	- Internship – or – Capstone		275	5
TOTAL				70

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	50
TOTAL CREDITS FOR DEGREE				180

Potential Sequence for the Full-Time Student

<i>Quarter 1</i>	<i>Quarter 2</i>	<i>Quarter 3</i>
Project Management in Software Development (5) – AD 400 Prereqs: Program entry	Application Design & Prototyping (5) – AD 351 Prereqs: Program entry	Database Technology (5) – AD 350 Prereqs: Program entry
Artificial Intelligence (5) – AD 331 Prereqs: Program entry	Intermediate Development 1 (5) – AD 311 Prereqs: Program entry	Intermediate Development 2 (5) – AD 312 Prereqs: Development 1
Gen Ed (5)	Gen Ed (5)	Gen Ed (5)

<i>Quarter 4</i>	<i>Quarter 5</i>	<i>Quarter 6</i>
Application Testing (5) – AD 361 Prereqs: Program entry	Data Analysis (5) – AD 341 Prereqs: Program entry	Internship/Capstone (5) – AD 490 Faculty permission
Application Architecture (5) – AD 371 Prereqs: Program entry	Data Engineering (5) – AD 323 Prereqs: Program entry	Application Operations (5) – AD 391 Prereqs: Program entry
Data Science Development (5) – AD 450 Prereqs: Program entry	Application Security (5) – AD 381 Prereqs: Program entry	Gen Ed (5)

Potential Sequence for the Part-Time Student

<i>Quarter 1</i>	<i>Quarter 2</i>	<i>Quarter 3</i>
Project Management in Software Development (5) – AD 400 Prereqs: Program entry	Application Design & Prototyping (5) – AD 351 Prereqs: Program entry	Database Technology (5) – AD 350 Prereqs: Program entry
Artificial Intelligence (5) – AD 331 Prereqs: Program entry	Intermediate Development 1 (5) – AD 311 Prereqs: Program entry	Intermediate Development 2 (5) – AD 312 Prereqs: Development 1

<i>Quarter 4</i>	<i>Quarter 5</i>	<i>Quarter 6</i>
Application Testing (5) – AD 361 Prereqs: Program entry	Data Analysis (5) – AD 341 Prereqs: Program entry	Gen Ed (5)
Application Architecture (5) – AD 371 Prereqs: Program entry	Application Security (5) – AD 381 Prereqs: Program entry	Application Operations (5) – AD 391 Prereqs: Program entry

<i>Quarter 7</i>	<i>Quarter 8</i>	<i>Quarter 9</i>
Data Science Development (5) – AD 450 Prereqs: Program entry	Data Engineering (5) – AD 323 Prereqs: Program entry	Internship/Capstone (5) – AD 490 Faculty permission
Gen Ed (5)	Gen Ed (5)	Gen Ed (5)

Areas of Knowledge Distribution Requirements for BAS degree

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

You are required to complete 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

You are required to complete 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: ENVS &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
 STEM: STEM 118
 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 must be in a lab science (*asterisked below).

Anatomy & Physiology: BIOL 128*, &241*, &242* Astronomy: ASTR &100, 102, 104, &110*, 201
 Anthropology: ANTH &204, &205, 275
 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
 Computer Science: CSC 110, 111, 142, 143
 Environmental Science: ENV 150, 160, 170, 201, 202*, 203, 204*, 205, 206*, 208, 216*, 221, ENVS &101*
 Engineering: ENGR 110, &111, 140, 142, &214, &215, &224, &225, 240, 271
 Geography: GEOG 205

Geology: GEOL &101*, &103*, 104, 105*, 106, 108*, &110*, 111*, &115*, 118*, 202*, 207*, &208*
 Health: HEA 125, 150, 160, 225, 228
 Math: All MATH college courses number 102 and above.
 Meteorology: MEY 100
 Material Science: MSC 101
 Nanotechnology: NANO 101* Nutrition: NTR 105*, 150, 155
 Oceanography: OCEA 100, &101*
 Philosophy: PHIL &106, &120
 Psychology: PSYC 222
 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/ for more information.