

# ARCHITECTURE, ENGINEERING, AND CONSTRUCTION TECHNOLOGY (AAS-T)

(100 credits)

## Program Description

Are you interested in being part of a team that creates the built environment – homes, schools, hospitals, roads, bridges, etc.? When you study Architecture, Engineering, and Construction (AEC) Technology at SPSCC, you gain experience to build a better tomorrow. From creating 2D drawings of cabinets to 3D modeling of land, buildings, and construction trades – there are opportunities abound. Join a long history of serving the community with a successful track record of our students finding gainful employment.

This program differs from the Architecture, Engineering and Construction (AEC) Technology Associate in Applied Science degree by offering more general education as part of the core requirement, making it more transferrable to colleges and universities who chose to articulate with South Puget Sound Community College. The only current accepted articulation for this AAS-T degree is with The Evergreen State College as part of their up-side-down degree.

Program graduates will use industry standard software tools to translate conceptual ideas into 2D plans and 3D models. Experienced workers may advance to project managers, virtual design and construction (VDC) coordinators, plan checkers, detailers and/or BIM technicians. A typical work week will consist of 40 hours, but overtime may be required to meet deadlines. Graduates can work for engineering and architectural firms, contractors, government agencies, and a wide variety of related industries.

## Career Opportunities

Program graduates will use industry standard software tools to translate conceptual ideas into 2D plans and 3D models. Experienced workers may advance to project managers, virtual design and construction (VDC) coordinators, plan checkers, detailers and/or BIM technicians. A typical work week will consist of 40 hours, but overtime may be required to meet deadlines. Graduates can work for engineering and architectural firms, contractors, government agencies, and a wide variety of related industries.

- Architectural Engineer
- Architectural and Civil Drafter
- Urban and Regional Planner

## Program Information

- Students should expect early exposure to a wide range of software applications
- Textbooks and required tools are estimated to range from \$300.00 - \$500.00 for the 2-Year program
- An Autodesk certified personal computer is highly recommended. Estimated cost \$1000 - \$1500
- Program experiences will include E-Learning and innovative use of technology

ADMISSION: The AEC Technology Program has a limited enrollment policy with program curriculum pathways starting in Fall and Spring quarters only.

## 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.

- Use industry standard software to: Communicate how a building is constructed, Identify conflicts between and among building systems, Design large public works infrastructures, Create virtual building models
- Communicate orally and in writing to diverse team members, colleagues, supervisors, and customers
- Present completed professional resume and portfolio that demonstrates skills, employment history, interests, and accomplishments
- Think critically, ethically, and creatively to solve work-related problems, and initiate professional growth and learning
- Apply general principles of project management to classroom work

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

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

## 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<br>or ENGL 095     | Integrated Reading and Writing I<br>Integrated Reading and Writing II | 5       |
| MATH 092<br>or ABE 065      | Mathematical Reasoning<br>Contextualized Math II                      | 5       |
| PSYC& 100                   | General Psychology <sup>1</sup>                                       | 5       |
| <b>Quarter 3</b>            |   |         |
| AEC 101                     | Fundamentals of Drafting  | 5       |
| ENGL 098                    | Transitional English Composition                                      | 5       |

|                              |  |   |
|------------------------------|--|---|
| or ENGL& 101                 | English Composition I                        |   |
| CMATH 107                    | Clippers Math In Society <sup>2</sup>        | 5 |
| <b>Quarter 4</b>             |  |   |
| AEC 102                      | Introduction to CAD                          | 5 |
| AEC 103                      | Introduction to 3D Modeling                  | 5 |
| Select one of the following: |  | 5 |
| ENVS& 100                    | Survey of Environmental Science              |   |
| ENVS 102                     | Climate Change & Society                     |   |
| ENVS 203                     | Climate and Energy Solutions                 |   |
| <b>Quarter 5</b>             |  |   |
| AEC 120                      | Construction Methods and Materials           | 5 |
| AEC 160                      | Introduction to Civil Engineering and Survey | 5 |
| Select one of the following: |  | 5 |
| BUS 260                      | Principles of Management: Diversity          |   |
| PSYC 116                     | Psychology of Human Relations: Diversity     |   |
| CMST& 210                    | Interpersonal Communication: Diversity       |   |
| CMST& 230                    | Small Group Communication: Diversity         |   |
| CMST& 240                    | Intercultural Communication: Diversity       |   |
| HUM 121                      | Multicultural America: Diversity             |   |
| <b>Quarter 6</b>             |  |   |
| AEC 121                      | Architectural BIM I                          | 5 |
| AEC 161                      | Civil CAD I                                  | 5 |
| AEC 171                      | Commercial BIM I                             | 5 |
| <b>Quarter 7</b>             |  |   |
| AEC 122                      | Architectural BIM II                         | 5 |
| AEC 162                      | Civil CAD II                                 | 5 |
| AEC 172                      | Commercial BIM II                            | 5 |
| <b>Quarter 8</b>             |  |   |
| AEC 263                      | Civil CAD III                                | 5 |
| AEC 264                      | Survey I                                     | 3 |
| AEC 273                      | Building Information Modeling III            | 5 |
| AEC 274                      | Building Information Modeling IV             | 4 |

| Code                          | Title                                    | Credits |
|-------------------------------|--|---------|
| <b>Option 2: WINTER Start</b> |  |         |
| <b>Quarter 1</b>              |  |         |
| Transition Studies            |  |         |
| <b>Quarter 2</b>              |  |         |
| 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                   |         |
| PSYC& 100                     | General Psychology <sup>1</sup>          | 5       |
| CCS 101                       | Pathways to Success                      | 3       |
| <b>Quarter 3</b>              |  |         |
| ENGL 098                      | Transitional English Composition         | 5       |
| or ENGL& 101                  | English Composition I                    |         |
| CMATH 107                     | Clippers Math In Society <sup>2</sup>    | 5       |
| Select one of the following:  |  | 5       |
| BUS 260                       | Principles of Management: Diversity      |         |
| PSYC 116                      | Psychology of Human Relations: Diversity |         |
| CMST& 210                     | Interpersonal Communication: Diversity   |         |

|                              |  |   |
|------------------------------|--|---|
| CMST& 230                    | Small Group Communication: Diversity         |   |
| CMST& 240                    | Intercultural Communication: Diversity       | 5 |
| HUM 121                      | Multicultural America: Diversity             |   |
| <b>Quarter 4</b>             |  |   |
| AEC 101                      | Fundamentals of Drafting                     | 5 |
| AEC 103                      | Introduction to 3D Modeling                  | 5 |
| Select one of the following: |  | 5 |
| ENVS& 100                    | Survey of Environmental Science              |   |
| ENVS 102                     | Climate Change & Society                     |   |
| ENVS 203                     | Climate and Energy Solutions                 |   |
| <b>Quarter 5</b>             |  |   |
| AEC 102                      | Introduction to CAD                          | 5 |
| AEC 120                      | Construction Methods and Materials           | 5 |
| AEC 160                      | Introduction to Civil Engineering and Survey | 5 |
| <b>Quarter 6</b>             |  |   |
| AEC 121                      | Architectural BIM I                          | 5 |
| AEC 161                      | Civil CAD I                                  | 5 |
| AEC 171                      | Commercial BIM I                             | 5 |
| <b>Quarter 7</b>             |  |   |
| AEC 122                      | Architectural BIM II                         | 5 |
| AEC 162                      | Civil CAD II                                 | 5 |
| AEC 172                      | Commercial BIM II                            | 5 |
| <b>Quarter 8</b>             |  |   |
| AEC 263                      | Civil CAD III                                | 5 |
| AEC 264                      | Survey I                                     | 3 |
| AEC 273                      | Building Information Modeling III            | 5 |
| AEC 274                      | Building Information Modeling IV             | 4 |

<sup>1</sup> To meet BAS college-level transferable Psychology and Natural World requirements, required for AAS-T.

<sup>2</sup> Some students may place directly into MATH& 107 Math in Society

| Code  | Title                      | Credits |
|---|----------------------------|---------|
| <b>To meet upper division BAS general education requirements (30cr):</b>  |                            |         |
| ENGL& 102   | Composition II             | 5       |
| PHYS& 114   | General Physics I w/Lab    | 5       |
| MATH& 146   | Introduction to Statistics | 5       |
| CMST& 220   | Public Speaking            | 5       |
| VLPA Elective   |                            |         |
| General Elective Course from Any Distribution ( <a href="https://catalog.spscc.edu/distribution-requirements/aa-as-dt-degrees/">https://catalog.spscc.edu/distribution-requirements/aa-as-dt-degrees/</a> ) |                            | 5       |

## 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.

**Architecture, Engineering, and Construction Technology Pathway Map**  
 Associate in Applied Science-Transfer degree  
 72cr AEC courses + 28cr Gen Eds for BAS (See SPSCC and ENV5) = 100 Credits required for AAS-T  
**Option1 = Fall Start**

| Qtr. 1                    | Qtr. 2   | Qtr. 3   | Qtr. 4   | Qtr. 5   | Qtr. 6   | Qtr. 7  | Qtr. 8   |
|---------------------------|--|--|--|--|--|---|--|
| <b>Transition Studies</b> | CCS 101 (3cr)<br>Pathways to Success   | AEC 101 (3cr)<br>Fundamentals of Drafting<br>Fall  | AEC 102 (3cr)<br>Introduction to CAD<br>Winter   | AEC 103 (3cr)<br>Construction Methods and Materials<br>Spring  | AEC 111 (3cr)<br>Architectural CAD I<br>Fall             | AEC 122 (3cr)<br>Architectural CAD II<br>Winter             | AEC 263 (3cr)<br>Civil CAD I<br>Spring                       |
|                           | ENGL 090 (5cr)<br>Integrated Reading and Writing<br>ENGL 095 (5cr)<br>Integrated Reading and Writing I | ENGL 098 (5cr)<br>Transitional English Composition<br>ENGL & 101 (5cr)<br>English Composition I      | AEC 103 (3cr)<br>Introduction to 3-D Modeling<br>Winter  | AEC 101 (3cr)<br>Introduction to Civil Engineering and Survey<br>Spring  | AEC 161 (3cr)<br>Civil CAD I<br>Fall                     | AEC 162 (3cr)<br>Civil CAD II<br>Winter                     | AEC 264 (3cr)<br>Survey I<br>Spring                          |
|                           | <b>Choose one:</b><br>MATH 092 (5cr)<br>Mathematical Reasoning<br>AEC 095 (5cr)<br>Contemporary Math I | CMATH 107 (3cr)<br>Clipper's Math in Society*<br>Includes ability to complete:<br>MATH095<br>MATH107 | **Choose ONE:<br>ENV5 100 (5cr)<br>Survey of Environmental Science<br>ENV5 102 (5cr)<br>Climate Change & Society<br>ENV5 203 (5cr)<br>Climate and Energy Solutions | Choose One (3cr):<br>Human Relations /Diversity, recommended)<br>BUS 260 (3cr)<br>Principles of Management: Diversity<br>CMST 210 (3cr)<br>Interpersonal Communication: Diversity<br>CMST 230 (3cr)<br>Small Group Communication: Diversity<br>CMST 240 (3cr)<br>Intercultural Communication: Diversity<br>HUM 121 (3cr)<br>Multicultural America: Diversity | AEC 171 (3cr)<br>Building Information Modeling I<br>Fall | AEC 172 (3cr)<br>Building Information Modeling II<br>Winter | AEC 273 (3cr)<br>Building Information Modeling III<br>Spring |
|                           | **PSYC 100 (3cr)<br>General Psychology   |  |  |  |  |   | AEC 274 (4cr)<br>Building Information Modeling IV<br>Spring  |

See page 3 for additional general education courses needed to meet BAS completion requirements (beyond the AAS-T) which can be taken at SPSCC or the BAS awarding institution.

\*\* To meet BAS college-level transferable Psychology and Natural World requirements, required for AAS-T.

**Option2 = Winter Start**

| Qtr. 1                    | Qtr. 2  | Qtr. 3   | Qtr. 4   | Qtr. 5  | Qtr. 6   | Qtr. 7  | Qtr. 8   |
|---------------------------|---|--|--|---|--|---|--|
| <b>Transition Studies</b> | ENGL 090 (5cr)<br>Integrated Reading and Writing<br>ENGL 095 (5cr)<br>Integrated Reading and Writing II | ENGL 098 (5cr)<br>Transitional English Composition<br>ENGL & 101 (5cr)<br>English Composition I  | AEC 101 (3cr)<br>Fundamentals of Drafting<br>Winter  | AEC 102 (3cr)<br>Introduction to CAD<br>Spring                          | AEC 111 (3cr)<br>Architectural CAD I<br>Fall             | AEC 122 (3cr)<br>Architectural CAD II<br>Winter             | AEC 263 (3cr)<br>Civil CAD I<br>Spring                       |
|                           | <b>Choose one:</b><br>MATH 092 (5cr)<br>Mathematical Reasoning<br>AEC 095 (5cr)<br>Contemporary Math I  | CMATH 107 (3cr)<br>Clipper's Math in Society*<br>Includes ability to complete:<br>MATH095<br>MATH107   | AEC 103 (3cr)<br>Introduction to 3-D Modeling<br>Winter  | AEC 101 (3cr)<br>Introduction to Civil Engineering and Survey<br>Spring | AEC 161 (3cr)<br>Civil CAD I<br>Fall                     | AEC 162 (3cr)<br>Civil CAD II<br>Winter                     | AEC 264 (3cr)<br>Survey I<br>Spring                          |
|                           | **PSYC 100 (3cr)<br>General Psychology  | Choose One (3cr):<br>Human Relations /Diversity, recommended)<br>BUS 260 (3cr)<br>Principles of Management: Diversity<br>PSYC 116 (3cr)<br>Psychology of Human Relations: Diversity<br>CMST 210 (3cr)<br>Interpersonal Communication: Diversity<br>CMST 230 (3cr)<br>Small Group Communication: Diversity<br>CMST 240 (3cr)<br>Intercultural Communication: Diversity<br>HUM 121 (3cr)<br>Multicultural America: Diversity | **Choose ONE:<br>ENV5 100 (5cr)<br>Survey of Environmental Science<br>ENV5 102 (5cr)<br>Climate Change & Society<br>ENV5 203 (5cr)<br>Climate and Energy Solutions | AEC 103 (3cr)<br>Introduction to Civil Engineering and Survey<br>Spring | AEC 171 (3cr)<br>Building Information Modeling I<br>Fall | AEC 172 (3cr)<br>Building Information Modeling II<br>Winter | AEC 273 (3cr)<br>Building Information Modeling III<br>Spring |
|                           | CCS 101 (3cr)<br>Pathways to Success  |  |  |   |  |   | AEC 274 (4cr)<br>Building Information Modeling IV<br>Spring  |

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|--|
| <b>To meet upper division BAS general education requirements (30cr):</b> |
| ENGL 302 (3cr)<br>English Composition II                                 |
| PHYS 114 (5cr)<br>Physics w/ Lab<br>Natural Science                      |
| MATH 146 (3cr)<br>Statistics   |
| VLP/TBD (5cr)<br>Elective  |
| CMST 220 (3cr)<br>Public Speaking  |
| Elective (5cr)<br>TBD  |