

**Southeast Community College AAS Energy Generation Operations, Nuclear Focus  
to Excelsior College BS Nuclear Engineering Technology**
**Revision: January 2017**

This program plan outlines how students can transfer from the **Southeast Community College AAS Energy Generation Operations, Nuclear Focus** program to the **Excelsior College BS Nuclear Engineering Technology** program. Upon completion of the **AAS Energy Generation Operations, Nuclear Focus**, the following credits will apply for students enrolling in the **BS Nuclear Engineering Technology** program.

| <b>Southeast Community College Course</b>  | <b>Quarter Credits</b> | <b>Excelsior College Requirements</b>            | <b>Semester Hours</b> |
|--|------------------------|--|-----------------------|
| ENER 1100: Intro to Energy Generation and Distribution                               | 4.5                    | Technology Elective                              | 3                     |
| ENER 1110: Operator Safety   | 5                      | Free Elective - Excess Credit                    | 0                     |
| BSAD 1010: Microsoft Applications I  | 4.5                    | Computer Applications                            | 3                     |
| MATH 1050: Thinking Mathematically   | 4.5                    | Arts and Science Elective                        | 3                     |
| ENER 1115: Mechanical and Fluid Fundamentals   | 4.5                    | Technology Elective                              | 3                     |
| ENER 1230: Data Acquisition and Control (SCADA)                                      | 1                      | Technology Elective - Excess Credit              | 0                     |
| ENER 1235: Technical Diagrams  | 4.5                    | Plant Systems Overview (also requires ENER 2205) | 3                     |
| PHYS 1017: Technical Physics OR<br>PHYS 1410: Elementary General Physics I or higher | 4.5                    | Physics I (including lab)                        | 3                     |
| ENGL 1010: English Composition I   | 4.5                    | Written English Requirement                      | 3                     |
| ENER 1210: Electrical Power Theory   | 5                      | Electrical Theory (also requires ENER 2100)      | 3.33                  |
| ENER 1255: Instrumentation and Control Systems                                       | 6                      | Technology Elective - Excess Credit              | 0                     |
| ENER 2530: Process Plant Chemistry   | 3                      | Arts and Science Elective                        | 2                     |
| SPEECH (any SPCH class)  | 4.5                    | Communications                                   | 3                     |
| ENER 1220: Process Dynamics  | 4.5                    | Technology Elective                              | 3                     |
| ENER 2100: Motor Controls and Switchgear   | 4.5                    | Electrical Theory (also requires ENER 1210)      | 3                     |
| ENER 2105: Boiler Systems  | 4                      | Technology Elective - Excess Credit              | 0                     |
| ENER 2120: Steam Turbines  | 3                      | Technology Elective                              | 2                     |
| Humanities or Social Science   | 4.5                    | Humanities or Social Science/History Elective    | 3                     |
| ENER 1250: Emission Control Systems  | 3                      | Technology Elective                              | 2                     |
| ENER 1900: Internship  | 3                      | Free Elective                                    | 2                     |
| ENER 2110: Backup Power Generation   | 3                      | Technology Elective                              | 2                     |
| ENER 2130: Green Energy Technologies   | 4.5                    | Technology Elective                              | 3                     |
| ENER 2440: Pipeline Operations   | 3                      | Technology Elective                              | 2                     |
| ACFS 2020: Career Development  | 2.5                    | Free Elective - Excess Credit                    | 0                     |
| ENER 2135: Atomic Structures   | 5.5                    | Atomic Physics*                                  | 3.67                  |
| ENER 2205: Intro to Nuclear Power and Plant Layout                                   | 5                      | Plant Systems Overview (also requires ENER 1235) | 3.33                  |
| ENER 2220: Reactor Plant Materials   | 3                      | Material Science                                 | 2                     |
| ENER 2230: Radiation Detection and Protection  | 3                      | Health Physics/Radiation Protection              | 2                     |
| ENER 2240: Reactor Safety  | 3                      | Fundamentals of Reactor Safety                   | 2                     |
| <b>Total Credits Required for Associate</b>  | <b>115</b>             | <b>Total Credits Accepted From Associate</b>     | <b>64.33</b>          |

\* Student will still need Nuclear Physics. At Excelsior College, this requirement is satisfied by taking NUC 240 Atomic and Nuclear Physics. Students will not be able to receive credit both for NUC 240 and ENER 2135 Atomic Structures.

### Credits Beyond The Associate That Can Be Transferred OR Taken At Excelsior

| Southeast Community College Course                     | Quarter Credits | Excelsior College Requirements  | Semester Hours |
|--|-----------------|---|----------------|
| ENGL 1020: Composition II                              | 4.5             | Written English Requirement (3 of 6 credits)                                | 3              |
| BSAD 2310: Business Ethics or PHIL 1060 Applied Ethics | 4.5             | Ethics  | 3              |
| Humanities Electives                                   | 3               | Humanities Elective   | 3              |
| Social Sciences/History Electives                      |                 | Social Sciences/History   | 9              |
| CHEM 1090: General Chemistry I                         | 6               | Chemistry (including lab)   | 4              |
| PHYS 1420: Elementary General Physics II               | 7.5             | Physics II (also satisfies additional natural science or technology lab #1) | 4.67           |
| MATH 1300: Precalculus                                 | 7.5             | Mathematics at the level of College Algebra or Above                        | 4.67           |
| MATH 1600: Analytic Geometry & Calculus I              | 7.5             | Calculus I  | 4.67           |
| MATH 1700: Analytic Geometry & Calculus II             | 7.5             | Calculus II   | 4.67           |
| <b>Total Credits Required for Associate</b>            | <b>48</b>       | <b>Total Credits Accepted From Associate</b>                                | <b>40.68</b>   |

### Credits To Be Taken At Excelsior College \*

| Excelsior College Requirements   | Semester Hours |
|--|----------------|
| INL 102: Information Literacy  | 1              |
| Nuclear Physics **   | 2              |
| NUC 245: Thermodynamics  | 3              |
| NUC 250: Introduction to Heat Transfer and Fluid Dynamics                      | 3              |
| NUC 330: Reactor Core Fundamentals (Upper Level credits in Technology)         | 3              |
| Additional Upper Level Credits in Technology                                   | 10             |
| Additional Natural Science or Technology Lab #2                                | 1              |
| NUC 495: Integrated Technology Assessment (Upper Level credits in Technology)* | 3              |
| <b>Total Credits</b>   | <b>26</b>      |

\* The above credits (with the exception of the **Capstone** course) may also be transferred in or taken at another 4-year regionally accredited institution.

\*\* Student will still need Nuclear Physics. At Excelsior College, this requirement is satisfied by taking NUC 240 Atomic and Nuclear Physics. Student would not be able to receive credit both for NUC 240 and ENER 2135 Atomic Structures.

| Evaluation Summary                                  | Semester Hours |
|---|----------------|
| Credits Accepted from Associate Degree              | 64.33          |
| Additional Credits Beyond the Associate Degree      | 40.68          |
| Credits from Excelsior ***                          | 26             |
| <b>Total Credits Required for Bachelor's Degree</b> | <b>131.01</b>  |

\*\*\* Students are required to take a minimum of **12.00 credits** from Excelsior to qualify for partner pricing.

**NOTE: Excelsior College reviews every student individually and this guide is just a sample scenario. Actual requirements will be dependent on the courses a student transfers to Excelsior.**