This Agreement is entered into between Hennepin Technical College, 9000 Brooklyn Blvd, Brooklyn Park, MN 55445, (hereinafter sending institution), and Bemidji State University 1500 Birchmont Drive NE, Bemidji, MN 56601, (hereinafter receiving institution). This Agreement and any amendments and supplements, shall be interpreted pursuant to the laws of the State of Minnesota.

The sending institution has established a Fluid Power Engineering Technician AAS (hereinafter sending program), and the receiving institution has established an Engineering Technology BS (hereinafter receiving program), and will facilitate credit transfer and provide a smooth transition from one related program to another. It is mutually agreed:

Admission and Graduation Requirements

A. The receiving institution’s admission and program admission requirements apply to both direct entry students and to students who transfer under this agreement.
B. Students must fulfill the graduation requirements at both institutions.
C. Students must complete the entire sending program and meet the receiving institution’s admission requirements for the agreement to apply, including grade requirements for courses and an overall GPA requirement.

Transfer of Credits

A. The receiving institution will accept 72-73 credits from the sending program. A total of 69-70 credits remain to complete the receiving program.
B. Courses will transfer as described in the attached Program Articulation Table. For system institutions, once the courses are encoded, they will transfer as described in the “Transferology” audit.

Implementation and Review

A. The Chief Academic Officers or designees of the parties to this agreement will implement the terms of this agreement, including identifying and incorporating any changes into subsequent agreements, assuring compliance with system policy, procedure and guidelines, and conducting a periodic review of this agreement.
B. This Articulation Agreement is effective on 11/01/2018 and shall remain in effect until 11/01/2023 or for five years, whichever occurs first, unless terminated or amended by either party with 90 days prior written notice.
C. The college and university shall work with students to resolve the transfer of courses should changes to either program occur while the agreement is in effect.
D. This Articulation Agreement will be reviewed by both parties beginning 06/01/2023 (within six months of the end date).
E. When a student notifies the receiving institution of their intent to follow this agreement, the receiving institution will encode course waivers and substitutions.
## PROGRAM ARTICULATION TABLE

Check if the sending program ____ or receiving program ____ is new.

<table>
<thead>
<tr>
<th>Institution</th>
<th>Hennepin Technical College</th>
<th>Bemidji State University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program name</td>
<td>Fluid Power Engineering Technician</td>
<td>Engineering Technology</td>
</tr>
<tr>
<td>Award Type (e.g., AS)</td>
<td>AAS</td>
<td>BS</td>
</tr>
<tr>
<td>Credit Length</td>
<td>72</td>
<td>120</td>
</tr>
<tr>
<td>CIP code (6-digit)</td>
<td>15.1103</td>
<td>15.0612</td>
</tr>
<tr>
<td>Describe program admission requirements (if any)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Instructions
- List all required courses in both academic programs.
- MnTC goal areas transfer to the receiving institution according to the goal areas designated by the sending institution.
- Do not indicate a goal area for general education courses that are not part of the MnTC.
- For restricted or unrestricted electives, list number of credits.
- Credits applied: the receiving institution course credit amount may be more or less than the sending institution credit amount. Enter the number of credits that the receiving institution will apply toward degree completion.
- Show equivalent university-college courses on the same row to ensure accurate DARS encoding.
- Equiv/Sub/Wav column: If a course is to be encoded as equivalent, enter Equiv. If a course is to be accepted by the university as a "substitution" only for the purposes of this agreement, enter Sub. If a course requirement is waived by the receiving institution, enter Wav. If a course is to be accepted by the university as a MnTC goal area, restricted elective or unrestricted elective, leave the cell blank.

(To add rows, place cursor outside of the end of a row and press enter.)

### SECTION A - Minnesota Transfer Curriculum-General Education

<table>
<thead>
<tr>
<th>College (sending)</th>
<th>University (receiving)</th>
</tr>
</thead>
<tbody>
<tr>
<td>course prefix, number and name</td>
<td>Goal(s)¹ Credits</td>
</tr>
<tr>
<td><strong>Minnesota Transfer Curriculum-General Education</strong></td>
<td></td>
</tr>
<tr>
<td>ENGL2121 Writing and Research (4 Cr.) or ENGL2125 Technical Writing (3 Cr)</td>
<td>1</td>
</tr>
<tr>
<td>MnTC Courses from Goal Areas 2-10 (Courses must be from at least two goal areas)</td>
<td>2-10</td>
</tr>
</tbody>
</table>

**MnTC/General Education Total**: 15-16

**Special Notes, if any:** MnTC requirements may be completed at the college or the university.

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¹ MnTC goal areas transfer to the receiving MnSCU college/university according to the goal areas designated by the sending college/university

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### SECTION B - Major, Emphasis, Restricted and Unrestricted Electives or Other

(pre-requisite courses, required core courses, required courses in an emphasis, or electives (restricted or general) within the major. Restricted electives (in Major) fulfill a specific requirement within a major. Example A: “Chose two of the following three courses,” Example B: A Biology degree may require 40 science credits (20 credits of required courses + 20 credits of listed related courses, such as botany, genetics, sociology, etc, which students can select).

<table>
<thead>
<tr>
<th>Major, Emphasis, Restricted Electives or Other Courses</th>
<th>General Elective Credit</th>
<th>Sub</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLPW1101 Fluid Power Technology I</td>
<td>3</td>
<td>TADT 1210 Intro to Manufacturing Processes I (3 Cr) and General Elective Credit (1 Cr)</td>
</tr>
<tr>
<td>FLPW1106 Fluid Power Technology II</td>
<td>4</td>
<td>General Elective Credit</td>
</tr>
<tr>
<td>FLPW1150 Pneumatic Components or FLPW1181 Pumps, Actuators, and Conductors</td>
<td>4</td>
<td>General Elective Credit</td>
</tr>
<tr>
<td>FLPW1191 Hydraulic Components</td>
<td>3</td>
<td>General Elective Credit</td>
</tr>
<tr>
<td>FLPW1231 Industrial Electricity I</td>
<td>3</td>
<td>General Elective Credit</td>
</tr>
<tr>
<td>FLPW1320 Hydraulic Circuits</td>
<td>2</td>
<td>General Elective Credit</td>
</tr>
<tr>
<td>FLPW1340 Pneumatic Circuits and Air Logic</td>
<td>4</td>
<td>General Elective Credit</td>
</tr>
<tr>
<td>FLPW2000 Programmable Logic Controllers</td>
<td>3</td>
<td>TADT 3277 Programmable Logic Controllers</td>
</tr>
<tr>
<td>FLPW2112 Instrumentation of Fluid Power Systems</td>
<td>3</td>
<td>General Elective Credit</td>
</tr>
<tr>
<td>FLPW2180 Circuit Design</td>
<td>3</td>
<td>General Elective Credit</td>
</tr>
<tr>
<td>FLPW2191 Industrial Circuit Design</td>
<td>3</td>
<td>TADT 2465 Engineering Technology Project I</td>
</tr>
<tr>
<td>FLPW2250 Proportional and Servo Controls</td>
<td>3</td>
<td>General Elective Credit</td>
</tr>
<tr>
<td>FLPW2301 Mobile Circuit Design</td>
<td>3</td>
<td>General Elective Credit</td>
</tr>
<tr>
<td>FLPW2321 System Engineering Portfolio</td>
<td>3</td>
<td>TADT 1111 Intro to Project Management</td>
</tr>
<tr>
<td>METS200 Industry Practices and Procedures</td>
<td>3</td>
<td>TADT 2100 Impact Of Technology (2 Cr) and General Elective Credit (1 Cr)</td>
</tr>
<tr>
<td>METS2000 Engineering Design Principles</td>
<td>3</td>
<td>TADT 1464 Engineering Technology Project I</td>
</tr>
<tr>
<td>METS2100 Statics and Strength of Materials</td>
<td>3</td>
<td>TADT 2217 Strength of Materials</td>
</tr>
<tr>
<td>Choose one of the following: ENGC1100 AutoCAD ENGC1160 Inventor ENGC21250 SolidWorks I ENGC2100 Basic Creo Parametric (Pro/ENGINEER) FLPW1400 Engineering Drawings and Schematics</td>
<td>4</td>
<td>TADT 1460 2D Graphics &amp; Laser Etching (3 Cr) and General Elective Credits (1 Cr)</td>
</tr>
</tbody>
</table>

**Major, Emphasis, Unrestricted Electives Total** | 57 | Total College Credits Applied (sum of sections A and B) | 72-73 |

Special Notes: TADT 3277 counts toward the university's forty credit upper division requirements.

### SECTION C - Remaining University (receiving) Requirements

<table>
<thead>
<tr>
<th>course prefix, number and name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Credits to complete the MnTC and liberal education requirements</strong></td>
<td><strong>13-14</strong></td>
</tr>
<tr>
<td>TADT Common Core – 15 Credits</td>
<td></td>
</tr>
<tr>
<td>TADT 3267 Economic and Cost Analysis</td>
<td>3</td>
</tr>
<tr>
<td>TADT 3970 Internship</td>
<td>1</td>
</tr>
<tr>
<td>TADT 4385 Sustainability and Emerging Technologies</td>
<td>3</td>
</tr>
<tr>
<td>TADT 4873 Emphasis Related Capstone</td>
<td>3</td>
</tr>
<tr>
<td>TADT 4878 Quality Assurance</td>
<td>3</td>
</tr>
<tr>
<td>TADT 4970 Internship</td>
<td>2</td>
</tr>
</tbody>
</table>

**Engineering Technology Core – 34 Credits**

<table>
<thead>
<tr>
<th>course prefix, number and name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1470 Precalculus *</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 1101 General Physics I *</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 1102 General Physics II *</td>
<td>4</td>
</tr>
<tr>
<td>TADT 1220 Introduction to Manufacturing Processes I</td>
<td>3</td>
</tr>
<tr>
<td>TADT 2461 Parametric 3D Modeling</td>
<td>3</td>
</tr>
<tr>
<td>TADT 2677 Engineering Problem Solving</td>
<td>3</td>
</tr>
<tr>
<td>TADT 3217 Materials Science and Metallurgy</td>
<td>3</td>
</tr>
<tr>
<td>TADT 3462 Computer Controlled Machining</td>
<td>3</td>
</tr>
<tr>
<td>TADT 3537 Industrial Design/Innovation</td>
<td>3</td>
</tr>
</tbody>
</table>

February 2, 2017
### SECTION D - Summary of Total Program Credits

<table>
<thead>
<tr>
<th>MnTC/General Education</th>
<th>University (receiving) Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major, Emphasis, Unrestricted Electives or Other</td>
<td></td>
</tr>
<tr>
<td>Total College Credits</td>
<td>72-73</td>
</tr>
<tr>
<td>Total College Credits Applied</td>
<td>72-73</td>
</tr>
<tr>
<td>Remaining credit to be taken at the university (receiving institution)</td>
<td>69-70</td>
</tr>
<tr>
<td>Total Program Credits</td>
<td>142</td>
</tr>
</tbody>
</table>

2 At least 40 of the required credits for the baccalaureate degree shall be at the upper-division level. If a lower division course is shown as equivalent to an upper division course, check with the university to determine if it will count toward the 40 required credits of upper division.

<table>
<thead>
<tr>
<th>College</th>
<th>Name</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief Academic Officer</td>
<td>Jeffrey Parks</td>
<td></td>
<td>3-22-19</td>
</tr>
<tr>
<td>Provost</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>University</strong></td>
<td><strong>Name</strong></td>
<td><strong>Signature</strong></td>
<td><strong>Date</strong></td>
</tr>
<tr>
<td>Chief Academic Officer</td>
<td>Dr. Anthony Peffer</td>
<td></td>
<td>1/29/19</td>
</tr>
<tr>
<td>Provost</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DARS Encoder</td>
<td>Beverly Hodgson</td>
<td>Beverly Hodgson</td>
<td>1/17/19</td>
</tr>
</tbody>
</table>

Date when equivalencies were verified/encoded in DARS by the receiving Minnesota State institution.

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