Memorandum of Agreement
Regarding a Dual Degree Program Between

The College of Engineering
Virginia Tech
Blacksburg VA

Bridgewater College
Bridgewater VA

Virginia Polytechnic Institute and State University ("Virginia Tech") and Bridgewater College intend to collaborate to provide a program leading to a dual degree program in engineering and physics. Students pursue a joint program of study beginning at Bridgewater College and then transfer to Virginia Tech and, after a total period of approximately five to six years, earn a BS degree in engineering from Virginia Tech and a BS degree from Bridgewater College. This program allows the student at Bridgewater College to begin at a small, high quality liberal arts institution, then transfer to an internationally recognized engineering college to pursue degrees at both institutions.

The parties agree to the following terms:

In order to be considered for admission to this dual degree program at Virginia Tech, the potential program participants must take the following courses at Bridgewater College. These courses must be completed prior to transfer to Virginia Tech.

- ENG 110 Effective Writing (3 credits)
- CHEM 161 General Chemistry (4 credits)
- MATH 131 Calculus I (3 credits)
- MATH 132 Calculus II (3 credits)
- MATH 231 Calculus III (3 credits)
- MATH 232 Calculus IV (3 credits)
- MATH 210 Intro to Linear Algebra (3 credits)
- MATH 331 Differential Equations (3 credits)
- PHYS 221 General Physics I (4 credits)
- PHYS 222 General Physics II (4 credits)

The student must also complete the General Education Requirements and junior-level courses in an appropriate physics major at Bridgewater College prior to transfer to Virginia Tech. Additional courses, depending on the student's intended engineering major at Virginia Tech, may be selected to complete degree requirements at Bridgewater College.

During the summer between either the student's first and second year or the second and third year at Bridgewater College, she/he should apply as a non-degree seeking student for the Summer Session and register to take the introductory engineering courses required of engineering students at Virginia Tech. As of the time of execution of this agreement, these courses are:

- ENGE 1215 Foundations of Engineering (2)
- ENGE 1216 Foundations of Engineering (2)

These courses may also be completed at another, pre-approved institution, including a Virginia Community College. Students may use the Transfer Guide listed at the end of this agreement to seek appropriate transfer credit. Interested students may contact the administrator of this agreement at Virginia Tech to have potential courses reviewed.

Admission to Virginia Tech as a transfer student may occur at any time after three years of study and completion of all dual degree requirements at Bridgewater College, preferably after the student has completed the Virginia Tech ENGE courses listed above. Applications for admission to Virginia Tech are available on the Office of Admissions website. Applicants should send, under separate cover, a letter indicating their desire to be admitted under the dual degree program, and a letter of recommendation from the dual degree program advisor at Bridgewater College.
Transfer applicants must meet all normal transfer admissions requirements of Virginia Tech. Participants in this program, entering Bridgewater College in fall 2016 or after, who have a grade point average of 3.2/4.0 or above will be deemed eligible and given special consideration on a space available basis for admission to the College of Engineering at Virginia Tech. Applicants who do not have a 3.2 GPA or who do not complete the prescribed course requirements will be considered on an individual basis.

Virginia Tech reserves the right to deny admission to students who have been academically dismissed or suspended or to those convicted of a felony. Per Virginia Tech university policy, all applicants and currently enrolled students must report arrest, conviction, and protective orders. Disciplinary records are considered in determining eligibility for admission under this dual agreement.

Completion of an engineering degree at Virginia Tech will require approximately six semesters after transfer, depending on the requirements of the chosen engineering major. Bridgewater College upper-level chemistry, mathematics, and physics courses beyond those listed above and other selected courses may be acceptable as technical electives to satisfy program requirements at Virginia Tech. All normal Virginia Tech degree requirements must be satisfied via courses taken at Virginia Tech or by those transferred to Virginia Tech from Bridgewater College or other institutions. Transfer of Virginia Tech courses to Bridgewater College and their use to meet degree requirements is the sole prerogative of Bridgewater College. Completion of degree requirements at Virginia Tech does not constitute completion of Bridgewater College degree requirements or vice versa.

Virginia Tech and Bridgewater College will review this dual agreement every five years to make adjustments as deemed appropriate to maintain its integrity and for the improvement of the transfer process. Changes will not adversely affect students already enrolled under the provisions of the existing dual agreement.

This dual degree agreement will remain in effect until terminated by either party upon written notice to the advisor of the dual degree program at either institution. Such notice should be given one year in advance of the date of termination; students who enter under the dual agreement may take advantage of its terms one year after termination becomes effective.

Signatures:

Thanassi Risakis 10/20/2015
Executive Vice President and Provost
Virginia Tech

Richard Benson, Dean 10-1-15
College of Engineering
Virginia Tech

Bevlee Watford 10-8-15
Associate Dean for Academic Affairs
College of Engineering
Virginia Tech

David W. Bushman 2/4/2015
President
Bridgewater College

Carol Scheppard 11/6/15
Vice President and Dean for Academic Affairs
Bridgewater College

Philip Spickler 11/24/15
Division Head of Natural Sciences
Bridgewater College

Wanda Hankins Dean 10-8-15
Vice Provost for Enrollment and Degree Management
Office of the Provost
Virginia Tech
## Equivalent at Bridgewater College

### Requirement at Virginia Tech

### Common First Year Requirements at Virginia Tech

<table>
<thead>
<tr>
<th>Equivalent at Bridgewater College</th>
<th>Requirement at Virginia Tech</th>
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<tbody>
<tr>
<td>CHEM 161 General Chemistry</td>
<td>CHEM 1035/1045 General Chemistry and Lab</td>
</tr>
<tr>
<td>CHEM 162 General Chemistry</td>
<td>CHEM 1036/1046 General Chemistry and Lab (required for Chemical Engineering majors only)</td>
</tr>
<tr>
<td>No equivalent</td>
<td>ENGE 1215 Foundations of Engineering</td>
</tr>
<tr>
<td>No equivalent</td>
<td>ENGE 1216 Foundations of Engineering</td>
</tr>
<tr>
<td>ENG 110 Effective Writing</td>
<td>ENGL 1105 First-Year Writing</td>
</tr>
<tr>
<td>Student might receive ENGL 1105 as advanced standing, depending on scores. Then ENG 110 would fulfill VT's ENGL 1106.</td>
<td>ENGL 1106 First-Year Writing</td>
</tr>
<tr>
<td>MATH 131 Calculus I PLUS</td>
<td>MATH 1225 Calculus of a Single Variable I</td>
</tr>
<tr>
<td>MATH 132 Calculus II</td>
<td>MATH 1226 Calculus of a Single Variable II</td>
</tr>
<tr>
<td>MATH 231 Calculus III</td>
<td>MATH 2114 Intro to Linear Algebra</td>
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<tr>
<td>MATH 210 Intro to Linear Algebra</td>
<td>MATH 2114 Intro to Linear Algebra</td>
</tr>
<tr>
<td>PHYS 221 General Physics I</td>
<td>PHYS 2305/Foundations of Physics</td>
</tr>
</tbody>
</table>

### Common Second Year Requirements at Virginia Tech

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<th>Requirement at Virginia Tech</th>
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<tbody>
<tr>
<td>MATH 232 Calculus IV</td>
<td>MATH 2204 Intro to Multivariable Calculus</td>
</tr>
<tr>
<td>MATH 305 Differential Equations</td>
<td>MATH 2214 Intro to Differential Equations</td>
</tr>
<tr>
<td>PHYS 222 General Physics II</td>
<td>PHYS 2306/Foundations of Physics</td>
</tr>
</tbody>
</table>

Some other courses are departmental specific
For additional information about applying to a degree granting major after admission to the College of Engineering at Virginia Tech, please go to
http://www.enge.vt.edu/Undergraduate/changing_majors/index.html

College of Engineering undergraduate degree programs may be found at the following webpage:
http://eng.vt.edu/students/undergraduate_degrees.

Degree checksheets (graduation requirements) may be viewed here:
http://www.registrar.vt.edu/undergraduate/checksheets/index.html

Or contact:
Ryan D. Wagoner
Director of Educational Programs
Academic Affairs
College of Engineering
212 Hancock Hall 0275
Blacksburg, VA 24061
540-231-3244
rdw@vt.edu

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