The engineering courses at TUD are taught in German. Hence, to participate in this program, a student must earn a "B+" in GER 2106 prior to leaving for TUD. GER 1105 (2105-2106) can be completed during the academic year leaving for TUD. GER 1105 student must earn a "B" in German skills up to the required proficiency level.

The ATLAS program provides an exciting extension to the VT-TUD dual BSME degree program: Spend the summer between sophomore and junior year at the Royal Institute of Technology (KTH) in Stockholm, Sweden, and participate in undergraduate research and receive an introduction to the Swedish language and culture!


Factoids:
• Germany has the 2nd largest export economy, most of which is high-tech engineering products.
• Germany is the USA’s #1 trading partner.
• 19,800 Virginians are employed by companies from German-speaking countries.
• The TUD BSME program is ranked #1 in Germany, Switzerland, and Austria.
Virginia Tech Bachelor of Science in Mechanical Engineering
Technische Universität Darmstadt Bachelor of Science in Mechanical & Process Engineering

Virginia Tech (VT) and the Technische Universität Darmstadt (TUD) in Germany offer a dual degree program in which a student can earn both these degrees in four years, including learning German well enough so the student can complete his or her senior year engineering courses at TUD in German. The following course schedule outlines the standard course sequence for a student that has no prior German language skills or AP credit.

The VT BSME program is the largest in the USA and it is ranked 13 (top 5%) in the US by USN&WR.

Freshman year, fall semester (2010):
- ENGL 1105 Freshman English I
- MATH 1205 Calculus I
- MATH 1114 Elementary Linear Algebra
- ENGE 1024 Engineering Exploration
- CHEM 1045 General Chemistry Laboratory
- CHEM 1035 General Chemistry
- AREA 6 elective (1 credit)

Freshman year, spring semester (2011):
- PHYS 2305 Foundations of Physics I
- ENGL 1106 Freshman English II
- MATH 1224 Vector Geometry
- MATH 1206 Calculus II
- ENGE 1114 Exploring Engineering Design
- AREA 2 elective (3 credits)

Summer (2011):
Available for courses, internships, employment, etc.

Sophomore year, fall semester (2011):
- PHYS 2306 Foundations of Physics II
- MATH 2224 Multivariable Calculus
- ESM 2104 Statics
- ENGE 2314 Engineering Problem Solving with C++
- ISE 2214 Manufacturing Processes Laboratory
- ME 2024 Introduction to Engineering Design & Economics

Sophomore year, spring semester (2012):
- ECE 2054 Applied Electrical Theory
- STAT 3704 Statistics for Engineering Applications
- ESM 2304 Dynamics
- ESM 2204 Mechanics of Deformable Bodies
- ME 2124 Introduction to Thermal & Fluid Engineering
- MATH 2214 Introduction to Differential Equations

Summer (2012):
Available for courses, internships, employment, etc.

Junior year, fall semester (2012):
- ECE 3254 Industrial Electronics
- ME 3514 System Dynamics
- ME 3614 Mechanical Design I
- ME 3404 Fluid Mechanics
- ME 3124 Thermodynamics
- STS 2054 Engineering Cultures — AREA 2. 7

Junior year, spring semester (2013):
- ME 4005 Mechanical Engineering Laboratory I
- ME 3304 Heat & Mass Transfer
- MSE 2034 Elements of Materials Engineering
- AREA 3 elective (3 credits)
- GER 1114 Accelerated Elementary German (6 credits, Equivalent to GER 1105-1106)

Summer I session at VT (May 28 – Jul 8, 2013):
- GER 2114 Accelerated Intermediate German (6 credits, Equivalent to GER 2105-2106)
Students must earn a “B+” or better to continue at TUD.

The TUD BSME program is ranked #1 in Germany, Switzerland, and Austria by DAAD / CHE / Die Zeit.

VT Summer II session at TUD (approximately July 15 – August 23, 2013):
German as a Second Language bridge-course designed for Virginia Tech students going to TUD.
Prerequisite: "B+" or better in GER 2106 or 2114

Early-Fall session at TUD (approximately September 2 – October 4, 2013):
German as a Second Language; the intensive phase.
Prerequisite: Above bridge-course, or "B" or better in GER 3106

Senior year, winter semester (2013-2014) 28 CP:
1. Strukturdynamik (6 CP)
2. Systemtheorie und Regelungstechnik (6 CP)
3. Fluids Engineering Laboratory (4 CP)
4. Aerodynamik I (6CP) + Grundlagen der Flugantriebe (8CP)
5. VT/TUD BSME technical electives (4-6 CP)

Senior year, summer semester (2014) 34 CP:
1. Bachelor-Thesis (12 CP)
2. Numerische Mathematik (4 CP)
3. Grundlagen der Turbosysteme und Fluidsysteme (12CP; ME 4506 ME Lab II; VIEWSS)
4. Systemtheorie und Regelungstechnik (6 CP)
5. VT/TUD BSME technical electives (4-6 CP)

TUD requirements:
- Must earn at least 60 CP at TUD (any department)
- The "VT/TUD BSME technical electives" is a list of electives that are approved both at VT and TUD

Special notes:
- Electives are shown in yellow highlight.
- Students that do not take GER 2xxx/3xxx at VT or TUD must add 1 semester credit hour (2 CP) of VT technical electives.
- Students may drop out of the dual BSME program at any time prior to the Fall semester of their Senior year and stay on at VT without delaying their VT BSME graduation.

For more information:
Prof. Jan Helge Bøhn
114-H Randolph Hall
+1-540-231-3276
bohn@vt.edu

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