Virginia Tech students have the opportunity to complete their BSME senior year at the Technische Universität Darmstadt (TUD) in Germany. At the completion of this program, a student that selects the appropriate electives will also simultaneously earn a Bachelor of Science in Mechanical & Process Engineering from TUD.

APPLICATION DEADLINES:

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 Germany-speaking countries.
- The TUD BSME program is ranked #1 in Germany, Switzerland, and Austria.

The engineering courses at TUD are taught in German. Hence, to participate in this program, a student must earn a “B” in GER 3106 prior to leaving for TUD. GER 1105-3106, 2105-3106 and 3105-3106 can be completed during the academic year; or 2114 (2105-2106) and 4984 (3105-3106) during the summer prior to the senior year. Once at TUD, the VT students enroll in a six-week intensive German course to bring their German skills up to the required proficiency level. VT students at TUD pay VT tuition and fees, and VT financial aid carries over to TUD. In addition, the German government (DAAD) provides approximate $8,250 scholarships based on academic merit.

APPLICATION DEADLINES: Just imagine how marketable you would be, in this global economy, with an engineering degree from both a US and German university!

The ATLANTIS 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! KTH is the largest engineering university in Sweden.

Up to 27 students in the ATLANTIS program will receive $1,200/month in travel allowance while at KTH and TUD, through August 2011, for a maximum of $18,000/person. This allowance is in addition to any VT financial aid package.

Application deadline: January 15, 2011 for summer 2011 and 2012-2013 senior year.

TUD graduates approximately 220 BSME, 200 MSME, and 55 Dr.-Ing. ME students per year.

Darmstadt is a city of about 150,000, and it is located about 20 minutes south of Frankfurt airport.

TUD student achievements:
- 2008 RoboCup champions
- 2007 Decathlon champions

Other student activities:
- Formula SAE team

Websites of Interest
- Joint programs between Virginia Tech and the Technische Universität Darmstadt: http://www.tud.vt.edu/
- Technische Universität Darmstadt: http://www.tu-darmstadt.de/

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Dual BSME Degree Program
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The US participants in the ATLANTIS program are funded via a $672,600 grant from the Fund for the Improvement of Postsecondary Education (FIPSE) in the US Dept of Education (P11606-0015).
VT → TUD Dual BSME degree program

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.

**ATLANTIS:** As an optional addition to the dual BSME degree program at TUD, the students may also earn at least 10 semester credit hours at the Royal Institute of Technology (KTH) during a summer or semester.

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 (2009):**
- 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 (2010):**
- 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 (2010):**
Available for courses, internships, employment, etc.

**Sophomore year, fall semester (2010):**
- 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 2084 Introduction to Engineering Design & Economics

**Sophomore year, spring semester (2011):**
- ECE 2054 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 (2011):**

**Junior year, fall semester (2011):**
- 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 (2012):**
- 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 21 – Jun 30, 2012):**
- GER 2114 Accelerated Intermediate German
  - 6 credits, Equivalent to GER 2105-2106

**Summer II session at VT (Jul 2 – Aug 11, 2012):**
- GER 498H (3114) Intensive Gram/Comp/Conver German
  - 5 credits, Equivalent to GER 3105-3125

**Senior year, winter semester (2012-2013) 28 CP:**
1. Strukturdynamik (6 CP)
   (ME 3504 Vibrations)
2. Systemtheorie und Regelungstechnik (6 CP)
   (ME 4504 Controls)
3. Fluids Engineering Laboratory (4 CP)
   (ME 4006 ME Lab II; ViEWS)
4. Aerodynamik I (6CP) gg Grundlagen der Flugantriebe (8CP)
   (ME 4124 Fluid Heat Transfer Design (2CP); VT BSME technical elective (6-8CP))
5. VT/TUD BSME technical electives (4-6 CP)

**Senior year, summer semester (2013) 34 CP:**
1. Bachelor-Thesis (12 CP)
   (ME 4015-4016 Engineering Design & Project I, II; ViEWS)
2. Numerische Mathematik (4 CP)
3. Numerische Berechnungsverfahren (4 CP)
4. Grundlagen der Turbosystemen und Fluidsysteme
   (ME 4006 ME Lab II (4CP); ME 4124 Fluid Heat Transfer Design (4CP); VT BSME technical elective (4-6CP))
5. AREA 3 elective (6 CP)

**TUD requirements:**
- May earn 50-60 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 the Senior year and stay on at VT without delaying their VT BSME graduation.
- Students may rearrange their schedule to complete GER 1105, 1106, 2105, 2106, 3105, and 3106 (or 3125) at any time prior to heading for TUD in the Fall of their senior year.

**For more information:**
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This dual BSME degree program was developed with partial support from a $672,600 grant from the Fund for the Improvement of Postsecondary Education (FIPSE) in the US Dept of Education (P116J06-0015).