

## Virginia Tech BSME Sophomore Fall Semester at the University of Melbourne, Australia



**Virginia Tech mechanical engineering students have the option to complete their VT BSME sophomore fall semester at the University of Melbourne in Australia.**

The following page details the proposed study plan. The courses listed at the University of Melbourne have been approved for transfer credit. This study plan has been designed to enable students to also participate in the VT-TUD dual BSME degree program if they so choose.

VT BSME students that are interested in spending their sophomore fall semester at the University of Melbourne will need to **direct-enroll** with the University of Melbourne (i.e., as “study abroad” and not “exchange”). See the Melbourne Global Mobility website for details:

<http://www.mobility.unimelb.edu.au/inbound/before-applying/important-dates.html>

The application deadline at the University of Melbourne is **May 1, 2018**. The Virginia Tech Department of Mechanical Engineering recommends a minimum 3.3 GPA for participation.

Students are required to contact the **VT Global Education Office** to manage their status as a VT student while at the University of Melbourne:

<http://www.globaleducation.vt.edu/>

Though the courses at the University of Melbourne that are listed on the next page have been approved for transfer credit to Virginia Tech, participating students must still individually complete the VT College of Engineering Transfer Credit Request form (see attached sample).

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**The Virginia Tech Department of Mechanical Engineering** is a *University Exemplary Department* (2010) because of its high-quality education abroad program options. For instance, its students can start learning German as late as in their junior year and still complete their senior year in Germany, to simultaneously earn a VT BSME degree and a BSME degree from Technische Universität Darmstadt – the leading mechanical engineering program in Germany. See the Virginia Tech Undergraduate Course Catalog for details.



## Australia

### VT FALL SEMESTER, FRESHMAN YEAR — 16 semester credit hours:

- ENGL 1105: Freshman English I
- MATH 1225: Calculus I
- ENGE 1215: Foundations of Engineering I
- CHEM 1035: General Chemistry
- CHEM 1045: Chemistry Lab
- **STS 2054: Engineering Cultures** (AREA 2 & AREA 7) (strongly recommended for engineers studying abroad)

### VT SPRING SEMESTER, FRESHMAN YEAR — 17 semester credit hours:

- PHYS 2305: Foundations of Physics I
- ENGL 1106: Freshman English II
- MATH 1226: Calculus II
- MATH 2114: Linear Algebra
- ENGE 1216: Foundations of Engineering II
- Curriculum for Liberal Education Area 6

### VT SUMMER SESSION 1 — 6 semester credit hours:

- MATH 2204: Multivariable Calculus
- ESM 2104: Statics

### UNIVERSITY OF MELBOURNE, SEMESTER 2 — AUSTRALIA during approximately July 9 - December 16:

- **PHYC10004 Physics 2: Physical Science & Technology** → PHYS 2306 (less “optics”)
- **ELEN20005 Foundations of Electrical Networks** → ECE 3054 Electrical Theory  
*IMPORTANT: Virginia Tech students are expected to read up on the topic of digital logic at the beginning of the semester. This material is covered during the first year at the University of Melbourne, and it will be reviewed quickly at the beginning of this course before continuing with more advanced topics.*
- **COMP20005 Engineering Computation** → ME 2004 (2 cr) and ME 4XXX (2 cr)
- **MULT10001 Aboriginalities** → Curriculum for Liberal Education AREA 2 (3 cr)

### VT WINTER SESSION, SOPHOMORE YEAR — online, 30-40 hours during approximately January 5-16:

- **PHYS 2306 – “optics” module only** (online, PASS/FAIL, 60% score to pass)

### VT SPRING SEMESTER, SOPHOMORE YEAR — 17 semester credit hours:

- STAT 3704: Statistics for Engineering Applications
- ESM 2304: Dynamics
- ESM 2204: Mechanics of Deformable Bodies
- ME 2124: Introduction to Thermal & Fluids Engineering
- MATH 2214: Introduction to Differential Equations
- **ME 2024: Introduction to Engineering Design & Economics** (normally taken during Sophomore Fall semester)
- **ECE 2074: Electric Circuit Laboratory** (combines with ELEN20005 to satisfy ECE 2054)

### VT FALL SEMESTER, JUNIOR YEAR — 16 semester credit hours:

- ECE 3254: Industrial Electronics
- ME 3514: System Dynamics
- ME 3614: Mechanical Design I
- ME 3404: Fluid Mechanics
- ME 3124: Thermodynamics
- **ISE 2214: Manufacturing Processes Laboratory** (normally taken during Sophomore Fall semester)

### VT SPRING SEMESTER, JUNIOR YEAR — 15 semester credit hours — or 18 credits if going to Germany:

- ME 4005: Mechanical Engineering Laboratory I
- ME 4504: Control Engineering or ME 3504: Vibrations — **replace with GER 1114 if going to Germany**
- ME 3304: Heat & Mass Transfer
- MSE 2034: Elements of Materials Engineering
- Mechanical Engineering technical elective — **replace with AREA 3 elective if going to Germany**

**Virginia Tech - College of Engineering**  
**Transfer Credit Request Form - EDUCATION / STUDY ABROAD**

**Courses must be pre-approved by the College of Engineering Academic Dean's Office/212 Hancock Hall.**

**Policies Governing Transfer Credit to Virginia Tech:**

1. Courses must be taken through either a study abroad program offered by an accredited college or university in the U.S. or an institution recognized by the country's Ministry of Education.
2. Only courses in which the student earned a grade of "C" or better will transfer. Home study, correspondence and Pass/Fail courses will not transfer. Courses taken as credit-by-exam or as advanced standing at another school do not transfer.
3. Only credits earned transfer; grades do not transfer and do not figure into a student's Virginia Tech GPA computation.
4. Where credit hours given at the other school exceeds that for the equivalent Virginia Tech course, only the Virginia Tech credit hours will be granted.
5. A course passed at Virginia Tech takes priority over an equivalent transfer course, regardless of when the transfer course is taken or the grade earned. Courses that duplicate previously studied material will not transfer.
6. A minimum of ¼ of the credit for the degree must be earned at Virginia Tech.
7. Of the last 45 semester hours before graduation, a maximum of 18 semester hours may be transfer hours.
8. Courses taken elsewhere during periods of academic suspension will not transfer to Virginia Tech.

**Completing the Transfer Credit Request Form:**

1. Choose a school and courses. Check with the transfer school to ensure the courses you want to take will be offered during your term(s) of attendance. Contact the Study Abroad Advisor at [engabroad@vt.edu](mailto:engabroad@vt.edu) for a list of schools offering engineering programs.
2. If the institution you wish to attend requires a letter of good standing from Virginia Tech, you may request this certification by filling out a form in the Registrar's office, 250 Student Services Building.
3. Meet with academic advisor to discuss taking courses elsewhere and have the advisor or approved departmental representative sign this form.
4. Go to Education/Study Abroad Office (International Affairs – 526 Prices Fork Rd. Room 131) to complete appropriate paperwork and pay fees, if any. Have representative from Study Abroad Office sign this form.
5. For each class you request to take elsewhere you must obtain a detailed syllabus (in English) from the institution. Attach syllabi for each class to this form, and return to 100-F2 Randolph Hall or submit to [rdw@vt.edu](mailto:rdw@vt.edu). Upon completion of the course(s), request that an official transcript (English translated copy) be sent to: Virginia Tech, University Registrar, 250 Student Services Building (0134), Blacksburg, VA 24061. If you have not submitted a transcript showing completion of the course(s) by one calendar year after completing the course(s), you forfeit transfer credit for the course(s).
6. This authorization is based on information you provide and is subject to change if the information changes. Once transfer credit is awarded, students must confirm that it is consistent with the decision reflected on this form. If there are inconsistencies please contact your Academic Dean's office in 212 Hancock Hall. No changes will be made to the transfer credit one year after completion of the transfer course(s).
7. There are many details to the study abroad process. Please allow a minimum of 3 months for final approval. You should begin this process at least 6 months prior to your departure date.
8. Student may submit up to two forms (eight courses) per term, maximum of two institutions, for consideration.

Student's Initials: \_\_\_\_\_ ID#: \_\_\_\_\_ Email: \_\_\_\_\_ @vt.edu Date: \_\_\_\_\_

Major: **MECHANICAL ENGINEERING** Current # of Transfer Credits: \_\_\_\_\_ Local Phone #: \_\_\_\_\_

Name and country of institution you will be attending: **University of Melbourne, AUSTRALIA**

Is this a study abroad that is administered through a United States college or university? (will transcript come from a U.S. school?)

**XXX** no \_\_\_\_\_ yes, please specify: \_\_\_\_\_

Semester(s) you will be attending this institution: **XXX** Fall \_\_\_ Spring \_\_\_ Summer Year: **2018**

Other Institution				VT Equivalent				
Dept	Course #	Course Title	#Cr Hrs	Dept	Course #	Course Title	#Cr Hrs	Office Use (Approval)
PHYC	10004	Physics 2: Physical Science & Technology	12.5 CP (4 cr)	PHYS	2XXX	Must complete VT optics module for PHYS 2306	4 cr	
ELEN	20005	Foundations of Electrical Networks	12.5 CP (4 cr)	ECE	3054	Electrical Theory	3 cr	
COMP	20005	Engineering Computation	12.5 CP (4 cr)	ME ME	2004 4XXX	Engineering Analysis Technical Elective	2 cr 2 cr	
MULT	10001	Arboriginalities	12.5 CP (4 cr)	AINS	1104	Introduction to American Indian Studies (AREA 2)	3 cr	

**Student Signature:** \_\_\_\_\_

Student signature above affirms that the student understands transfer policies and knows if/how this will impact degree requirements

**Advisor/Dept. Representative Signature:** \_\_\_\_\_

Dept. signature above affirms that student has discussed his/her plan with academic advisor but does not guarantee transfer credit approval.

**VT Global Education Office Signature:** \_\_\_\_\_

Signature above affirms that the student has notified the Global Education Office of their plans and the institution meets Policy #1 requirements above.

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_