Semester Abroad Minor Aerospace Engineering 2019/20

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School of Engineering
Semester Abroad Theme

- A single semester of Part III is spent abroad at one of our partner institutions
- All relevant teaching is in ENGLISH
- All courses are taken for credit and will be counted toward the UoS MEng degree
- Foreign grades are converted to UoS grades (this conversion is not strict and aimed at avoiding too extreme deviations from your previous grades)
- The MEng degree is awarded after 8 semesters, as usual
- Tuition at UoS simply continues and no further tuition costs should occur at the exchange institution
- For going to Europe there is a grant via the ERASMUS student mobility scheme (check blackboard site for details)
- Other small-scale scholarship options for non-ERASMUS exchanges might be available to you (details from UoS International Office)
Semester Abroad Theme

- Students must achieve ~60% in Part I and II to be eligible for the Semester Abroad scheme
- You have to be nominated by UoS when applying to the exchange institution
- Present approved partner institutions for Semester 1 exchange:
  - Pennsylvania State University, USA (non-ERASMUS)
  - Purdue University, USA (non-ERASMUS)
  - Technical University Delft, Netherlands (ERASMUS)
  - Politecnico di Milano, Italy (ERASMUS)
- For Semester 2 exchange:
  - ESTACA Paris, France (ERASMUS)
  - SUPAERO Toulouse, France (ERASMUS)
- Ad-hoc exchanges not permitted
Integration into the MEng degree

- Regular Part III programme

<table>
<thead>
<tr>
<th>Module Code</th>
<th>Module Title</th>
<th>ECTS Credit Points</th>
<th>Choice Type</th>
<th>Sem</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEEG3003</td>
<td>Individual Project (core)</td>
<td>15</td>
<td>C</td>
<td>1,2</td>
</tr>
<tr>
<td>SESA3030</td>
<td>Aerospace Control Systems</td>
<td>7.5</td>
<td>C</td>
<td>1</td>
</tr>
<tr>
<td>SESA3029</td>
<td>Aerothermodynamics</td>
<td>7.5</td>
<td>C</td>
<td>1</td>
</tr>
<tr>
<td>SESA3026</td>
<td>Aircraft Structural Design</td>
<td>7.5</td>
<td>C</td>
<td>2</td>
</tr>
<tr>
<td>SESA3040</td>
<td>Aircraft Design</td>
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or

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<td>SESA3041</td>
<td>Spacecraft Systems Engineering and Design</td>
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- The IP has to be completed in a single semester
- Depending on semester, suitable replacements for compulsory courses have to be found at the exchange university
- Missing courses (two maximum) become compulsory in Part IV
- Choice of modules in part III and IV with paper form signed by AE Exchange Coordinator
- Grades will be converted to UoS grades upon return using approved conversion schemes
## Part III

Part III  Modules at level 6 totalling 60 ECTS/120 CATS  
Compulsory modules (C), Theme-specific modules (T), Optional modules (O)

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<tr>
<td>FEEG3003</td>
<td>Individual Project (core)</td>
<td>15/30</td>
<td>C</td>
<td>2/1</td>
</tr>
<tr>
<td>FEEG3005/6</td>
<td>Semester Abroad module Option 1 (Semester 1)</td>
<td>30/60</td>
<td>C</td>
<td>1/2</td>
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</tbody>
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In liaison with the lead for Semester Abroad all students must take, either here or abroad the following modules (or their equivalents at the other institution).

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<tr>
<td>SESA3030</td>
<td>Aerospace Control Systems</td>
<td>7.5/15</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>SESA3040</td>
<td>Introduction to Aircraft Design</td>
<td>7.5/15</td>
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Instead of SESA3040 students may take, either here or abroad the following modules (or their equivalents at the other institution):

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For each module equivalent to SESA3026 and SESA3037 or SESA3040 taken abroad or deferred to Part IV, a theme-specific optional module may be chosen.
Part IV

Part IV Modules at levels 7 (min 60) and 6 (max 15) totaling 50/75 ECTS
Compulsory modules (C), Theme-specific modules (T), Optional modules (O)

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<th>Level</th>
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<tr>
<td>FEEG6013</td>
<td>Group Design Project (core)</td>
<td>22.5/45</td>
<td>C</td>
<td>1,2</td>
<td>7</td>
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If the module requirements shown for Part III above were not met in Part III up to 15 ECTS credits to be taken in Part IV from the following level 6 modules in liaison with the lead for Semester Abroad:

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If all module requirements for Part III can be met in Part IV by taking less than 15 ECTS credit from above list, theme-specific optional modules may be chosen instead.

And at least 7.5/22.5 ECTS from Level 7 options

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Semester abroad at PennState

- Regular non-ERASMUS exchange in Semester 1
- 2 places for AE
- Semester at PennState is from Aug – Dec
- Past course choices (15 credits = 30 ECTS) have been
  - AERSP425 Theory of Flight and/or AERSP412 Turbulent Flow
  - AERSP413 Stability and Control of Aircraft
  - AERSP450 Orbit and Attitude Control of Spacecraft
  - AERSP313 Aerospace Analysis
  - ECON102 Microeconomics (Option)
- Be careful with 400 level modules and mandatory requirements!
- Online time table (if necessary use Fall 2018 as guideline):
  http://schedule.psu.edu
- External application: deadline: 1 April 2019
Semester abroad at Purdue

- Regular non-ERASMUS exchange in Semester 1
- 1 place for AE
- Semester at Purdue is from Aug – Dec
- Very compatible AE programme
  - AAE 33400 - Aerodynamics + Laboratory (3+1)
  - AAE 36400 - Control System Analysis + Laboratory (3+1)
  - AAE 33800 - Thermal Sciences (3)
  - AAE 35103 - Aerospace Systems Design (3)
  - Option (e.g. RUS 10100)
- Note: 1 US credit hour is worth 2 ECTS
- Online time table:
  https://selfservice.mypurdue.purdue.edu/prod/bwckctlg.p_disp_dyn_ctlg
  https://engineering.purdue.edu/AAE/Academics/Undergrad/pos/Fall_2014_and_after_POS_guide.pdf
- External application deadline: 15 March 2019
Semester abroad at TU Delft

- ERASMUS exchange with some forward tracking of Part IV options in Semester 1
- 6 places for AE only
- Semester at Delft is from Sep 1 – Jan 30 and separated into two parts
- AE thematic minors worth 30 ECTS – mixed Part III and IV
  - Offshore wind energy
  - Spaceflight (likely few places for exchange students)
  - Self-composed minor (not recommended)
- Gives the new opportunity of setting a thematic minor while still being classified as Semester Abroad student
- [https://www.tudelft.nl/en/ae/education/minors](https://www.tudelft.nl/en/ae/education/minors)
- **External application deadline:** 1 April 2019
Semester abroad at Politecnico di Milano

- Regular ERASMUS exchange in Semester 1
- min. 4 places for AE only
- Semester at Milano is from end of September – last week of January. But note that regular winter exams run until early March (this might be negotiable for international students)

- New partner

- Quite compatible AE programme
  - ING-IND/06 Aerothermodynamics (10 ECTS) or Aerodynamics Of Helicopters (10 ECTS)
  - ING-IND/03 Flight Dynamics (10 ECTS)
  - ING-IND/04 Spacecraft Structures (10 ECTS) or Aerospace Structures (10 ECTS)
  - ING-IND/03 Orbital Mechanics (10 ECTS)

- Note: You are coming into the 1st year of MSc Programme
- **Aeronautical Engineering curriculum** and **Space Engineering curriculum**
- **External application** deadline: May/June 2019
Semester abroad at ESTACA Paris

- Regular ERASMUS exchange in Semester 2
- Min. 4 places for AE + ME
- Semester at ESTACA is from Feb – Jun
- English programme at 30 ECTS is **preset** and includes
  - Computer Aided Engineering
  - Signal Processing
  - Computational Fluid Dynamics
  - Hydraulic systems
  - **Structural Design**
  - Technical project
  - Project management
  - French language and Culture

- **External application** deadline: 15 October 2019
Semester abroad at SUPAERO Toulouse

- Regular ERASMUS exchange in Semester 2
- Min. 4 places for AE only
- New programme
- Spring Semester in Aeronautical Engineering at SUPAERO is from late Jan - early/mid Jun
- English programme at 30 ECTS is preset, each course at 6 ECTS, and includes
  - Aircraft design
  - Aircraft structures
  - Representation, analysis and dynamic systems control
  - Project in area of applied aerodynamics and propulsion
  - Introduction to French language, culture and to the aerospace industry in France

- [https://websites.isae-supaero.fr/springsemester](https://websites.isae-supaero.fr/springsemester)
- External application deadline: around 15 October 2019
Internal application process

- Things to consider before applying
  - Why do I want to do this?
  - What are the benefits?
  - What are the risks and potential problems?
  - What are the costs?

- Fill out the Internal Application Form and submit to R.Deiterding@soton.ac.uk by Friday, 22th February 2019

- The quality of your internal application has an influence on the ranking. The selection is not made just on grades only.

- I will make an internal list and confirm with you within days

- By early March, you should have clarity for which exchange you are selected
Preparing the external application after internal selection

- Check requirements (see links above)
- Go to BlackBoard -> Exchange & Study Abroad
- Download learning forms, insurance, risk assessment forms, etc.
  - ERASMUS forms for Delft, Milano, ESTACA, SUPAERO
  - Non-ERASMUS forms for PennState, Purdue
- Have learning form with course plan signed by Study Abroad Faculty Officer
- Prepare further required material (motivation letter, etc.)
- Obtain nomination letter (if required)
- Submit by external deadline (see above)
- More details from International Office!