

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

Module Code	Module Title	ECTS Credit Points	Choice Type	Sem
FEEG3003	Individual Project (core)	15	C	1,2
SESA3030	Aerospace Control Systems	7.5	C	1
SESA3029	Aerothermodynamics	7.5	C	1
SESA3026	Aircraft Structural Design	7.5	C	2
SESA3040	Aircraft Design	7.5	T	2
	or			
SESA3037	Concurrent Spacecraft Design	7.5	T	2
SESA3041	Spacecraft Systems Engineering and Design	7.5	T	1

- 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)

Module Code	Module Title	Credit Points ECTS/CATS	Choice Type	Semester
FEEG3003	Individual Project (core)	15/30	C	2/1
FEEG3005/6	Semester Abroad module Option 1 (Semester 1)	30/60	C	1/2
	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).			
SESA3026	Aircraft Structural Design	7.5/15		2
SESA3029	Aerothermodynamics	7.5/15		1
SESA3030	Aerospace Control Systems	7.5/15		1
SESA3040	Introduction to Aircraft Design	7.5/15		2
	Instead of SESA3040 students may take, either here or abroad the following modules (or their equivalents at the other institution):			
SESA3037	Concurrent Spacecraft Design	7.5/15		2
SESA3041	Spacecraft Systems Engineering and Design	7.5/15		1
	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.	7.5/15	T	2

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)

Module Code	Module Title	Credit Points ECTS/CATS	Choice Type	Semester	Level
FEEG6013	Group Design Project (core)	22.5/45	C	1,2	7
	If the module requirements shown for Part III above were <u>not</u> 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:				
SESA3026	Aircraft Structural Design	7.5/15	T	2	6
SESA3029	Aerothermodynamics	7.5/15	T	1	6
SESA3030	Aerospace Control Systems	7.5/15	T	1	6
SESA3037	Concurrent Spacecraft Design	7.5/15	T	2	6
SESA3040	Introduction to Aircraft Design	7.5/15	T	2	6
SESA3041	Spacecraft Systems Engineering and Design	7.5/15	T	1	6
	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				
	Option	7.5/15	O	1/2	7
	Option	7.5/15	O	1/2	7
	Option	7.5/15	O	1/2	7

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>
- http://www.aero.psu.edu/ugradstud/Ugrad_Curr_Guide.pdf
- 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>
- 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
- <http://www.estaca.fr/en/programs/automotive-aeronautics-design-programme.html>
- 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://www.isae-superaero.fr/en/admissions-en/ingenieur-isae-superaero-msc-admissions/>
- <https://websites.isae-superaero.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!*