



ALMA MATER STUDIORUM UNIVERSITA' DI BOLOGNA  
MASTER DEGREE IN AEROSPACE ENGINEERING- FORLÌ CAMPUS



DUAL DEGREE PROGRAMME IN AEROSPACE ENGINEERING

with

ROYAL INSTITUTE OF TECHNOLOGY- KTH, SWEDEN

ALMA MATER STUDIORUM - UNIVERSITÀ DI BOLOGNA

IL PRESENTE MATERIALE È RISERVATO AL PERSONALE DELL'UNIVERSITÀ DI BOLOGNA E NON PUÒ ESSERE UTILIZZATO AI TERMINI DI LEGGE DA ALTRE PERSONE O PER FINI NON ISTITUZIONALI



# Dual Degree

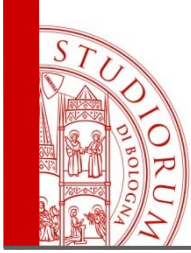
- A Dual Degree is an **integrated study programme** offered upon the agreement between at least 2 universities of different countries.
- The integrated study programme and the regulations for the award of the degree diploma is defined within the **agreement**.
- Students will carry out part of their academic career at the host university (**1 academic year**).
- At the end of the study programme, students are awarded the **degree diploma of both universities**, legally valid in both countries.



Unibo



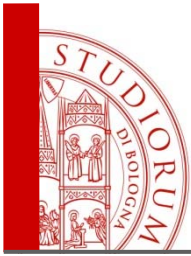
KTH



## Dual Degree UNI BO-KTH

Students participating in this programme will gain a Dual degree in

- “Laurea Magistrale in Aerospace Engineering” from the University of Bologna (2-year degree programme, 120 ECTS/CFU)
- and
- “Master Degree in Aerospace Engineering” from KTH (2-year degree programme, 120 ECTS/CFU)



## The Dual Degree Programme Structure

- Students must earn **no less than 55 CFU/ECTS** and **no more than 65 CFU/ECTS**, included the final thesis.
- The amount of credits earned at UNIBO and KTH must sum up to **120 ECTS**.
- Students participating in the mobility programme are **exempt from** paying the university admission **fee at KTH**, except for the degree granting fee if required. Students will continue paying fees at UNIBO.
- The common integrated study programme is attached to the **Agreement** together with **correspondence tables**.





## The Dual Degree Programme Structure

- The study programme will be individually defined for each student according to the correspondence table. Most of the exams are set, some elective exams can be chosen
- For the **final degree project**, both institutions nominate one examiner who is responsible for the arrangement of the topic and subject area of the project; it must always receive an advanced approval in writing and it will be carried out under the supervision of the examiner of the host institution.
- Students will obtain the **degree qualification** at the University where they defend their final dissertation -> KTH for UNIBO students



# Study Programme Mobility

## ANNEX 2A

Study programme for students from UNIBO  
from 2015-2016

### FIRST YEAR AT UNIBO (Sept17- Aug 18)

I YEAR @ UNIBO	CREDITS	PERIOD	YEAR
APPLIED AERODYNAMICS A	6	1	1
APPLIED AERODYNAMICS B	6	1	1
ATMOSPHERE FLIGHT DYNAMICS A	6	2	1
ATMOSPHERE FLIGHT DYNAMICS B	6	2	1
MATHEMATICAL METHODS FOR ENGINEERING	6	1	1
AEROSPACE STRUCTURES A	6	1	2
AEROSPACE STRUCTURES B	6	1	2
NUMERICAL ANALYSIS	6	2	1
2 ELECTIVE COURSES (SEE TABLE 1)	12		1
<b>CREDITS FIRST YEAR</b>	<b>60</b>		

### SECOND YEAR AT KTH (Aug18-Aug19)

II YEAR @ KTH	CREDITS	PERIOD	YEAR
SD2810 Aeroelasticity	9	1	2
AK2030 Theory and Methodology of Science (Natural and Technological Science)	4,5	1	1
MJ2241 Jet Propulsion Engines, General Course	6	1	2
EL2520 Control Theory and Practice, Advanced Course	7,5	2	2
1 ELECTIVE COURSE (SEE TABLE 2)	3		
THESIS	30		2
<b>CREDITS SECOND YEAR</b>	<b>60</b>		

EQUIVALENT @ UNIBO	CREDITS	PERIOD	YEAR
DESIGN METHODS IN THE AEROSPACE INDUSTRY	9	1	2
AEROSPACE PROPULSION SYSTEM	9	1	1
AUTOMATIC FLIGHT CONTROL	6	1	2
1 ELECTIVE COURSE (SEE TABLE 2)	6		
THESIS	30		
<b>CREDITS SECOND YEAR</b>	<b>60</b>		

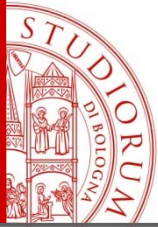
**TOTAL CREDITS - KTH DEGREE (60+60)** **120**

**TOTAL CREDITS - UNIBO DEGREE (60+60)** **120**



## Elective courses

O	SG2215 Compressible Flow	7,5	Aerospace Technologies and Materials	6
O	SG2212 Computational Fluid Dynamics	7,5	"	6
O	<a href="#">SD2415 Process Modelling for Composite Manufacturing</a>	6	"	6
O	SE2129 Fracture Mechanics and Fatigue	9	"	6
O	SD2432 Lightweight Design	20	"	6
O	SD2413 Fibre Composites - Analysis and Design	6	"	6
O	<a href="#">MJ2246 Rocket Propulsion</a>	6	"	6
O	SD2414 Fibre Composites - Materials and Manufacturing	6	"	6
O	SD2450 Biomechanics and Neuronics	6	"	6
O	SD2905 Human Spaceflight	7,5	Spacecraft Attitude Dynamics and Control	6
O	AH2923 Global Navigation Satellite Systems (GNSS)	7,5	"	6
O	<a href="#">SD2900 Fundamentals of Spaceflight</a>	7,5	"	6
O	<a href="#">SG2805 Spacecraft Dynamics</a>	9	"	6
O	<a href="#">EF2240 Space Physics</a>	6	"	6
O	EF2260 Space Environment and Spacecraft Engineering	6	"	6
O	SD2450 Biomechanics and Neuronics	6	"	6



## TEACHING CALENDAR at KTH

<b>Autumn term</b>	<b>28 August 2017- 15 January 2018</b> 2 teaching periods and two exams periods
<b>Spring term</b>	<b>16 January 2018- 4 June 2018</b> 2 teaching periods and two exams periods

## ACADEMIC LIFE at KTH

<https://www.kth.se/en/studies/why-kth>







## How to apply

Starting from this year, applications must be made **only through the Erasmus+ 2018/2019 call for applications**, open from January 10<sup>th</sup> to **February 13<sup>th</sup> 2018**.

Interested students must meet the Erasmus+ requirements plus the additional requirements indicated in the call for applications.

Additional documents to upload:

- CV written in English
- B2 language certificate
- proposed study plan

The **compulsory interview** in English language will be carried out on **February 22<sup>nd</sup> 2018** from 12.00.

The **2 selected students** will receive a **financial contribution** during their mobility to KTH through the **Erasmus+ mobility for studies**. Please read carefully the Call for applications at the following page:

<http://www.unibo.it/en/international/Studying-abroad/General-information-on-Erasmus/Participation-methods>



## Contact Details for KTH and UNIBO

### Academic representatives and administrative referents for the Programme

<p>Unibo Academic representative Prof. Paolo Tortora Via Fontanelle 40, 47122 Forlì (FC) Ph. +39 0543 3 74456 Email: <a href="mailto:paolo.tortora@unibo.it">paolo.tortora@unibo.it</a></p> <hr/> <p>Prof. Alessandro Talamelli Via Fontanelle 40, 47122 Forlì (FC) Ph. +39 0543 3 74423 Email: <a href="mailto:alessandro.talamelli@unibo.it">alessandro.talamelli@unibo.it</a></p> <hr/>	<p>Unibo administrative referent Ms Giulia Chiadini School of Engineering and Architecture Via Fontanelle 40, 47122 Forlì (FC) Ph. +39 0543 3 74416 Email: <a href="mailto:cldm.ae@unibo.it">cldm.ae@unibo.it</a> <a href="mailto:giulia.chiadini2@unibo.it">giulia.chiadini2@unibo.it</a> web: <a href="http://www.unibo.it/AerospaceEngineering">www.unibo.it/AerospaceEngineering</a></p> <hr/>
<p>KTH Academic representative Responsible Prof. Christer Fuglesang E-mail <a href="mailto:cfug@kth.se">cfug@kth.se</a> Telephone <a href="tel:+4687906465">+46 8 790 64 65</a> Link <a href="http://www.kth.se/profile/cfug/">www.kth.se/profile/cfug/</a></p>	<p>Ms. My Delby Master Coordinator School of Engineering Sciences  Teknikringen 8, SE-100 44 Stockholm, Sweden Phone: +46-8-790 7163 Email: <a href="mailto:master@sci.kth.se">master@sci.kth.se</a></p>



THANK YOU FOR YOUR ATTENTION!



*Ms. Giulia Chiadini*