

## DUAL DEGREE PROGRAMME IN AEROSPACE ENGINEERING

\_\_\_\_\_ with \_\_\_\_\_

ROYAL INSTITUTE OF TECHNOLOGY- KTH, SWEDEN



ALMA MATER STUDIORUM  
UNIVERSITÀ DI BOLOGNA  
CAMPUS DI FORLÌ



**International Day**  
**14<sup>th</sup> January 2020**

# Dual Degree programme

- 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 UNIBO-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 -> for UNIBO students it means at KTH!



# Study Programme Mobility

## ANNEX 2A

### Study programme for students from UNIBO

#### FIRST YEAR AT UNIBO (Sept 20- Aug 19)

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 (Aug 20- Jul 21)

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 PREPARATION + FINAL PROJECT	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>Mid August 2020- mid January 2021</b> 2 teaching periods and two exams periods
<b>Spring term</b>	<b>Mid January 2021 - June 2021</b> 2 teaching periods and two exams periods

## ACADEMIC LIFE at KTH

<https://www.kth.se/en/student>





# How to apply

Applications are **only processed through the Erasmus+ 2020/21 call for applications**, open from January 9<sup>th</sup> to **February 11<sup>th</sup> 2020, h. 13.00**.

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

## Compulsory 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 21<sup>st</sup> 2020** from 11.30.

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:

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



# Contact Details for KTH and UNIBO

## Academic representatives and administrative contact persons for the Programme

<p>Unibo Academic representative Prof. Fabrizio Giulietti Via Fontanelle 40, 47122 Forlì (FC) Ph. +39 0543 3 74456 Email: <a href="mailto:fabrizio.giulietti@unibo.it">fabrizio.giulietti@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 rep Mrs Giulia Chiadini Ufficio gestione CdS Ingegneria Via Fontanelle 40, 47122 Forlì (FC) Ph. +39 0543 3 74416 Email: <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> <hr/>	<p>Ms. Karin Gorgen Master Coordinator School of Engineering Sciences</p> <p>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>



# F.A.Q (Frequently Asked Questions)

***I am planning to enrol on the MSc Aerospace Engineering at Unibo in September 2020, can I already apply for the Dual Degree?***

No, only students currently enrolled on the 1<sup>st</sup> year of the MSc can apply for the dual degree programme.

***I do not hold a B2 level certificate, will my application be accepted?***

No, a B2 level certificate is required to participate in the programme.

***Do I have to finish all first year exams before leaving for KTH?***

No, there is no requirements in terms of exams. You can finish exams at Unibo on your return.

***Who can help me with accommodation and other procedures at KTH?***

You will be in contact with admission office and other colleagues at KTH.

***What happens if I fail an exam at KTH?***

You can resit the exam according to KTH regulations. If you fail again, you will sit the exam at Unibo.

***What if I do not gain 55 credits at KTH?***

You will not obtain the KTH Diploma. Your mobility at KTH will become just an Erasmus+ mobility and the credits obtained abroad will be recognised in your career. As long as at least an activity is recognised in your career, you will not lose the Erasmus+ funding



# Thank you for your attention!



*Mrs. Giulia Chiadini*

[giulia.chiadini2@unibo.it](mailto:giulia.chiadini2@unibo.it)

[www.unibo.it/AerospaceEngineering](http://www.unibo.it/AerospaceEngineering)

