

# All about Cranfield

September 2024



# About Cranfield

We are a world-leading specialist institution.

Our vision is to be valued globally for tackling the real-world issues of today to deliver a sustainable future.

We work in partnership with business, academia, governments and other organisations to develop and deliver applied research and innovative education in science, engineering, technology and management.



# Strategically located in the UK

Cranfield University was established in 1946 and is located within the Oxford to Cambridge Arc. This makes Cranfield University well-located for study and research opportunities as well as future employment prospects.





# **Key facts about Cranfield**







Six-time
winner
of the prestigious
Queen's Anniversary
Prize



Our worldwide
community is a
powerful professional
network with students
and learners from

177
countries



Cranfield School of
Management is one of
an elite group of schools
worldwide with
triple
accreditation



# Global reach

Cranfield University

We have unrivalled industry partnerships. 1,500 companies across the world choose to work with us. Below are just a few of the organisations we work with.

































































# Cranfield master's course structure

This diagram illustrates the course structure of many of our full-time master's courses, it is not indicative of all courses.

Please check your course structure online for more detailed information, including the weighting of each phase and part-time course structure variations

Taught programme: an intensive learning experience, providing you with the knowledge and skills you

need to excel in your chosen specialist field



**Group project** (not included in Defence and Security and School of Management courses): you will have the opportunity to address a real-world problem. The ability to understand how your part of a project affects the whole is a steep learning curve and this project gives our graduates a head start.

**Individual thesis:** an opportunity to think and work in an original way. This could be working on a project for a university partner, delving deeper into an area of specific interest or a real-world challenge in the sector you want to work in.



# We create leaders in technology and management



Our expertise is in our deep understanding of technology and management and how these work together to benefit the world.



Aerospace



Manufacturing and Materials



**Defence and Security** 



**School of Management** 



Energy and Sustainability



Transport Systems



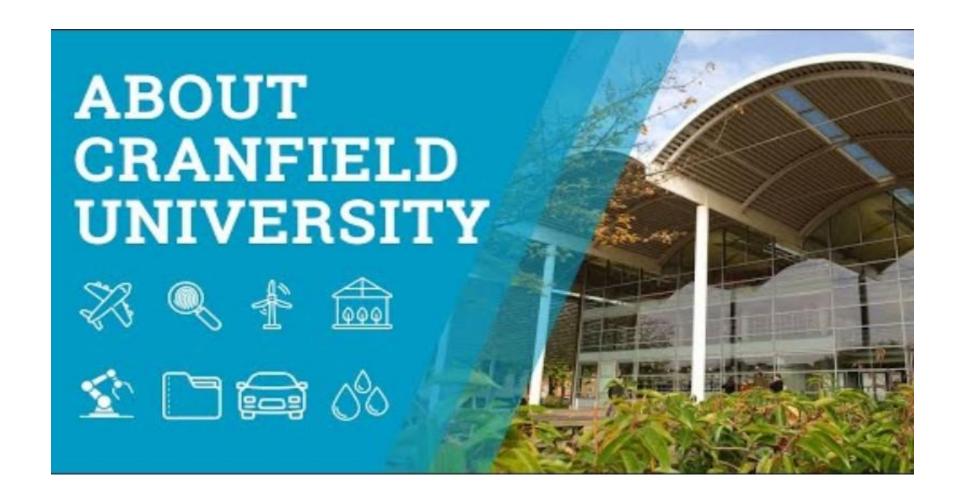
**Environment and Agrifood** 



Water









"The group design project was the best part of the course. It was an out-of-this-world experience when we received appreciation for our project work from the who's who in the aerospace industry."

Anurag Anil Joshi, Co-founder and Director of INDrone Aero Systems, (Aerospace Vehicle Design MSc 2016)



UK No.1

specialisms

Our aerospace capabilities combine

manufacturing and transport systems

mirroring the real

Over three-quarters of our Aerospace learners come from outside the UK, representing over 60 nationalities. 20% UK 38% EU 42% Overseas (Figures from June 2021)

expertise in

world.

Over half of all aerospace engineering master's students in the UK study with us.

# **Facilities in Aerospace**

Cranfield is the only university in Europe with its own fully-operational airport, aircraft and air investigation service provider on campus.

## **Our facilities include:**



# Air traffic management laboratory

With an integrated airport control tower simulator high-fidelity flight simulator, we can investigate the impact of the different air traffic management agents on airspace users.



# Gas turbine engineering laboratories

Equipped with a 2MW compressed air plant and regenerative air heater, giving the capacity of providing clean air at high pressure, temperature and flow.





# **Aerospace Integration Research Centre (AIRC)**

The AIRC houses physical and virtual simulation labs including development of a virtual wind tunnel and an aircraft flight simulator to assess the impact of new ideas on aircraft.

# Cranfield's global research airport

Gas turbine and propulsion

Living laboratory

Operational Q4 2021

Sensors around the airport monitor air

quality, soil moisture, temperature and noise levels, including sound from wildlife.

Other sensors monitor water quality and

levels, and runway and ground movements.

Entrepreneurship cluster

Smart' car park

connected to MUEAVI

### Multi-User Environment for (MUEAVI)

This instrumented transport corridor runs through the middle of the campus and is used for the development of intelligent and autonomous vehicles. Sensors include lidar (laser scanners that can measure distance), radar that can detect pedestrians and cyclists at up to 200 metres, and thermal imaging cameras.

Opened 2017

#### Digital air traffic control centre

Housing the UK's first operational remote air traffic control tower, the centre provides air traffic services for the airport.

Operational December 2018

Donated by British Airways, the aircraft is used for research and teaching and is an important part of DARTeC.

State of the art Aveillant drone detection radar for research as part of DARTeC

Research ready 2021

# Digital Aviation Research and

A unique centre addressing the global challenges of digital systems integration across aviation.

Opened 2021

### A national asset for the UK

Major research facility with Airbus and Rolls-Royce dedicated to future aerospace integration challenges.

Opened 2017

# National Beyond visual line of sight

Designed to enable drones and unmanned aircraft to fly in the same airspace as manned aircraft, NBEC will open in phases as surveillance systems are approved. The first NBEC test flights were undertaken in February 2019 in collaboration with the CAA innovation

## Operational Q4 2021

# Centre (NFLC)

The NFLC's 'flying laboratory' provides a viable alternative to flight test and research work using simulators, wind tunnels, or more expensive turbine aircraft, often testing new parts and equipment for industry partners. The NFLC also has other light aircraft used for received.

#### FAAM Airborne Laboratory

Dedicated to the advancement of atmospheric science, the specially-modified BAe-146 research aircraft is owned and run by the Natural This is used by many UK and overseas universities and by the Met Office



team and Blue Bear Systems.

Operational late 2020

Data from MUEAVI is relayed into the

**Intelligent Mobility** Engineering Centre (IMEC)

control room. Within IMEC there are vehicle workshops, vehicle electrification and autonomous vehicle research capabilities.

### Cranfield Aerospace Solutions Ltd

Wholly-owned subsidiary company specialising in aircraft prototyping, modifications and approvals.

#### Solar power farm

Clean, renewable energy for the airport flows from a solar power farm located on the other side of the airfield.

# Technology Centre (DARTeC)

# Our master's courses - Aerospace

## **Course title**

Advanced Air Mobility Systems

Advanced Lightweight and Composite Structures

Aerospace Computational Engineering

Aerospace Dynamics

Aerospace Vehicle Design

Applied Artificial Intelligence

Astronautics and Space Engineering

Autonomous Vehicle Dynamics and Control

Computational Fluid Dynamics

Computational and Software Techniques in Engineering

Robotics

Thermal Power and Propulsion





Defence and Security

"The future is ever more complex, uncertain and fast-paced. Preparing our Defence Academy graduates for this reality is our greatest – and most important – endeavour. Cranfield Defence and Security continues to play an innovative and far-sighted role in achieving this objective. Defence and Security's deep expertise and reputation are key to ensuring the postgraduate education required of UK defence is world-leading."

Major General Andrew Roe, Chief Executive, Defence Academ and Commandant, Joint Services Command and Staff College



**70**%

Over 70% of our defence learners are serving military officers and civil servants.



Over 3,000 delegates and exhibitors, representing more than 700 companies, academic institutions and government agencies attend our symposia annually.



Students from more than 70 countries have studied Defence and Security with us.

# **Facilities in Defence and Security**

## Our facilities include:

Cranfield Ordnance Test and Evaluation Centre (COTEC)
Were materials and weapons are tested and evaluated for
governments' agencies, defence suppliers and manufacturers



A £3.5 million investment in forensic facilities including a virtual reality autopsy table, crime scene investigation rooms and a simulated mass excavation site at our Bedfordshire campus.

Find out more about our Defence and Security facilities <a href=here</a>.



# Our master's courses – Defence and Security (Forensics)



## **Course title**

Forensic Archaeology and Anthropology

Forensic Investigation

Forensic Investigation of Heritage Crime

**Digital Forensics** 

**Forensics Ballistics** 

Forensic Biology

Forensic Explosive & Explosion Investigation



"I would say to a future student, study in energy and power and not to hesitate because obviously climate change is a huge issue that everybody is looking into at the moment. There's something for everybody in the energy sector."

#### Beth Hall,

Project Manager, Siemens, (Materials for Energy Systems MSc 2018)



UK No.3

Cranfield is the third largest higher education provider for energy and power postgraduates. Higher Education Statistics Agency, 2018-2019

1 million kilowatt hours per year solar-powered

Cranfield's solar power farm is a working research facility, it provides 5% of the annual electricity on campus.



Over three-quarters of our Energy and Power learners come from outside the UK. representing over 40 nationalities.

24% UK

19% EU

57% Overseas

(Figures from June 2021)

# **Facilities in Energy and Sustainability**

### Our facilities include:



## **Energy process laboratory**

Equipped with pilot-scale facilities to study the Clean energy conversion in fossil and biofuels and Different CO<sub>2</sub> capture techniques.



# **Process systems engineering laboratory**

Equipped with industrial-scale single-phase and multi-phase flow facilities to study the behaviour of complex flows found in oil and gas production and process plants.

Find out more about our Energy and Power facilities <a href="here">here</a>.







## **Course title**

**Advanced Chemical Engineering** 

Data Science and Artificial Intelligence for Sustainability

Advanced Mechanical Engineering

Renewable Energy



"One thing I'm really proud of is that the outcome of my PhD has resulted in a collaborative partnership that's supporting over 7,000 small-holder farmers in Northern Madagascar. My PhD was sponsored by Unilever, and I worked directly with them to maximise the business impact my PhD could have. As a result, I joined them full-time after finishing my studies."

#### Dr Siobhan Gardiner,

Climate Change and Environment Lead Deloitte

Global Sustainable Technology Senior Manager, Unilever (2017-2019),

(Environment and Agrifood PhD 2017





The new Agri-Informatics building was awarded best education building in the Local Building Authority (LABC) central region 2020 awards.

Over **350** 

Our World Soil Survey Archive and Catalogue, (WOSSAC) covers 360 territories worldwide.



Just under two-thirds of our Environment and Agrifood learners come from outside the UK, representing over 35 countries.

34% UK

28% EU

38% Overseas

(Figures from June 2021)

www.cranfield.ac.uk/environmentandagrifood

THINKING, BRILLIANTLY APPLIED

# **Facilities in Environment and Agrifood**

### Our facilities include:



## **Cranfield Urban Observatory**

The Cranfield campus is a living laboratory.

Our airport, solar farm, water treatment facility and road-testing environment are some of the capabilities linking the campus-wide network of sensors measuring the air, water, soil and wildlife.



## Plant science laboratory

One of the largest and best-equipped postharvest laboratories including cold rooms, testing facilities and fully-equipped, large-scale glasshouses.





# The Centre for Environmental and Agricultural Informatics

Two new £3 million buildings for agri-informatics, atmospheric research and land-use observation systems.

Find out more about our Environment and Agrifood facilities <a href="here">here</a>.



# Our master's courses – Environment and Agrifood



## **Course title**

**Applied Bioinformatics** 

**Environmental Engineering** 

**Environmental Management for Business** 

Food Systems and Management

Future Food Sustainability

Geographical Information Management

Advanced GIS and Remote Sensing



School of Management

"From my experience in business and my academic research, I know how important it is to manage the social and environmental impact of a business. Integrating sustainability into business strategy not only offers challenges but opportunities. This is true now more than ever as businesses must play their part in halving carbon emissions in the next decade, as well as dealing with the implications of Covid-19."

**Dr Rosina Watson,** Senior Lecturer in Sustainability





Flagship MBA is ranked second in Europe for the learning experience, seventh in Europe for networking. Bloomberg Businessweek European Best B-Schools ranking of full-time MBA programmes 2019-20



Ranked top in the world for breadth of alumni network. The Economist Which MBA? Rankings 2019



Over a quarter of our School of Management learners come from outside the UK, representing over 75 countries.

69% UK

7% EU

24% Overseas

24% Overseas

(Figures from June 2021)

www.cranfield.ac.uk/som

THINKING, BRILLIANTLY APPLIED

# Master's: a different way of learning

Our specialist master's courses are designed in close collaboration with industrial advisory panels. This ensures course content is always industry-relevant and our graduates impress employers with their business readiness.

Current teaching staff to student ratio

1:5

is the best of any university in the UK





Strategic Marketing MSc

5th in the UK

Management MSc

6th in the UK

Finance MSc

9th in the UK

MBA

4th in the UK and 1st in Europe for Learning



Masters in Management 2023 Ranking

9th in the UK



# Our master's courses - School of Management



## **Course title**

Finance

Accounting and Finance

Logistics and Supply Chain Management

Management

Transformation MBA

Procurement and Supply Chain Management

Strategic Marketing

Business, Economics and Finance

**Business Data Analytics** 



"Switching to sustainable alternatives is an imperative but needs to be done in a clear-headed way, informed by a full knowledge of implications. This is nowhere more important than in manufacturing, the global machinery for transmuting natural resources into what's useful, what's needed."

Professor Richard Herrington, Head of Earth Sciences, Natural History Museum, Guest speaker at Cranfield's National Manufacturing Debate 2019





for production and manufacturing engineering PhDs. Higher Education Statistics Agency, 2018-2019



for engineering (Mechanical, aeronautical and manufacturing). QS World University Rankings by subject 2020



Over half of our Manufacturing learners come from outside the UK, representing over 50 countries.

39% UK

14% EU

47% Overseas

(Figures from June 2021)

# Facilities in Manufacturing and Materials

## Our facilities include:



## **Composites manufacturing**

A full range of composite manufacturing including novel 3D techniques and reinforcement using sustainable natural fibres.



# **Welding & Laser Processing Centre**

One of the most extensive large-scale metal additive manufacturing facilities in the world with a variety of laser processing equipment.



### **Materials characterisation suite**

Students receive hands-on experience with a range of sophisticated techniques including electron and field ion microscopy.

Find out more about our Manufacturing facilities <u>here</u>.



# Our master's courses – Manufacturing and Materials



## **Course title**

**Advanced Materials** 

Aerospace Manufacturing

**Aerospace Materials** 

Engineering and Management of Manufacturing Systems

Global Product Development and Management

Maintenance Engineering and Asset Management

Management and Information Systems

Manufacturing Technology and Management

Metal Additive Manufacturing

Welding Engineering



"The partnerships and the fact that Cranfield is very tight knit with industry separates it from the crowd."

#### Mike Evans,

Senior Vice President, Customer Experience,





We have the largest number of transport and automotive postgraduates of any university in the UK. Higher Education Statistics Agency, 2018-2019

25%

25% of automotive engineering master's students in the UK study at Cranfield each year. Higher Education Statistic Agency 2018-2019



Over three quarters of our Transport Systems learners come from outside the UK, representing over 65 countries.

26% UK

35% EU

39% Overseas

# **Facilities in Transport Systems**

## Our facilities include:



Digital Aviation Research and Technology Centre Includes a digital air traffic control centre; passenger experience laboratory; maintenance, repair and overhaul laboratory; Boeing 737 ground demonstrator aircraft; and air traffic management laboratory.



# **National Flying Laboratory Centre**

Award-winning flying classrooms and laboratories offer and amazing learning experience and support innovative research.



## **Accident investigation laboratory**

A unique hands-on teaching facility for working with wreckage and evidence from rail, marine and aircraft Accidents.

Find out more about our Transport Systems facilities <a href="here">here</a>.



# **Our courses – Transport Systems**



### **Course title**

**Advanced Motorsport Engineering** 

Advanced Motorsport Mechatronics

Air Transport Management

Airport Planning and Management

Aviation Digital Technology Management

Automotive Engineering

**Automotive Mechatronics** 

Connected and Autonomous Vehicle Engineering (Automotive)

Safety and Human Factors in Aviation



"Cranfield is one of those leaders in the water sector you keep bumping into people who have studied there. I'm a consultant working with a number of different clients including the Swiss Government, UNICEF and the World Bank, advising on water and sanitation. The way I work has been heavily influenced by the course I did at Cranfield. There was a strong emphasis on working within a team of professionals to achieve a solution, it was very multicultural, and that's very much how I work today."

#### Sean Furey,

Director Rural Water Supply Network (RWSN), (Community Water Supply Network MSc 1998, now called Water and Sanitation for Development)





New National Water and Wastewater Treatment Test Facility and water science laboratories.



Leading some of the UK's top universities to deliver inspirational training and research for a resilient water future.



Over half of our Water learners come from outside the UK, representing over 28 countries.

38% UK

20% EU

42% Overseas

(Figures from June 2021)

# **Facilities in Water**

## Our facilities include:



A breakthrough innovation hub

With dedicated areas for design, rapid prototyping, and testing



## **Sewer loops**

For exploring the formation and control of fats, oils and greases (FOG) in sewers.



# The George Solt, UK Collaboratorium for Research on Infrastructure and Cities (UKCRIC)

Housing the point-of-use potable water laboratory and sensors laboratory.

Find out more about our Water facilities <a href="here">here</a>.







# **Course title**

Water & Wastewater Processes

# Our courses – Design

# **Course title**

**Design Thinking** 

# Life at Cranfield

Both our Cranfield and Shrivenham sites are in the heart of the English countryside, offering a safe and secure location to focus on your studies and meet like-minded professionals.

Our rural locations offer open spaces which are great for taking a break or for use as alternative study areas.

# Campus life - Cranfield

Cranfield Campus is set in extensive grounds with:

- Two hotels with full accommodation and conference facilities.
- Bars and cafes, a cash machine and a supermarket with a post office.
- Sports facilities with a fitness centre, outdoor sports pitches, tennis, badminton and squash courts.
- A chapel and mosque on site, with rooms available on request for multi faith purposes.
- An on-campus nursery school and a pre-school, both rated as outstanding by Ofsted.
- An adjoining technology park, housing dozens of entrepreneurial businesses.



# Your experience

Making the most of your experience, inside and outside of the classroom/lab

- Extra-curricular offerings developing our entrepreneurial mindset; sustainability and green issues; talks and tours
- Networking with industry; with staff and students from outside of your course
- Sports and social activities 36 clubs and societies through our Students' Association; cultural activities
- Supporting you we will help you every step of the way







#### **Student accommodation**

#### **Cranfield accommodation**

At Cranfield, there is a wide range of accommodation options:

- halls of residence
- shared houses
- apartments for couples
- houses for families
- off-campus accommodation is available via <a href="https://www.cranfieldstudentpad.co.uk/Accommodation">https://www.cranfieldstudentpad.co.uk/Accommodation</a>,
- via a search engine, you can find accommodation in nearby Cranfield village, Bedford and Milton Keynes.

#### **Shrivenham accommodation**

At Shrivenham, there is no civilian accommodation, students will need to find off-campus accommodation in the nearby town of Swindon via <a href="https://www.shrivenhamstudentpad.co.uk">www.shrivenhamstudentpad.co.uk</a>

Find out more about our accommodation here.



# Clubs and societies at Cranfield.

- Cranfield offers a wide range of clubs and societies. We have something for everyone, from sports to photography and music.
- If a club doesn't already exist, students can start their own club or society.
- For a full list of current societies and for more information about the CSA, please visit the <u>CSA</u> website.



# <u>Cranfield University</u> <u>virtual experience</u>



## **Career Development Service**

The Career Development Service is an important part of the Student Experience support function. Our team has significant real-world experience in the areas of coaching, recruitment, human resources and business development.

We help students develop their personal career journey, so they can find meaningful employment that utilises their Cranfield qualification.

The Career Development Service offers help with:

- Career development
- employer engagement
- media, marketing and communications
- internships and projects

"We like the diversity of the student population and because Cranfield caters uniquely for postgraduate students, it means we get people with the experience that we are looking for."

Liz Harris, UK Lead on Sourcing and Recruitment Marketing, ICRC





## **Employability**







# How to apply



# **Application Process**

(for Cranfield)

Check with your university what is the internal process

- Selection process, early application is advised
- Online application
- Upload copies of original documents plus, official translations to English
- Decision can take between 4 to 12 weeks
- All relevant information can be found on our website:

https://www.cranfield.ac.uk/study/application-guide



## **English language requirements**

To study for a formal award at Cranfield the applicant will need to demonstrate that they can communicate effectively in English in an academic environment. Find out how to meet this requirement by visiting <u>our website</u>.

Test provider	Tests accepted	Minimum score requirements
IELTS	IELTS Academic IELTS Online IELTS for UKVI Academic	6.5 overall and 5.5 in all skill components.
TOEFL	TOEFL iBT - we accept all 3 test options: TOEFL iBT test TOEFL iBT Home Edition TOEFL iBT Paper Edition	92 total and minimum skill component scores of 18 reading, 17 listening, 20 speaking and 17 writing.
Pearson PTE	PTE Academic Online PTE Academic UKVI	65 overall and 59 in all skill components.
KAPLAN	KTE (Kaplan Test of English)	475 overall and 410 in all skill components.



TOEIC is not an accepted test!

## English language requirements (continued)

Test provider	Tests accepted	Minimum score requirements
Cambridge Assessment English	Any Cambridge Assessment English test meeting the required scores can be accepted. The following are recommended as being within the scale score range:  Cambridge C1 Advanced  Cambridge C2 Proficiency  Linguaskill General	Cambridge English Scale score of 180 overall and 160 in all skill components.
Trinity College London	Integrated Skills in English - ISE III (C1)	Overall Pass outcome.
LanguageCert	International ESOL B2 Communicator - both the Written and Spoken tests must be taken.  International ESOL SELT B2 - this test includes all 4 skill components.	High Pass overall and 33 in all skill components.
Duolingo	<u>Duolingo English Test</u>	120 overall and subscores of 95 literacy, 100 comprehension, 85 conversation and 75 production.



TOEIC is not an accepted test!

### Student visa

If you don't hold a British passport you will need to apply for a student visa, to apply for a student visa you need the following:

- Please ensure your passport is valid for at least 6 months.
- Meet all the conditions in your offer letter in order to get to the unconditional offer stage.
- You can start your visa application 6 months before the start of your course, if all the conditions of your offer are met.

#### Costs:

- £490 application fee
- £776 per year NHS (healthcare) surcharge



https://www.gov.uk/student-visa

#### Graduate visa

A Graduate visa gives you permission to stay in the UK for at least 2 years after successfully completing a course in the UK.

#### Criteria:

- Studied a UG or PG degree in UK on a Student Visa
- You have successfully completed the course
- You must be in the UK when you apply & apply before your student visa expires

#### Costs:

- £822 application fee
- £624 per year NHS (healthcare) surcharge
- Graduate visas cannot be extended, can switch to another visa type









Our student ambassadors are the voice and face of Cranfield, someone that you can turn to for information about applying to the University.

They aren't an inquiry hotline or a <u>chatbot</u>. They might not be able to tell you the visa requirements at the drop of a hat, but they can tell you what it's like to be a European student studying at Cranfield, or where the best place to eat is on campus, or a top tip for where does the best coffee.

Chat to a Student Ambassador (cranfield.ac.uk)

### Meet the team!



Sandra Silva International Development Manager, Europe

Sandra.silva@cranfield.ac.uk



Book a meeting with me!





**Simon Davies International Recruitment Officer** 

simon.h.davies@cranfield.ac.uk

## Social media

#### Find us on:









YouTube







Blog



Weibo



Wechat

**Cranfield** University