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About Imperial College London

Consistently rated amongst the world's best

Over 2,500 students are spread across four schools – Architecture, Arts & Humanities, Communication and Design - studying at MA, MPhil, MRes and PhD level. The College's mix of professionalism and creative freedom, together with its renowned academic community and rigorous academic framework provide the ecosystem in which students flourish and achieve their highest potential.

The RCA combines support for, and training in, the “traditional” craft and professional skills of art and design, with the belief that art, design, creative thinking, science, engineering and technology must all collaborate to solve today's global challenges. The RCA champions the value of interdisciplinary learning and was the first art and design university in the world to implement a STEAM (Science, Technology, Engineering, Art and Design and Mathematics) academic vision, with investment in new faculty posts in Materials Science; Computer Science and Robotics alongside art and design disciplines. By applying creative insights to evidence-based science, its staff, students, researchers and start-ups are addressing major global challenges such as rapid urbanisation and transport; loss of biodiversity; ageing populations; unsustainable consumption and production; and the rise of AI.

Leading companies choose to work with the RCA on custom executive education programmes that address their strategic goals, unique challenges and identified opportunities. Courses have been delivered in Dubai, Hong Kong, Singapore, China, Japan and Mexico. Organisations that have benefited from RCA innovation expertise include Sony, Ford, NHS, BAA plc, Fujitsu, Kuwait Foundation for the Advancement of Sciences, GSK, Panasonic, Samsung, JP Morgan, Huawei, Majid al Futtaim and Cern.

Our practical innovation workshops and methodologies have been incorporated into those offered by other institutions. These include London Business School, Imperial College London, Judge Business School, Fudan University, National University of Singapore, Shanghai University and the University of Cambridge.

## Programme Overview

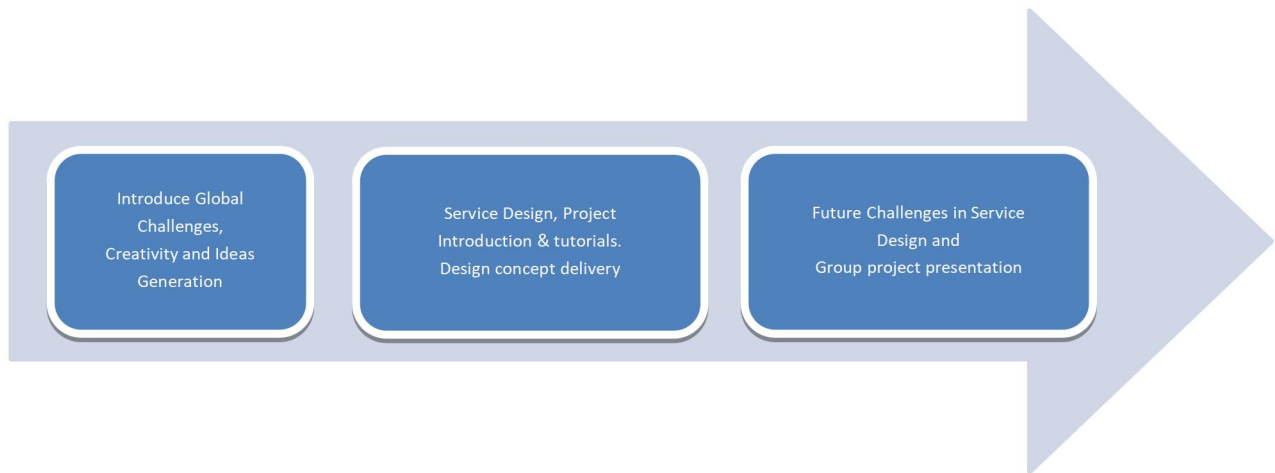
Jointly delivered by Imperial College London and the Royal College of Art, the Design for Global Challenges Winter School is a multidisciplinary programme designed for students currently studying at a university with an interest in learning how to tackle world challenges through service design.

The aim of the programme is to enable students to explore some of the current global challenges in climate change, global health, cyber security and propose an innovative idea to design a service that could tackle one of the areas.

In addition to the global challenges, students will gain an insight into data science, hear the latest advances in robotics and meet some of our graduate entrepreneurs who are driving progress by launching their design innovations into the commercial world.

Students will develop personal and professional skills through interactive workshops in design thinking, team-building and presentation and experience team based learning through a service design group project.

## Programme Structure



The first two days, students will be introduced to design thinking and form a team by exploring their social relations and roles through a leadership and team building workshop. As students familiarise themselves with one another, they will analyse and evaluate some of the global challenges in climate change, health and cyber-security and the impact it has on society and companies.

On day three and four students will be introduced to service design and encouraged to identify one area of a global challenge that needs tackling and propose an innovative idea to design a service that could either control or reduce the global challenge.

On day 5, they will explore how advances in robotics and data science technology are transforming the future and learn to develop their service design idea into a business model. The effective communication workshop will support them with their presentation skills in preparation for their final day.

On day six, students will apply their creativity and design ideas to develop their service. They will hear from successful design entrepreneurs sharing their work.

On day seven, students present their service design to a panel. This is an opportunity to put all their learnings from throughout the course into practice.

### Apply learning through Group Project

The group project not only provides an opportunity for students to learn teamwork, but it is also designed for students to apply their learning throughout the winter school and to assess their learning outcomes. Students will be allocated in small groups at the start to identify one area of a global challenge that needs tackling and propose an innovative idea to design a service that could either control or reduce the global challenge. Students will be encouraged to think creatively and innovatively to develop ideas which will be challenged by tutors who will provide guidance, tools and support them in developing their service. Each group will present their ideas to a panel on the final day and the best project team will be awarded a prize and a letter of recognition. All students will receive a project assessment score.

## Learning outcomes

On completion of the winter school, students will be able to:

- Analyse and evaluate the impact of climate change on society and the environment.
- Analyse and evaluate the impact of major global diseases and the changing future of healthcare policies and innovations.
- Analyse and evaluate the challenges of the internet and new frontiers in cyberspace/digital media security that companies face.
- Understand how advances in robotics and data science technology are transforming the future.
- Apply service design tools and develop a service to tackle a global challenge.
- Understand how businesses differentiate and compete in global markets, and to define and build business models to establish competitive advantage.
- Understand how technology are transforming marketing and advertising
- Develop and practise valuable professional skills in team building leadership and presentation.
- Develop and employ team building skills to work as a team towards a group design project.
- Find out what it is like to study in the UK, make new friends and practise your English.

## Study Tour/Visit

Students will also engage in relevant study tours and visits to enhance their learning experiences. This includes a visit to a digital marketing company to see how use of technology can transform brands advertising and a guided tour of the Design Museum with entry to the latest exhibition on show.



Photo of Design Museum atrium

# MAERS

Teaching methods

RCA Learning

We use a 'learn-by-doing' practice-based model that draws upon the ethos of the RCA studio context, an immersive, imaginative space where cross-disciplinarity and creativity push the boundaries of innovation. The model induces the creative and critical skills that are essential to all academic and industry researchers in the 21st century. Participants return to their organisations as ambassadors with the confidence to influence and lead cultural change. We find challenge-based practical projects, small teams and prototyping encourages interaction and breaks down barriers.

## RCA - People-Centred, Interdisciplinary Approach

The RCA takes a human-centred approach to innovation, informed by our specialisms in art, design and humanities, but also by our well-established track record of successful collaborations with social science, science, engineering technology and medicine. A common thread throughout all workshops is a commitment to inclusivity, ethics and integrity. Many of the underpinning people-centred methodologies are informed by longstanding research from The Helen Hamlyn Centre for Design. The HHCD approach to research and innovation centres on inclusivity, interdisciplinarity and co-creation, with specialist expertise in ageing, diversity, healthcare, societal problems and global issues.

## RCA - Networks and Teaching

The RCA provides unparalleled opportunities to access teaching researchers, guest practitioners and facilities. Our short courses reflect the college's unique studio-based learning philosophy with small class sizes, practical group work and rich interaction between students and academics.

If you are considering embarking on one of our MA Programmes, the winter school offers a snapshot of studying at the College. Previous students that have completed the winter schools have gone on to successfully apply to study on the Graduate Diploma and MA-Level courses at the RCA.

## Contact hours

57 contact hours, delivering using various active learning tools as follows:

Exercises will be provided for formative feedback.

Group projects are designed for assessing the learning outcomes. a"

Case study methodology and collective discussions are used to strengthen the conceptual, analytical and problem-solving skills of the students in real situations.

Study visits.

## Teaching Faculs



## Cost

The cost of the winter school is £5480.

The fee includes all tuition which covers:

- Lectures, project work, supporting materials, project mark and Imperial College & RCA certificate of attendance,
- Relevant visits/study tour in the programme outline,
- Lunches and refreshments on weekdays from 30<sup>th</sup> January to 7<sup>th</sup> February,
- Accommodation fee for 13 nights;
- Overseas insurance expenses;
- A London Transport card with a top-up value of £5;
- An airport shuttle service on a fixed schedule.

Please note you are eligible to apply for the scholarship up to £600 and get a tuition fee deduction.

## Application

Step 1: Please complete the application form: <https://imperial.mikecrm.com/k8Y6q2l>

Step 2: You will need to send a \_\_\_\_\_ a \_\_\_\_\_ and E \_\_\_\_\_ a \_\_\_\_\_ to the email: [icdsi.programme@gmail.com](mailto:icdsi.programme@gmail.com). It is important that the transcript includes your full name. (If this document is not in English, please provide a brief translation.)

\*The English qualification certificate is waived for the student undertake high education (undergraduate or postgraduate) studies in English. If you have difficulty providing the above evidence, you will be required to attend an online interview.

The deadline of winter school application is 23:59 30<sup>th</sup> November (UK time).

\*To prevent potential disappointment, we highly recommend that you submit your application at your earliest convenience. Our admissions process operates on a rolling system, meaning applications are assessed and decisions are made on a first-come, first-served basis. Applying earlier grants you access to a larger pool of available places to offer for evaluation.

## Scholarship Application

A scholarship of up to £600 will be provided by G a U O .

To apply, please complete an online application form and upload your personal statement (within 500 words) and CV/resume. For more details, please visit:

<http://www.globaluniversityonline.org/hqdx.php/scholarship/detail/26.html?lang=en>

The deadline of scholarship application is 23:59 20<sup>th</sup> October (UK time).

\*In order to ensure the prompt and efficient processing of your scholarship applications, it is imperative that you submit your scholarship application on the same day as your application materials.



# Videos of 2023 Summer School

## Photos of 2023 summer school



## Location

### Imperial College London

On days 1, 2, 5 & 7, classes will take place at Imperial College London's South Kensington Campus, located amongst many famous [attractions](#) in London.

The culture triangle: neighbour to three of London's most prestigious (and free) museums. Right next door, the Science Museum. Across the road, the Victoria & Albert Museum, and around the corner? The Natural History Museum. From Neolithic to the latest scientific breakthroughs, experience it all just minutes from Imperial's doorstep.

The campus is also next to the famous Royal Albert Hall, one of London's most iconic music venues, established in 1871, host to the BBC Proms and countless world-famous international artists.

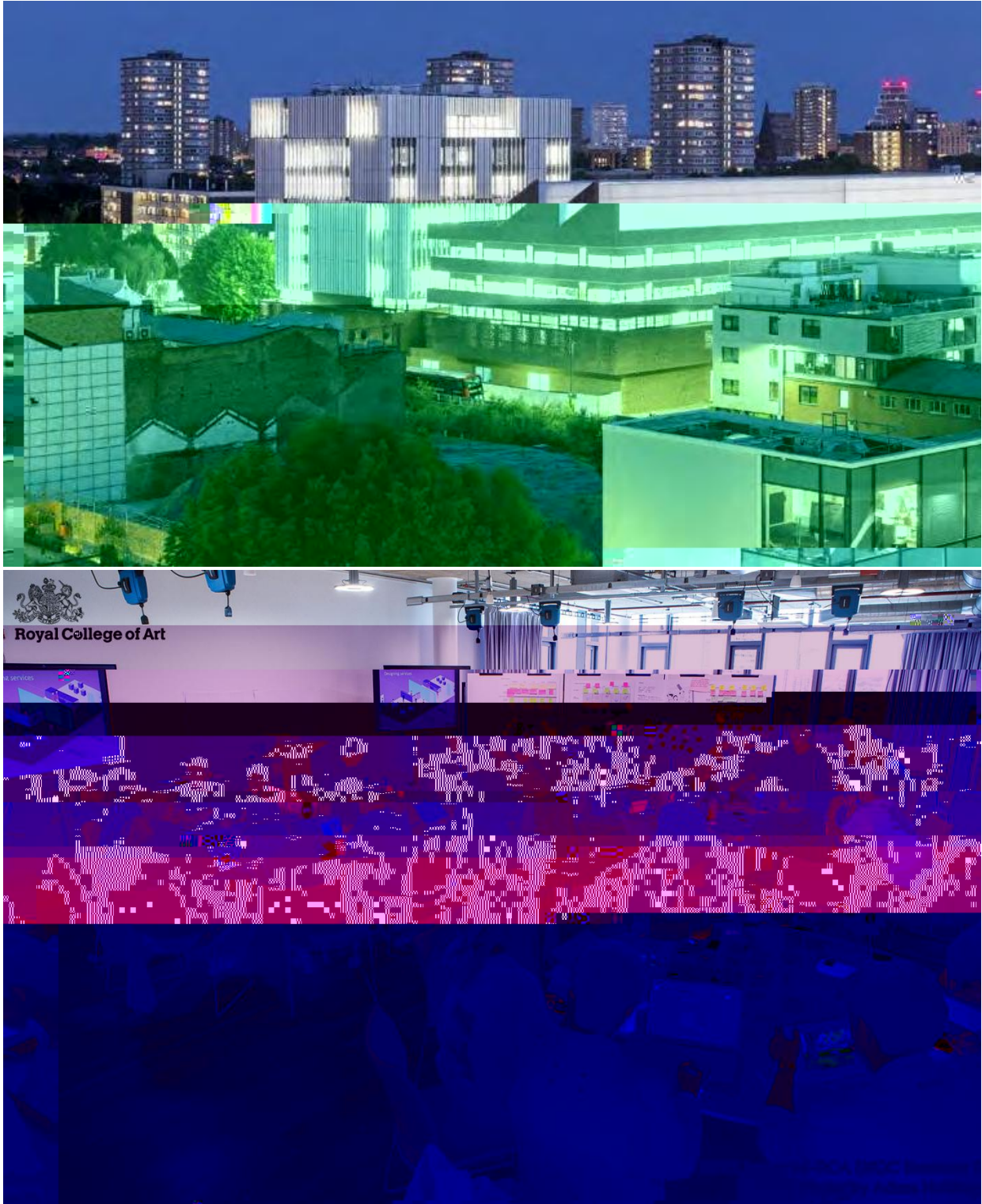
In addition, the beautiful Hyde Park and the famous Harrods Department Store are just a short walk from the campus.



Photos above: Imperial College London South Kensington Campus

## Royal College of Art

On days, 3, 4 & 6, classes will take place at Royal College of Art's new London campus. Designed by internationally acclaimed architects, Herzog & de Meuron, the £135 million, 15,500 sqm campus is the largest investment in transformational space in the RCA's 185 year history. The classes will take place in the dedicated Executive Education spaces on the top floor of the Rausing Research & Innovation Building with 360 degree views of London – eight floors of dedicated independent and confidential research space for areas such as materials science, soft robotics, advanced manufacturing, intelligent mobility, and AR and VR visualisation, housed in the Snap Visualisation Lab.



Photos above: RCA New Executive Education spaces, Rausing Research & Innovation Building Battersea, London, SW11 4NL

Provisional Programme outline (subject to change)

Imperial-RCA DESIGN FOR GLOBAL CHALLENGES WINTER SCHOOL 26 January to 8 February 2024	
<b>Friday</b>	<b>26-Jan-24</b>
	Arrive in the UK
	Ice-breaking Session (depending on the arrival time of students)
<b>Saturday</b>	<b>27-Jan-24</b>
10:30	Orientation
14:00	Workshop: Alumni Experience Sharing (Portfolio preparations for applications / Career opportunities)
16:30	End of the day
<b>Sunday</b>	<b>28-Jan-24</b>
No lectures on Sunday - free time for students	
<b>Monday</b>	<b>29-Jan-24</b>
10:30	Academic English Skills 1
14:00	Academic English Skills 2
16:30	End of the day
<b>Tuesday</b>	<b>30-Jan-24</b>
08:30	Registration and arrival
08:45	Welcome & Introduction to Imperial College London
09:00	Programme overview and ice-breaker
10:00	Building Effective Team & Leadership
12:30	Group Photo
12:45	Lunch and campus tour
14:00	Creativity & Ideas Generation
16:30	End of the day
<b>Wednesday</b>	<b>31-Jan-24</b>
09:00	GC1: New Frontiers in Global Health
10:30	Break
10:45	GC2: Challenges of the Internet
12:00	Lunch
12:45	GC3: Climate Change: Impact and Innovations
14:15	Study tour to The Design Museum
17:30	End of the day
<b>Thursday</b>	<b>1-Feb-24</b>
09:00	Registration at reception
09:30	Welcome & Introduction to RCA
09:45	Keynote Lecture: Creativity & Ideas Generation
10:15	Break

10:30	Service Design Workshop:
11:15	Lecture: Who are we designing for?
11:45	Exercise: Developing Personas
12:30	Show and Tell: 2-3 teams selected to present ideas
13:00	Lunch (1 hr)
14:00	Exercise: Mapping the journey your persona takes Identify the pain points & opportunities
15:00	Break
15:15	Exercise: Mapping stakeholders
16:00	Show and Tell: 2-3 teams selected to present ideas
16:15	Homework activity set for 2 August
16:30	End of the day
Friday	2-Feb-24
09:00	Registration at reception
09:30	Welcome back and recap
09:50	Exercise "How Might We...."
10:30	Show and Tell: 2-3 teams selected to present ideas
10:45	Break
11:00	Lecture: Creativity - how to generate ideas
11:20	Exercise: Ideation "Crazy 8's"
12:00	Lecture: Visualising Concepts and story-telling
12:30	Show and Tell: 2-3 teams selected to present ideas
13:00	Lunch (1 hr)
14:00	Exercise: design your go to journey
15:00	
	Lecture: From Concept to Proposition
15:20	Break
15:30	Exercise: Map the system for your go to journey
16:15	Homework activity set for 3 August
16:30	End of the day
Saturday 3 & Sunday 4 Feb 24	
No lectures on weekends - free time for students	
Monday	5-Feb-24
08:30	Business Model Innovation
10:00	Break
10:15	GC5: The future of data science and its application
12:15	Lunch
13:15	GC4: Innovation in Robotics - reshaping the future
14:45	Break
15:00	Effective Communication for Presentation
16:30	End of the day

Tuesday	6-Feb-24
09:00	Registration at reception
09:30	Welcome back and recap
09:45	Graduate RCA - Inspirational Project Presentation + Q&A
10:30	
11:00	Break
11:15	Presentation Planning
12:00	Project tutorials per team and working on final presentations
13:00	Lunch
14:00	Project tutorials per team and working on final presentations continued
15:45	Break
16:00	Show and Tell: 2-3 teams selected to present ideas
16:30	Tour of RCA design studios
17:00	End of the day
Wednesday	7-Feb-24
	FINAL TEAM PRESENTATION & PANEL FEEDBACK (10 minutes + 5 minutes Q&A per group)
09:45	Presentation Briefing and PPT Testing
11:15	Break
12:30	End of presentation & Lunch
	Students to complete online evaluation form
14:00	Judging panel reconvene to provide feedback and announce the winning team and Certificate Ceremony
15:00	Opportunities for international Students
15:30	End of winter school
Thursday	8-Feb-24
London visit/Departure Day	

## Design for Global Challenges Winter School session descriptions:

### Creativity and Ideas Generation

This session helps students "to think outside the box" to generate ideas. The techniques presented and tried during the session are particularly useful for people who do not believe they have time to think differently due to the pressures of daily life. The session will take students through a pragmatic 6 stage problem solving process. Students will apply the process from problem definition through to implementation.

Discover  
Define  
Design  
Develop  
Deliver  
Diffuse/Distribute



### Introduction to Service Innovation & Design Thinking and its Impact

Our RCA interactive workshops are designed to address specific challenges through the use of practical tools such as design thinking and people-centred service innovation, with reference to real- world projects, experiences and case studies.

At the end of the workshop process the students will have worked in groups to develop a proposal in response to the challenge.

### Learning aims:

Empathy, clarity, creativity, networking self-reflection, integrity, confidence, agility, positivity, equality and diversity, influence, collaboration, communication and inclusion. Ethnography, data visualisation, ethics, principles, sustainability, critical thinking, problem identification, analysis evaluation, innovation, public and impact.

## Project Introduction & briefing

Students will be allocated in groups of 5 to identify one area of a global challenge that needs tackling and propose an innovative idea to design a service that could either control or reduce the global challenge. This is a tried and tested format at the RCA and each year the MA students take part in the college wide “Grand Challenge” [2021](#) and [Cern](#).

## New Frontiers in Global Health

The aim of this session is to provide students with an understanding of current challenges in Global Health and what are the latest innovations to meet these challenges.

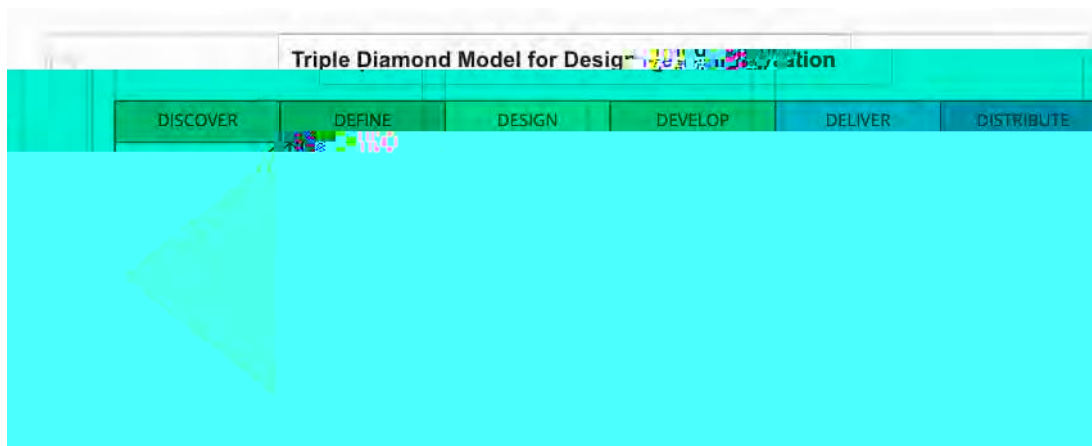
This session will cover:

- What is Global Health?
- Problems and Challenges
- Solutions with case studies examples
- Current innovations in Global Health

## Building Effective Team and Leadership

Through the medium of practical exercises and guided review, students will explore ways in which team performance can be enhanced. The session will give participants the opportunity to participate in a range of tasks designed to highlight common ways in which team performance can come unstuck and the behaviours that can mitigate against this.

## Discovery



In the discovery phase of the Design Thinking process, we encourage divergent thinking the purpose is to organise a broad range of information and gather insights.

- identify and break down the problem statement
- what are the main factors that have contributed to the problem?
- what other sectors/markets/geographies have addressed this problem
- what are the key contextual issues/drivers that might suggest a way forward



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### Challenges of the Internet

The Internet is a global system of interconnected computer networks that use standard Internet protocols to serve several million users worldwide. Whether for business or leisure, use of the internet is becoming part of our daily lives. To understand what impact this can have, this session will cover:

- Introduction/overview of the internet and its power
- Current challenges of the internet and problems faced by companies.
- What businesses are doing to overcome these challenges?
- Current innovations in managing Internet Challenges (academic and business)

### Industry 4.0 - Reshaping the future

This session provides an insight into machine learning, robotics and AI. Students will learn the latest real-world application and innovation in the area and see how robotics can reshape the future and transform the world in different sectors.

### The Future of Data Science and its Application

Modern science typically involves big data, taking advantage of high-throughput data capture and high-performance computing capabilities. Data science is therefore an essential element of modern interdisciplinary scientific activities. It acts as the glue to facilitating collaborative scientific discovery and involving the whole life cycle of data, from acquisition and exploration to analysis and communication of the results. Data science is not only concerned with the tools and methods to obtain, manage and analyse data, it is also about extracting value from data and translating it from asset to

## Effective Communication for Presentation

This workshop will take students on a journey through fundamental principles of communication and presentation. Through exercises, plenary and interaction, students will learn more about their strengths and natural abilities, and how to perform at a higher level. The session will allow students to work experientially within a group setting and will give participants exercises, ideas, tips and practises for inclusion in their presentations on the last day.

### Definition

Using convergent thinking the aim is to interrogate and refine the problem to arrive at a design brief that makes sense of the possibilities.

- what are the most relevant pointers from the Discover phase
- which elements matter most and which are most feasible?
- how do these elements fit together, and what is the convergent path on which they might sit?
- how might an actionable creative design brief be developed and articulated?

### Design

The design phase is about creating ideas. Through using divergent thinking the aim here is to generate a range of different creative ideas to address the challenge.

- what are the most relevant and resonant creative design responses to the brief?
- how can these concepts be described visually in model or sketch form?
- look at other sectors or countries for ideas to cross-pollinate.

### Concept Delivery

Finalise the design solution describing its key characteristics, benefits and beneficiaries. Present the ideas to the group. Suggest several routes to implementation.

- what shape should the final proposal take
- what are its key features and attributes?
- describe a range of delivery mechanisms to make this happen
- how do you communicate the essence of the proposal to an audience?

### Distribution and Diffusion

Use convergent thinking to bring the proposal to a wider audience, what are the elements required to scale up the solution and create impact?

- what is the preferred route to implementation?
- who are the key players needed to make the project real?
- how will you promote and market this innovation to a wider audience?
- how will you test the solution and incorporate feedback to further improve the solution?

## Future Challenges in Service Design

Services represent around 80 per cent of the economy. Service design applies human-centred design principles to make services that are more sustainable and desirable for changing consumer priorities. It delivers better experiences, successful innovation and business value. It can be applied to global challenges in all sectors ranging from retail, banking to transportation, health, and education etc. In this session, students will discuss some of the challenges in service design as a key enabler to humanize the world and to create a better future for all of us.

## Project tutorial sessions

The teams will work in small groups and the workshop facilitators will be available to visit and comment on the projects in the rooms to give feedback.

## Opportunities for International Students

This session provides an opportunity for international students to find out more about studying in the UK and at Imperial and RCA. They will find out about student life and facilities on campus, programmes available, the application process and scholarships.

## Study Tours/Visits

The aim of the study tours are to enhance students' learning experience. This includes a visit to a digital marketing company to see how use of technology can transform brands advertising and a guided tour of the Design Museum with entry to the latest exhibition on show.

## Group Presentations

Students in groups will apply their learning and present their design ideas to a panel and the best project team will be awarded a prize and a letter of recognition. All students will receive a project assessment score.

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