Designing Services & Products with Artificial Intelligence
Designing Services & Products with Artificial Intelligence gives you a strategic and applied understanding of the design principles supporting human-to-human-to-AI interactions, to develop AI ecosystems supported by products and services. The course blends theoretical and practical units that demonstrate how to deploy AI for fostering personal creativity and pursuing career ambitions but also for developing a responsible, inclusive, accessible and sustainable strategy to innovation through design.

- One of the first AI for Service and Product Design courses in the world offered to university students and professionals to empower their degrees and career development.
- Developed and delivered by the faculty from the world’s No.1 art and design university.
- Online/offline blended learning experience including live webinars and face-to-face tutorials.

Essential information

Start dates
October 2020. Dates in 2021 to be announced.

Campus
Online/Campus
Blended Learning

Duration
10 weeks
Why study Designing Services & Products with Artificial Intelligence?

Artificial Intelligence is a growing part of many people’s lives and Businesses, and will have significant implications for how our society lives and works in the present and future. AI may accelerate the digital disruption in the jobs market. Many jobs will be enhanced by AI, many will disappear and many new, as yet unknown jobs, will be created. The current and future workforce are broadly aware of artificial intelligence, but they often have inaccurate impressions of how it works, where it is to be found and its implications for them to enhance productivity.

With AI, new relationships will need to be established between the customer and product/service. These interactions will be just the beginning of the ongoing conversation between business and consumer about what artificial intelligence can, and should be able to do for products and services. Designers will bring the necessary empathetic context for innovation, which is how a business will succeed with AI. AI is going to be mostly about optimization and speed. Designers working with AI can create designs faster and more cheaply due to the increased speed and efficiency it offers. The power of AI will lie in the speed in which it can analyse vast amounts of data and suggest design adjustments.

Our Designing Services & Product with Artificial Intelligence course aims to develop, enhance and leverage your creativity, curiosity, imagination and ambition through the use of AI technologies and systems and the ability to learn and collaborate with people of different skills and disciplines.

The course will emphasise how to use AI technologies as a strategy to widen the portfolio of your future career opportunities. With a global society looking for new strategic solutions to tackle and address complex issues, such as pandemics and climate change, this course brings you the RCA’s knowledge and experience in design strategies and AI technologies to nurture your ambition and motivation, to transform and shape society through your creative talent.
Learning Outcomes

- Critical insight into design-led strategies and methods for the development of AI to product and service

- Analysis of the key factors that need to be accounted in the development of human to human to AI interactions

- An appreciation of how AI can innovate in the design of services and products

- Understand the art of storytelling through data

- An inclusive understanding of the issues that contribute to the success and failure of technology

- The appreciation of a human-led approach to technology acknowledging diversity
The Royal College of Art started life in 1837 as the Government School of Design. Granted a Royal Charter and university status in 1967, RCA remains the world’s most influential postgraduate institutions of art and design, and we are proud to have been ranked No.1 in the world for art and design for six consecutive years (2015-2020 QS World University Subject Rankings).

RCA graduates continue to influence the culture surrounding all of us. At the forefront of contemporary art and design today are, to name but a few, graduates such as designer Thomas Heatherwick, architect David Adjaye, fashion designer Christopher Bailey, photographer Tom Hunter, product designer Sam Buxton, inventor and industrial designer Sir James Dyson and film director Ridley Scott. Our MAs graduate outcomes includes:

- 90% of alumni felt that the RCA has had a positive impact on their career – they say this is down to the reputation of the College, the creative skills fostered here and access to a network of contacts.
- 64% Two-thirds of graduates from 2003 onwards said they use the skills learnt at the RCA every day in their current role.
- >40% of graduates have gone on to launch their own businesses or to become independent professionals.

(MA graduate research undertaken by QS Enrolment Solutions, 2019)

Why the Royal College of Art?

The RCA delivers senior-level custom executive education programmes for business, government, the public sector and universities globally. Our Executive education offer will teach you Design Thinking as a competitive advantage, to create user-centric design or products and services on need-based solutions.

Delegates on our short courses came from companies and organisations: The National University of Singapore EMBA, Korean Institute of Design Promotion, Shanghai University, Aviva, the British Council Mexico, the NHS, Capita, Mars, Amazon, Mastercard, Accenture, Google, Equinor UK Ltd, Shell, Investec Bank, Mitsubishi Corporation International, Volkswagen, Institute for the Future of Work, Willmott Dixon Construction Limited, GSK, RNIB, PricewaterhouseCoopers and Capco Digital.
Who is this course for?

We welcome participants who want to embrace AI as a strategy to steepen their learning curve and understand the limitless opportunities blooming through this medium in social interactions today.

Interdisciplinary groups are welcome, as well as professionals and academics with a non-design background who want to understand what AI can bring to their practice and knowledge base. We particularly encourage participants from:

- Final year undergraduate (senior year) and postgraduate university students
- Professionals from design, data visualisation/analysis, UX design, research, business development, sales and marketing
- SME business founders / co-founders / CEOs / Executive Directors
- Manufacturing founders / co-founders / CEOs / Executive Directors

“"The course was very interesting. I particularly liked the workshops where we could apply the theory to practical cases. I would recommend this to anyone who would like to understand the process of AI a bit more.”

Big Data Analytics Manager, Accenture

“The course leader was very personable. The course had really good presentations. The energy and course pace was great throughout the day.”

EMEA Head of Music and Artist Marketing, YouTube

“The course offered engaging topics and exercises aimed at practising the initial design of AI-enabled products.”

Senior Principal, Global Product Management, Mastercard
Curriculum and Units

Unit 1: Welcome and Course Introduction (General unit)

The welcome unit will introduce students to the important things they need to know to successfully complete the course. This will include an introduction to Canvas, the online learning platform, and also the student handbook, where you’ll be able to find out how to access and best utilise the resources that are available to you.

Unit 2: Design Methods for Enterprise (week 2)

The unit will be covering ethnographic research, future forecasting, speculative design, participatory and action research and second order cybernetics as methodological tools that support the research, design and making of AI services and products. Through examples and case studies the unit will be describing the role and value of these methods to innovate and transform business towards an AI driven economy.

Unit 3: Applied AI Design (week 3)

This unit introduces a systematic understanding of how Artificial Intelligence, Machine Learning and Deep Learning relate to each other, and how they apply to the practice of design. The unit will be covering what AI, ML and DL entail, how they work (with the help of concise animated examples) and, finally, how to identify the right solution for their given problem statement.

Unit 4: Human Interaction with AI through Service and Product Design (week 4)

This unit gives an introduction to the design principles to explore how people are influenced and experience communication through products and services. Through selected case studies the unit will describe aspects to consider when developing human communication and interaction with and through AI interfaces or systems.
Unit 5: Storytelling with Data (week 5)

This unit focuses on how to analyse and share data narratives, exploring the basic fundamentals of data, design and storytelling methods. Based on examples from experts in the field, they will develop an understanding of the latest tools and software for telling stories with data. We use Jupyter executable notebook to create datasets with basic Python instructions and free plotting libraries (Gapminder, Seaborn) to design the data visualisation.

Unit 6: AI Solutions for Customer Engagement and Experience (week 6)

This unit introduces the issues and challenges AI services and products might develop across the life cycles. The unit will be analysing how bias, assumptions and personal or collective values can impact the development of products and services and indicates routes to raise awareness on personal and collective responsibilities.

Unit 7: Social AI: Interdisciplinary Team Interactions (week 7)

This unit introduces collaborative methods that support the development of products and services. Through examples the unit describes strategies to co-design with your target audience, partners, stakeholders and generally with a team whose background might be different than your own. Through selected case studies the unit introduces the concept of inclusive and accessible innovation and how to achieve it through design-led collaborative methods.

Unit 8: Artificial Intelligence in Design Industry (week 8)

This unit introduces the concept of AI ecosystems through the analysis of specific case studies across different sectors and industries (e.g. food, healthcare, baking, retail, experience, mobility, etc). In this unit the key role and value of these ecosystems will be outlined to draw new forms of business relationships supported by AI, and what products and services can best develop and activate these relationships.

Unit 9: Prototyping as Thinking Method (week 9)

This unit will be elaborating the concepts developed across previous units, and offers support on how to make a prototype that develops your ideas. Through the assistance of an RCA tutor this unit will engage in transforming the insights from the previous units in a personal or collaborative made product or service that relates to your business.

Unit 10: Summary and Debriefing (week 10)

This unit summarises the key learnings developed on the course, to consolidate and discuss the key takeaways from the collective units. Any personal or industry sponsored project needs to be finalised and presented in a live webinar. The unit intends to guide future career opportunities the project might open up, and discuss the students’ key learnings and future steps.
The course is designed and taught by RCA School of Design faculty and researchers and mentored by RCA graduates. You will be exposed to the knowledge the RCA School of Design has developed on the topic and learn the RCA approach and culture to design and AI. You will be part of a community motivated to learn AI as a technology that understands people, their culture and values.

**Blended Learning Experience**
The course offers a flexible mix of online distance learning, combined with face-to-face mentoring and student support sessions.

**Interactive Learning experience**
As a top design school, RCA values interactivity to ensure students’ engagement, feedback, and collaboration. This is reflected throughout the pedagogy design and delivery of programmes, using methods of group collaborations and interdisciplinary teamwork.

**HD video lectures**
Each week will include access to the course videos and learning material allowing you to adapt your studying schedule around your daily routine, giving you an agile learning experience.

**Weekly live broadcast webinars**
The course will be completed by live webinars conducted by RCA course leaders. Course leaders are highly-experienced industry practitioners who contextualise the video lectures and assist with questions you may have.

**Practice-based case studies, tools and projects**
These are real world scenario-based assignments and projects involving an up-close, in-depth, and detailed examination of a subject of study, as well as its related contextual conditions.

**Ongoing content access**
You will continue to have access to the course videos and learning material even after you graduate, be a part of our ongoing RCA community.
Dr Laura Ferrarello is an interdisciplinary researcher and designer; her work explores inter and cross-disciplinary collaborative methodologies for fostering inclusive and accessible innovation through culture and technology. Laura’s research focus includes human-to-human-to-AI interactions that value human skills, ethics and design, future of work and design for safety.

At the RCA Laura collaborates with a wide range of national and international industry partners. These include BBC, Huawei, Fujitsu, Airbus, British Airways, Sonar+D, Science Museum, Design Museum amongst others. Before joining the RCA Laura worked as an architect and designer in the United States, United Kingdom and Italy.