



1. General Information

Award	Programme Title	Duration	Mode of Study
MA (Royal College of Art) MSc (Imperial College London)	Innovation Design Engineering (IDE)	2 Years	Full-time

Awarding Institution	Royal College of Art (MA) & Imperial College London (MSc)
Teaching Institution	Royal College of Art (RCA) & Imperial College London (IC)
Professional Accreditation	N/A
Associateship	Associateship of the City and Guilds of London Institute (ACGI)
Qualifications Framework Level	FHEQ 7 / EHEA 2 nd cycle
Credit Value	360 CATS / 180 ECTS
Language of Study	English
Cohort Entry Point	Annually in September/October
Date of most recent validation	2010
Student cohort(s) covered by specification	2019/20
Programme Specification Date	May 2019

2. Philosophy of the Programme

Innovation Design Engineering (IDE) is looking to create a new type of designer, one that has innovation focused thinking, refined design skills and engineering or technology mastery. The programme aims to provide a learning environment that will prepare you to fully exploit creativity, to deliver social and economic benefits through design and engineering, and to achieve positive change through innovation. Design is not limited to object-orientated activity, and addresses a broad range of applications from services,



platforms, systems, experiences, enterprise and products. The research, strategy, experience, system – indeed everything around, before, after and supporting the product-service-system proposition is now within the designers' influence. Whether it is experimental exploration, market-focused product innovations or projects driven by new business models and commercial planning in IDE, we are looking for people who can innovate masterfully within this broad spectrum, who have a point of view, who will search out what the questions are and who will be agents of change.

The programme takes advantage of the skills and cultures of two very different organisations: a predominantly technical university (Imperial College London) and a college of art and design (Royal College of Art). The result is the rigour and precision of science, technology and engineering in combination with the inspirational and creative aspects of design. The course fosters a collaborative approach involving multidisciplinary team working and encourages external commercial involvement. Graduates head into diverse creative careers as consultants, innovators, entrepreneurs, freelancers or within corporations.

3. Educational Aims of the Programme

The programme aims to provide a postgraduate learning environment which:

- enhances the student's ability in innovation, design and engineering within the context of the totality delivering social and economic benefit to the world;
- is specifically structured to encourage the full realisation of each student's unique creative and intellectual potential while being appropriate to his or her individual needs;
- supports a culture where debate on issues of design, engineering and technology, business and social and environmental sustainability is informed by a design perspective;
- promotes the understanding of the integrated relationships between creative engineering and the interplay of form, aesthetics and style, informed by the subtlest needs of the user and stakeholders through a design development process from concept generation to production and marketing;
- encourages collaborative, team-based, and multi-disciplinary working methods, brainstorming techniques, and interdisciplinary projects with both academia (other programmes in the RCA and Imperial) and externally, with international institutions and companies;
- introduces the "real world" in terms of design and engineering practice and consulting, commercialisation and funding opportunities, licensing and intellectual property, start-ups and the role of the entrepreneur;
- offers insight into activities that play a strategic role within the manufacturing and product roll-out world, such as design management, marketing and business planning.



4. Intended Learning Outcomes of the Programme

On completion of this programme, students will be able to:

Able to:	A. Intellectual Engagement
A1.	Develop innovative ideas that challenge the understanding of their practice and discipline.
A2.	Apply the principles and methods of design and engineering research in developing innovative propositions.
A3.	Demonstrate how their work has been informed by a global perspective and the social, cultural and environmental aspects of their work.
A4.	Translate an understanding of human factors, behaviour, systems design and engineering into human-centred design solutions.

Able to:	B. Technical Skills
B1.	Select appropriate methods, techniques and tools associated with design engineering and apply them with high levels of skill and imagination to create functioning propositions.
B2.	Test and evaluate propositions through simulation, modelmaking and prototyping.
B3.	Assess the impact of design decisions on the sustainability of a proposition
B4.	Integrate methodologies in innovation, business systems, enterprise configuration and stakeholder experience.in their workflows.

Able to:	C. Professionalism
C1.	Take responsibility in developing project briefs and managing time and resources effectively.
C2.	Collaborate effectively with peers in assigning roles, delegating tasks and communicating outcomes of group working.
C3.	Document and communicate their work effectively using a range of oral, written, visual, audio and textual media.
C4.	Define their professional identity through an exploration of their own values, skills and the environments in which they seek to operate.



5. Programme Structure and Curriculum

First Year

In the first year you embark on a range of units ('modules'), to develop skills and experience. Each of these units focuses on a particular aspect of innovation, design and engineering and involves practice, as well as research activities within the development of products, services, systems, campaigns and experiences, and in exploring broader societal challenges.

In each unit, you undertake a design-led project to a brief - sometimes set and sometimes of your own devising. Emphasis is placed on generating imaginative ideas, development and validation through testing prototypes, simulation and gaining feedback from expert stakeholders such as potential end users, designers, engineers, entrepreneurs.

First Year Units

Unit Name	Unit Short Description	Led by	Credits		Unit weighting to MSc classification
			MA (ECTS / CATS)	MSc (ECTS / CATS)	
Innovation Design Engineering Methods	IDE Methods introduces three modes of enquiry for design-led innovation – continuous, disruptive and experimental design.	IC	-	10 / 20	0% (Pass/Fail)
Gizmo (Physical Computing and Machine Learning)	Combining the approaches of Physical Computing and Mechatronics, with particular emphasis on mechanisms, and the possibilities of Machine Learning and Artificial Intelligence for exploring, explaining, and predicting information, Gizmo provides learning in the design of tangible interactive devices.	IC	-	10 / 20	0% (Pass/Fail)
X Y (Design Visioning)	X Y introduces frameworks and tools from the field of Future Studies (or 'Foresight') to help participants embed longer-term thinking in their practices, explore how they might influence alternative developmental pathways in the present, to achieve preferable futures.	IC	-	10 / 20	0% (Pass/Fail)
Solo Major	Solo Major enables you to identify your own strengths and weaknesses in innovation, design and engineering by undertaking a significant self-directed project.	IC & RCA	10 / 20	10 / 20	0% (Pass/Fail)
School-wide Platform and Project	You will take a series of lectures and workshops that examine the principles, techniques and practice of design, culminating in a project in which you will work	RCA	10 / 20	-	0% (Pass/Fail)



	with students from across the RCA School of Design on a Grand Challenge - one of the major issues of our time.				
Superform	Superform implements an approach that aims at nurturing an explorative spirit and experimenting methods of developing new forms and new functionalities.	RCA	5 / 10	-	0% (Pass/Fail)
GoGlobal	GoGlobal is an international innovation collaboration, in which you consider how a design agenda fits into the global context and how it can influence and inform international issues. For approximately 3 weeks, the IDE1 studio relocates to another country, to investigate a strategic challenge.	IC & RCA	5 / 10	5 / 10	0% (Pass/Fail)
Critical & Historical Studies (CHS)	CHS enables you to propose an intellectual framework within which you begin to establish a coherent relationship between theory and practice. More information about this unit is provided below.	RCA	15 / 30	-	0% (Pass/Fail)



Critical & Historical Studies

The RCA provides a unique environment for postgraduate art and design students to reflect upon and develop their own practice, and to engage with students from their own and other disciplines. The role of Critical & Historical Studies (CHS) is to support the studio programmes in enabling these critical engagements to take place. The courses offered by CHS to first year studio-based MA students propose an intellectual framework within which you can begin to establish a coherent relationship between theory and practice.

In the autumn and spring terms there are a series of RCA-wide seminars and lectures. The first series will relate to your particular discipline (though it is possible to elect to join a series being offered to students on other programmes) whereas the second series will be more broad-based and cross-disciplinary in nature.

In the spring and summer terms, a CHS tutor will give you individual tutorials to support the development of a dissertation which is submitted following a dedicated writing period. The dissertation is a major piece of work and you will be not be able to submit for the Final Examination until you have passed this assessment.

Second Year

The second year programme of work sees you exploring topics of your own interest, resulting in two innovation projects: one that is team based ('group project'), and one that is undertaken individually (a self-generated 'solo project'). The thematic areas that students choose to explore are diverse and are supported by a broad range of expert tutors.

The Solo project runs throughout the year and the Group project runs during the Autumn term and a brief period of the Spring term. The Group project is assessed at the end of Autumn term, followed by exhibition at a Work in Progress Show. The Solo project is assessed at the end of the academic year as part of the Final Examination, with work shown in the RCA Final Show and Imperial Design Engineering Show.

Second Year Units

Unit Name	Unit Short Description	Led by	Credits		Unit weighting to MSc classification
			MA (ECTS / CATS)	MSc (ECTS / CATS)	
Group Project	The group project emphasises an interdisciplinary collaboration and team-based project work. Working in teams of 3 or 4 people, you conduct an innovation project, for which outputs are validated, contextualised, and ready to be realised.	IC & RCA	15 / 30	15 / 30	33.4%
Solo Project	Working individually on a self-generated-and-directed project, you integrate your values, beliefs, passions with research and experimentation to define, develop and deliver a project that demonstrates mastery in innovation design and engineering.	IC & RCA	30 / 60	30 / 60	66.6%

6. Learning and Teaching Methods



The MA/MSc joint Masters programme is of six term's duration spread over two years. The programme takes an experiential approach to learning with design projects as the main context for developing knowledge, skills and honing attitudes required for innovation through design engineering. These projects are supported by a variety of other learning activities which include lectures, workshops, crits, seminars, technical instruction and tutorials with staff and visiting tutors.

Personal Tutorials

Each student is assigned a personal tutor when they enrol on the programme, who you can contact primarily, if you are in need of pastoral assistance. One tutorial a term is designated to allow you to reflect on your progress as well as challenges in your studies and any challenges they face outside of the college.

Group and Joint Tutorials

Students review their work-in-progress with a variety of staff and Visiting Tutors in tutorials, typically consisting of 1 to 1 or 4 to 1 interactions. Students in IDE2 also have Progress Review Tutorials. These sessions are work reviews so it is expected that students attend with their work, which may include research results, sketches, prototypes, simulations.

Lectures

Lectures cover a range of subjects in innovation, design and engineering. These sessions augment the intense creative and developmental demands of the project-based units. The programme runs a series of practice- and research-related lectures and talks by staff, visiting tutors and guest experts.

Formal Reviews ('crits')

At the end of each unit, students present their work to others in the year group plus selected staff and Visiting Tutors. Verbal feedback is given during the reviews and written and graded feedback are made available after the event.

Seminars

Seminars are structured presentation and discussion events that are facilitated by staff and, on occasions, special guests. These sessions are based on peer review with tutor guidance and are an excellent chance to see where your work lies in relation to your classmates. They are a safe and relaxed place to test new ideas, admit mistakes, demonstrate excellence, and share anything relevant as well as take advantage of the serendipitous nature of innovation.

7. Assessment



General

Regulations for assessment and progression can be found in the RCA Regulations <https://www.rca.ac.uk/more/about-rca/official-information/governance/RCA-regulations/>

The progress of an IDE student is reviewed on a continuous basis through verbal and written feedback and through summative assessment of each unit of study. Summative assessment is formal assessment of learning (i.e. how well do students demonstrate the intended learning outcomes of the unit or programme). A variety of assessment methods are used throughout the programme including:

- Individual and group coursework
- Written reports and portfolios
- Movies
- Practicals and Demonstrations
- Oral presentations
- Viva voce

First Year

First year units are individually assessed against the learning outcomes of that unit, leading to summative assessments and ensuring that students have the opportunity for feedback moving from one unit to the next.

In order to progress to the second year, an IDE student must achieve a grade of at least Satisfactory (pass) in each unit, including CHS. A student who has failed any unit will be sent for referral in that unit. If a student has failed 30 ECTS (60 CATS) credits or more, it is an automatic fail and they will not be allowed to pass to the second year of the programme.

Second Year

The second year of the programme consists of two units, the Group project and Solo project. These units are summatively assessed through the following practical and coursework assessments:

GROUP PROJECT

- Movie
- Group project presentation

SOLO PROJECT

- Gateway 3 (oral presentation)
- Project Documentation
- Final Examination

Final Examination



The Final Examination consists of a viva-voce, which takes place in the final term of the programme. The solo project together with a body of work showing the progression of the student's work exemplifying the learning journey throughout the second year of the programme, will be assessed during the exam by a panel of academics. The IDE Final Examination Board is normally made up of an equal number of members of staff from both RCA and Imperial. If a student's Personal Tutor is not present at the Exam, their reports may contribute to the overall assessment.

Each student's work is assessed by academics, and a sample of the cohort's work is reviewed by External Examiners. An RCA School of Design Examination Board, chaired by the Dean of School, will be held to recommend results to the Academic Board for Concessions & Discipline for ratification.

Award Classification

At the Final Exam, students are awarded an overall grade that relate to the MSc degree classification in the following manner:

Students awarded an overall grade of Excellent or Very Good will be considered for MSc - Distinction

Students awarded an overall grade of Very Good or Good will be considered for MSc - Merit

Students awarded an overall grade of Satisfactory will receive MSc - Pass.

The RCA MA degree is not classified into Pass, Merit or Distinction. There is only a Pass classification.



Reassessment/Referral Policy

For students who are referred at the end of their first year, reassessment will normally take place in the September before the next academic year begins. Final year students may be offered the opportunity for examination in December or the following June. It is not possible for students who are referred to be examined in the same examination period.

Final Examination

If at Final Examination a student's work from the exam or assessed work from earlier units is considered to be Poor (a borderline fail) the student may be required to retrieve the work within an academic term, or at a referral examination within 12 months.

For the Imperial award (i.e. the MSc) a student taking a Referral Project will normally only be credited with a Pass mark if successful. However, where illness has affected a candidate's performance at an examination, or there are other mitigating circumstances, the Joint Board of Examiners has discretion to credit the candidate with the actual marks achieved in their Referral examination.

All reassessment/resubmission activity will normally take place at the RCA/Imperial in the UK.

For more information, please see the RCA Regulations.

<https://www.rca.ac.uk/more/about-rca/official-information/governance/RCA-regulations/>

Mitigating Circumstances

The procedures described in the RCA Regulations will be employed to deal with students who declare mitigating circumstances either in advance of an Examination or retrospectively.

If the Final Examination Board has had mitigating circumstances brought to its attention then during the private deliberations over the final grade and recommended result these will be taken into account. The Board will consider the severity of the circumstances and the impact on the students learning experience and examination outcome. Based on the discussions a recommendation will be made to the ABCD committee.

In accordance with RCA regulations, if a student is unable, through disability, to be assessed by the normal methods, a Board of Examiners may vary those as appropriate, bearing in mind the objectives of the programme and the need to assess the student on equal terms with other students.



8. Admissions

Entry requirements	
Academic Requirement	Minimum 2.1 UK Honours degree (or equivalent)
English Language Requirement	IELTS 6.5 with a minimum of 6.0 in each element or equivalent.
<p>The Innovation Design Engineering MA/MSc programme accepts a multidisciplinary range of applicants – we want diversity of expertise, culture and experience. We are interested in engineers, scientists and technologists; we are looking for designers from all aspects of the subject area and we welcome applicants from other diverse fields such as business, social science, and the arts. In fact, successful IDE applicants can come from many fields: anyone with outstanding skills in their current activities that has an excellent aptitude for innovation and team working and has a fundamental belief that design can make a direct contribution to the quality of life. Engineers, designers, scientists, technologist, artists, social scientists, business people, if you have intelligence, curiosity, passion and a drive to improve the world then IDE is interested in you.</p> <p>IDE is a double Master's programme run jointly between the RCA and Imperial College London, and consequently applicants need to meet the requirements of both institutions.</p> <p>In exceptional circumstances applicants without this degree qualification will be considered (for example, excellent professional experience or outstanding creative or technical abilities). Special Cases for Admissions will require (unanimous) approval from the IDE Entrance Examination Board. A recommendation from the IDE Entrance Examination Board will then require approval by the RCA's Academic Board for Concessions and Discipline (ABCD) and Imperial's Programme's Committee.</p> <p>Entrance requirements are described at:</p> <p>Royal College of Art: http://www.rca.ac.uk/studying-at-the-rca/apply/entrance-requirements/ma-entrance-requirements/</p> <p>Imperial: www.imperial.ac.uk/study/pg/apply/requirements</p> <p>Upon entry candidates should be able to demonstrate:</p> <ul style="list-style-type: none"> • The potential to benefit from and contribute to the programme of study or research for which you are applying. • Prior knowledge and experience indicating the potential to achieve the independence necessary for postgraduate study in a specialist discipline. • Enthusiasm and aptitude to confront the issues to be addressed in preparation for a future professional career. • Candidates should normally be aged over 21 years by 1 September of the proposed year of admission. 	



Portfolio: Entrance Examination Part 1

All candidates are required to submit a portfolio of work to be assessed by the programme team. Candidates submit online portfolios via the application system. The portfolio should show:

- the excellence of your current expertise, study area or professional activity
- evidence of your interest or ability in the fields of innovation, design and engineering
- samples of your creative abilities or relevant personal interests.

The portfolio could include: projects and exercises from previous degree courses where relevant, examples of professional work; personal sketchbooks or working sketches; self-generated projects; evidence of an ability to make in 3D; as well as examples of creative work in any other areas.

Interview: (if invited) Entrance Examination Part 2

Selected applicants are invited to the programme for an entrance examination which comprises of an interview (15 minutes in duration, with staff and a student representative) and a creative exercise (one hour).

9. Quality Assurance

The IDE programme is subject to the quality assurance procedures of both parties as set out in a Memorandum of Agreement for the programme. Details are available on request.

Refer to the RCA Quality Handbook for more details of the College's quality and standards procedures and Imperial's Quality & Enhancement Framework is available at: <http://www.imperial.ac.uk/about/governance/academic-governance/>

10. Programme Management

RCA is the lead administrative party for the IDE programme and will be principally responsible for ensuring the smooth running of the IDE Programme.

A joint RCA/Imperial management committee, the Joint Academic Advisory Board (JAAB), has been established to oversee all academic, administrative and operational matters relating to the IDE Programme.

A Joint Board of Examiners oversees the standards and assessments of the awards. The Joint Board of



Examiners' meetings and examinations will be conducted in accordance with the RCA's Academic Regulations, in consultation with Imperial. The Joint Board of Examiners' consider for approval the recommendations made by the Final Examination Panel. RCA and Imperial each nominate one or more specialist external examiner(s) for the IDE Programme. All external examiners appointed to the IDE Programme must be reported by both Parties, via normal processes and reported to the JAAB for endorsement. Both Parties' external examiners are members of the Joint Board of Examiners.

The RCA is responsible for the issue of the pass list for the MA award and the issue of MA award certificates. Imperial is responsible for the issue of the pass list for the MSc and the issue of the MSc award certificates. RCA, in consultation with Imperial, is responsible for the issue of the joint transcripts/diploma supplements/HEARS for the MA and MSc.



11. Regulations

Except where agreed otherwise under the terms of the IDE Memorandum of Agreement or where the JAAB has given prior approval to alternative arrangements, IDE Students will be required to comply with the Academic Regulations and other Regulations of RCA at all times during the IDE Programme.

When IDE Students are on Imperial premises, they will be required to comply with any Imperial Regulations which relate to their presence on Imperial premises, including, but not limited to Imperial health and safety policies.

A student admitted to the IDE Programme must attend to the satisfaction of both the Dean of the School of Design at the RCA and the Vice Dean (Education) for the Faculty of Engineering at Imperial. Cases will be dealt with in accordance with the RCA's Regulations. IDE Students who are asked to leave the programme due to unsatisfactory academic progress will have a right to appeal under the Academic Appeals Policy for MA / MSc Global Innovation Design; MA/MSc Innovation Design Engineering (June 2018)

Appeals against the decision on application for a place to study on the IDE Programme, or complaint against the IDE Programme's selection process or admission procedure will be dealt with in accordance with the RCA's Admission Appeals and Complaints Procedure.

Interruptions of study or requests to defer will be dealt with by RCA in accordance with the RCA Academic Regulations, in consultation with Imperial.

Allegations of non-academic misconduct in breach of RCA/Imperial's Regulations (including issues relating to abusive or unreasonable behaviour, damage to property, use of computing facilities, etc.) shall be dealt with under Imperial's Ordinance E2 – Code of Student Discipline, in consultation with RCA.

Allegations of academic misconduct by an IDE Student (including cheating, plagiarism, conduct affecting the security of examinations or other conduct of a similar character) shall be handled by RCA in consultation with Imperial. Cases will be dealt with in accordance with RCA's Academic Misconduct Procedure. The Inquiry Panel should include an appropriate member of Imperial staff.



Any complaint raised by an IDE Student shall be dealt with by the Party against whom the complaint has been raised, according to the appropriate procedures: the Student Complaints Procedure at RCA and the Procedure for Dealing with Complaints by Students at Imperial. Complaints relating to the overall programme will be dealt with jointly by RCA and Imperial in accordance with RCA's Student Complaints Procedure.

Subject to the clause below, any intellectual property developed by an IDE Student during the IDE Programme will be governed by both institutions' policies on the ownership of Intellectual Property (as amended from time to time) copies of which are available at:

<https://www.rca.ac.uk/more/about-rca/official-information/governance/RCA-regulations/>

<http://www.imperial.ac.uk/research-and-innovation/research-office/ip/ip-policy/>

A process for assessing ownership and commercialisation of Intellectually Property will be agreed by the Parties.

RCA's Academic and Examination Regulations can be found at:

<https://www.rca.ac.uk/more/about-rca/official-information/governance/RCA-regulations/>

Imperial's Academic and Examination Regulations can be found at:

<http://www.imperial.ac.uk/about/governance/academic-governance/>

12. Governance and Regulation

The Royal College of Art: The College received its Royal Charter as an institution of university status in 1967 with the objects 'to advance learning, knowledge and professional competence particularly in the fields of fine arts, in the principles and practice of art and design in their relation to industrial and commercial processes and social developments and other subjects relating thereto, through teaching, research and collaboration with industry and commerce'.

<https://www.rca.ac.uk/more/about-rca/official-information/governance/RCA-regulations/>

Imperial College is an independent corporation whose legal status derives from a Royal Charter granted under Letters Patent in 1907. In 2007 a Supplemental Charter and Statutes was granted by HM Queen Elizabeth II. This Supplemental Charter, which came into force on the date of the College's Centenary, 8th July 2007, established the College as a University with the name and style of "The Imperial College of Science, Technology and Medicine".

<http://www.imperial.ac.uk/admin-services/secretariat/college-governance/charters/>

Both the Royal College of Art and Imperial College London are regulated by the Higher Education Funding Council for England (HEFCE) <http://www.hefce.ac.uk/reg/register/>



Royal College of Art

Postgraduate Art and Design

**Imperial College
London**

Programme Specification