1.   General Information

Award	Programme Title	Duration	Mode of Study
MA (RCA) MSc (Imperial College, London) Diploma of Imperial College (DIC).	Innovation Design Engineering	2 Years	Full-time

Awarding Institutions	Royal College of Art Imperial College, London
Teaching Institutions	Royal College of Art Imperial College, London
Professional Accreditation	N/A
Qualifications Framework Level	7
Credit Value	240 UK credits
Date of most recent validation	2010
Programme Specification Date	2016/17

2.   Philosophy of the Programme

Innovation Design Engineering (IDE) is looking to create a new type designer, one that has innovation-focused thinking, refined design skills and engineering or technology mastery. Their remit is to fully exploit creativity, to deliver social and economic benefits through design and to achieve commercial success through innovation. Design is no longer a purely object-orientated activity. The research, strategy, experience, system – indeed everything around, before, after and supporting the product 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 the future agents of change.

Participants in IDE take 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 will 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 total 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, 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 dynamics of form, aesthetics and style, informed by the subtlest needs of the user 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 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 world, such as design management, marketing and business planning.

4. Intended Learning Outcomes of the Programme

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 observation and research in developing innovative products.
A3.	Demonstrate how their work has been informed by a global perspective on the social, cultural and political aspects of design.
A4.	Assess the impact of design decisions on the sustainability of a product.
A5.	Translate an understanding of the human form and ergonomics into user-centred design solutions.
A6.	Document and present their work using a range of visual, audio and textual media.

Able to:	B. Technical Skills
B1.	Apply an in-depth understanding of machine elements in translating concept into functioning design.
B2.	Test and evaluate design ideas through drawing, modelmaking and prototyping.
B3.	Select appropriate materials and processes for manufacture.
B4.	Employ concept mapping in gaining knowledge about the context of and use of a product.
B5.	Integrate the use of enterprise tools in their design of 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 projects.
C3.	Exploit an understanding of consumer psychology and commercial issues in marketing product solutions.
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, students embark on a range of taught modules, workshops and master classes to develop skills and experience. Each of these focuses on a particular aspect of IDE and involves practising design skills, as well as research activities both within product development itself, and in exploring user and broader social issues. In each module you will undertake a design project to a brief sometimes set and sometimes of your own devising. The work periods become progressively longer as they deal with more complex problems, and you practice the transferability of the core skills in different design settings. Students joining the programme have a diverse range of existing skills, and the tutor input ensures that the modules allow students to be challenged and learn whatever their backgrounds. As students find their feet as innovation designers, the intensity of taught skills is reduced and by the third term students are working on longer project modules. Emphasis is placed on generating imaginative ideas, and on testing prototypes through three-dimensional modelling and feedback from potential users, design and other experts.

During the first year students elect into one of two learning strands:

- *Disruptive Market Innovations*: DMI is core IDE territory and is about delivering innovative products to the market that work.
- *Experimental Design*: EXP is for design innovation at a fundamental level, which may incorporate the exploration of new technologies, new product categories or new contexts.

The learning strands are to allow students to excel at a particular approach to design or to expand their abilities through exploring a way of working unfamiliar to them. The strands are lightly embedded into the programme, especially in the first year and there is plenty of collaboration between these strands over two years.

Critical & Historical Studies

The RCA provides a unique environment for postgraduate art and design students to reflect upon 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 they can begin to establish a coherent relationship between theory and practice.

In the autumn and spring terms there are a series of College-wide seminars and lectures. The autumn term 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 spring term series will be more broad-based and cross-disciplinary in nature.

In the spring and summer terms, a CHS tutor will give you tutorials to support the development of a dissertation which is submitted at the start of the second year. The dissertation should be between 6,000 – 10,000 words in length – this 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 programme of work in the second year (IDE2) consists of two projects:

- Group project, which is a team based activity
- Solo project, which is conducted on an individual basis.

Students choose the theme of these project themselves. The Solo project runs throughout the year (albeit thin at first), and the Group project runs during the autumn term and a brief period of the spring term. The Group project is assessed early in the spring term at the Work in Progress show and the Solo project is assessed at the end of the year in the Degree Show as part of the Final Examination. The Solo project also forms the subject of a Solo project report involving a full description of the project development and results – this is completed and handed in to be assessed towards the end of the summer term.

6.   Learning and Teaching Methods

Tutorials

There are a number of tutors, both staff and visitors who visit the studio, some in regular slots, some occasional. These are listed on the calendar and there is a sign up system that works on first come first served. Students are encouraged to see a range of people, it's key that a diverse set of opinions is gathered and ideas and directions are challenged – projects will be stronger because of it.

Presentations

At the end of each project the students will present their work to the others in the year group plus selected reviewers. Verbal feedback is given during the presentations and written reviewers forms are available to view after the event.

Work Review Tutorials (WRTs)

Students also have Work Review Tutorials (WRTs) timetabled into the programme. This is a key source of tutor support and is compulsory. They are normally conducted by two tutors and are work reviews so it is expected that students will attend with the work they have carried out in the recent days prior to the tutorials (so that could be research results, sketches, models, etc.) Presentation material is not required but turning up with a notebook and verbalizing is not acceptable. Peer review is encouraged during these WRTs. Written notes are taken of discussions and agreed actions.

Strand Seminars

For the Solo projects and on occasion for the Group projects strand seminars are also held. These are informal presentation and discussion events held with the strand members (although others are welcome). It is based on peer review with tutor guidance and is an excellent chance to see where your work lies in relation to your classmates. It is a safe and relaxed place to test new ideas, admit mistakes, show excellence, anything. Written feedback is not given for seminars except sometimes for those

close to the Final Examination.

7. Assessment

General
Regulations for assessment and progression can be found in the College Regulations.

Interim Examination
The Interim Examination is a formal examination of each student's work which must normally have taken place by the end of May each year other than the final year. Following completion of this examination, the Head of Programme drafts a brief report on the development of each students' work, attendance record, and application to their subject including any other relevant observations. This report goes to the Academic Board for Concessions & Discipline, with the recommendation that a student does or does not proceed to their second year. If at Interim Examination your work is considered to be a borderline fail, a programme of work may be set for further examination to enable progression into the second year. For more information, please see the RCA Regulations. The Interim Examination examines your progress mid-way through your studies and evaluates your progress. You will be asked to show work completed to date and will be invited to discuss it. The quality of your work and approach to studying are considered, and if your Personal Tutor is not present, their reports contribute to the overall assessment.

Final Examination

The Final Examination is the culmination of your studies towards an MA degree. Your work is assessed by academics, and a sample of your cohort's work is reviewed by an External Examiner. If your Personal Tutor is not present, their reports contribute to the overall assessment.
The Final Examination is in two parts:
   a) Viva-Voce, which takes place in the final term of your programme
   b) A School Examination Board, chaired by the Dean of School, will be held to recommend results to the Academic Board for Concessions & Discipline for ratification.
 	
If at Final Examination your work is considered to be a borderline fail, you may be referred to retrieve your work within an academic term, or a referral examination within 12 months. For more information, please see the RCA Regulations.
 	
Note: The IDE Final Examination Board differs from the RCA normal exam board in that it is normally is made up of equal number members of staff from both RCA and Imperial.

8. Admissions

Cross-College Requirements
Refer to the College Prospectus for details of cross-College entrance and portfolio requirements for the MA Entrance Examination

Programme-Specific Requirements

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 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.

IDE is a double Master's course run jointly with Imperial College London, and consequently applicants need to have a degree at 2:1 level or higher (or the equivalent). In exceptional circumstances applicants without this degree qualification will be considered (for example, excellent professional experience or outstanding creative or technical abilities).

Candidates who do speak English as their first language are required to produce evidence that within the previous two years they have achieved at least an IELTS exam score of 6.5 with 6 in **ALL elements** (or equivalent from another approved test by another provider such as Pearson Academic PTE). For further information please see the RCA website.

Portfolio: Entrance Examination Part 1
All candidates are required to submit a portfolio of work to be assessed by the programme team. Candidates have the choice of either an online portfolio or physical portfolio. 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; 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 Indicators**

Refer to the RCA Quality Handbook for more details of the College's quality and standards procedures.

- All academic programmes at the Royal College of Art are revalidated on a six-yearly cycle. Revalidations involve external subject experts and internal panel members appointed by the

College's Academic Standards Committee (ASC).

- Programmes are required to submit an annual Review, the primary purpose of which is to evaluate the experience of students enrolled on both its MA and MPhil / PhD courses.

- External Examiners are appointed for a maximum of three years to ensure that:
    - the academic standard for each award is set and maintained at an appropriate level and that student performance is properly judged against this;
    - the standards of awards are comparable with those of other UK higher education institutions;
    - the process of assessment and examination is fair and has been fairly conducted.

- An Internal Moderator is appointed by the Senate on the recommendation of ASC to ensure that there are appropriate mechanisms in place for the objective assessment of student work and to ensure comparability of examination practices between programmes within the College.

- Students have the opportunity to provide feedback through regular programme-level meetings (at least one each year considers the delivery of the MA programme and the External Examiner report); and through an annual College-wide MA student survey. A Student Representative Council brings forward issues from Course Forums and programme-level meetings to the President and Vice-President of the Students' Union who then, where appropriate, present these issues at College committees or to the Senior Management of the College.