

## The EPSRC Centre for Doctoral Training (CDT) in Additive Manufacturing and 3D printing

### Student Charter

**CDT Partner Universities:** University of Nottingham, Newcastle University, Loughborough University, University of Liverpool

**This programme aims to provide you with an intensive four-year postgraduate doctorate, providing the required multidisciplinary technical skills and complementary, transferable, industry facing skills to become future leaders in additive manufacturing.**

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#### What you can expect from the CDT:

- A 4 year PhD programme in additive manufacturing which combines compulsory and optional taught modules with a PhD research project.
  - A multi-disciplinary learning environment – utilising the diverse expertise in the Centre and across the University partners.
  - A learning environment based on constructionism – i.e. active, object oriented learning, as opposed to passive learning.
  - A curriculum training component which has been specifically designed to provide the knowledge, application and interdisciplinary skills in four main themes: Researcher Development and Transferable skills, Specialist Technical Skills, Training projects and Professional Environment. This is delivered through a series of credit bearing and non-credit bearing modules – the details of which are listed in the **Programme Structure** section below.
  - Delivery of a taught programme based on excellence – using the state-of-the-art equipment and facilities of the Centre and the wider Universities, and tuition by leading academics and industrialists.
  - As a CDT student, you will be admitted to the programme as part of a cohort. Through the use of group projects, participation in the development of Learning Hubs and the encouragement of peer to peer support and mentoring, collegiality will be encouraged.
  - The opportunity for you to gain **International** experience through overseas study tours.
  - The opportunity for you to gain **Industrial** experience through placement with an Industrial Partner
  - Encouragement to develop both research and professional skills through engagement with the Postgraduate Training Programmes available at the University of Nottingham and Partner institutions
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#### What you can expect from your Academic Supervisor/s:

- Guidance and assistance so that you can plan your research studies, this includes helping you to define your research topic, identify schemes and specific tasks, identify the relevant research literature, data bases and other relevant sources, and to be aware of the standards in the discipline.
- Advice on University/Faculty/ Departmental regulations and procedures.
- A clear understanding of the CDT programme requirements and to fully engage with the CDT ethos.
- Appropriate and regular supervision during your period of registered study, and to be accessible at mutually convenient times to listen and offer guidance.
- A minimum number of recorded supervisions per year (this minimum number is subject to the regulations of the relevant Partner Institution who is responsible for awarding your degree).

- Discussion on the personal, academic and professional skills you require in order to complete your research and to provide a skills base for a future career.

### What we expect from you:

- That you engage fully with your studies, becoming an active member of the CDT and wider research community, and attend your classes.
- That you read the relevant University/Faculty/School publications which set out the requirements and procedures for research study. This includes [The Code of Research Conduct and Research Ethics](#).
- That you follow all safety codes and advice.
- That you participate in planning, progressing and completing your studies. This includes attaining a minimum number of taught credits each year and meeting the annual progression requirements for the research element of the programme.
- That you share responsibility with your supervisor for keeping good communications and arranging meetings. You should attend agreed meetings, prepare for them and take the initiative in raising problems or difficulties.
- That you make the most of the opportunities for both academic and personal development. You must participate in designing a training programme and attend the recommended courses and activities designed for Postgraduate students
- That you submit your work on time, undertake examinations/assessments and progress reviews as required by the CDT and Faculty/Department.
- That you keep a record of your outputs, paying particular attention to the impact of each output.

### Programme structure:

This programme has been specifically designed to incorporate a PhD level research project together with a curriculum training component. The curriculum training programme requires students to complete 180 credits – 70 credits of assessed Masters level taught modules offered by the four Universities and 80 credits of postgraduate project elements. The remaining 30 credits are achieved through International Experience (20 credits) and Industrial Internship (10 credits).

There are minimum credit requirements at the end of each year;

1<sup>st</sup> year: 130 credits

2<sup>nd</sup> year: 150 credits

3<sup>rd</sup> year: 170 credits

4<sup>th</sup> year: 180 credits

In year 1, you will refine your research topic with the help of an assigned industrial and academic supervisor/mentor, and complete the required training programme from the schedule tabled below. **Please note that a large proportion of the programme in year 1 will be based at the University of Nottingham.** In years 2-4, you will increasingly focus on research activities and project specific training.

### Compulsory modules:

Module	Credits	Year	Offered by
Group 'Grand Challenge' project	40	1	University of Nottingham
Introduction to Additive Manufacturing 1*	10	1	Loughborough University
Introduction to Additive Manufacturing 2*	10	1	University of Nottingham
Research and Professional Skills	10	1	University of Nottingham
Individual Feasibility Project	40	1	University of Nottingham
Industrial Internship	10	1-4	University of Nottingham
International Experience	20	1-3	University of Nottingham
<b>Total credits</b>	<b>140</b>		

(Subject to modification)

**Restricted Optional modules:**

Students must take **at least one** 10 credit module from this group

<b>Module</b>	<b>Credits</b>	<b>Year</b>	<b>Offered by</b>
CAE in AM and 3D printing*	10	1	University of Nottingham
Materials in AM and 3D printing*	10	1	University of Nottingham
<b>Total credits</b>	<b>20</b>		

(Subject to modification)

\*Modules are delivered in 1 or 2 week blocks

**Elective Modules (Total 30 credits)**

You may choose from any relevant Masters-level module offered by any of the partner Universities. There are no restrictions but the modules selected must be relevant to the ethos of the centre/project and you must have approval by your supervisory team.

In addition to credit bearing modules, there will also be non-credit bearing compulsory courses which may act as pre-requisites to the credit bearing courses e.g. CAD training. You are also encouraged to attend non-compulsory training courses to develop your research and professional skills.

In order to continue into the next academic year, you must successfully complete the required taught elements and research progression requirements.