Welcome……

Welcome to Colchester Institute and to the range of highly successful Engineering Apprenticeships we offer…….

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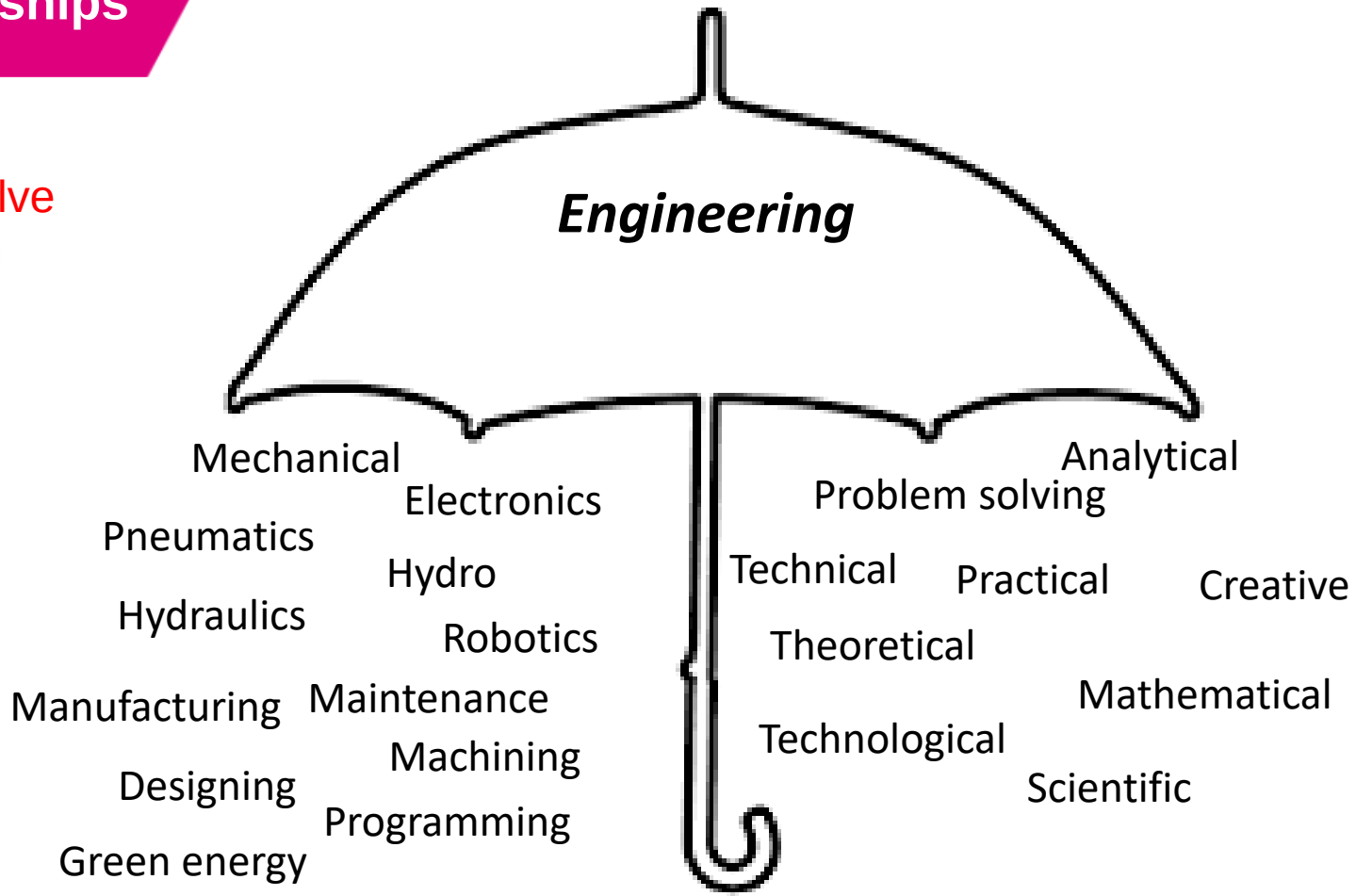
Considering a career in this sector?

Engineering Apprenticeships

Engineers create solutions, solve problems, maintain, fix, design and manufacture products needed for everyday life.



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Engineering Apprenticeship Programmes:

- **Engineering Technician Standard – level 3**
- **Product Design and Development**
- **Mechatronics**
- **Technical Support**
- **Machinist**

- **Supply Chain Warehouse Operative – level 2**
- **Lean Manufacturing Operative– level 2**

https://www.instituteforapprenticeships.org/apprenticeship-standards/engineering-technician-v1-1)
https://www.instituteforapprenticeships.org/apprenticeship-standards/supply-chain-warehouse-operative-v1-0
https://www.instituteforapprenticeships.org/apprenticeship-standards/lean-manufacturing-operative-v1-0

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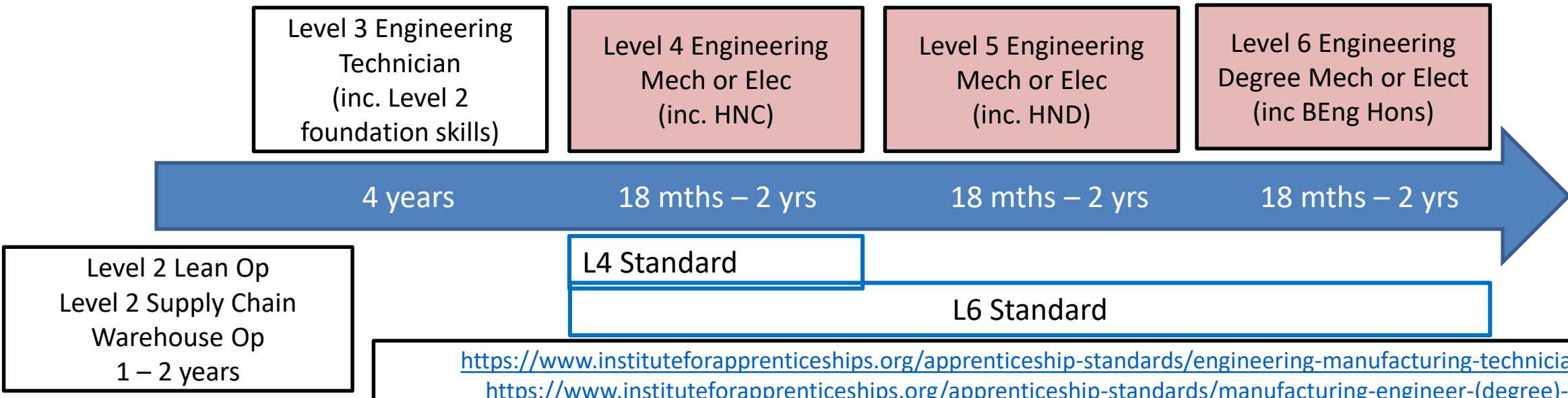
Progression

The higher levels of study support entry into Industry or Higher Education - There is a progression path all the way through to a Degree level Engineering Manufacture Apprenticeship…….



https://www.instituteforapprenticeships.org/apprenticeship-standards/engineering-manufacturing-technician-v1-0
https://www.instituteforapprenticeships.org/apprenticeship-standards/manufacturing-engineer-(degree)-v1-0

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How its looks...

L3 Engineering Technician Standard (Multiple Roles)

An apprenticeship enables you to '**earn while you learn**' and students follow a programme laid out below:

- L2 Competency Qualification
- L3 Knowledge & Competency Qualification
- L2 English & maths

- The final exams/assessments in an Apprenticeship are known as an End Point Assessment (EPA) and the above requirements must be met before triggered.

- 20% off the job learning

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Apprenticeship

L3 Machinist

An apprenticeship enables you to '**earn while you learn**' and students follow a programme laid out below:

- L2 Knowledge & Competency Qualification in Machining
- L3 Knowledge & Competency Qualification in Machining
- L2 English & maths
- The final exams/assessments in an Apprenticeship are known as an End Point Assessment (EPA) and the above requirements must be met before triggered.
- The Machinist EPA consists of a 2 day test of written tests, practical observations and a professional discussion
- 20% off the job learning

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Technician Units of Study

Level 2 competency units covered are:
•Complying with statutory regulations and organisational safety requirements
•Working efficiently and effectively in an engineering environment
•Using and communicating technical information
•Conducting business improvement activities
•Producing components using hand fitting techniques
•Preparing and using lathes for turning operations
•Preparing and using milling machines
•Wiring and testing electrical equipment and circuits
•Preparing and using MIG/MAG equipment
•Maintaining Electrical Equipment and Systems
•Producing mechanical engineering drawings using a CAD system

A selection of the Level 3 knowledge qualification units taught include:
•Health & Safety in the Engineering Workplace
•Communications for Engineering Technicians
•Mathematics for Engineering Technicians
•Engineering Project
•Mechanical Principles of Engineering Systems
•Electrical and Electronic Principles
•Properties and Applications of Engineering Materials
•Applications of Mechanical Systems in Engineering
•Engineering Organisational Efficiency and Improvement
•Computer Aided Design (CAD) Techniques
•Further Mathematics for Engineering Technicians
•Engineering Maintenance Procedures and Techniques
•Maintenance of Mechanical Systems
•Installation of Electrical Equipment
•Features and Applications of Electrical Machines
•Three Phase Motors and Drives
•Further Electrical and Electronic Principles

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Machinist Units of Study

The Level 2 Knowledge and Competency Diplomas are delivered 1 day a week for 2 years. The knowledge and competency units covered are:

- Complying with statutory regulations and organisational safety requirements
- Working efficiently and effectively in an engineering environment
- Using and communicating technical information
- Conducting business improvement activities
- Producing components using hand fitting techniques
- Preparing and using lathes for turning operations
- Preparing and using milling machines
- Preparing and using CNC turning machines
- Preparing and using CNC milling machines
- Producing CAD models (drawings) using a CAD system

Apprentices will then study the Level 3 Knowledge Diploma, which is delivered for 1 day a week for 2 years

The Level 3 knowledge qualification units are:

- Engineering and environmental health and safety
- Communication for machinists/engineers
- Properties and applications of engineering materials
- Engineering maths
- Advanced manufacturing CNC turning techniques
- Advanced manufacturing CNC milling techniques
- CAD/CAM
- Engineering inspection and quality control

Engineering Competence level 3

All level 3 Engineering Apprentices will need to do a competence qualification in the work place – Assessor visits……..

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Lean Operative

The level 2 knowledge qualification is delivered 1 day a week for 28 weeks. The units covered are:

- Health & Safety Within a Manufacturing Environment
- Working and communicating effectively within a manufacturing environment
- Working relationships and individual rights and responsibilities within a manufacturing environment
- Application of workplace organisation
- Producing components using hand fitting techniques
- Work related problem solving techniques
- Preparing for manufacturing operations
- Controlling manufacturing operations
- Producing products by processing

- Typical apprenticeship duration 18 months – 2 years

Supply Chain Warehouse Operative

Apprentices will then complete a level 2 competence qualification (Certificate in Warehouse and Storage) in the work place with Assesso visits, units can include:

- Health, safety and security at work
- Develop effective working relationships
- Pick and wrap goods
- Assemble orders
- Moving and handling goods in logistics
- Using a forklift
- Checking stock levels
- Receive goods
- Processing orders

- Typical apprenticeship duration 18 months – 2 years

Both programmes also include any Functional Skills requirements and an End Point Assessment

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Examples of HE units of study – level 4/5/6….

Automation, Robotics and PLC's

Quality and Process Improvement

Electrical and Electronic Principles

Computer Aided Design and Manufacture (CAD/CAM)

Engineering Design

Management PE project

Engineering Maths

Thermodynamics

Lean Manufacturing

Engineering Science

Virtual Engineering

Commercial Programming Software

Mechanical Principles

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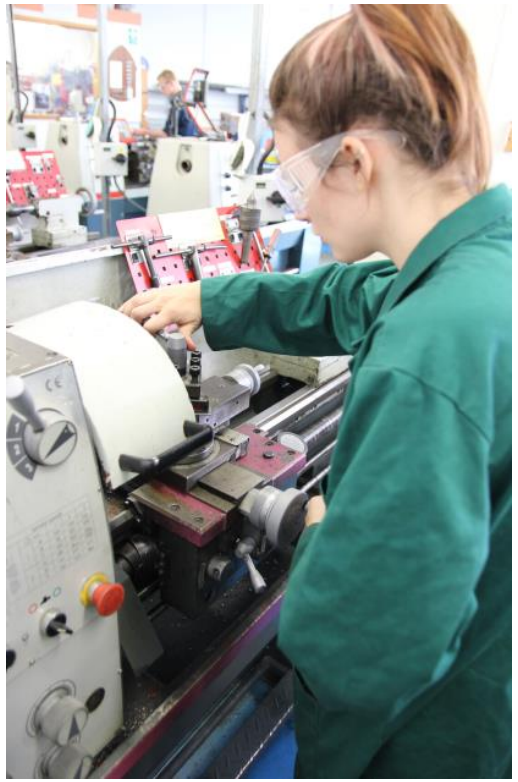
Where you will be learning

Colchester campus



Better Careers Begin Here

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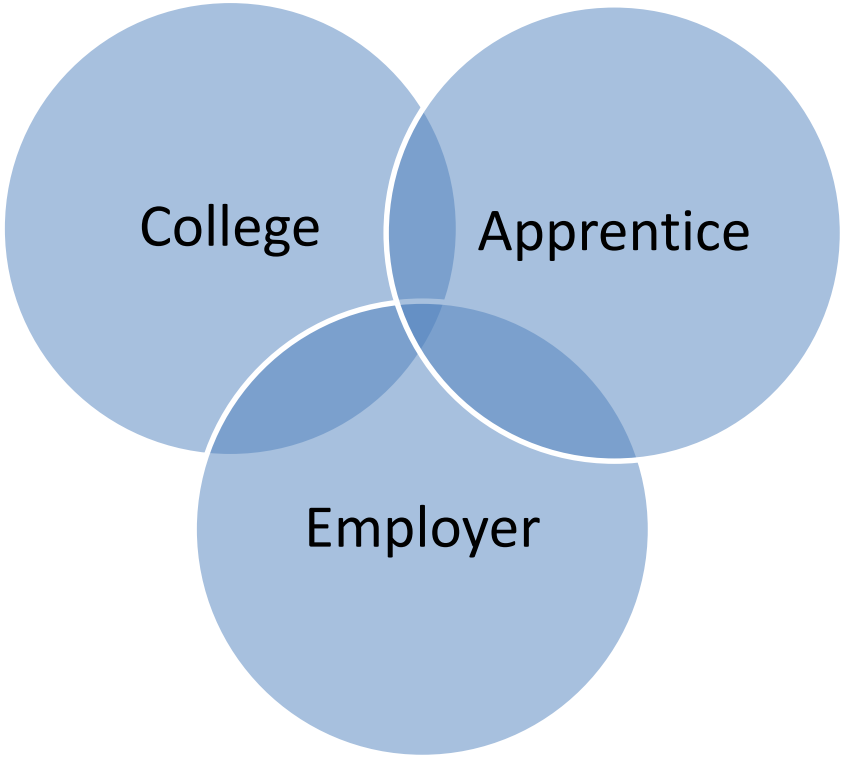
Where you will be learning

Braintree campus

Better Careers Begin Here

Don’t take our word for it…….



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Need more information?

Please visit our area on our website
containing detailed course specific information:

https://www.colchester.ac.uk/courses/finder/apprenticeship
https://www.colchester.ac.uk/course/engineering-technician-apprenticeship/

appadmin@colchester.ac.uk
mark.cherry@Colchester.ac.uk