

# Degree Apprenticeships for Build Off Site

Dr Anne Nortcliffe

Founding Head of School of  
Engineering, Technology and Design



# CCCU Vision

Growing the economy through engineering, science and technology

- Secured £13M in Local and National Government
- Inclusive Education
  - Engineering Curriculum
  - Industry Co-design
  - Social Engineering (BAME, Gender, Socio-economic)
- Full-time & Apprentices
- New Facilities 2020 - £50M



- “Industry-Ready” Engineering Graduates
- Quality – staff, teaching, research, and facilities
- CDIO
- Industry 4.0 focus

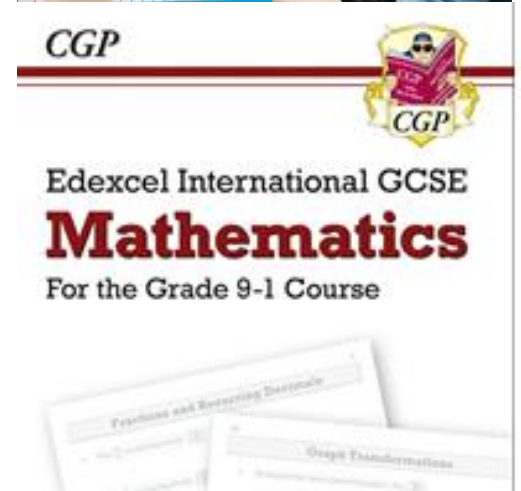
# Demystify Apprenticeship Standards Qualifications

- Shortfall, 22,000 Engineers per year (EngineeringUK, 2018)
- Qualifications/Assessment
  - Non-integrated, separate
    - Degree (HEI qualification)
    - End Point of Assessment
  - End Point of Assessment
    - no HEI qualification award
    - not recognised by Engineering Council or Engineering Institutes Currently
- Level 4 – HNC
- Level 5 – HND/FDSci/FDEng
- Level 6 – BSc/BEng
- Level 7 – PgDip/MEng
- Level 7 – MSc/MBA



# Apprenticeship Practice

- 20% Off-job training
- Off-job training to be hours of employment
  - 9-5 employment = training
  - Weekend employment = training
- EPA Level 2 English and Maths
  - GCSE English and Maths
  - Functional Skills Level 2 English and Maths



# Degree Apprenticeship Off-Job Learning

- Typical UK HEI
  - Level 4 – 18 months
  - Level 5 – 3 years
  - Level 6 – 5-6 years
  - Level 7 – 18 months – 5 years
- CCCU
  - Level 4 – 1 year
  - Level 5 – 2 years
  - Level 6 – 3 years
  - Level 7 – 12-18 months



# CCCU

- Trimesters per year
- Trimester consists of
  - 10 teaching weeks
  - 3 assessment weeks
  - Two 20 credit modules or 40 credit module
  - 60 hrs in class
  - 40 hrs CCCU support per employer
  - 300 hrs self-study
  - Assessments where possible
    - Work-based
    - CDIO (Conceive, Design, Implement and Operate)
- Delivery
  - 1 day a week
  - Five 5 day block release



# Degree Apprenticeship Standards

- Manufacturing Engineer (Degree) Apprenticeship Standard
  - Approved
  - Qualifications (Degree and End Point of Assessment)
- Quality Improvement Standards
  - Improvement Practitioner (Level 4)
    - Approved
    - Qualification is End Point of Assessment Only
  - Improvement Specialist (Level 5) Pending
  - Improvement Leader (Level 6) Pending
- Postgraduate Engineer (Degree) Apprenticeship Standard
  - Approved
  - Qualifications (Postgraduate Diploma and End Point of Assessment)

# Viability

- 15-20 Degree Apprentices per year per HEI
- Share with other Manufacturing Employers
  - Generic Manufacturing Learning
  - Cross-fertilisation
- Build-off-site
  - Bespoke
  - One HEI
  - Block Release

BEng Modular Building Manufacturing Engineer (proposal)						
Mechanical Engineering Dynamics	Systems Engineering	Maths	Material and Manufacturing Engineering	Design Engineering	Engineering Professional Practice	
	Introduction to Electro-mechanical Building Systems 20 credits Trimester 2	Mathematics and Computing for Apprentice Engineers 20 credits Trimester 1	Introduction to Material & Manufacture 20 credits Trimester 2	Introduction to Design Engineering 20 credits Trimester 1	Professional Practical Maintenance Engineering Project 40 credits Trimester 3	
	Dynamics of fluid and thermal systems 20 credits Trimester 1	Dynamics of Solid Mechanics and Materials 20 credits Trimester 2	Manufact'g Systems (Sensors, Comms and Control) 20 credits Trimester 1	Integrated Mechanical and Electrical Building Services Design 20 credits Trimester 2	Engineering Product Lifecycle 40 credits Trimester 3	
	Dynamic Modelling (Material, Fluids and Thermal Dynamics) 20 credits Trimester 2	Manufacture Logistics and Supply Chain Engineering 20 credits Trimester 2	Applied Manufacturing Industry 4.0 20 credits Trimester 1	Designing for Modular Building Manufacturing 20 credits Trimester 1	Professional Engineering project 40 credits Trimester 3	





# Summary – Degree Apprenticeships

- Qualifications Non-integrated and EPA
- Build-off-site needs Skilled Degree Engineers
  - Engineering for Advance Manufacture
  - Bespoke or Generic Manufacture Engineer (Degree) Apprenticeship
- Day release v Block Release
- 3 years or 5 years
- Trail-blazer



# Feel Free to Ask Questions?

Twitter: @CCCUEdgeHub, @anortcliffe

Email: [anne.nortcliffe@canterbury.ac.uk](mailto:anne.nortcliffe@canterbury.ac.uk)

Tel: 01227 92 1862