Bournemouth University

Download our free Open Day app

Department of Design and Engineering

Engineering@BU

#BUopenday
#belongatbu

About BU

- Talbot Campus
  - Main teaching campus for BU's Academic Schools
  - Key Support Services

- Lansdowne Campus
  - Town centre location
  - Accommodation and administration
  - Postgraduate Business School
  - Health Sciences

- Around 17,000 students in total
  - Approx. 2,000 international students
  - Over 100 nationalities

Bournemouth University

Facilities to Support Your Study

- Library and Learning Centres with books, e-journals and e-books
  - (The best 2007 higher education libraries in national and university institutions
- 24 hour computer labs
- New Student Centre
- New Academic Fusion Building

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Academic Centres at BU

- Faculty of Media and Communication
- The Bournemouth University Business School
- Faculty of Health and Social Sciences
- **The Faculty of Science and Technology**

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Design and Engineering Department

Faculty of Science & Technology

3000 Undergraduates
120 Postgraduates
160 Research Students

Department of **Design & Engineering**

Department of **Computing & Informatics**

Department of **Psychology**

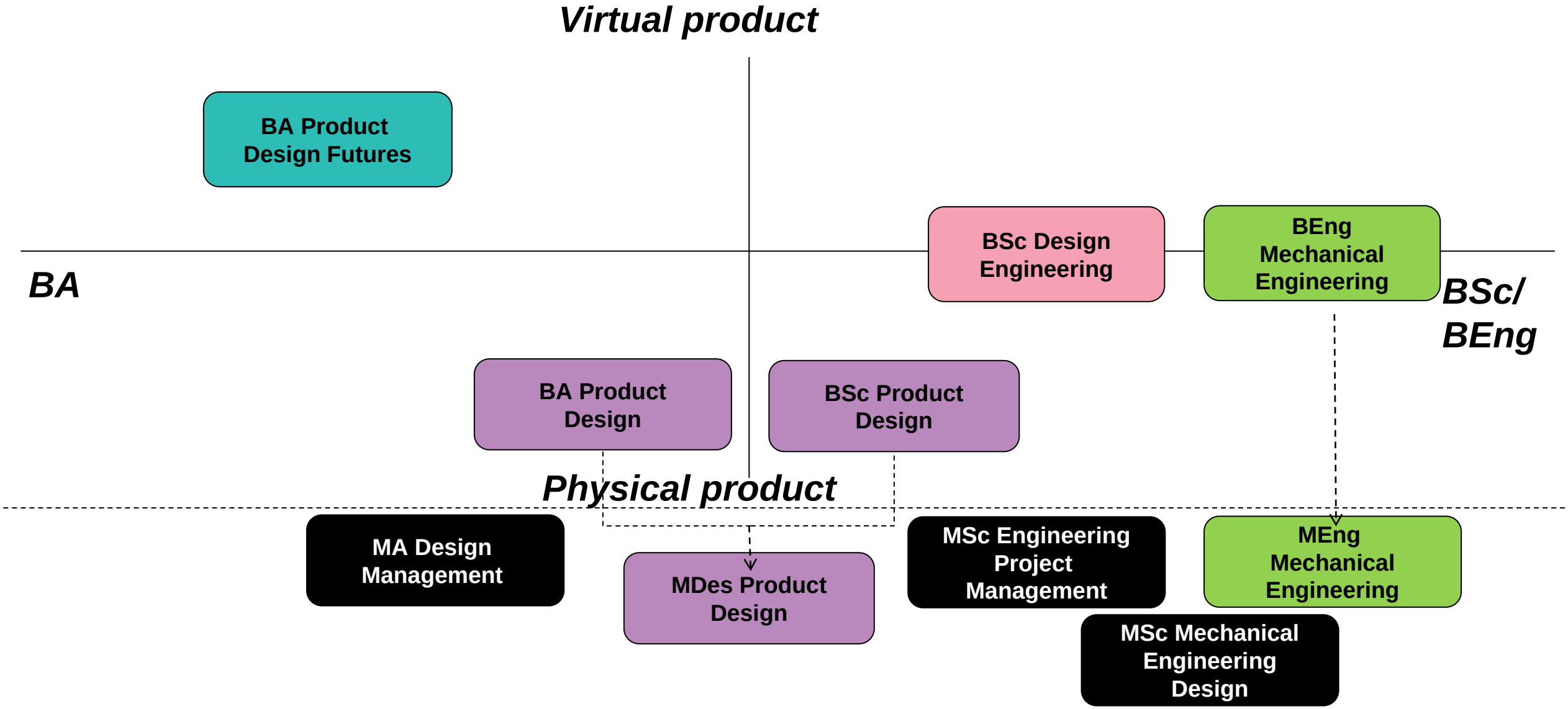
Department of **Archaeology, Anthropology**

Department of **Creative Technology**

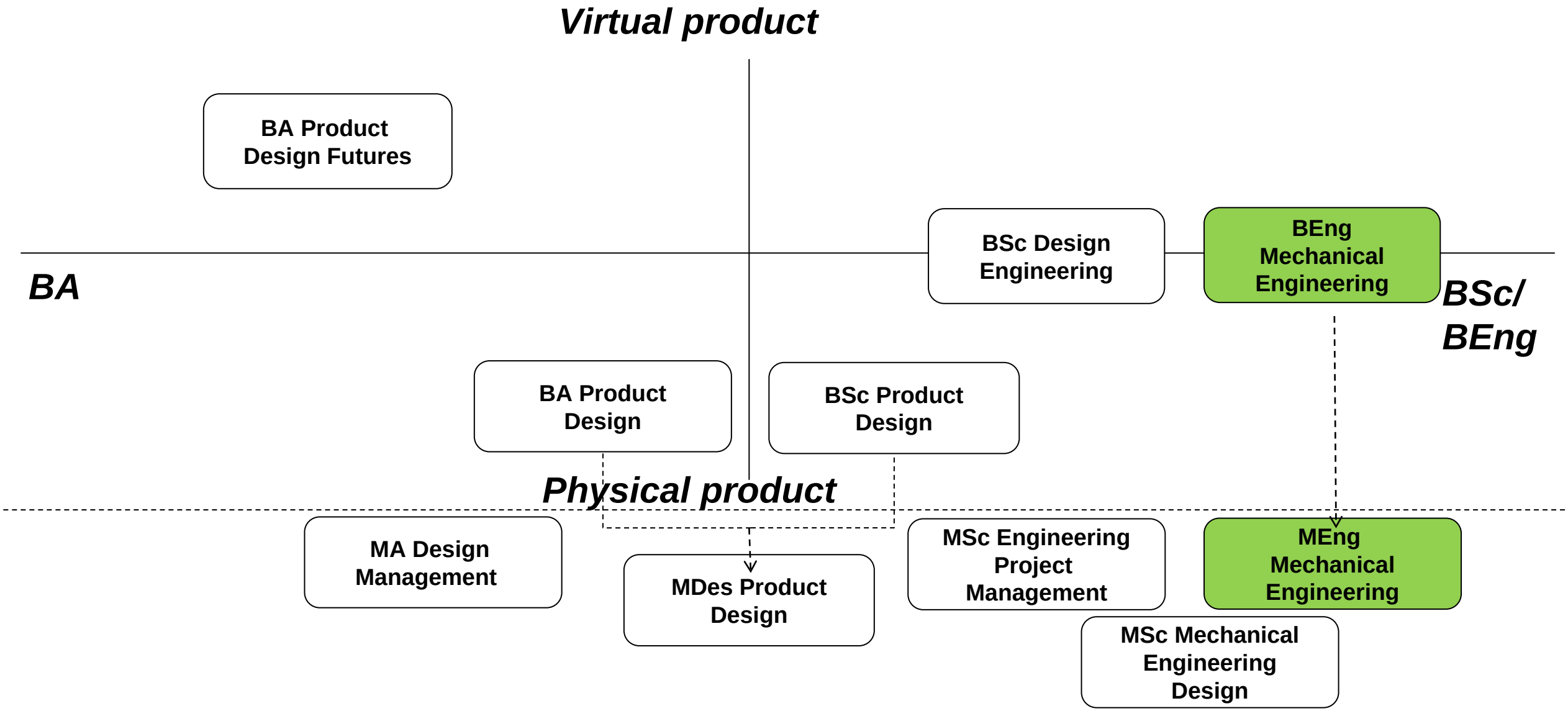
Department of **Life and Environmental Sciences**

Bournemouth University

Design and Engineering Department

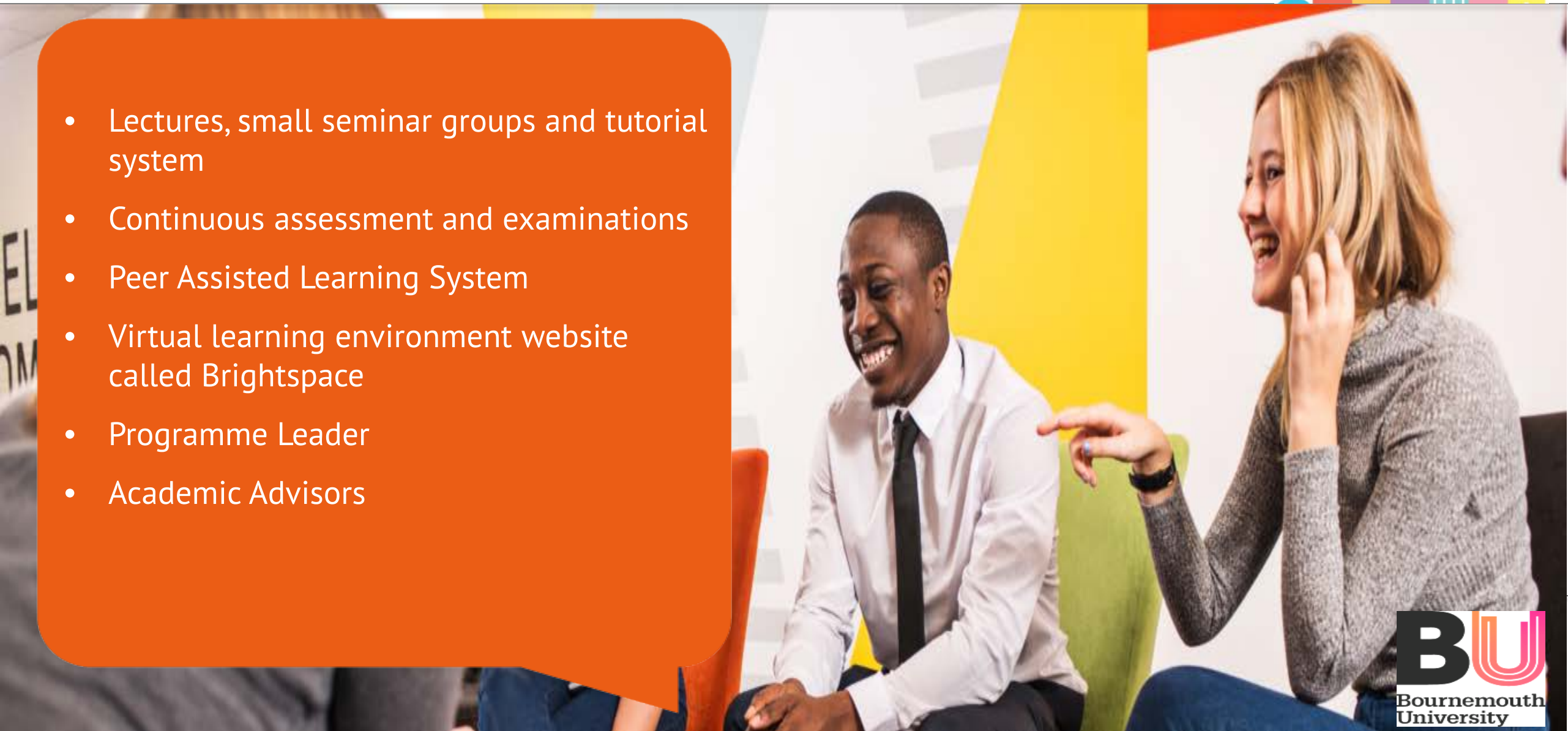


Design and Engineering Department



Learning at BU

- Lectures, small seminar groups and tutorial system
- Continuous assessment and examinations
- Peer Assisted Learning System
- Virtual learning environment website called Brightspace
- Programme Leader
- Academic Advisors



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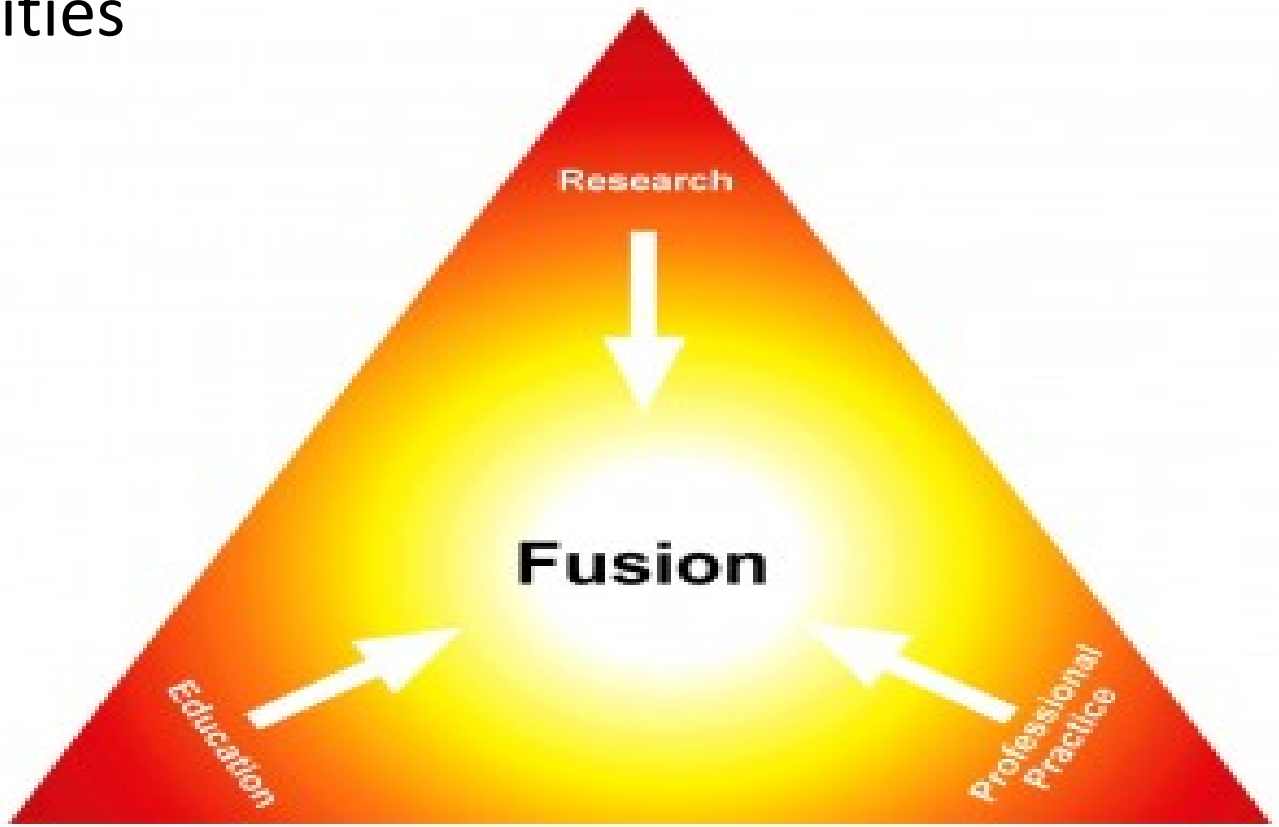
Engineering at BU

- Our research and enterprise activities inform our courses

- Projects being undertaken with B&Q, Anglepoise, Airbus, BAE Systems, Tank Museum, Gelert….



Engineering at BU

- Accredited by the **Institution of Engineering Designers** (iED) and by the **Institution of Mechanical Engineers** (IMechE)

iED support inspire achieve

Institution of MECHANICAL ENGINEERS

Engineering at BU

- BEng accredited to Incorporated Engineer status (IEng)

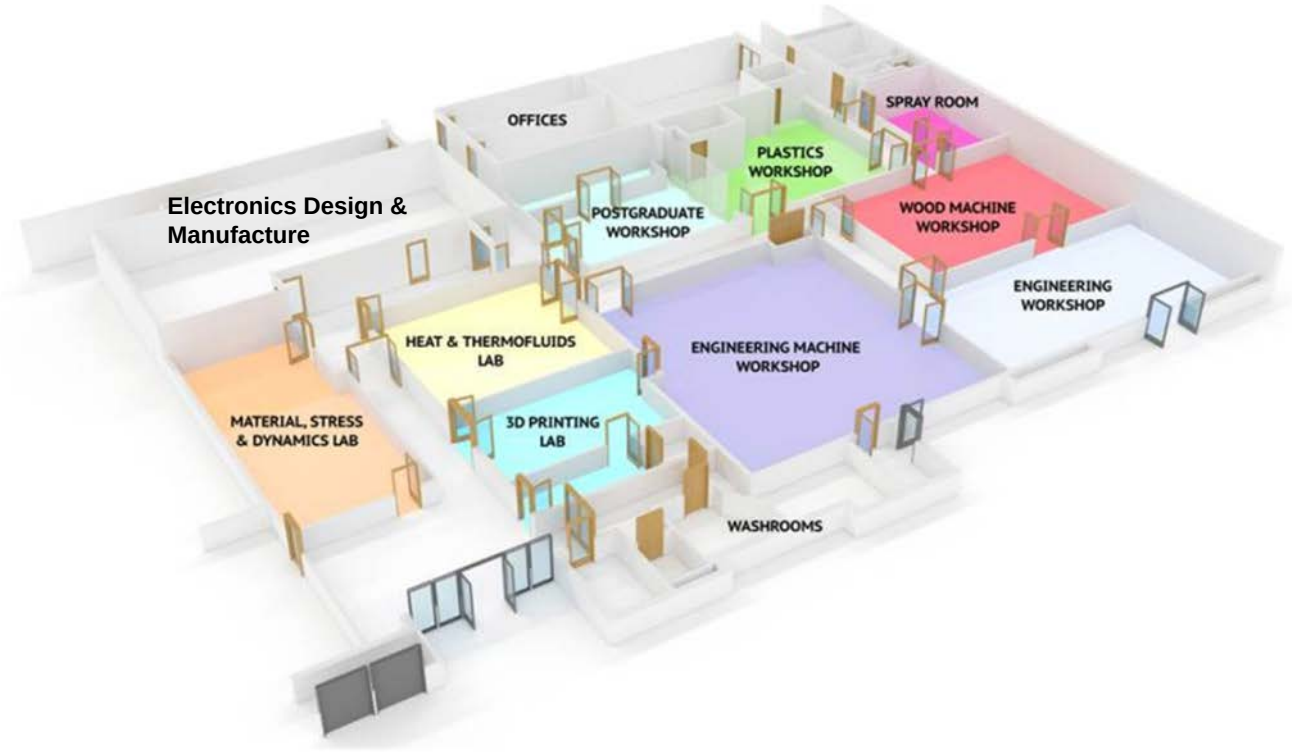
- MEng accredited to Chartered Engineer status (CEng)

Engineering Council accredited degree

Engineering at BU

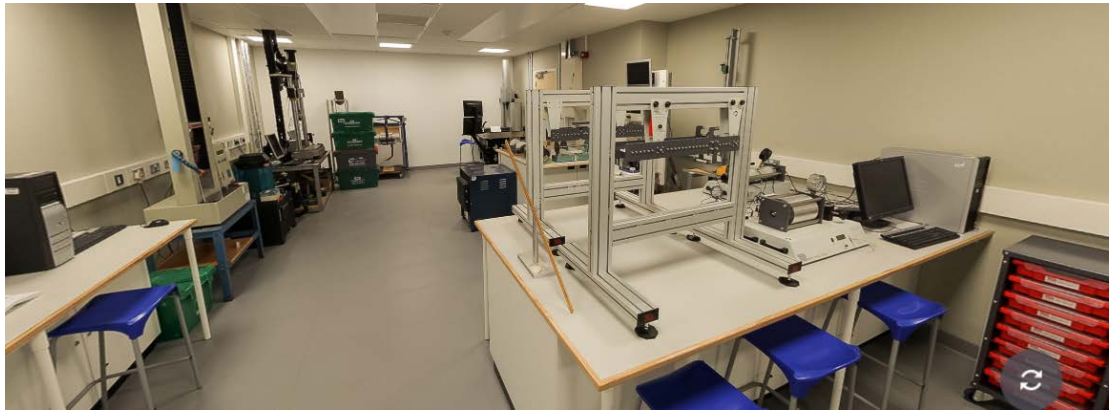
- Showcase Innovation Centre

- Extensive design facilities – from concepts to virtual and physical working prototypes



Engineering at BU

- Modern workshop environment with updated machinery
- Rapid Prototyping Centre
- Virtual Reality Centre
- Electronics Design and Manufacture Centre
- Mechanics, Dynamics and Materials and Heat and Thermofluids labs



Student Employability

- Diverse industrial placements both nationally and internationally
- Dedicated Employability Coordinators
- Placement Development Advisors
- Placement year fee approximately £700 only

Student Employability

Very high employment in a graduate professional job six months after graduation for engineering

The course has been ranked 3rd in the UK for Engineering for boosting graduate salaries:

Rank in programme Programme of study	Actual earnings	Expected earnings	Value added
3/85 Engineering	£39,800	£28,991	£10,809

https://www.economist.com/blogs/graphicdetail/2017/08/graduate-earnings

Annual Events

Festival of Design & Engineering 2019

(Bournemouth, June 2019)

https://fodt.bournemouth.ac.uk/

Entry Requirements

Qualifications	Tariff Points*					
	96	104	112	120	128	136
A-levels	CCC	BCC	BBC ACC	BBB ABC A*CC	ABB A*BC	AAB A*BB
BTEC: Extended Diploma	MMM	DMM	DMM	DDM	DDM	DDD
BTEC: Diploma	DD	D*D	D*D*			
A-level & BTEC Diploma	A* / MP A / MP C / MM	A* / MP B / MM C / DM	A* / MM A / MM C / DM	A* / MM B / DM C / DD	A* / DM A / DM C / DD	A* / DM B / DD C / D*D
A-levels & BTEC Subsidiary Diploma	CC / M BB / P	CC / D BC / M AB / P	CC / D BB / M AA / P	CC / D* BC / D AB / M A*A / P	BC / D* BB / D A*B / M A*A* / P	BB / D* AB / D A*A / M
Access to HE	Any combination of Distinctions, Merits and Passes to make up the tariff points					

2021/22 entry: 104 - 120 points

including a minimum of two A-levels in required subjects or equivalent. A-Level Mathematics (or equivalent), and any Science or Technology subject

GCSE English and Mathematics grade 4 (or grade C in the old grading system) or equivalent qualifications.

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Course Aims

- To deliver a broad and balanced education in the area of mechanical engineering
- To provide a set of modern engineering skills
- To cultivate ability and inspire confidence in applying knowledge and skills to solving engineering problems
- To cultivate ability and inspire confidence in effective communication with engineers and the wider public
- To provide a working knowledge and understanding of business related issues

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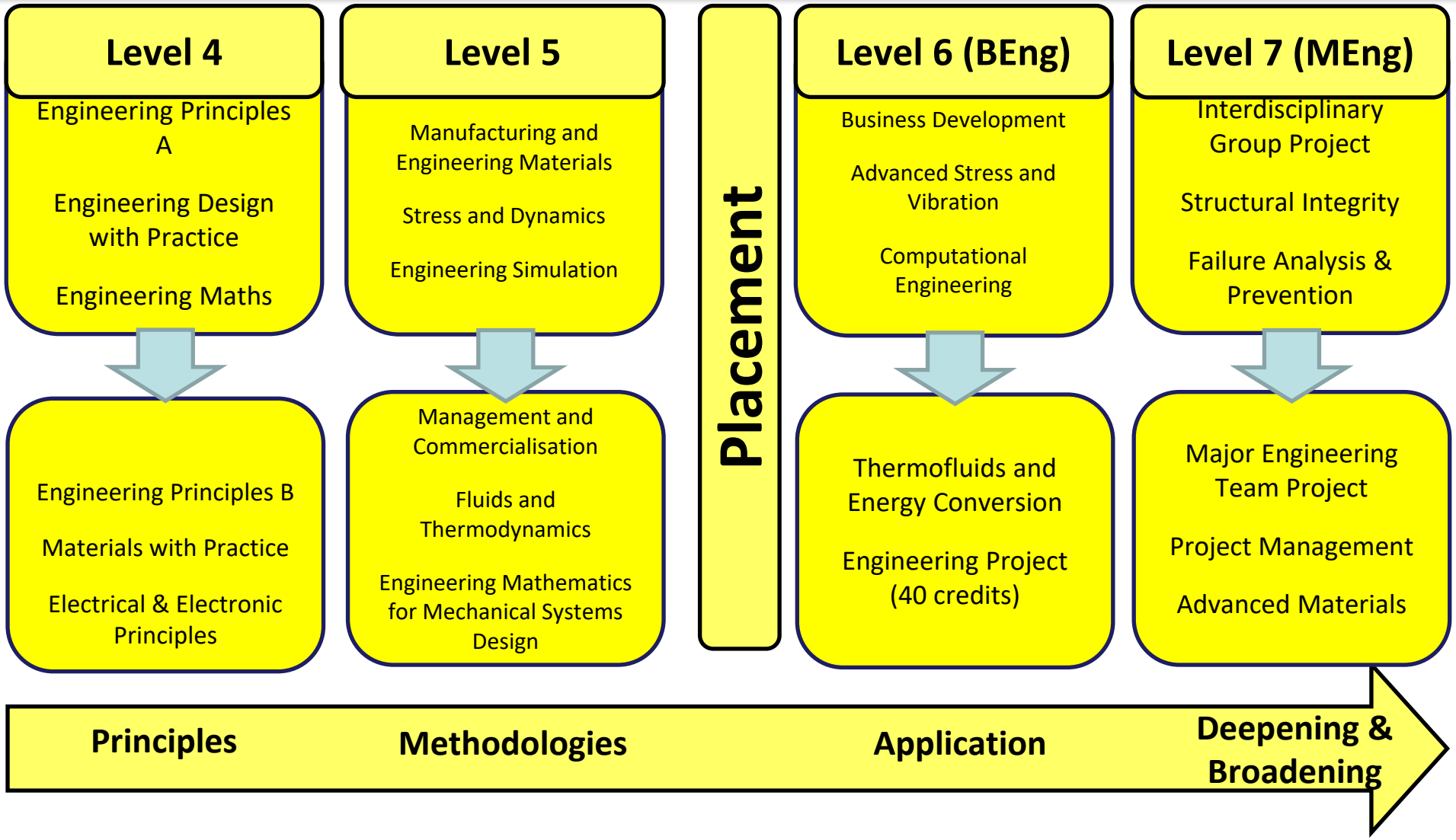
Course Structure



Bournemouth University

Year 1 – Level 4

Level 4

Engineering Principles A

Engineering Design with Practice

Engineering Maths

Engineering Principles B

Materials with Practice

Electrical & Electronic Principles

The fundamental theory and application of statics, dynamics, heat and fluids

Forces & equilibrium, moments, friction, stress/strain

Linear and angular motion, momentum, impulse, force, mass and acceleration, Flow rates, energy conservation, viscosity, pipe losses, Specific heat capacities, gas equations

Applied to the design of components, structures and machines

Assessment: 50% exam and 50% coursework

coursework typically includes lab work

Year 1 – Level 4

Level 4

Engineering Principles A

Engineering Design with Practice

Engineering Maths

Engineering Principles B

Materials with Practice

Electrical & Electronic Principles

Understanding and use of key engineering design principles and tools

for use in analysis and design, communication and manufacture

tools including CAD (2D and 3D modelling), programming and spreadsheets

workshop skills using mills, lathes and hand tools

Assessment: 100% coursework

including an engineering design project, solid CAD assembly modelling, mechanical systems manufacture

Year 1 – Level 4

Level 4

Engineering Principles A

Engineering Design with Practice

Engineering Maths

Engineering Principles B

Materials with Practice

Electrical & Electronic Principles

Solving problems in Engineering and Business

Algebra, Trigonometry, Calculus, and Matrices

Assessment: 100% coursework

including in-class tests

Year 1 – Level 4

Level 4

Engineering Principles A

Engineering Design with Practice

Engineering Maths

Engineering Principles B

Materials with Practice

Electrical & Electronic Principles

Further theory and application of statics, dynamics, heat and fluids

Forces & equilibrium, moments, friction, stress/strain

Linear and angular motion, momentum, impulse, force, mass and acceleration, Flow rates, energy conservation, viscosity, pipe losses, Specific heat capacities, gas equations

Applied to the design of components, structures and machines

Assessment: 50% exam and 50% coursework

coursework typically includes lab work

Year 1 – Level 4

Level 4

Engineering Principles A

Engineering Design with Practice

Engineering Maths

Engineering Principles B

Materials with Practice

Electrical & Electronic Principles

Selection and specification of suitable materials and production techniques

including material science and technology, environmental issues and the use of material selector software

Understanding and use of key engineering manufacturing tools

workshop skills using mills, lathes and hand tools, mechanical systems manufacture

Assessment: 50% coursework, 50% exam

coursework typically includes lab work and manufacture of mechanical system

Year 1 – Level 4

Level 4

Engineering Principles A

Engineering Design with Practice

Engineering Maths

Engineering Principles B

Materials with Practice

Electrical & Electronic Principles

Introduction to Electrical and Electronic Engineering

DC and AC, Ohm's Law, power and power factor

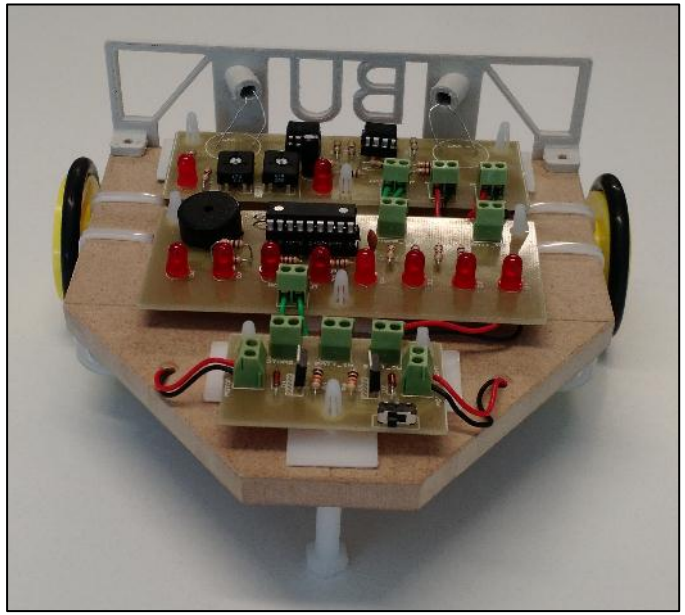
Basic analogue and digital circuit design, including microcontrollers

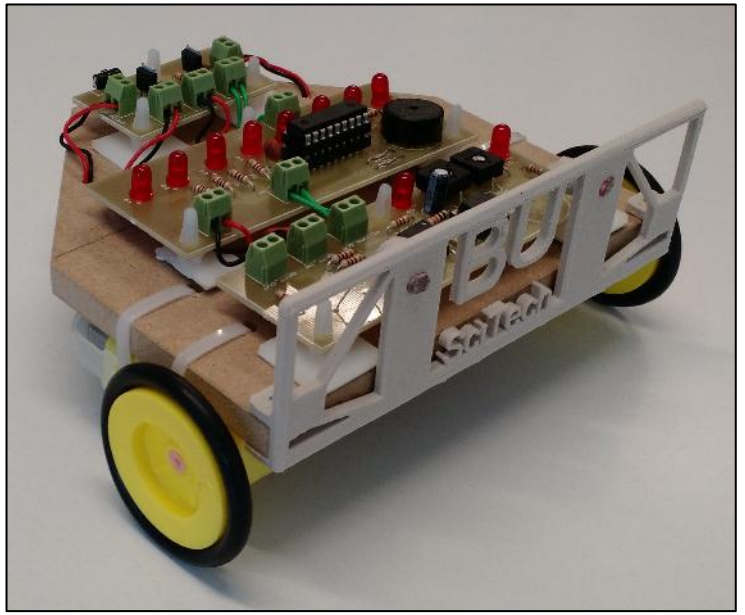
Production - Power Supplies, PCB design, EMC

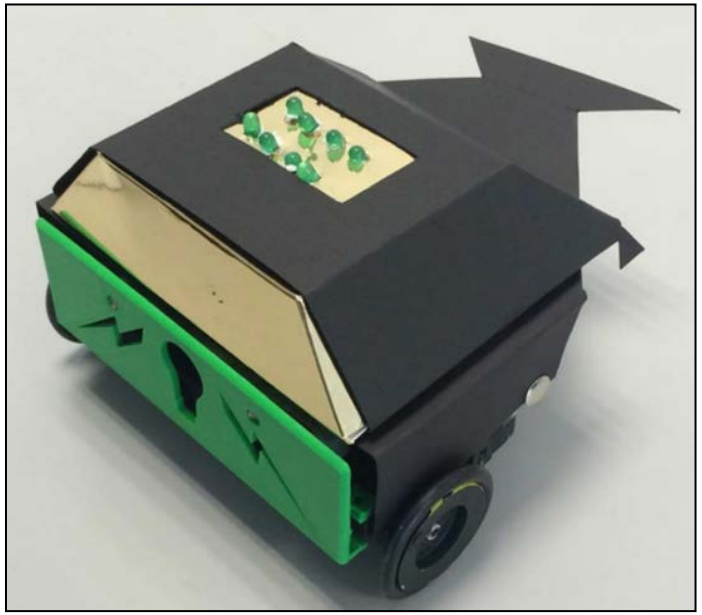
Assessment: 100% coursework

First Year Student Projects

Electrical & Electronic Principles - Light Seeking Robot

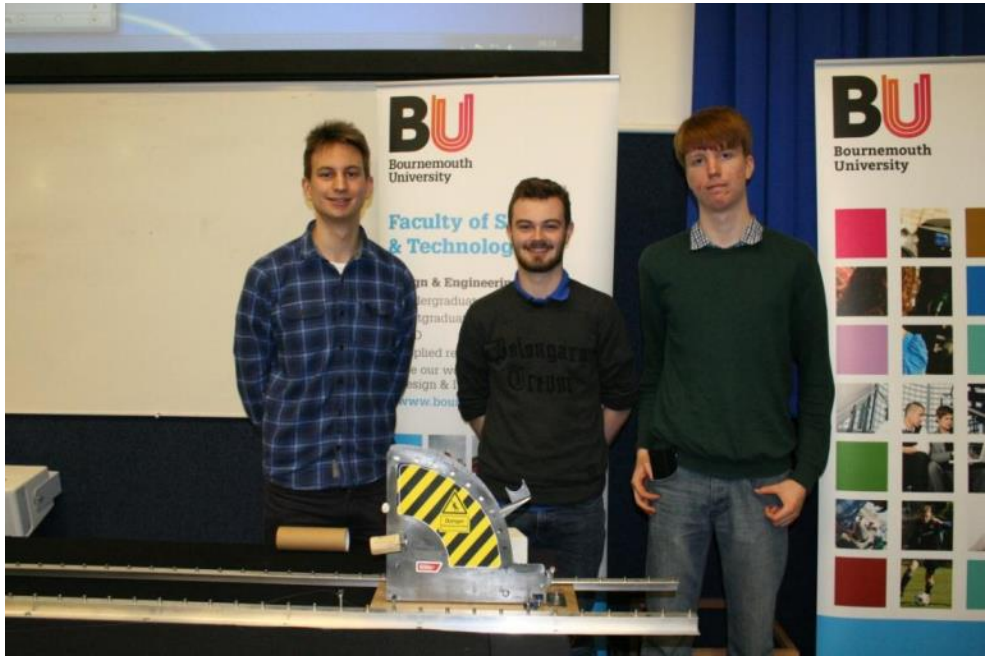






First Year Student Projects

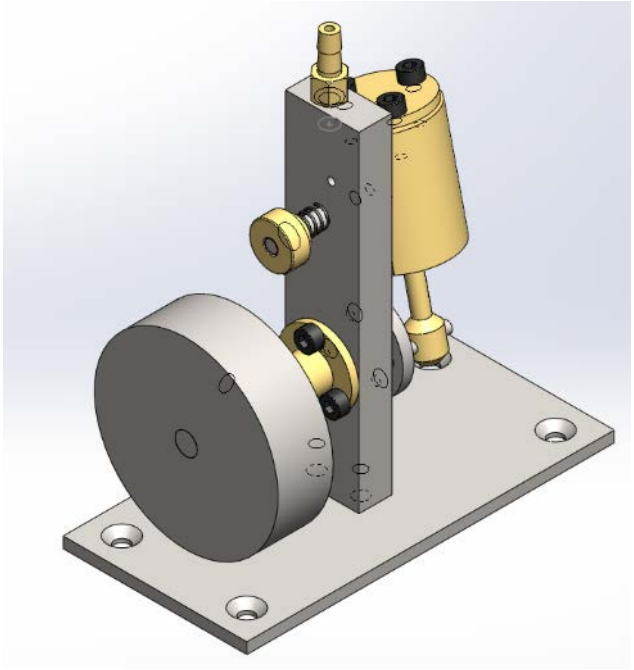
Design Challenge - Line Launcher

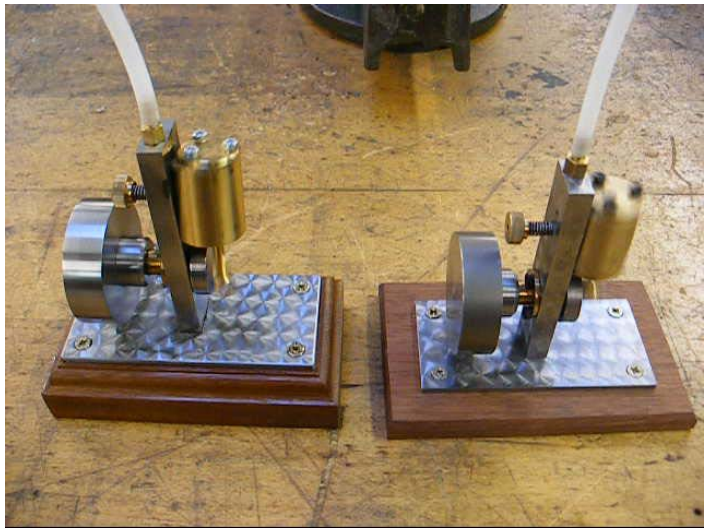


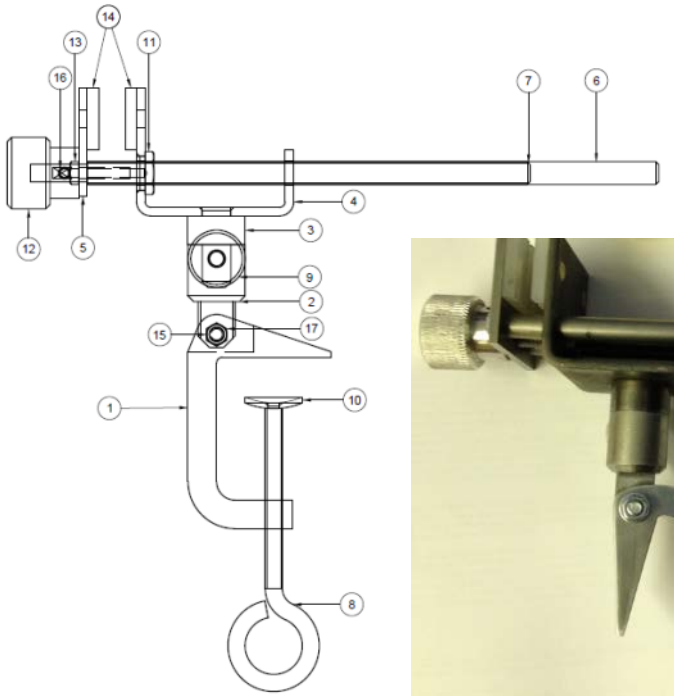
Design Challenge – Reversing Vehicle

First Year Student Projects

Practical engineering workshop exercises modelled utilising 2D and 3D Computer Aided Design

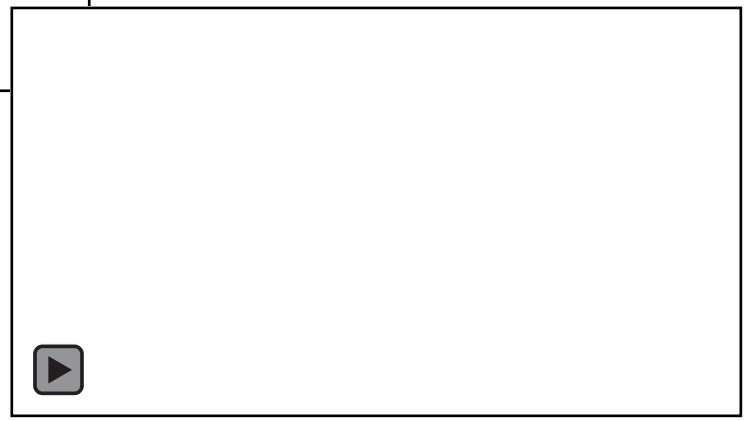


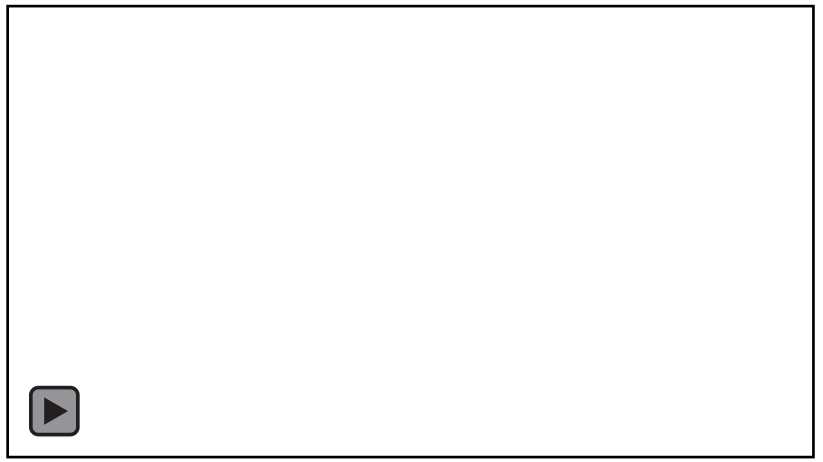




Second Year Student Projects

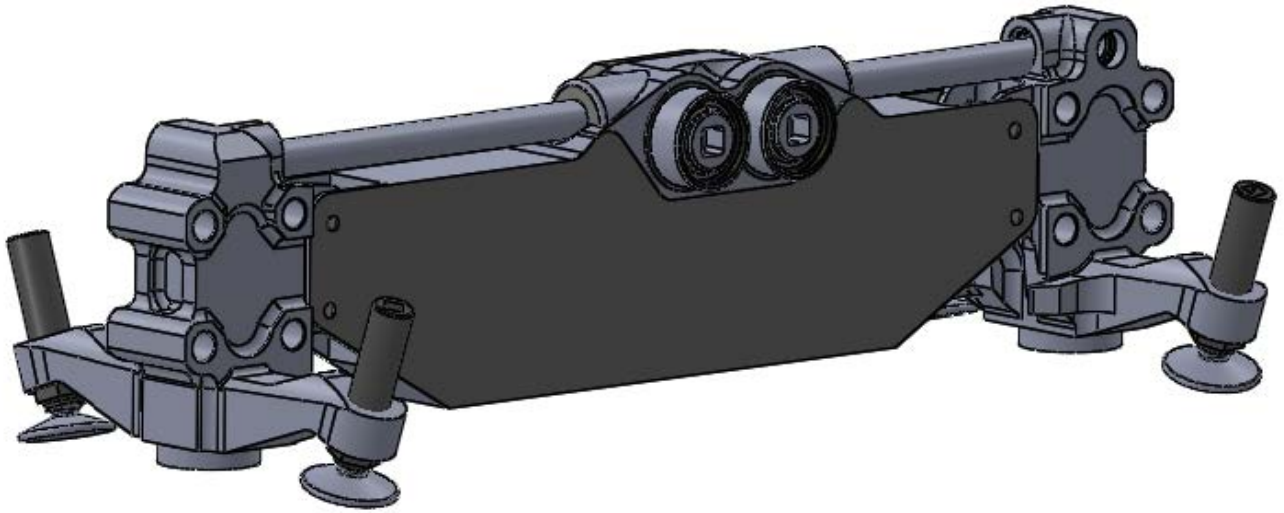
Two and three dimensional mechanical design simulation

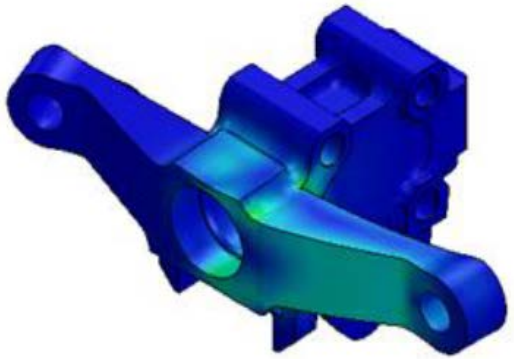


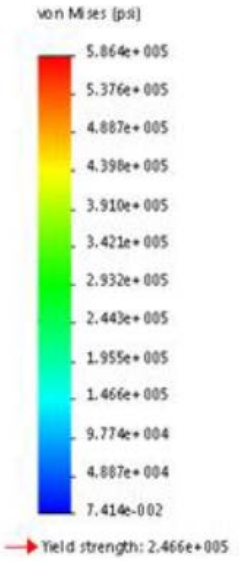


BEng Project – Design Based

Manufacturing and operational improvements to an Ejector Release Unit

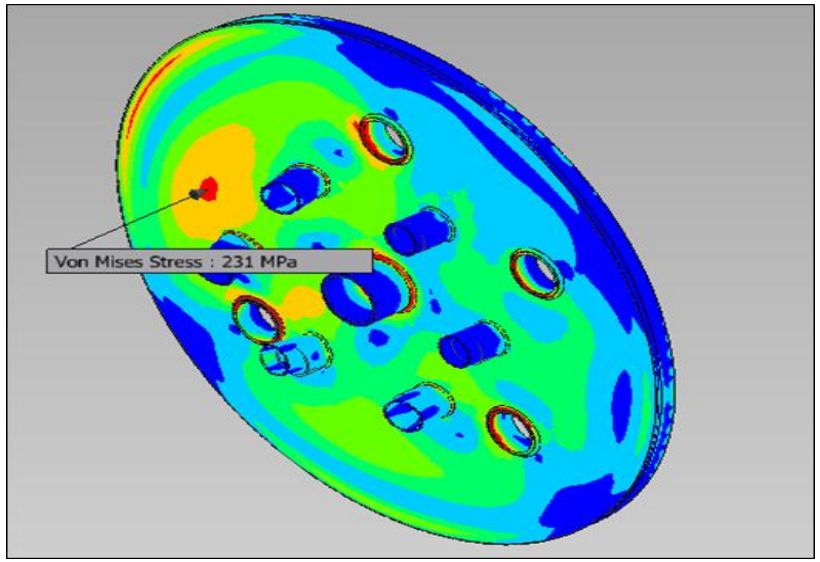






BEng Project - IED Prize Winner

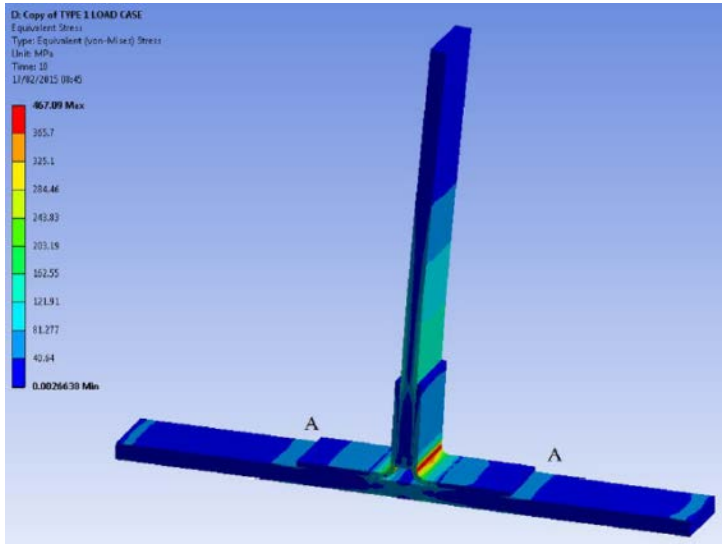
Gas manifold design review: Use of analytical methods validated through experimental stress analysis



MEng Projects – Research Based

Air to Air Refuelling Probe:
Investigating air contamination during pressure testing

The effect of varying the type of joint used in a Tufnol to steel connection using non-linear Finite Element Analysis



Industrial Opportunities

- ✓ Aerospace
- ✓ Automotive
- ✓ Chemical and Process
- ✓ Communication
- ✓ Electrical and Electronics
- ✓ Medical
- ✓ Military and Defence
- ✓ Rail and Marine
- ✓ Structural and Civil

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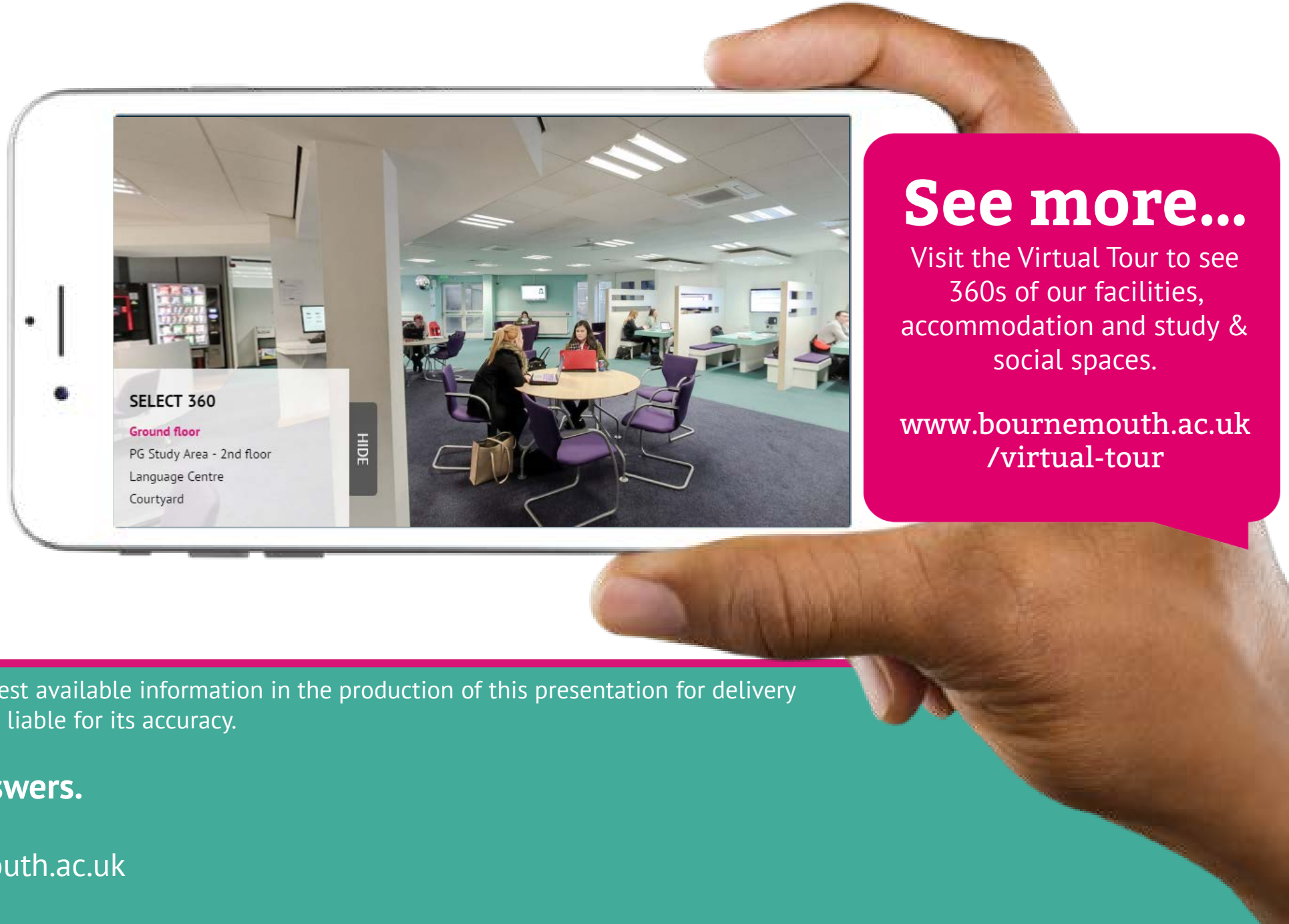

See more...

Visit the Virtual Tour to see 360s of our facilities, accommodation and study & social spaces.

www.bournemouth.ac.uk/virtual-tour

The university has consulted the latest available information in the production of this presentation for delivery in **January 2021**, but cannot be held liable for its accuracy.

Questions? We've got answers.

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askBUenquiries@bournemouth.ac.uk