

## Module Descriptor

Module Details	
<b>Module Title</b>	Design, Build and Test (Chemical)
<b>Module Code</b>	CPE4001-B
<b>Academic Year</b>	2022/3
<b>Credit Rating</b>	20
<b>School</b>	Department of Chemical Engineering
<b>Subject Area</b>	Chemical and Process Engineering
<b>FHEQ Level</b>	FHEQ Level 4
<b>Pre-requisites</b>	
<b>Co-requisites</b>	

Contact Hours	
Type	Hours
Lectures	12
Seminars	18
Practical Classes or Workshops	17
Online Tutorials (Synchronous)	12
Directed Study	141

<b>Availability</b>	
<b>Occurrence</b>	<b>Location / Period</b>
BDA	University of Bradford / Academic Year

<b>Module Aims</b>
<p>(1) To develop problem-solving skills through applied project work.</p> <p>(2) To develop team working in both discipline specific and interdisciplinary, time management and communication skills.</p> <p>(3) To introduce experimental techniques in engineering and technology.</p> <p>(4) To develop understanding of professionalism, engineering ethics and sustainability.</p>

<b>Outline Syllabus</b>
<p>Students will study topics directly relevant to the three projects and include Material Balances with and without Reactions and with Recoveries; Energy Balances and Phase Equilibria. Students will also study Dimensions and Units pertinent to Chemical Engineering.</p> <p>In addition, the module establishes professional skills with supplementary online lectures/workshops on:            Sketching, Health and Safety, Project Management, Time Management, Team Building, Financial Management, sustainability, Engineering Ethics, Presentation skills and Technical Report Writing including searching for and referencing information</p>

<b>Learning Outcomes</b>	
01	Explain the design process as applied to simple engineering systems, critique a solution and recognise opportunities for design improvements
02	Analyse the role of health and safety, professional conduct and engineering ethics in the design and development of an engineering product
03	Apply knowledge of the principles of sustainability on the basic design methods for the analysis and solution of simple engineering problems

04	Effectively utilise appropriate laboratory equipment, computer software and instrumentation in order to accomplish the objectives of a project in a safe working environment
05	Participate effectively in the operation of a team and collaborate effectively with members of the team.
06	Deliver a paper or presentation that succeeds in communicating effectively with members of the team.
07	Analyse data using appropriate tools and techniques

### Learning, Teaching and Assessment Strategy

Mode of Assessment				
Type	Method	Description	Weighting	
Summative	Examination - practical/laboratory	Project 1 (20 mins)	20 mins	20%
Summative	Examination - practical/laboratory	Project 2 (20 mins)	20 mins	40%
Summative	Examination - practical/laboratory	Project 3 (20 mins)		40%
Referral	Coursework	Coursework: Individual evaluative report on Project 1 (2000 words)		20%
Referral	Coursework	Coursework: Individual evaluative report on Project 2 (2000 words)		40%
		Coursework: Individual		

Referral	Coursework	evaluative report on Project 3 (2000 words)	40%
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## Reading List

To access the reading list for this module, please visit <https://bradford.rl.talis.com/index.html>

*Please note:*

*This module descriptor has been published in advance of the academic year to which it applies. Every effort has been made to ensure that the information is accurate at the time of publication, but minor changes may occur given the interval between publishing and commencement of teaching. Upon commencement of the module, students will receive a handbook with further detail about the module and any changes will be discussed and/or communicated at this point.*