

## Course Information Form (CIF)

The CIF provides core information to students, staff teams and others on a particular course of study.

<b>Section 1 - General Course Information</b>	
<b>Course Title</b>	Building Services and Sustainability
<b>Qualification</b>	FdSc
<b>Intermediate Qualification(s)</b>	n/a
<b>Awarding Institution</b>	University of Bedfordshire
<b>Location of Delivery</b>	FB (Bedford College)
<b>Mode(s) of Study and Duration</b>	Full-time (FT) over 2 years Part-time (PT) pathway typically over 3 years
<b>Core Teaching Pattern</b>	Core pattern 1
<b>FHEQ Level</b>	Level 5
<b>Professional, Statutory or Regulatory Body (PSRB) accreditation or endorsement</b>	n/a
<b>PSRB Renewal Date</b>	n/a
<b>University of Bedfordshire Employability accreditation</b>	To be confirmed
<b>Route Code (SITS)</b>	FDBSSF (for FT); FDBSSF (for PT)
<b>Subject Community</b>	Construction
<b>UCAS Course Code</b>	KD24
<b>Relevant External Benchmarking</b>	QAA FHEQ level descriptor QAA Subject Benchmark Statement for Construction QAA Benchmarks for foundation degree qualifications

## Section 2 - Published Information

Material in this section will be used on the course web site to promote the course to potential students. The text should be written with this potential audience in mind.

### Course Structure

The Units which make up the course are:

Unit Code	Level	Credits	Unit Name	Core or option
CLD010-1	4	30	Building Physics and Energy Utilisation	Core
CLD009-1	4	30	Fundamental Mathematics and Personal Development	Core
CLD003-1	4	15	Introduction to Health Safety and Environment	Core
CLD005-1	4	15	Heating Cooling and Power	Core
CLD007-1	4	15	Waste Management	Core
CLD008-1	4	15	Work-Based Learning A – Applications of Principles	Core
CLD001-2	5	15	Building Science	Core
CLD011-2	5	30	Materials and Carbon Neutral Buildings	Core
CLD003-2	5	15	Fundamentals of Building Regulations	Core
CLD013-2	5	30	Networking Fundamentals and Internal Environmental Control	Core
CLD010-2	5	30	Work-Based Learning B – Practice and Innovation in Building Services	Core

### Why study this course

This course prepares the students to contribute to design and management of services and controls in buildings with full consideration of the sustainability and environmental issues, in response to the European and UK Government's legislation and need for energy conservation, sustainability and environmental protection.

### Course Summary – Educational Aims

The advent of the knowledge economy offers enormous opportunities to enrich people's lives and enhance the national prosperity. If these opportunities are to be seized, an increase in the number of highly skilled technologists in the workforce is required (this is supported by the local employers panel). People working at this level make an important contribution to the economy (Construction Industry contributes approximately 10% to the GDP), and it is vital they receive the appropriate education and training. This course aims to provide you with the means to pursue an interesting and rewarding career.

This two year full-time & part-time Foundation Degree will provide you with the technical skills and knowledge to function within the important role of energy conservation, microgeneration, environment and sustainability. Technologists with this qualification already enjoy rewarding, progressive and worthwhile careers. For full-time students, the units of work-based learning open up opportunities and progression routes for careers and further study in construction areas which are considered to be in high demand and respected.

### Entry requirements

Standard entry requirements

### PSRB details

n/a

### Graduate Impact Statements

The course has been designed to develop graduates who are able to:

- Respond to the legislation dealing with energy conservation and means of energy generation from sustainable sources.
- Develop the environmental approach to building design, with full consideration of End-of-life impact

of the design.

- Students will be able to participate in developing methods of refurbishment and upgrading of old buildings in an efficient way. This has been shown by the positive responses from the housing associations that employ our graduates.
- Students have been invited to participate in real projects dealing with community buildings and their skills have been positively commented on.

### **Higher Education Achievement Report - Additional Information**

Students will not only study theory, but will obtain CSCS certification, with additional tests they are also able to obtain some microgeneration certification. Visits to trade shows specific to this course also enable the students to pick-up very relevant and current information.

### **Learning and Teaching**

Students will attend lectures and practical sessions, Work Base Learning remains at the core of this qualification and students will undertake two units of this. Some practical activities are also incorporated such as working with microgeneration, surveying, measuring and calibration equipment. Attending trade seminars is encouraged and external industry experts bring a wealth of experience to the environment through sharing of the real practice. Special sessions are also arranged for students to attend the University for Development and Specialist Lectures to broaden their experience and knowledge.

### **Developing your employability**

Through Work Based Learning students employability is developed, the projects in the past included, development of an Earthship, Retrofit for the Future with Technology Strategy Board, Refurbishment of Village Hall, Sustainable House, etc. Case studies brought in by experts familiarise students with the expected requirements, working on time controlled activities brings the reality of life to the educational environment. Visits to relevant industrial facilities and seeing how things are actually done in the industry will help the student with understanding how the theory is applied. Students have gone into employment in Microgeneration industry, mechanical and electrical facilities management, housing systems refurbishment and working for energy consultancies.

### **Department (s)**

Department of Computing Science and Technology

### **Assessment**

Assessments take the form of professional reports, in case of Health and Safety it is actual CSCS tests undertaken by students, both operative as well as management, which help in obtaining employment. Latter part of sciences and environmental studies involve time controlled activities, where students undertake investigative work in the morning and prepare the report of findings in the afternoon, this is very similar to the industry practice. Work Based Learning assessment is through a reflective diary and frequent meetings with the unit leader allowing the students to develop their learning progressively. The unit leaders also provide the students with formative feedback, some activities like technology are taught through use of Computer Aided Design allowing students to practice what they have learned through application.

Every year the Course Manager and Link Tutor produce a Year Organiser, this not only lists the key dates for the students to follow, but lists the due dates for the assignments, specialist activities such as trade shows and seminars, as well as industrial visits.

### **After Graduation**

By the time the students are at the end of this course they are frequently employed in the industry and the employers are frequently sponsoring the students through to the BSc (Hons) Top-up, which allows students to progress even further in the industry.

### **Student Support during the course**

Bedford College provides individual academic and personal support for a relatively small cohort of Higher Education (university level) students. The benefits of being a HE student in a Further Education college include excellent staff/student ratios and a personal tutor scheme with proven success in preventing students from dropping out and maintaining consistently high achievement rates.

Students may be required, at the discretion of the Course Leader, to undergo diagnostic testing for

academic English language abilities, and may further be required, at the Course Leader's discretion, to participate in academic English support workshops or classes laid on by the University

All students are supported by induction sessions at the start of each year, by personal and project tutors

- The college has a system of additional support for students requiring: additional support in and out of the classroom
- specialist equipment
- assessment and support for dyslexic students
- special exam arrangements (part of a support package).

Student Services offer a wide range of support, advice, information and counselling to help students in the following ways:

- Career and educational guidance
- Child care
- Connexions Service
- Counselling
- Enrichment and tutorial programmes
- Finance, welfare, accommodation and transport advice.

### **Students with disabilities**

Bedford College welcomes students with disabilities and is committed to ensuring the college is accessible and welcoming to all. During the application process disabled students are able to discuss their needs with the course manager/tutor as well as staff from Student Services. It has normally been the case that the disability has not presented an obstacle to students participating fully in all aspects of the course.

Student Services at Bedford College and the Disability Advice Team at the University of Bedfordshire are available to discuss any issues students may have and can provide services such as sign language interpreters, note takers, dyslexia screening/tuition and support with mobility on campus. They offer confidential advice and information about academic and personal issues, adjustments in examinations, applying for the Disabled Students' Allowances (DSA) and buying suitable equipment.

Advice on the nature of specific disabilities and the reasonable adjustments which can be made to accommodate disabled students is available from the Disability Advice Team (<http://www.beds.ac.uk/studentlife/support/disabilities>)

## Assessment Map

### Course title and route code: FdSc Building Services and Sustainability FDBSSF

Unit code	Core/option	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
CLD010-1	core							X						X											X	
CLD009-1	core									X											X					X
CLD003-1	core			X							X															
CLD005-1	core																			X				X		
CLD007-1	core	X						X																		
CLD008-1	core																				X				X	
CLD001-2	core			X							X															
CLD011-2	core	X												X												X
CLD003-2	core	X									X															
CLD010-2	core		X																						X	
CLD013-2	core				X											X										X

## Section 3 - Academic Information

This section will be used as part of the approval and review process and **peer academics** are the target audience.

### Course Learning Outcomes

The student is expected to;

1. Develop a holistic view of construction so that you are capable of designing and implementing construction for a range of different buildings and purposes.
2. Develop technical knowledge, understanding and skills in construction systems in the context of the challenges of the sustainability agenda and climate change.
3. Develop the application of mathematical and scientific knowledge, skills and understanding to support practical problem solving in the workplace.
4. Develop an understanding of the concepts required to produce zero carbon buildings.
5. Demonstrate the technical knowledge and skills required to interpret and apply the principles used to design and implement Green/Eco/Code/Passivhaus buildings.

### Course-specific regulations

Students need to attend the CSCS tests as these are booked specifically and administered by the Construction Skills, in the unlikely event of failure, it would be the student's responsibility to rebook the test as soon as possible.

### Teaching, Learning and Assessment

The teaching and learning strategy is made up of the explanation of theoretical concepts accompanied by tutor supported practical activity to reinforce understanding. This is accomplished by a combination of lectures, tutorials, seminars at the various trade shows (Eco Build, Interbuild, Sustainability Live, Waste & Recycling, etc) moderated e-conference discussion and support, directed practical activity. This is often in a combined lecture, demonstration, practical and assessment all in one session with academic and demonstrator support. Additionally, there is self directed research and computer based practical activity which can be assisted by the use of teaching packs in various multimedia forms such as DVDs, videos and pod casts. The particular form of support is module specific, however, all are characterised by tutor support and practical activity.

All the teaching resources are available in a VLE that includes references and links, general module and programme information, discussion groups, tests and assessments. This VLE is available outside of the college to enrolled students.

Where possible lectures will have invited experts and industry leaders to focus on the latest developments and trends in Construction, Sustainability and Environment.

Besides the standard forms of assessment this course focuses on developing student's communication skills through use of not only written reports, but also through presenting their findings and recommendation in a professional manner, feedback and self-reflection play an important role in this activity. Mathematical and scientific principles are taught as applied whenever possible, this ensures relevancy and focus to the specific field. Work Based Learning supervision involves regular tutorial meetings between groups/individuals and their unit leader.

### Additional Academic Information

**Peer-assisted learning (PAL)**

Group activities and discussions are encouraged and students participate in these on regular basis.

**Initial Assessment**

CLD007-1 Waste Management - First Assessment

**Improving students' learning**

The tutors are always providing 2Q feedback to students and give guidance on their progress as the work proceeds, this is especially relevant to practical units, such as CAD and Surveying.

**Academic Integrity**

Besides training that students receive at college on writing and preparing assignment (Fundamental Mathematics and Personal Development unit) the University also arranges PAD sessions that develop the student's skills in production of their work, which includes referencing, citations, paraphrasing and summarising skills. The submission of assignments is carried out electronically and through Turnitin which is a similarity checker software.

**HEAR implementation**

By participating in activities shown on the organiser as well as Work Based Learning the students acquire skills and experiences that are in addition to the academic activities and these enhance their CVs.

**Internationalisation**

By attending the specialist seminars students will be able to access information from variety of sources many of those from the international scene. Guest speakers in the past included international companies.

**Sustainability**

The course is not only about Sustainability in construction, but the sustainability of student's progress through their career. This is why the College promotes external activities such as seminars and trade shows where the students can acquire specialist knowledge in new materials and processes.

## Section 4 - Administrative Information

This section will be used as part of the approval and review process and peer academics are the target audience.

<b>Faculty</b>	Creative Arts Technology and Science (CATS)
<b>Portfolio</b>	Undergraduate Computer Science and Technology (Foundation Degrees and Construction)
<b>Department/School/Division</b>	Computer Science and Technology
<b>Course Coordinator</b>	Christopher Payne
<b>Version Number</b>	01/2015
<b>Approved by (cf Quality Handbook ch.2)</b>	University Transition
<b>Date of approval (dd/mm/yyyy)</b>	March 2015
<b>Implementation start-date of this version (plus any identified end-date)</b>	2015/2016

Form completed by:

Name: D Jazani

Date: 17<sup>th</sup> November, 2014

Authorisation on behalf of the Faculty Teaching Quality and Standards Committee (FTQSC)

Chair: .....

Date: .....

Course Updates		
Date (dd/mm/yyyy)	Nature of Update	FTQSC Minute Ref: