UNIVERSITY OF BRADFORD
MAKING KNOWLEDGE WORK™

Environmental Science and Management

BSc Hons 3/4-year courses

Environmental Science
Geography and Environmental Management

Geography and Environmental Science

CONTENTS

Dean of the School of Life Sciences
Professor Richard Greene BSc PhD MBBS MBA FHEA

Bradford School of Applied Sciences Admissions Tutor
Dr Leon Clarke

Undergraduate Admissions Secretary
Neil Turner

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Please address all enquiries to:
Undergraduate Admissions Secretary
Bradford School of Applied Sciences
University of Bradford
Bradford
West Yorkshire
BD7 1DP
UK

Tel: 01274 235692
Fax: 01274 309742
Email: ges-admissions@bradford.ac.uk
Website: www.bradford.ac.uk/archenvi

If you are dialling from outside the UK, please use the code **+44 1274** before the final six-figure number

General Course Enquiries
Course Enquiries Office
Tel: 0800 073 1225
Minicom: 01274 233685
Fax: 01274 235585
Email: course-enquiries@bradford.ac.uk

Environmental Science and Management at Bradford

www.bradford.ac.uk/archenvi

Environmental Science and Management courses at Bradford focus on how the environment is formed and how we can manage human behaviour to make it better in the future. Our emphasis is on linking ideas to real-world environmental problems seeking new ways to address and overcome them.

Our excellent employment record, particularly strong for those students taking the placement year, demonstrates how effective our courses are at preparing people for becoming environmental professionals.

The University of Bradford's 'Ecoversity' project enables us to examine some of the genuine difficulties experienced by an organisation seeking to reduce its environmental impact. Being rated as first class in the UK Universities' 'Green League' demonstrates our commitment to 'green' issues.

Close links with our sister discipline – Archaeology – help us to think about 'sustainable' practices from other eras and how we might adapt practices today in order to sustain our environment and society.

Why Study Environmental Science and Management?

There are many reasons why you might want to study Environmental Science and Management.

Fascination

Some people are just mesmerised by the subject – fascinated by how the Earth's natural and social systems sustain life. Others are inspired by their own strong sense of belonging to particular locations or environments. Some people love travelling, or love being outdoors, and want to find out more about why places look so different. And some are inspired by the desire to make a difference – they want to find a way to preserve the good things about this world.

Relevance

Environmental science and management is fantastically relevant to everyday life. Quite literally, what you learn about in a lecture one day you read about in the papers soon after! Growing demand for environmentally skilled practitioners coupled with the 'can-do' attitude and problem-solving skills nourished by our emphasis on fieldwork and the application of knowledge mean that there is a rich range of careers available to graduates.

Variety

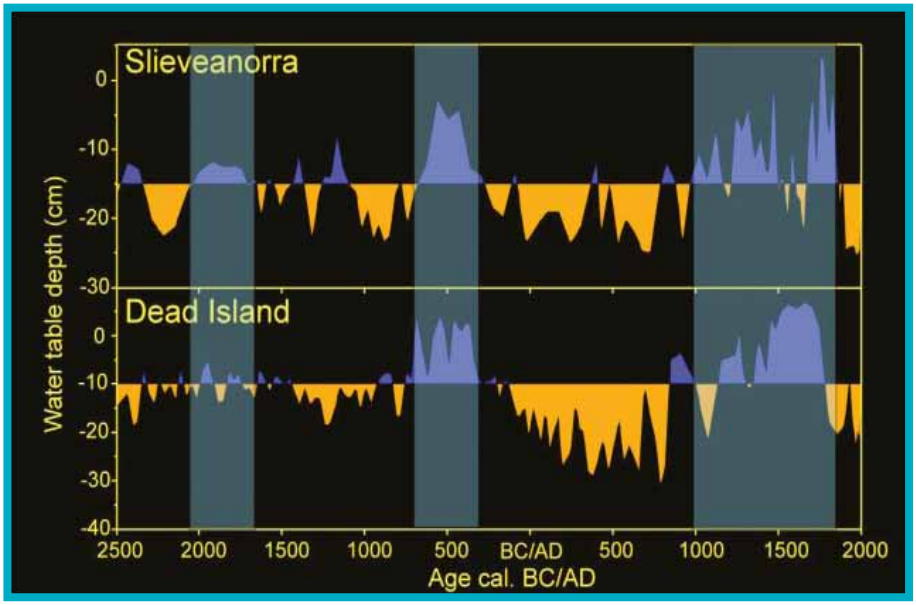
Environmental scientists and environmental managers carry out an enticing variety of activities. We work with rocks, soils and plants to examine how the landscape we can see today was formed. Processes we can observe today help us to understand and interpret landscapes formed in the past. The science of geology, different forms of dating, and the historical record all inform our understanding.

Equally, we examine maps and buildings, as well as contemporary and historic documents, to understand human influences on the landscape. The city of Bradford offers one 'cultural laboratory', with a fascinating mix of boom, bust and regeneration. During your course you will also find out about how the cultural landscapes of the Yorkshire Dales and Mallorca have been formed and examine what is driving further changes today.

We study plants, the air, and the streetscape to think about how our current environment is functioning. Ecology, chemistry and pollution science combine with sociology and urban studies to explain what is going on outside our front doors. Measurement and structured observation of physical and social phenomena help us to understand these processes.

Applied Emphasis

An important focus is on environmental threats, and how we react to them. This means understanding how the environment functions through physical monitoring data – of water levels, pollution levels, biodiversity statistics, for example. It means understanding how and why the environment is changing, and whether we can do anything about it. It also means understanding human experiences of similar threats from the past. For example, recent flooding in Britain highlights the need to address the long-term threat of climate change through managing our carbon emissions, a shorter-term need to manage surface water more effectively, but it also shows how we need to find support mechanisms that keep helping people through the months and years that it takes to get their homes and lives back to normal.



Processes we observe today can help us to understand how conditions have changed in the past

> "Environmental science and environmental management is fantastically relevant to everyday life. Quite literally, what you learn about in a lecture one day you read about in the papers soon after!"

Why Study Environmental Science and Management?

We work with people, in their home or in their work environments, to help to understand the logic that lies behind their current patterns of behaviour. Expectations of climate change highlight the need for enormous reduction in human-induced carbon emissions, but we are significantly challenged in terms of how such changes can be managed. If we think behaviours need to change, we need to understand why they were established in the first place. We can find out about this by asking, by observing, and sometimes, by drawing on our own experiences and value systems.

We also need to think about what sort of support or incentives might help to change behaviours. Individual choices are constrained by physical features and social infrastructure. For example, choosing public transport over a car may be difficult if you live in a rural area. It is this area of organisational policy, cultural and behaviour change where the University acts as our laboratory. We examine the University of Bradford's Ecoversity project, asking ourselves what changes have succeeded, and what have failed, and why.

The Bradford Approach

At Bradford, we concentrate on the overlap between Environmental Science and Environmental Management. We embrace the interdisciplinary nature of our work which is fundamentally about *both* natural and social sciences. Our concern is with the applied nature of our subject – drawing on theories and measurements to highlight opportunities to have an impact on real-world environments. The emphasis of both our degrees is on the *Environment*.

We are based in a nineteenth-century mill building (see picture) representing part of Bradford's industrial heritage. It was refurbished at a cost of £3 million and houses an excellent suite of facilities. It includes teaching rooms, staff offices and numerous laboratories dedicated to supporting teaching and research. Our teaching also draws on other analytical and experimental facilities around the campus.

Our work placement scheme, one year of professional training between your second and final year, has run successfully for over 30 years. It greatly enhances student experience and employability.

Phoenix Building – our home

Within the School, staff work on research about past and present environments, adaptation to climate change, organisational and cultural change, and policies for drought and floods. Our research partners in the UK include academics at the Universities of Leeds, Exeter, Sheffield, and Queen's University Belfast, while overseas we work with academics from Canada, Australia, Bangladesh and Holland. Staff and students give enthusiastic support to the University's Ecoversity project (see page 12).

"Our work placement scheme, one year of professional training between your second and final year, has run successfully for over 30 years. It greatly enhances student experience and employability."

Special Features

A friendly atmosphere

With a typical first-year intake of about 40 undergraduates, you can be sure of entering a close-knit group and an atmosphere conducive to serious but enjoyable study. Should you have any problems, your personal tutor will be on hand to help you.

Excellent employment record

Over the past ten years, we have had an average of well over 90% of our graduates in employment or further study six months after graduation. Many of our graduates go on to do jobs related to the environment. We teach CV preparation, presentations, group-working and other 'professional' skills in an environmental management context which enhances student employability in all areas of work.

Commitment to fieldwork

Fieldwork and applied project work are central to our teaching. Modules with fieldwork or applied project work components constitute about a third of our programmes. Recent field courses have visited the South Pennines, Yorkshire Dales and Mediterranean region. Many students also undertake fieldwork for their final-year project.

A flexible approach

Both our courses link environmental science and environmental management but each has a different focus, developing specialist skills and knowledge to prepare you for a range of environment-related careers. Our flexible degree structure allows you to switch between the two courses up until the end of your first year as your interests and career aspirations develop. Both courses are also available on a part-time basis.

Placement option

We have over 30 years' experience running a placement year for students with a wide range of employers. Students with placement experience often find it easier to sell their skills to relevant employers at the end of their studies.

Affordability

Bradford is still recognised as the least expensive place for students to live in the UK.* Everything you need is within walking distance, and within minutes of the campus there is a wonderful mix of pubs, clubs, and inexpensive eateries, especially Bradford's famous curry houses.

** Times Good University Guide 2010*

Learning about limestone scenery

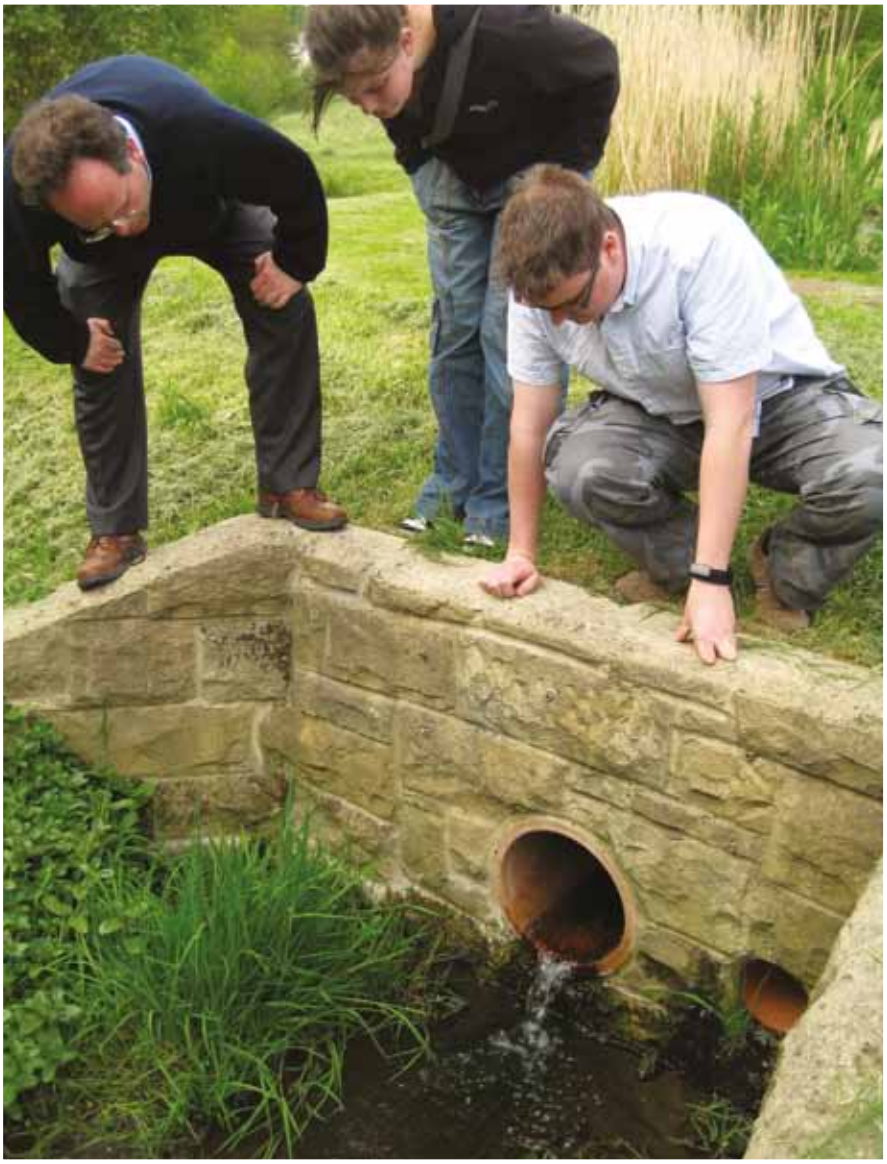
Exploring our local World Heritage Site: Saltaire

Fieldwork in the snow

Our Courses

Our two courses are both multidisciplinary in character and contain a common core of applied Environmental Science and Environmental Management. They may be taken either continuously over three years, or as a four-year sandwich course with a placement year.
A part-time alternative lasts for six years.
The BSc degrees are:

- Environmental Science
- Geography and Environmental Management



The first-year programme is common to both courses, but from the second year the Environmental Science course focuses more on the scientific study of the environment, while the Geography and Environmental Management course focuses more on how to manage the environment. Fuller details are given on pages 8-13.

Environmental Science provides an understanding of our physical and biological environment, and human interactions with it. It is based on an integrated approach to environmental problems, involving studies in ecology, physical geography, environmental monitoring, laboratory analyses, experimental design, and environmental aspects of the physical sciences. A degree in environmental science is appropriate if you want a career concerned with the physical and scientific monitoring and management of the environment, such as air pollution officer.

Geography and Environmental Management combines human and physical geography with practical skills of encouraging changed patterns of behaviour to reduce environmental impacts. You study environmental management tools such as Environmental Impact Assessment, the application of Environmental Management Systems, and government use of environmental instruments, such as carbon trading, to influence consumer and producer behaviour. Emphasising the practical application of geographical skills, this is a good course for students wanting a vocational focus. It leads to careers such as land use planning, regeneration of despoiled areas or commercial environmental management.

Course Structure

Learning, Teaching and Assessment

How you learn
You will learn in a variety of ways during your course at Bradford. You will experience traditional lectures, group and project work, laboratory practicals, seminar-style discussions, interactive electronic communication systems as well as intensive 'hands-on' learning when attending residential field courses.

Assessment
Formal assessments designed to measure your progress are required towards the end of each semester. The form of assessment varies between modules but usually consists of a mixture of formal examinations, essays, reports and other coursework assignments such as presentations. This mix of teaching methods and assessment types caters for different styles of student learning, and develops an appropriate range of skills.

Progressing from year to year
In the first year your assessment is designed to ensure that you have the knowledge necessary to proceed to further specialisation in the second and final years. You must pass the first year, but it does not count towards your final degree classification. Your second-year assessment contributes one-third towards your final degree classification, with the final year accounting for the remaining two-thirds.

If you are on the four-year sandwich course your performance during the year of practical training is assessed on the basis of reports which you and your employer make on your work, through a report by your visiting tutor, and the presentation of a poster about your work experience. Satisfactory performance leads to a Diploma in Professional Studies.

Fieldwork

In Bradford, we believe that field learning and teaching are crucial. It is in the field that you can investigate and really understand the interactions between physical and human aspects of the environment, and between natural and cultural impacts on it. Personally investigating how the environment changes is also one of the best ways of learning. Being in the field is also fun – it means that you get to know your fellow students and the staff in an informal atmosphere.

During your first year, day field trips to Bradford, Hebden Bridge and Ilkley Moor provide an introduction to a range of field techniques. Field visits to the Yorkshire Dales and surrounding area towards the end of your first year then provide an opportunity to consolidate your learning.

During the second year there are opportunities for further day field trips associated with specific modules – for example, you might visit the coast to carry out some analysis of physical geography, or you might look at existing and potential wind farm locations as part of an Environmental Impact Assessment. You will also do 'fieldwork' on the University of Bradford as part of an environmental management project.

The second-year residential field trip is a highlight of the course for many students. The field trip is currently running on the Mediterranean island of Mallorca.

In your final year, there are more modules with day field trips, such as Natural Hazards: Past, Present and Future, and Reconstructing Past Environments. You will also need to work with your supervisor to identify the right field or laboratory opportunity for you to study in your final-year project. This is your opportunity to put all your previous field learning into practice around a real-world problem of interest to you.

Your Career in Environmental Science and Management

www.bradford.ac.uk/archenvi

We have an excellent employment record with an average of 93% of graduates in work or further study six months after graduating during the period 2002-2010, with a 100% record for our 2007 and 2008 graduates.*

Our explicitly careers-oriented degree courses help our graduates into jobs through:

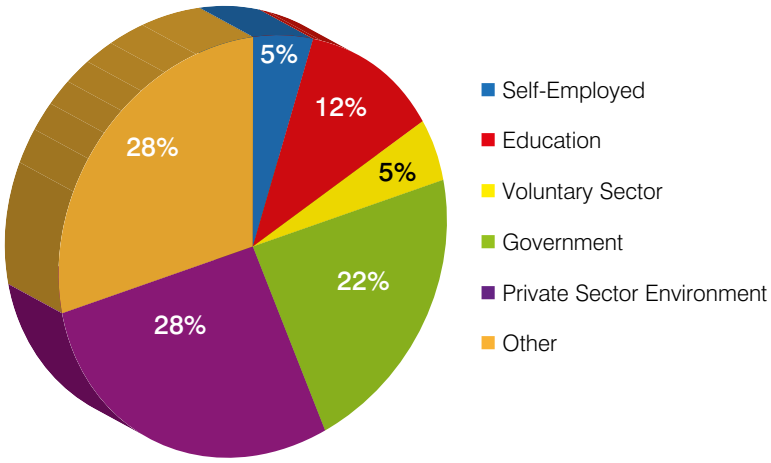
- an emphasis on the practical application of environmental knowledge with problem-based teaching in the field, laboratory and seminar room
- close staff links with relevant employers bringing real-world problems into the classroom
- a long-running and highly successful placement programme
- explicit training for all students in skills required for professional life including CV preparation, presentation skills, report writing, teamwork and reflection

Over 50% of our graduates from 2002-2007 have found careers with government or with the private sector in areas which demonstrate close links to their degree. Others are pursuing satisfying jobs in non-cognate disciplines.

Read another graduate view on page 21.

* *These statistics are derived from annually published data by the Higher Education Statistics Agency (HESA), based on those UK domiciled graduates who are available for employment or further study and whose destinations are known.*

GES graduate career destinations 2002-2007



Examples

Sector	Example	
	Employer	**Job Title**
Government	The Environment Agency	Flood risk mapping and data management
Private Sector Environment	Wessex Water	Environmental assistant scientist
Education	Field Studies Council	Trainee field studies tutor
Voluntary Sector	Anchor Trust	Customer service manager
Self-Employed	Self-employed	Property consultant
Other	Holiday Inn	Conference and banqueting partner

Neil Richardson, Network Rail, 2008 graduate

Neil graduated recently and currently works for Network Rail, as part of the Buried Services National Specialist Team. He writes:

"I was looking for a job which allowed me to use some of the skills that I had gained while at university, and successfully applied for this job at Network Rail.

The function of the 'buried services team' is to provide maps to engineers showing the locations of any underground pipes and cables, allowing them to plan their works with safety in mind.

I have no doubt that the GIS module that I undertook was instrumental in me being given this job, as I have knowledge that the vast majority of people do not have. Another aspect of the course that helped me get this job were the modules that involved group work, as it showed that I could work well as part of a team.

One of the best things about the degree programme here was that the lecturers are very passionate and knowledgeable about their subjects, which filters through into the students, making the lectures an enjoyable and interesting place to be."

First-Year Modules

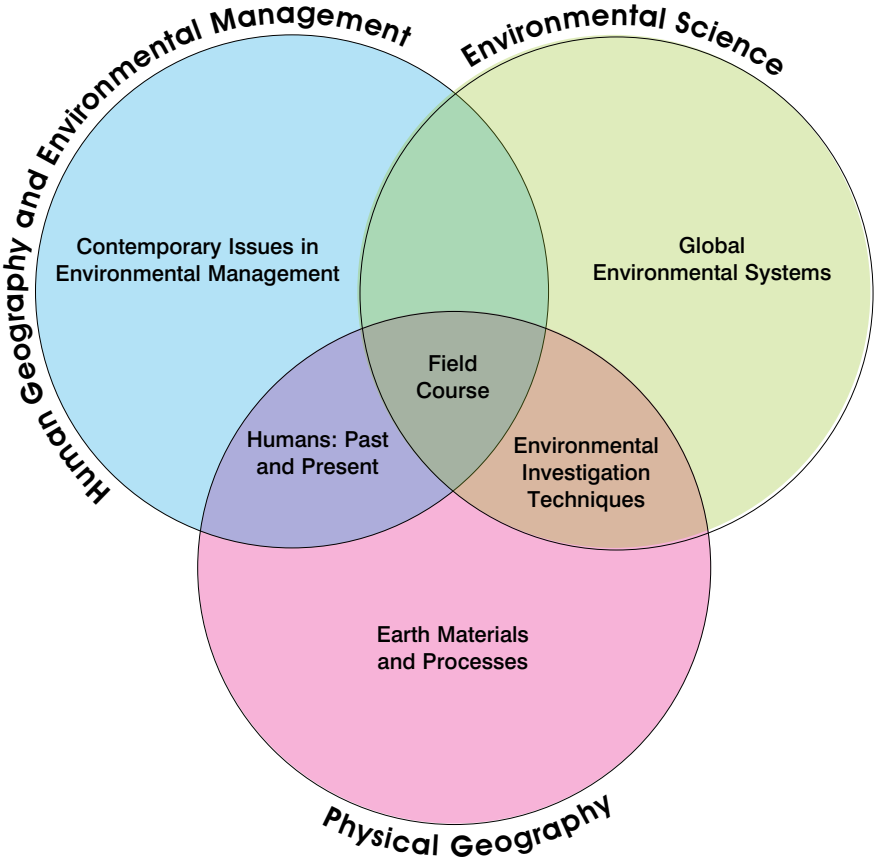
The first-year syllabus is a balanced programme designed to give students a basic knowledge of how the different components of environmental science and environmental management interact. The same modules are taken by both courses (see the course structure on page 13 for details).

First-year modules

Environmental Investigation Techniques aims to help you develop the basic but essential skills in library, laboratory, computing and fieldwork which are necessary for you to understand, research and present information when studying environmental science. You will learn both in the lecture room and in the field, using both theoretical and practical exercises, enabling you to develop clear, concise and accurate techniques.

Learning about limestone scenery – through close inspection!

Schematic representation of the first year



Contemporary Issues in Environmental Management examines the causes and effects of geographical phenomena such as hurricanes, desertification, or earthquakes. The module links global issues to local contexts and management processes. Combining lectures and guided tuition, this module enables you to study one topic in depth, as well as developing information searching, critical reading and referencing skills that are crucial to your process of studying at university.

Global Environmental Systems involves study of the climatic and ecological systems which are central to our natural environment. You explore the characteristics and processes occurring in the atmosphere, oceans, the land surface and the solid Earth. The main focus will be on the interrelationships between the Earth's climate system, biomes, and long- and short-term environmental change.

Field Course 1 gives you practical experience examining environmental relationships and interactions in the field, and you learn about the management of these environments, both urban and rural. You explore how data can be interpreted to address management and environmental problems.

First-Year Modules

Limestone pavement near Malham

Humans: Past and Present explores how our cultural landscape has been shaped through changing interactions between humans and our environment. Following a timeline which takes us from the appearance of the earliest humans up to the Industrial Revolution, you study processes like the spread of farming and the growth of cities, which have had a profound influence on current landscapes. You examine how past ways of living can raise questions, or deliver answers, to some of our current sustainability dilemmas.

Earth Materials and Processes examines the core processes that have shaped the physical environment through time. You will study rock and mineral formation, weathering and the development of soils, the processes of denudation and landscape evolution, and how regional rock formations have contributed to landforms and to economic mineral resources.

Second-Year Modules

Making measurements on the Mallorca field trip

Second-year modules

Environmental Impact Assessment involves the application of this planning technique to a case study example, highlighting both its strengths and its limitations. Comparisons are made with other impact assessment techniques, such as Strategic Environmental Assessment, and the strengths and weaknesses of each evaluated from a client-based perspective.

Data Collection and Analysis helps prepare you for collecting and analysing different sorts of data in the field. You learn about sampling strategies, data collection methods as well as descriptive and parametric statistics. The focus is examining your research question and exploring what sort of data will best help you to address it in a convincing and authoritative way.

Introduction to Geographic Information Systems (GIS) provides you with the theoretical knowledge and practical understanding about the capabilities and limitations of geographic information systems by working through your own example in a relevant field. The module covers GIS database design, digitising existing maps, coping with different data formats and communicating the final results in a clear format. ArchGIS software is used.

Field Course 2 brings together your learning in the second year of your studies through a residential field course investigating a Mediterranean environment. Cliff faces are used to unpack the history of past climate and sea-level change. Urban settlements are studied for evidence about their past development as well as contemporary dilemmas and challenges. Ecological studies help give insights into landscape changes. The course focuses on the use of observation and evidence to back up reading and theory.

Environmental Management: Case Studies involves you working in groups to research on an environmental management dilemma on the campus. Past projects have involved studies of travel to work patterns, recycling behaviour and the potential for the provision of drinking water sites across the campus. Co-taught by one of the University's careers advisers, you learn and practise CV preparation, group work and reflection through a real-life project.

Water and its Management examines the dilemmas associated with the management of this precious resource. The course focuses on the complex interactions between natural and constructed systems for water management. Different ecosystem services provided by a river are examined. Past experiences and management of floods and droughts are explored, highlighting some of the current policy dilemmas facing water and environmental managers in the UK.

Laboratory Science provides practical experience of carrying out laboratory exercises, building on the initial laboratory work performed in Year One. It emphasises good laboratory practice, as well as providing you with experience of specific techniques.

Instrumental Analysis examines the analytical techniques that can be used, for example to detect pollutants in soil samples. It provides a theoretical framework for undertaking the operation of instruments available to be used in final-year projects, such as the Inductively-Coupled Plasma Mass Spectrometer.

Final-Year Modules

Final-year modules

Individual Project or Dissertation is a major element in your final year and is carried out over both semesters. This substantial piece of work involves all aspects of research from project design, research/experimental work/analysis to the presentation of a lengthy synthesis/discussion and conclusions.

Environmental Monitoring introduces you to some of the more important techniques used in monitoring the environment, drawing on both chemical and biological approaches. You will gain experience of chemical, instrumental and biological monitoring techniques such as the use of spectroscopic and chromatographic procedures, the assessment of Biochemical Oxygen Demand, the use of biotic indices, and bioassay.

Environmental Law and Governance explores the contribution of environmental laws and policies to achieving sustainability objectives through the evaluation of a specific legal or economic instrument. You will explore new ways of finding information to build a detailed and balanced assessment of a law or policy instrument in your chosen policy area.

Natural Hazards: Past, Present and Future examines the interaction between the human environment and hazardous geomorphological and geological processes. You learn about the past records of environmental and climatic change, and examine the implications of the past record for geohazards in the future.

Waste Management challenges you to appraise the problems of current waste management techniques and to examine possible solutions. You examine the environmental impacts of different waste management strategies, studying current legislation, practices, and issues related to enforcement. You also assess the economics of different options, including practices for collection, treatment and disposal.

Students examine the effect of landslips in Natural Hazards

Reconstructing Past Environments provides an overview of i) the nature, causes and effects of environmental change in the Quaternary; ii) the techniques used to reconstruct past environments; iii) the impact of environmental change on people; and iv) human impacts on the natural environment.

Permaculture explores methods of growing crops, such as vegetables, in a manner which is more sympathetic to sustainability issues than traditional practice. Delivered by the Division of Peace Studies, this module is appropriate for those wishing to broaden their understanding of environmental management issues.

Ecological Management and Nature Conservation enables you to gain a good overview of issues concerning the management of plant and animal populations. This includes consideration of the control of exotic weeds and pests, harvesting fish stocks, ecological reclamation, and the conservation of species and habitats. You will study a series of case studies which exemplify the general themes raised.

Sustainability in Practice is a module enabling you to explore how sustainability issues may be developed within the workplace. Students develop an analysis and action plan to address sustainability issues within their paid or voluntary work.

Ecoversity

Ecoversity is the name given to the University's sustainable development programme. The aim of Ecoversity is to demonstrate our own University's contribution and commitment to sustainable development through our educational activities, our campus operations and the way we run our organisation. This is a hugely ambitious and challenging goal but we have made significant strides since we started in 2006. In 2009 we were awarded a prestigious National Award (The Green Gown) beating 120 other universities and colleges for our approach and improvements to date. Staff from Environmental Science and Management are involved in leading and directing this programme.

A key part of Ecoversity is our students whom we encourage and support to get involved in projects and activities that contribute to Ecoversity. Recent projects have included green travel schemes, energy conservation projects, film documentaries, writing a student green guide, writing articles for the Ecoversity newspaper and organising a student conference on sustainable development.

Any students can get involved, from being a paid student Ecoversity ambassador, to an intern (working on a specific project) or doing some volunteering to develop skills and new friends. This year we are introducing a new Ecoversity award which requires a specific number of hours of input to achieve based around practical project work. This will be awarded at a Green Graduation by the Vice-Chancellor.

All details of the ways students can get involved are on our website (**www.bradford.ac.uk/ecoversity**). Comments from last year's students show the benefit and positive experience that can be gained from getting involved in Ecoversity.

Beekeeping, just one of the University's projects

"I gained in confidence with public speaking and I enjoyed working with others to come up with ideas and put them into action. The job also allowed me the freedom to work on my own projects and the satisfaction of seeing them work."

Susan Smith – Health Studies student

"I wanted to do something different; something that I would be interested in but would provide me with more skills and allow me to vary my experiences away from my degree. I've always been interested in working for the environment and combining my strengths with other people's for a common goal. Ecoversity allowed me to do this."

Kim Hosking – AGES student

ecoversity
making sustainability work

Contact Details

Tel: 01274 236929
Email: ecoversity@bradford.ac.uk
Web: www.bradford.ac.uk/ecoversity

Course Structure Diagram

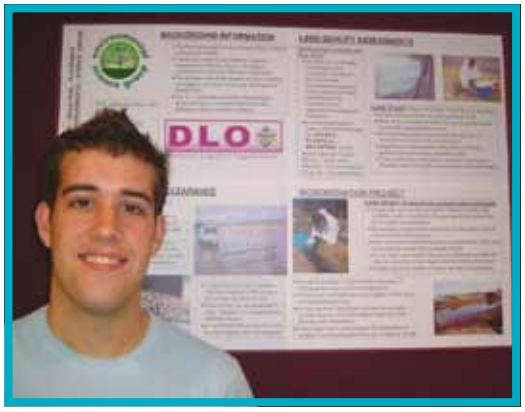
	Credit	Unit Title	ES	GEM
First year	20	Environmental Investigation Techniques	C	C
	20	Contemporary Issues in Environmental Management	C	C
	20	Global Environmental Systems	C	C
	20	Field Course 1	C	C
	20	Humans: Past and Present	C	C
	20	Earth Materials and Processes	C	C
Second year	20	Environmental Impact Assessment	C	C
	20	Data Collection and Analysis	C	C
	20	Introduction to GIS	C	C
	20	Laboratory Science	C	-
	20	Instrumental Analysis	C	-
	20	Field Course 2	C	C
	20	Water and its Management	-	C
	20	Environmental Management Case Studies	-	C
Final year	40	Individual Project	C	C
	20	Environmental Law and Governance	O	C
	20	Environmental Monitoring	O	-
	20	Natural Hazards: Past, Present and Future	O	O
	20	Permaculture	O	O
	20	Ecological Management and Nature Conservation	O	O
	20	Waste Management	O	C
	20	Reconstructing Past Environments	C	-
	20	Sustainability in Practice	-	O

ES: Environmental Science
GEM: Geography and Environmental Management

O: Optional module
C: Compulsory module

Students must successfully complete 120 credits in each year. Note that modules listed are accurate at the time of publication, but that programmes evolve, and that the precise modules available to you are likely to be slightly different from those listed.

The Placement Year



If you opt for a four-year course, the third 'placement' year enables you to gain work experience. Placements usually last twelve months, but sometimes two six-month placements are arranged. An academic member of staff oversees the placement process; working with the Placements Secretary to identify suitable placements and to assist you in making your application. Placement opportunities are advertised in the School. The application and interview process provides excellent preparation for your applications for other jobs in the future.

While on placement you will be visited by a member of academic staff to check on your progress, and to deal with any problems you might be experiencing. On successful completion of the placement and submission of a report you will be awarded a Diploma in Professional Studies.

By the end of the placement year you will have gained valuable work experience relevant to your subsequent career, developed a range of transferable work skills, acquired a diploma to verify your experience, and hopefully bolstered your bank balance after a period of salaried employment. The placement work done by students is extremely varied, and is undertaken with multinational companies, consultants, local councils, wildlife trusts, research institutes and many other types of organisation.

The range of experience offered by a work placement is often supplemented by access to training courses, conferences and seminars, run by the employers. These activities can lead to professional qualifications which will be of use in the job market when you graduate. Even more importantly you will probably have access to a reputable reference relating to your work which will be invaluable when you start to apply for jobs.

There is no doubt that the experience of the placement year can be of positive benefit. It increases your appreciation of the relevance of your academic studies to practical work, helps you to choose your final-year options and future academic direction. It enables you to see the relevance of your studies, giving you increased motivation (and, on average, better achievement) in your final year. It gives you increased confidence and maturity, and makes it that much easier for you to obtain that all-important first job after graduation. It also offers you a break from your studies, and keeps you in touch with the real world. Moreover, the salaried nature of many of the placements makes a real difference to your standard of living for your final year.

Where are placements based?

There is a wide range of placements available with employers in the public, private and voluntary sectors that draw on the full range of environmental science and management skills from community development to water sample collection and analysis. Some placements are based in Bradford, but others are found throughout the UK, while some students purposefully seek out placement opportunities close to their parental home. A few students have sought out placements overseas.

Some students have spent their placement year working on local environmental policy. For example, students regularly work in various local planning offices in the Bradford area and also in Craven, Newbury and Broadland. Others have been placed in the Chief Executives' office, waste management departments and with a heritage conservation office.

A number of students have spent their placement year working with environmental consultancies, often concentrating on mapping and survey work. The great thing about these experiences is the range of clients for whom the students work – these include housing developers, local authorities, supermarkets and railway companies.

The Placement Year

Another popular area for placements is in environmental education. Students at various Field Studies Council field centres are involved in running educational day visits and residential courses for primary school, GCSE, A level and undergraduate students. Other education placements such as those at Bracken Hall in Baildon, and Culzean Country Park in Scotland employ students as rangers.

Laboratory work as an ecologist/biologist or environmental chemist is available in a number of placements. For many years our students have been successfully placed at the Royal Botanic Gardens at Kew, working on a variety of projects, for example, in the Cytogenetics and Plant Anatomy sections. Students at the Environment Agency have undertaken detailed analysis of river ecology in chalkland streams.

Other research-based placements include those at the Sports Turf Research Institute, where students have studied the relationships between physical characteristics, management techniques and players' opinions of golf greens and cricket pitches. Research into visitor attitudes has also been carried out by students on placement with British Waterways, which involved questionnaire design and delivery, statistical analysis of responses and subsequent report writing. Students based at the Scottish Association for Marine Science were engaged in projects studying life cycles, and reasons for juvenile mortality in different specifies of fish.

Read about another student experience of placements in The student view, on page 18

"In my third year I carried out an industrial placement with the Environment Agency. My placement year provided me with a valuable experience of working in a job related to my degree. It allowed me to apply what I have been taught throughout my education to real-life situations. It also means that when I graduate I will stand out that bit more from other graduates because I already have experience in a job related to my degree. I would recommend a placement year to anyone as I gained skills that cannot be achieved in a classroom."

Kirsty Vickers – BSc (Hons) Physical and Environmental Geography (four-year course)

Admission

Please address all enquiries to:

Undergraduate Admissions Secretary
Neil Turner
Bradford School of Applied Sciences
University of Bradford
Bradford
West Yorkshire
BD7 1DP
UK

Tel: 01274 235692
Fax: 01274 309742
Email: ges-admissions@bradford.ac.uk
Website: www.bradford.ac.uk/archenvi

Entrance Requirements

We are primarily looking for well-motivated students with an interest in the environment and its management. Our courses develop from a broad spectrum of geographical and environmental disciplines and proceed to varying degrees of specialisation in different aspects of the natural and man-made environments. Similarly, the previous subjects studied by students entering our first year widely varied.

We would expect most applicants to our Geography and Environmental Management course to have Geography at A level, or the equivalent. Similarly, we would expect most applicants to Environmental Science to include at least one science to A level. However, these expectations are not fixed requirements, and students have previously entered with a variety of subjects offered. Also, if you show evidence and commitment to a changed career direction from that indicated by your previous studies we will be keen to support your development.

Any offer we make is tailored to individual circumstances. A typical offer for applicants to our standard three-year programme (without the placement year) might be **260 points** (for example, B, C, C). These offers include a minimum of 160 points from two subjects completed at GCSE A level or AVCE. Offers to applicants for the four-year programme are likely to be higher. Normally, Advanced-level GCE General Studies is included in any offer we make. All courses require Mathematics and English Language at GCSE grade C or above.

The University of Bradford operates a 'Compact' scheme to show young people what learning in university is like. Anyone who attends the University of Bradford's Compact scheme Summer School and successfully passes all coursework will automatically have their offer reduced by 30 points.

To find out more about the Compact scheme email **ges-admissions@bradford.ac.uk**

Applicants with BTEC qualifications will normally be expected to have the points equivalent of at least three passes with Merit in separate and appropriate whole units. If you have or are taking National Vocational Qualifications we will consider applications from you if you have (or will achieve) an NVQ at level 3, 4, 5, particularly if it is in a relevant area. Scottish Framework Qualifications are acceptable for all courses. Applicants from Ireland are expected to achieve B, B, B, C, C, at the Higher level of the Leaving Certificate. Other qualifications (such as the International Baccalaureate) are considered on their merits.

We welcome students who show evidence of breadth in their post-16 study, including AS levels and Key Skills Qualifications. If you are studying Key Skills, they will normally be included in any offer we make, to a maximum of 60 points. We give special consideration to applications from mature students, and each is considered on its individual merits. We would expect evidence of recent academic work at a suitable level; for example, an Access or Open University course. We are also happy to accept applications from those who wish to defer entry.

Students with Disabilities

The University of Bradford has always encouraged applications from students with disabilities, whose applications are considered on the same academic grounds as are applied to all candidates.

If you have some form of disability, you may contact the Undergraduate Admissions Secretary before you apply, to discuss any special needs you may have. If you indicate a disability on your UCAS form you will be invited to contact the Disability Service to discuss your particular requirements, and will receive information about our facilities, and on the Disabled Students' Allowance (DSA). For more information, please contact the Disability Service.

Tel: **01274 233739**
Minicom: **01274 235094**
Fax: **01274 235340**
Email: **disabilities@bradford.ac.uk**

Admission

Admissions Procedure

Initial selection is made on the basis of your UCAS form. Students are then invited to visit the Division for an Applicant Visit Day before an offer is made.

We strongly encourage all applicants to visit the School. This not only enables us to interview you, but also gives you a chance to see how you will learn when you come to study at Bradford. You and your guests will get a 'taste' of some of our teaching with a number of short workshops relating to different aspects of Environmental Science and Management. You will also hear about the courses from the Admissions Tutor, be shown round the University by current students, and have the opportunity to talk about your requirements individually with a member of academic staff.

If you are unable to visit the School, for example, if you live abroad, arrangements can be made to interview you over the telephone.

An offer is usually made after interview.

If you would like to visit us before you apply through UCAS, the University hold general Open Days in July and in October. Precise dates and further information can be obtained from the Course Enquiries Office (see inside front cover for contact details). If you would prefer to attend an Applicant Visit Day before you apply this is also possible. Such individual visits to the School can be arranged through our Admissions Secretary.

The UCAS code for the University of Bradford is **BRADF B56**

The individual course codes are:

BSc (Hons) in Environmental Science

Four-year sandwich course	**F900 BSc/ES4**
Three-year course	**F902 BSc/ES**

BSc (Hons) in Geography and Environmental Management

Four-year sandwich course	**LF79 BSc/GEM4**
Three-year course	**LFR9 BSc/GEM**

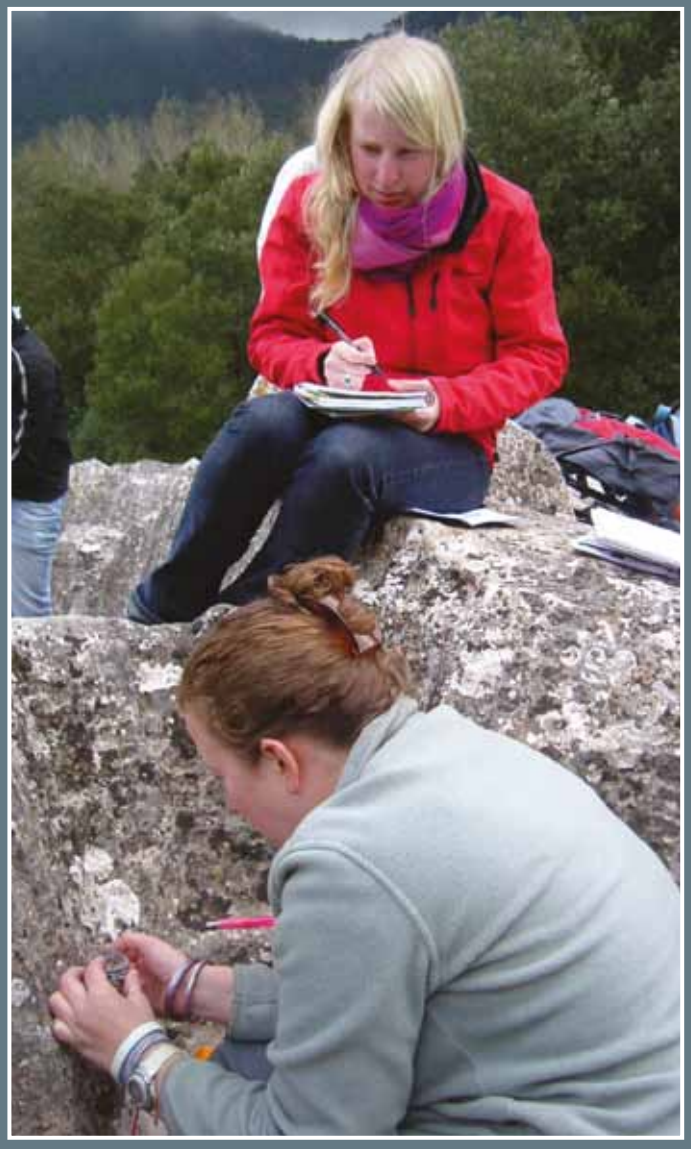
*Please note, you should enter only **ONE code** on your UCAS form*

The Student View

Lena Heinrich

BSc (Hons) Geography and Environmental Management (four-year course)

I came from Germany to study Geography and Environmental Management at the University of Bradford four years ago – and now I have just graduated. Following a year travelling the world and finally managing to get a hang of the English language, I braved applying to several universities in England. Yet, without having seen any of the universities, the different degree system and after all the different language I felt insecure on how to pick the right university for me. Contrary to all the others, Bradford immediately contacted me personally, helped out wherever possible and even gave me the opportunity to visit the University on a good date for me. This personal atmosphere made it stand out clearly from the rest and is something that continued in the succeeding four years, making studying abroad easily accessible and certainly the best choice I ever made.



My placement was one of the highlights of my degree. My role in Yorkshire Water Services policy department gave me a fantastic overview of how a water company operates. I undertook projects like calculating the company's carbon footprint, and researching nitrate levels in the North Sea for a European court case. I was also technical secretary for the 'Water Framework Directive' Working Group. This meant that I saw lots of the detailed work in which Yorkshire Water considered how it prepared for the implementation of this important new European legislation.

The placement provided many opportunities for me to undertake work-relevant training. I attended a project and time management course. I also undertook training in modelling, Geographical Information Systems, business risk management and environmental auditing.

The thing I liked best about the placement was the wide range of projects I was able to be involved in. The understandings I developed during my placement year have helped me define the subject of my final-year project – evaluating the extent to which the 'polluter pays principle' has been implemented in English water legislation to date.

My placement has helped me focus on what I might do in the future. It was fantastic to get some real environmental work experience – but I have also realised how much I enjoy academic learning. My dissertation built on my placement in that I looked at the extent to which the 'polluter pays principle' is implemented in UK water legislation. Now I have finished my degree, I am considering using expertise gained on placement by studying water management at a postgraduate level.

“The placement provided many opportunities for me to undertake work-relevant training. I attended a project and time management course. I also undertook training in modelling, Geographical Information Systems, business risk management and environmental auditing.”

The Student View

Craig Hulbert

BSc (Hons) Environmental Science (four-year course)

As a mature student returning to education, I had a clear indication in my mind of what I wanted from this course. To get onto the course I first needed to apply myself to two years of evening work at college in order to get my sciences and maths up to university entrance standard.

I am now in my second year of my Environmental Science degree. I can honestly say that having worked in both the military and IT sectors of private industry that this course is definitely what I wanted and it has really had a positive effect on me.

I wanted to study Environmental Science as I've always been interested in the world in which we live and the processes that make it tick. I also wanted to dedicate the rest of my life to something I believe is worthwhile and will make a difference to our environment.

Being a mature student I don't live in Halls but about five miles away from the campus. However, I have still made really good friends with the other students of all ages and enjoy working with them and the staff.

The first year was excellent at getting me into a frame of mind in which I could examine problems from a different perspective. The field trip to Malham near the end of the year actually made the year's lectures come to life. We could look at the landscape with different eyes and actually make sense of what had created the area. Indeed the area seemed to "come to life" especially with further help from the lecturers on the trip.

I am currently investigating a placement year with the Ministry of Defence in their environmental science department to study contamination in the field. This will employ some of the laboratory techniques taught during the first and second years. This is a field of work in which I'd like to continue in the future.

Finally, I'd say to anyone with a will to study this subject that the University of Bradford offers a rewarding experience. In addition, the lecturers and other staff are extremely friendly, approachable and helpful. I don't regret returning to education for a second, especially with this course and in this School.

"I am currently investigating a placement year with the Ministry of Defence in their environmental science department to study contamination in the field. This will employ some of the laboratory techniques taught during the first and second years. This is a field of work in which I'd like to continue in the future."

The Student View

> “Overall, my time studying at the University of Bradford has been very enjoyable. The small department and friendly staff have made the experience one I will look back upon fondly.”

Wendy Collins

BSc (Hons) Environmental Science (three-year course)

Prior to beginning my degree in Environmental Science at the University of Bradford, I had been out of education and in employment for six years. I had concerns both about being the oldest one there and the only person who hadn’t been in education for a few years. After starting the course I soon realised there was a mixture of mature students and people that had come straight from sixth form or college. This was quite a relief!

The department itself is quite small with classes usually having no more than about 25 students. This is definitely a good thing as it is much easier for the lecturer to get to know students than if the groups were much bigger. It also makes the whole experience of learning much more enjoyable as you have a group of friends around you. The department building is in the greenest and most pleasant part of the University campus, with work for many modules taking place around this area.

The courses are all very flexible and you can pick and choose which modules you want to study. This is very helpful if you know what you intend doing when you graduate as you can take the modules that will be most useful for achieving this. And if you don’t know what you want to do after graduation, as I didn’t, you can choose the modules that interest you the most. The courses all involve a large amount of fieldwork. This includes days out to Ilkley Moor, Hebden Bridge and Baildon Moor, and there are also two residential trips: a week in Malham at the end of the first year and a week in Mallorca at the end of the second year. These are hard work but good fun, and you gain practical experience of working in the field. I was lucky enough to have good weather for every one of the trips I went on!

Overall, my time studying at the University of Bradford has been very enjoyable. The small department and friendly staff have made the experience one I will look back upon fondly.

The Graduate View

Ellie Carter

BSc (Hons) Geography and Environmental Management

Sheffield City Council

Ellie graduated recently from a degree in Geography and Environmental Management. She writes:

I work for Sheffield City Council as an assistant project officer in the SHAW team (sustainable housing and affordable warmth). We basically promote the free insulation scheme (loft and cavity wall) and give energy advice to residents of Sheffield. We also offer referrals on to other partners such as the fire service, Warm Front and Age Concern. We promote the scheme door to door and through community events.

I found the job on the Graduates Yorkshire website. I was also looking for a job where I could work with the public and make a real difference! My dissertation, which focused on student and staff engagement in the University's recycling schemes, was important in helping me get the job.

The best things about the job is meeting lots of people and actually making a difference to people's lives; saving them money and helping the environment as well! I also get to talk about environmental issues with people with many different views. I work with great people and even went grass sledging at our last team-building day!

The most difficult thing about the work is the weather! Also it can sometimes be hard to motivate yourself when lots of people are not interested in the scheme.

The best thing about the degree programme was the fieldwork, which put the theory into practice. The practical tasks were useful for real work situations such as presentations. The department was always welcoming and friendly, which makes a difference to how you approach your studies.

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The University and its campus

Consistently ranked highly for graduate employment, with a history spanning the last century, the University of Bradford's values are built on firm foundations with the strong ethos of 'Making Knowledge Work™'

Strong roots

Back in 1966, when England were winning the World Cup, Bradford Institute of Technology became the University of Bradford and Harold Wilson, the long-serving British Prime Minister, became our first Chancellor. Over 40 years on and the University has moved from strength to strength.

1882: The University started out as Bradford Technical College. Bradford was the textile capital of the world, its renowned products reaching the four corners of the globe

1966: The University was granted its Royal Charter which makes it one of the 'old' universities

2005: In April 2005, Imran Khan was appointed as Chancellor of the University of Bradford succeeding Baroness Betty Lockwood on her retirement

2006: the University celebrated its 40th anniversary and the opening of a grand new front entrance to the campus; the vibrant Atrium in the Richmond Building, a magnificent student space

Developing the Campus

The University is constantly investing in the future of its students through world-class teaching and facilities. Recent improvements to the campus include:

- 'Unique', the superb fitness and lifestyle facility on the city campus
- The new build at the School of Management which melds the best of historic Victorian and modern architecture
- A purpose-built extension for the School of Health Studies with state-of-the-art new facilities
- The new £7m Student Central building housing the Students' Union and learning facilities, linking in to the library and IT facilities
- The Green student village which will house its first-ever residents in September 2011

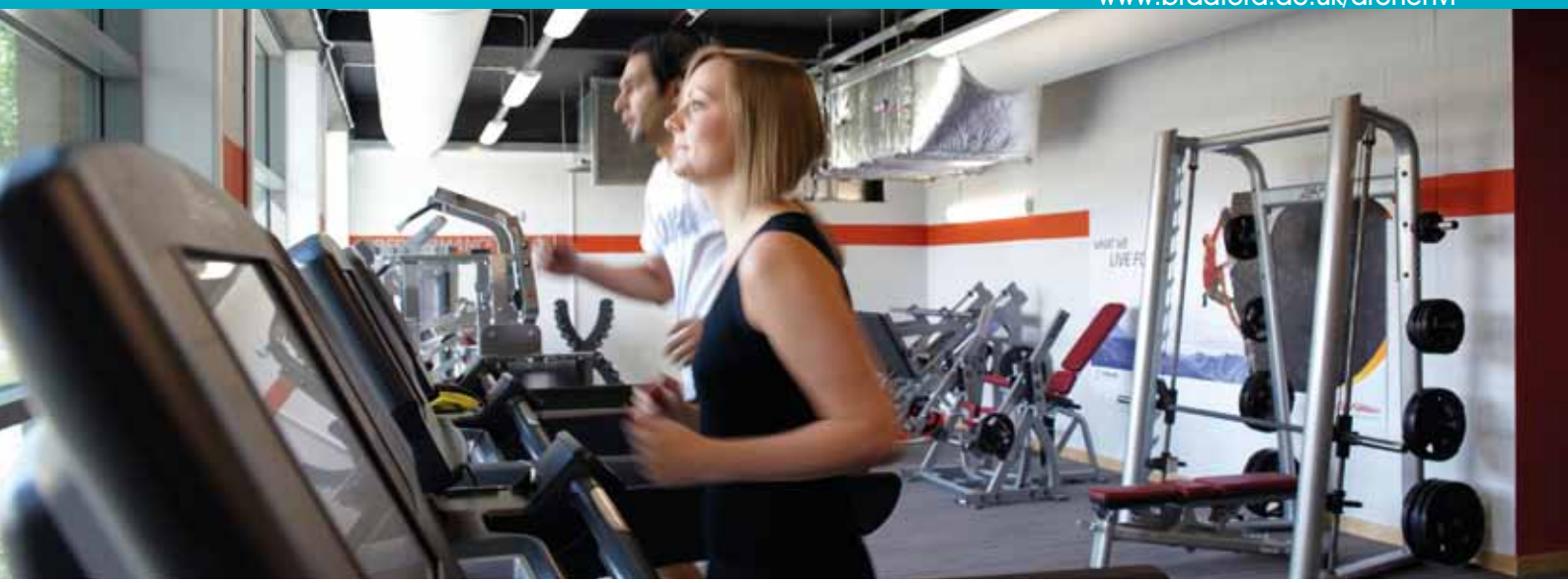
Leading-edge Technology and IT Facilities

Laboratories, study areas, computer clusters and other facilities are being constantly developed. Bradford really excels when it comes to IT, with one of the highest ratios of PCs to students in the country. You can have free internet access wirelessly from all the libraries, foyers and social spaces of all major buildings, and the PCs in the Richmond Building Atrium are available 24/7. You will also have access to the campus network from your bedroom in The Green student accommodation.

The J B Priestley Library at the heart of the city campus links up with the Learning Mall of the Student Central building. The Library is open 24 hours a day from Monday to Friday during term times, and until 9pm at weekends, and provides extensive collections of books and journals as well as access to a wide range of electronic information services. PCs are available throughout the building. Most library services are accessible via the internet.

Our campus is one of the most sustainable in the world, winning us The Times Higher Education Supplement's Outstanding Contribution to Sustainability Award 2010 and the Gold award in the Environmental and Social Responsiblity index 2010.

The University and its campus



Accommodation

You will be guaranteed a place at our award-winning eco-friendly new student village, The Green, during your first year. Buildings are arranged as a small village, with rooms available in apartments or townhouses. Every building meets the highest standards of sustainability, meaning it costs very little to heat and light. The Green will have a real community feel. It is set in beautiful landscaped gardens, with places to relax and socialise. For more details about what's available for our students, and for costs, visit **www.bradford.ac.uk/accommodation**

In subsequent years most students choose to live in privately rented accommodation. Student accommodation is cheaper, easier to find and more conveniently located in Bradford than in most other University cities. Many students live within five minutes of their lectures! Unipol Student Homes (**www.unipol.org.uk/bradford**) offers a free advice service to students, and is a good way of finding a good-quality, safe place to live at a reasonable cost.

Our City Campus

Most departments are on the city campus, as is the sports centre, the library, the Students' Union, Theatre, Music Centre and Art Gallery, and student accommodation. The new Student Central building houses the bar, entertainment facilities, Students' Union offices, welfare departments, Career Development Services, a print shop, and learning facilities. The Students' Union runs over 60 clubs and societies, and has a shop on campus. You can enjoy café bars around the campus, offering a range of facilities including food, hot and cold drinks, pool tables, video games, and a big screen TV. The newly refurbished 'Unique: Fitness & Lifestyle' has a 25-metre swimming pool, climbing wall, and a new gym with the very latest in fitness equipment. The Richmond Building Atrium is a popular place to relax, and adjacent to this, student support services can be found in The Hub.

City of Bradford

Friendly and familiar but with a lively urban centre, Bradford is the city that has it all. The cosmopolitan mix, booming social scene and host of thriving cultural venues create a vibrant modern atmosphere that sits perfectly alongside the imposing architecture of the nineteenth century. Bradford is set amongst some of the most beautiful countryside in England. At the same time it is one of the most affordable places to live. Bradford lies right in the middle of the country, with easy links by road, rail and air north to Scotland, west to Manchester and Liverpool, east to Leeds and York, and south to London.

The University campus is situated in the heart of the city's 'west end' – with many new pubs, clubs and restaurants within a few minutes' walk from the halls of residence. Bradford can also offer a thriving cultural scene, including the National Media Museum, with its huge IMAX screen, as well as galleries, theatres and museums of art, crafts and technology. Further information of all that is on offer in Bradford can be found at www.visitbradford.com and at www.bradford.ac.uk/bradford

Eating Out

As every student will soon discover Bradford has earned the right to be famous for its curries. There are over 20 curry houses within five minutes' walk of the campus, where you can find a good meal for around £5. There are many other inexpensive restaurants, shops and supermarkets nearby, as well as the excellent value markets, specialist shops and chain stores in the city centre.

Sport

Local sporting clubs are always keen to welcome student members, not forgetting the University's own range of sporting teams and activities. If you enjoy watching rather than participating, there's football at Bradford City and Super League rugby with Bradford Bulls.

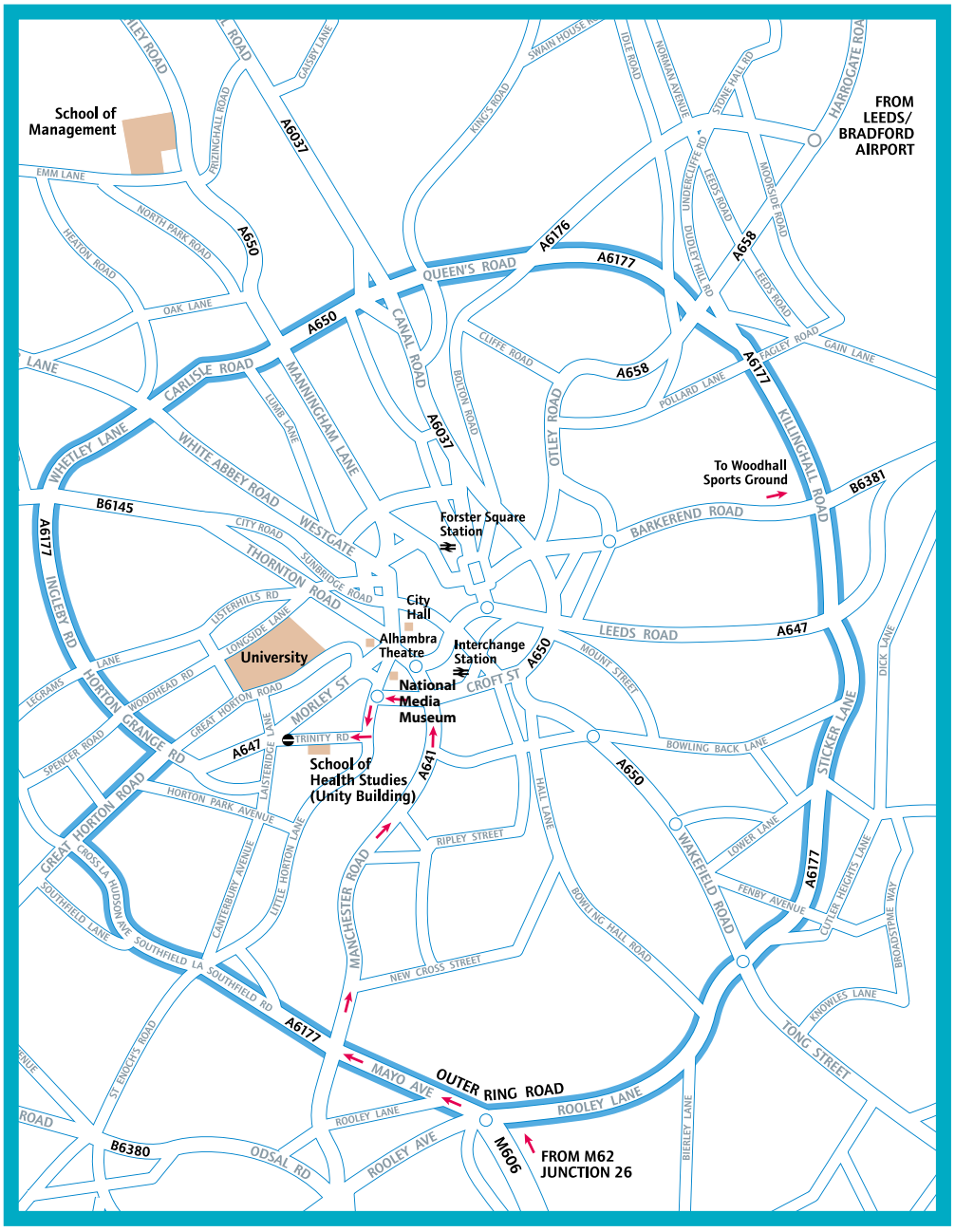
Spectacular Surroundings

Bradford is surrounded by some of the most spectacular and picturesque countryside anywhere in the country. The Pennines, Yorkshire Moors, Yorkshire Dales, Lake District and Derbyshire Peak District are all within easy travelling distance.

You can take advantage of the host of outdoor sporting activities available in the area or just enjoy the peace and quiet.

Yorkshire Dales and Alhambra Theatre

How to Find us



The contents of this publication are correct at the time of printing. The University reserves the right to alter or withdraw courses, services and facilities as described in this booklet without notice and to amend Ordinances, Regulations, fees and charges at any time. Students should enquire as to the up-to-date position when applying for their course of study. Admittance to the University is subject to the requirement that the student complies with the University's admissions procedures and observes the Charter and Statutes and the Ordinances and Regulations of the University.

More detailed maps of the University campus are available on our website at: www.bradford.ac.uk/maps

Pictures on page 24 courtesy of Bradford Council
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How to Find Us

Coach - services connect most parts of the country to Bradford's Travel Interchange.

Rail - Bradford Interchange and Forster Square stations have extensive rail links, though many involve changing at Leeds. Approximate journey times are:

London, King's Cross 3 hours
Edinburgh 4 hours
Birmingham 3 hours
Manchester 1 hour
York 1 hour
Leeds 20 minutes

There is a **free** city bus connecting Bradford Travel Interchange, Forster Square station and Centenary Square to the University.

Road - Bradford is connected to the national motorway network via the M62 and M606.

Approximate distances are:

London 200 miles (320 km)
Edinburgh 200 miles (320 km)
Birmingham 120 miles (192 km)
Manchester 35 miles (56 km)
York 33 miles (53 km)
Leeds 8 miles (13 km)

Air - There are direct regular air services into Leeds/Bradford International Airport, 7 miles (11 km) from the University, from various cities around the UK and Ireland as well as from Amsterdam and other European locations. You can get from the Airport to the University by bus or taxi. Many internal and international flights can also be made into Manchester Airport, 50 miles (80 km) south-west of Bradford

UNIVERSITY OF BRADFORD

MAKING KNOWLEDGE WORK™