UWE Bristol and the Sustainable Development Goals (SDGs): *Programme mapping portfolio*

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Knowledge Exchange for Sustainability Education (KESE)

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Introduction

At the United Nations Conference on Sustainable Development (Rio+20) in June 2012, a process wasinitiated to formulate a set of sustainable development goals (SDGs) for pursuing focused and coherent action on sustainable development. The SDGs emphasize the need to achieve balance between the economic, social and environmental dimensions of sustainable development. This approach is premised on the recognition that sustainability requires full acknowledgement of the inter-linkages between these dimensions, and also between issues and sectors. Education has become increasingly visible in the international development agenda, and the SDGs provide a window of opportunity to reflect on and to advance an integrated approach to education. Such integrated approach to education planning will be necessary to achieve high quality education and wider development outcomes.

This document provides examples of ways by which programmes of study at UWE Bristol are engaging with the United Nations Sustainable Development Goals (SDGs) and using them to reflect on the content, delivery and outcomes of UWE's educational provision. Each of the'maps' contained here was produced by leaders and academics from the programmes or discipline in question.

This work was the subject of an Advance HE Collaborative Award for Teaching Excellence for the Knowledge Exchange for Sustainability Education (KESE). The five year project which has led to the creation of this document will inform UWE's ongoing commitment to the SDGs. Further curriculum mapping will take place, as will consideration of ways by which UWE's research activities contribute and align to the ambitions of the SDGs.

Students have played an important role in our work with the SDGs: Undertaking mapping, creating new reading lists for their peers, co-organising events, bringing back examples of action from industry and collaborating with their academic tutors to enhance our engagement with the SDGs. They will continue to be crucial partners in our SDG work over the next five years.

Mapping process: Overview

The project which is represented in this document has evolved over its first five years. The original activity involved considering what it might look like to 'map' a programme against the United Nations Sustainable Development Goals (hereafter, the SDGs). A set of ten maps were produced for a SDG Roadshow event which UWE hosted in 2017. The response from UWE staff engaged in what might, in retrospect, be referred to as a pilot, and from those who were presented with our initial exhibition, was so overwhelming positive, that plans were made to roll out the mapping across the institution. Since then, those involved have continued to explore various interpretations of the task and continued to be met with almost unanimous positive response. There are a few key elements of the process which has been undertaken which may be of value to others.

Defining the task

At the most basic level, the task has always been to undertake conscious and meaningful assessment of the alignment between the activities and actions of the institution (UWE Bristol) and the UN Sustainable Development Goals. At programme level, this has most commonly been interpreted in one of three ways:

1. How well does the programme cover the SDG in its curriculum content?
2. How is knowledge from this discipline relevant to understanding the challenges within and helping to achieve each SDG?
3. How is professional practise in jobs linked to this discipline connected to each of the SDGs?

Less commonly, programme teams have given consideration to the ways by which a programme of study is delivered and alignment of that delivery with the ambitions of the SDGs. In some instances, those who are undertaking the mapping have identified their own interpretation but over time, the project team have provided more and more examples of 'how others have done it'. This has been helpful to accelerate responses but arguably has stifled the creativity displayed in the early stages of the project.

Finding 'local' meaning

Although there has always been a centrally identified purpose to the SDG mapping, it has been useful to enable programme teams to identify their own local meaning for this task. This often relates to other activities that are taking place at the time of mapping or soon afterwards such as programme revalidation with an external professional body, internally-driven curriculum review or specific programme enhancement agendas relating, for example, to student recruitment or employability. With a variety of ways to approach the SDG mapping, it has been possible for programme teams to tailor the task to meet those alternative objectives which has been useful for colleague buy in.

Once a programme team has identified key desirable outcomes of the mapping, they can then tailor the mapping process and outputs to those intended outcomes. For example, a programme that was keen to produce a map to attract future students might choose to

highlight the variety of activities across the programme that enable students to learn about and potentially take action for sustainable development. A programme team that was seeking to improve the employability outcomes of their graduates, might seek to create a map highlighting the variety of professional opportunities linked to knowledge that students will gain on a particular programme. If the desired outcomes include staff development, then it will be more critical that the entire programme team are engaged with the task.

Using staff 'champions'

As noted in the acknowledgements at the beginning of this report, there is a group who have been key to the activity documented here. This is the Knowledge Exchange for Sustainability Education (KESE) group. In the last few years, KESE has consisted of one representative from each academic department at UWE and has thus been able to champion the SDG mapping across the institution. The champion role has evolved over the course of the project. In the initial stages of the project, much time was spent interpreting the task and preparing examples relevant to disciplines which other colleagues could relate to. The original set of maps represented several disciplines from across the university. Over time, the champions have taken on more of a facilitation and coordination role within discipline areas. Within programme teams, on occasion, it has also been useful to identify a relevant champion, most commonly the programme leader. Sometimes this champion has been a student of the programme.

Building capacity

In relation to the process of mapping against the SDGs, the staff champions identified above have supported colleagues in understanding the task and producing content for their own programme or discipline map. This enabled the pace of mapping to increase as the years of the project have gone on. However, this project has had another notable role to play in capacity building across the university. The process of engaging in SDG mapping has enabled staff and students to develop not only a good understanding of the SDGs, but a deep awareness of the ways by which disciplines that they study or teach, and their own individual actions can contribute towards the achievement of both the Goals and institutional commitments for sustainable development.

Working together

The success of this project to date has without doubt been due largely to the collaborative and inclusive approach which has been taken from the very start. The project coordinator worked with one staff champion initially and this quickly grew into a shared process. The KESE group have shared their individual approaches, successes and challenges with each other at regular meetings each academic year and have learned from each other. The process of sharing example maps across the institution has broadened awareness of the diverse offering which the university has in terms of programmes and disciplines and has also facilitated the development of greater respect amongst disciplines. For the individual KESE members, professional partnerships have developed such that these colleagues now teach across disciplines on each other's modules and programmes and are collaborating on interdisciplinary research initiatives.

Working with students

Students have been important partners in our SDG mapping work and in the changes to teaching and learning and assessment practise which have followed mapping. The Students' Union at UWE have been important facilitators of student engagement; running events at which students have been made aware of and engaged in mapping activity. The Students' Union also created roles for students to act as sustainability reps within academic departments and these reps have often chosen to engage in SDG mapping or other related activity as part that Rep role. There is a particularly important role for students to play in relation to our SDG maps and the view which they give of our programmes of study. Academics will know what the intended outcomes of their programmes are but seeking the student perspective is critical to ensuring that our intended outcomes are achieved.

Sharing externally

As noted above, this project has grown out of an exhibition created for an externally-run but UWE-hosted event. From that point onwards, this has been a project that we have regularly shared externally, particularly at academic conferences focused on sustainability in higher education, but also broader teaching and learning contexts and in SDG forums. The response and discussion which have followed from presentation of this work at various stages of its development have been hugely supportive and positive, helping to encourage further activity and the continue evolution of the project.

Project outputs

The remainder of this document is broken down by academic discipline area. A short overview of bespoke activity undertaken within each discipline is provided, followed by examples of 'maps' created by the discipline. These are simply snapshots in time, representing a particular interpretation of the task and a particular perspective on the entity being mapped (module, programme, discipline). This is a live project and maps, programmes and the project itself continue to evolve.

Health and Applied Sciences

Allied Health Professions

In the Department of Allied Health Professions SDG mapping was undertaken for the BSc (Hons) Occupational Therapy programme in 2017. The activities of the programme that contributed to SDG goals were many and varied, perhaps, an 'easy win', given that the ethos of the profession is about enabling meaningful occupations for people in all facets of their lives and utilising community partnerships to do so. The process revealed extensive sustainable activity at all levels of student learning and experience and it also revealed some gaps in consideration of UN SDG goals. The output of the exercise was a presentation, but this needs to be updated.

The process of SDG mapping was also commenced in other allied health professions programmes at around the same time. This proved to be more challenging, with programmes typically addressing the mapping process like a formal audit, or 'box ticking' task. For some of these programmes it is due to their curricula being very competency based i.e. learning a set of skills to apply in practice. Since then, due to this, I have adopted a more bespoke approachto supporting sustainable development goals in allied health professions programmes, usually by working directly with individual colleagues to advise on initiatives they have.

The Coronavirus crisis has imposed upon health and social care a large number of challenges to delivering programmes in traditional ways. For example, practice placements with partner organisations have been suspended until further notice and 'hands-on' skills learning, which normally takes place on campus, cannot proceed. With this in mind, I am looking at launching some new initiatives in DAHP, which hopefully have positive sustainability implications:

Telehealth and Placements

There has been a sudden explosion of interest in the possibilities of technology use in health and social care, especially given that many of our practice partners are having to move their consultations online due to the Coronavirus crisis. At first sight this could have very positive sustainability implications in reducing high carbon footprint activity, such as driving to placements across the region. (There may also be negative connotations in terms of reduced'face to face' contact and the implications that has on health and well-being of service users,clinicians and students!) How can we support placement providers in having our students alongside them and participating in telehealth? How do we prepare our students for such placement experiences? How can we map this to sustainable goals? Discussions are planned to discuss the way forward, including with nursing and midwifery colleagues and then to conduct similar discussions with practice partners.

Student Projects with a Sustainability Focus

Many students pursue research projects (or other non-research learning) with a sustainable development/practice angle, or their societies are engaged in sustainable projects. It is the intention to create a central database of such activity. I can also be a conduit and connect students across programmes where there is common ground.

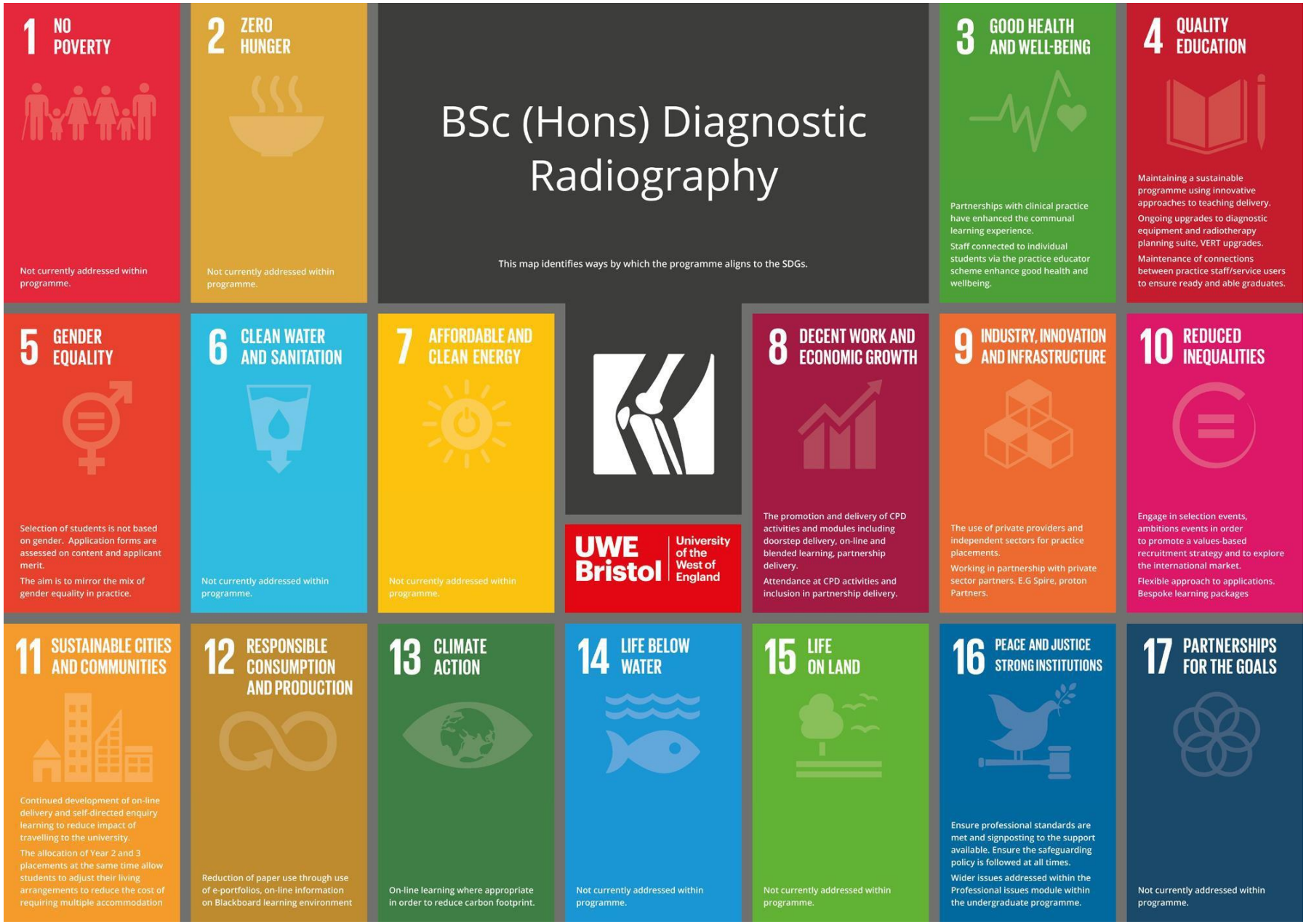
Decolonising the curriculum

We are looking to build on communications from the library about decolonising learning materials and the work of programmes in other parts of the university to decolonise. How is this relevant to allied health professions programmes? We have substantially increased proportion of cohorts that are from ethnic minority backgrounds and/or from overseas in recent years and we are looking to have more global reach. Interested staff will be invited to a webinar as a platform to discuss a departmental/programmatic decolonisation strategy.

Programmes still to be mapped include

- BSc(Hons) Optometry
- BSc(Hons) Paramedic Science
- BSc(Hons) Sport Rehabilitation
- MSc Advanced Practice
- MSc Medical Ultrasound
- MSc Physician Associate Studies
- MSc Rehabilitation

Steve Evans Associate Head of Department, Allied Health Professions


1 NO POVERTY
Not currently addressed within programme.
2 ZERO HUNGER
Not currently addressed within programme.
BSc (Hons) Diagnostic Radiography
This map identifies ways by which the programme aligns to the SDGs.
3 GOOD HEALTH AND WELL-BEING
Partnerships with clinical practice have enhanced the communal learning experience.
Staff connected to individual students via the practice educator scheme enhance good health and wellbeing.
4 QUALITY EDUCATION
Maintaining a sustainable programme using innovative approaches to teaching delivery.
Ongoing upgrades to diagnostic equipment and radiotherapy planning suite, VERT upgrades.
Maintenance of connections between practice staff/service users to ensure ready and able graduates.
5 GENDER EQUALITY
Selection of students is not based on gender. Application forms are assessed on content and applicant merit.
The aim is to mirror the mix of gender equality in practice.
6 CLEAN WATER AND SANITATION
Not currently addressed within programme.
7 AFFORDABLE AND CLEAN ENERGY
Not currently addressed within programme.
UWE Bristol
University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
The promotion and delivery of CPD activities and modules including doorstep delivery, on-line and blended learning, partnership delivery.
Attendance at CPD activities and inclusion in partnership delivery.
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
The use of private providers and independent sectors for practice placements.
Working in partnership with private sector partners. E.G Spire, proton Partners.
10 REDUCED INEQUALITIES
Engage in selection events, ambitions events in order to promote a values-based recruitment strategy and to explore the international market.
Flexible approach to applications. Bespoke learning packages
11 SUSTAINABLE CITIES AND COMMUNITIES
Continued development of on-line delivery and self-directed enquiry learning to reduce impact of travelling to the university.
The allocation of Year 2 and 3 placements at the same time allow students to adjust their living arrangements to reduce the cost of requiring multiple accommodation
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Reduction of paper use through use of e-portfolios, on-line information on Blackboard learning environment
13 CLIMATE ACTION
On-line learning where appropriate in order to reduce carbon footprint.
14 LIFE BELOW WATER
Not currently addressed within programme.
15 LIFE ON LAND
Not currently addressed within programme.
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Ensure professional standards are met and signposting to the support available. Ensure the safeguarding policy is followed at all times.
Wider issues addressed within the Professional issues module within the undergraduate programme.
17 PARTNERSHIPS FOR THE GOALS
Not currently addressed within programme.

1 NO POVERTY
Not currently addressed within programme.
2 ZERO HUNGER
Not currently addressed within programme.
BSc (Hons) Radiotherapy and Oncology
This map articulates ways in which the running and purpose of the BSc Radiotherapy and Oncology programme meet ambitions of the SDGs.
3 GOOD HEALTH AND WELL-BEING
Partnerships with clinical practice have enhanced the communal learning experience.
Staff connected to individual students via the practice educator scheme enhance good health and wellbeing.
4 QUALITY EDUCATION
We ensure ongoing upgrades to diagnostic equipment and our radiotherapy planning suite, VERT upgrades.
We maintain connections between practice staff and service users to ensure ready and able graduates.
5 GENDER EQUALITY
Selection of students is not based on gender. Application forms are assessed on content and applicant merit.
The aim is to mirror the mix of gender equality in practice.
6 CLEAN WATER AND SANITATION
Not currently addressed within programme.
7 AFFORDABLE AND CLEAN ENERGY
Not currently addressed within programme.
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
UWE develops and delivers CPD activities and modules which support professionalism in practice and workforce development. We deliver these in flexible and accessible ways including doorstep delivery, on-line and blended learning and partnership delivery.
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
The use of private providers and independent sectors for practice placements ensures that students get a variety of experiences whilst training.
10 REDUCED INEQUALITIES
We promote equality through all of our recruitment and selection activities. We actively promote engagement in selection events from under-represented groups and run ambitions events in order to promote a values-based recruitment strategy. We offer a flexible approach to applications and provide bespoke learning packages to accommodate the needs of different types of students.
11 SUSTAINABLE CITIES AND COMMUNITIES
We continue to develop on-line delivery and self-directed enquiry learning to reduce the need for students to travel to the university. Students are allocated their Year 2 and 3 placements at the same time to allow them to plan their living arrangements to reduce the cost of requiring multiple accommodation.
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
We have reduced our use of paper use through conversion to use of e-portfolios and provision of on-line information through the Blackboard learning environment.
13 CLIMATE ACTION
We deliver on-line learning where appropriate in order to reduce our carbon footprint.
14 LIFE BELOW WATER
Not currently addressed within programme.
15 LIFE ON LAND
Not currently addressed within programme.
16 PEACE AND JUSTICE STRONG INSTITUTIONS
We ensure that professional standards are met and that students are signposted to the support available. We ensure that safeguarding policies are followed at all times. Wider social justice issues are issues addressed within the professional issues modules within the undergraduate programme.
17 PARTNERSHIPS FOR THE GOALS
Not currently addressed within programme.

1 NO POVERTY
Covered in the Occupational Therapy programme
2 ZERO HUNGER
Covered in the Occupational Therapy programme
BSc (Hons) Occupational Therapy
SDG issues covered in the programme | Place in the programme
3 GOOD HEALTH AND WELL-BEING
Core to the Occupational Therapy programme
Students study human biological systems function and dysfunction, within the context of the physical and social environments, drawing on human development/ageing theory, ergonomics and inclusive design. They learn how biological, psychological and social factors all combine to not only explain human behaviour, but also to influence human health and well-being.
Students develop competence in analysis of occupation, activity and occupational performance in context and articulate an understanding of its relationship to health and well-being. This learning is informed by sociology, social policy and social model of disability. Models of practice are explored with emphasis on person-centred practice.
Study of Occupational Therapy and Psychosocial and Physical Challenges develops understanding of the role of the occupational therapist in enabling clients to deal with the effects of psychosocial challenges (mental health and learning disability) to occupation. Impact should be considered in terms of person-centred outcomes. Students are encouraged to develop a client-centred approach in the construction of hypothetical occupational therapy intervention options.
In developing their Skills and Strategies for Occupational Therapy students focus thinking behind the use of occupation as the means and end of therapy (often referred to as clinical or professional reasoning) and the practical application of this with service users.
In consideration of Complex Needs and Occupation students develop as practitioners who are aware that service users may have one, two or more health and or well-being needs which require input from themselves and/or a skilled team of mixed professionals to best meet their occupational needs.
4 QUALITY EDUCATION
Core to the Occupational Therapy programme.
The Occupational Therapy programme is delivered via a range of diverse teaching and learning approaches. These include:
Keynote lectures
Problem/Enquiry Based Learning
Practicals/simulations
Activity Analysis
Workshops Directed and self directed, independent learning
Study Skills
Reflective Platforms
Seminars
Academic Personal Tutors
Peer Assisted Learning Integrative, online learning e.g. Wikis
Summative and formative assessments are also diverse enabling students to develop a range of verbal, oral, reading and writing skills and to demonstrate their knowledge and skills via a range of formats.
Students will complete:
One exam only (online)
Written Assignments
Individual Presentations
Group Presentations
Structured Oral and Practical Exam (SOPE)
Defended Posters
Research dissertation
Learning Contracts
Added value elements of the Occupational Therapy programme include:
Dedicated cohort Facebook pages
Placement Newsletters
Occupational Therapy Society (optional)
Professional body student membership (optional)
Feeling of community and connection to each other, to partners in practice, to service users and to society.
5 GENDER EQUALITY
Covered in the Occupational Therapy programme
6 CLEAN WATER AND SANITATION
Not currently covered explicitly in the Occupational Therapy programme
7 AFFORDABLE AND CLEAN ENERGY
Not currently covered explicitly in the Occupational Therapy programme
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Covered in the Occupational Therapy programme
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Covered in the Occupational Therapy programme
10 REDUCED INEQUALITIES
Core to the Occupational Therapy programme
The programme team is committed to the widening participation agenda through values based recruitment and selection. Public involvement (service users and practitioners) in recruitment and selection events occurs on an equal par to academics. The aim is to achieve equal access to the profession.
The profession is underpinned by Occupational Science which explores the relationship between occupation and development, and how occupation changes over the life course. If people are unable to engage in their chosen or desired occupations, then they are occupationally deprived and are unable to have full human rights. Occupational Scientists and Occupational Therapists seek to remove the barriers that people face in order that they can fully participate in Society. To this end, Occupational Therapists work alongside not only people with health challenges, and impairments, but also many other groups that are occupationally deprived such as refugees and prisoners.
A sociological perspective informs the programme with consideration given to social and occupational determinants of health and well-being, the social model of disability and the recovery model.
11 SUSTAINABLE CITIES AND COMMUNITIES
Core to the Occupational Therapy programme
Widening Occupation Weeks provide students with 30 weeks of professional placement experience to prepare them for the real world.
Role Emerging Placements include opportunities with Missing Link Crisis House, Recovery College, St Mungo's Complex Needs Service, Leonard Cheshire Bristol and 1625 Independent People.
Inclusive Design Project (year 1) and Access Audits (year 2) provide further opportunities for student to explore issues linked to sustainable communities.
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Covered in the Occupational Therapy programme
13 CLIMATE ACTION
Not currently covered explicitly in the Occupational Therapy programme
14 LIFE BELOW WATER
Not currently covered explicitly in the Occupational Therapy programme
15 LIFE ON LAND
Not currently covered explicitly in the Occupational Therapy programme
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Covered in the Occupational Therapy programme
17 PARTNERSHIPS FOR THE GOALS
Core to the Occupational Therapy programme
Delivery of all aspects of the programme, from recruitment and selection to qualification and employment, are in partnership with a broad and representative array of stakeholders.
Recruitment and selection includes public involvement on an equal par to academics. Teaching and learning includes sessions on the majority of modules delivered by either external, specialist practitioners or expert service users. These include the contexts of acute inpatient mental health, early intervention, ethical issues, mother and baby care, eating disorders, cardiovascular care, paediatrics, respiratory conditions, vascular surgery, burns, and amputees.
Students benefit from hundreds of placement opportunities in primary care, secondary care and social care across the Southwest region.

BSc(Hons) Occupational Therapy: In depth analysis

Four SDGs are covered in depth in the BSc Occupational Therapy programme.

Link between occupation and health and well-being is explicitly stated in module handbooks at all levels of the programme:

- Elements of Human Performance 1: human biological systems function and dysfunction, but within the context of the physical and social environments. Also draw on human development/ageing theory, ergonomics and inclusive design.

- Elements of Human Performance 2: how biological, psychological and social factors all combine to not only explain human behaviour, but also to influence human health and well-being.

- Exploring Occupation, Health and Well-being 1: demonstrate competence in analysis of occupation, activity and occupational performance in context and articulate an understanding of its relationship to health and well-being. Sociology, Social Policy and Social Model of Disability.

- Exploring Occupation, Health and Well-being 2: Models of practice, person-centred practice, Widening Occupation Week (WOW)
  "WOW helped me know what is available for my patients when I qualify." (Level 1 student)
  "Focus on the environment/contextual influences." (Level 1 student)

- Occupational Therapy and Psychosocial Challenges: understanding of the role of the occupational therapist in enabling clients to deal with the effects of psychosocial challenges (mental health and learning disability) to occupation. Impact should be considered in terms of person-centred outcomes.

- Occupational Therapy and Physical Challenges: the role of the Occupational Therapist within a range of key practice areas associated with Physical Challenges. A strong emphasis will be placed on the development of a client-centred approach in the construction of hypothetical occupational therapy intervention options.

- Skills & Strategies for Occupational Therapy: focuses primarily on two things:
  1. thinking behind the use of occupation as the means and end of therapy – often referred to as clinical or professional reasoning
  2. practical application of this with service users

- Complex Needs and Occupation: As practitioners we need to be aware that our service users may have one , two or more health and or well-being needs which require input from ourselves and/or a skilled team of mixed professionals to best meet their occupational needs.
  "Taught to do best, but can't do everything. Know how to use activity rather than just learn. Broad skill set." (year 2 student)

4 QUALITY EDUCATION

Core to the Occupational Therapy programme.

The Occupational Therapy programme is delivered via a range of diverse teaching and learning approaches. These include:

- Keynote lectures
- Problem/Enquiry Based Learning
- Practicals/simulations
- Activity Analysis
- Workshops Directed and self directed, independent learning
- Study Skills
- Reflective Platforms
- Seminars
- Academic Personal Tutors
- Peer Assisted Learning Integrative, online learning e.g. Wikis

Summative and formative assessments are also diverse enabling students to develop a range of verbal, oral, reading and writing skills and to demonstrate their knowledge and skills via a range of formats.

Students will complete:

- One exam only (online)
- Written Assignments
- Individual Presentations
- Group Presentations
- Structured Oral and Practical Exam (SOPE)
- Defended Posters
- Research dissertation
- Learning Contracts

Added value elements of the Occupational Therapy programme include:

- Dedicated cohort Facebook pages
- Placement Newsletters
- Occupational Therapy Society (optional)
- Professional body student membership (optional)
- Feeling of community and connection to each other, to partners in practice, to service users and to society.

10 REDUCED INEQUALITIES

Core to the Occupational Therapy programme

The programme team is committed to the widening participation agenda through values based recruitment and selection. Public involvement (service users and practitioners) in recruitment and selection events occurs on an equal par to academics. The aim is to achieve equal access to the profession.

The profession is underpinned by Occupational Science which explores the relationship between occupation and development, and how occupation changes over the life course. If people are unable to engage in their chosen or desired occupations, then they are occupationally deprived and are unable to have full human rights. Occupational Scientists and Occupational Therapists seek to remove the barriers that people face in order that they can fully participate in Society. To this end, Occupational Therapists work alongside not only people with health challenges, and impairments, but also many other groups that are occupationally deprived such as refugees and prisoners.

A sociological perspective informs the programme with consideration given to social and occupational determinants of health and well-being, the social model of disability and the recovery model.

17 PARTNERSHIPS FOR THE GOALS

Core to the Occupational Therapy programme

Delivery of all aspects of the programme, from recruitment and selection to qualification and employment, are in partnership with a broad and representative array of stakeholders.

Recruitment and selection includes public involvement on an equal par to academics. Teaching and learning includes sessions on the majority of modules delivered by either external, specialist practitioners or expert service users. These include the contexts of acute inpatient mental health, early intervention, ethical issues, mother and baby care, eating disorders, cardiovascular care, paediatrics, respiratory conditions, vascular surgery, burns, and amputees.

Students benefit from hundreds of placement opportunities in primary care, secondary care and social care across the Southwest region.

Heat map of coverage/engagement in BSC (Hons) Occupational Therapy programme

SDG's								
	No poverty	Zero hunger	Good health and wellbeing	Quality education	Gender equality	Clean water and sanitation	Affordable and clean energy	Decent work and economic growth
Yes *Hell Yes!* *No* *? = Don't know*								

SDG's								
Industry, innovation and infrastructure	Reduced inequalities	Sustainable cities and communities	Responsible consumption and production	Climate action	Life below water	Life on land	Peace, justice and strong institutions	Partnerships for the goals

1 NO POVERTY
Not directly addressed in programme learning outcomes.
2 ZERO HUNGER
Not directly addressed in programme learning outcomes.
BSc (Hons) Physiotherapy
This map identifies issues contained within the programme relevant to each of the SDGs.
3 GOOD HEALTH AND WELL-BEING
Understand the need to engage service users and carers in planning and evaluating diagnostics, and therapeutic interventions to meet their needs and goals.
Understand how psychology, sociology and cultural diversity inform an understanding of health, illness and health care in the context of physiotherapy and the incorporation of this knowledge into physiotherapy practice.
Demonstrate skills in organising, delivering, managing and monitoring an exercise programme in healthy populations (e.g. to strengthen, stretch, improve balance, and cardiovascular fitness).
Demonstrate safe and appropriate treatment techniques to specified musculoskeletal conditions for peripheral joints of the body.
Demonstrate a reasoned knowledge of bio psychosocial factors that contribute to staying healthy and health promotion across the age spectrum.
Analyse the challenges experienced as a professional and the skills required in facilitating a collaborative approach to improving the service and experience for patients and public (service users and carers).
4 QUALITY EDUCATION
Understand how communication skills affect assessment and engagement of service users and how the means of communication should be modified to address and take account of factors such as age, capacity, learning ability and physical ability.
Understand the need to provide service users or people acting on their behalf with the information necessary to enable them to make informed decisions.
Demonstrate a developing ability to organise and communicate information in a variety of formats, tailored to specific levels (e.g. to the individual client, carer or member of the multidisciplinary team) and to the standards required for the work place setting.
5 GENDER EQUALITY
Understand the need to act in the best interests of service users at all times.
Demonstrate a developing awareness of equality, diversity, ethical, professional and legal issues related to physiotherapy practice.
Understand the need to respect and uphold the rights, dignity, values, and autonomy of service users including their role in the diagnostic and therapeutic process and in maintaining health and wellbeing.
Recognise that relationships with service users should be based on mutual respect and trust, and be able to maintain high standards of care even in situations of personal incompatibility.
Be aware of the characteristics and consequences of verbal and non-verbal communication and how this can be affected by factors such as age, culture, ethnicity, gender, socio-economic status and spiritual or religious beliefs.
6 CLEAN WATER AND SANITATION
Not directly addressed in programme learning outcomes.
7 AFFORDABLE AND CLEAN ENERGY
Not directly addressed in programme learning outcomes.
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Be able to demonstrate a logical and systematic approach to problem solving.
Be able to apply problem solving and clinical reasoning to assessment findings to plan and prioritise appropriate physiotherapy.
Be able to change their practice as needed to take account of new developments or changing contexts.
Be able to evaluate research and other evidence to inform their own practice.
Analyse the value of different methods and approaches and demonstrate an understanding for the theoretical basis for using evidence in the clinical reasoning process.
Demonstrate awareness of the monitoring and intervention methods and equipment commonly used to support critically ill patients.
Deliver safe, effective and appropriate assessment and treatment techniques.
Comply with relevant policies and practice within the legal and ethical boundaries of the profession, seeking advice or referral to other professionals where appropriate.
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Be able to apply problem solving and clinical reasoning to assessment findings to plan and prioritise appropriate physiotherapy
Be able to change their practice as needed to take account of new developments or changing contexts.
Recognise the value of research to the critical evaluation of practice.
Demonstrate and apply safe and effective subjective/objective assessment and treatment skills.
Apply skills to critically appraise and relate evidence to physiotherapy practice.
Conduct a piece of research which reflects critical understanding of research processes and issues, for example ethics, reliability, validity and in the context of the physical therapies.
To be able to apply problem solving and clinical reasoning to assessment findings to plan and prioritise appropriate physiotherapy intervention; make reasoned decisions; and critically evaluate interventions by engaging in evidence-based practice, reflection and use of appropriate outcome measures.
Comply with relevant policies and practice within the legal and ethical boundaries of the profession, seeking advice or referral to other professionals where appropriate.
10 REDUCED INEQUALITIES
Be able to recognise the need to identify and take account of, and adapt practice to meet, the physical, psychological, social and cultural needs of individuals and communities.
Maintain standards of personal and professional conduct (HCPC Guidance on Conduct and Ethics for Students 2012), practise in a non-discriminatory manner showing awareness of the impact of culture, equality and diversity on practice.
Identify challenges to health that relate to specific client groups and show an understanding of how physiotherapists can promote health and physical activity in these client groups.
Demonstrate an understanding of global perspectives and cross-cultural capability in order to be able to perform, professionally and socially, in a multicultural environment.
Critically evaluate the opportunities and dilemmas that arise from working with patients in a variety of settings and the implications of a socially diverse society.
11 SUSTAINABLE CITIES AND COMMUNITIES
Demonstrate an understanding of the need for and use of outcome measures and evidence based practice with specific client groups.
Demonstrate an understanding of the principles of rehabilitation for people with cardio respiratory problems associated with critical illness and long term conditions.
Deliver safe, effective and appropriate assessment and treatment techniques.
Apply a service improvement approach to an event / situation.
Reflect on the management of a person with a long-term condition by clinically reasoning and critically appraising chosen interventions.
Demonstrate skills in organising, delivering, managing and monitoring an exercise programme in healthy populations (e.g. to strengthen, stretch, improve balance, and cardiovascular fitness).
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Recognise the need to manage their own workload and resources effectively and be able to practise accordingly.
Be able to establish safe environments for practice, which minimise risks to service users, those treating them and others, including the use of hazard control and particularly infection control.
Manage own workload and resources and prioritise effectively, actively participate in CPD activities and take responsibility for the effective use of a portfolio.
Analyse the challenges experienced as a professional and the skills required in facilitating a collaborative approach to improving the service and experience for patients and public (service users and carers).
Explore professional, legal and ethical issues/ dilemmas in Physiotherapy practice.
Demonstrate an ability to ensure personal, peer and service user safety when instructing physical activities.
13 CLIMATE ACTION
Not directly addressed in programme learning outcomes.
14 LIFE BELOW WATER
Not directly addressed in programme learning outcomes.
15 LIFE ON LAND
Not directly addressed in programme learning outcomes.
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Be able to initiate resolution of problems and be able to exercise personal initiative
Conduct a piece of research which reflects critical understanding of research processes and issues, for example ethics, reliability, validity and in the context of the physical therapies
Explore a range of service improvement frameworks
Explore professional, legal and ethical issues/ dilemmas in Physiotherapy practice
Recognise the limits of Physiotherapy practice and identify when it is appropriate to involve and liaise with other professions
Recognise that they are personally responsible for and must be able to justify their decisions
17 PARTNERSHIPS FOR THE GOALS
Know the limits of their practice and when to seek advice or refer to another professional
Know about current legislation applicable to the work of their profession
Be able to exercise a professional duty of care
be able to work, where appropriate, in partnership with service users, other professionals, support staff and others
Understand the need to build and sustain professional relationships as both an independent practitioner and collaboratively as a member of a multi-disciplinary team
Demonstrate a developing awareness of equality, diversity, ethical, professional and legal issues related to physiotherapy practice.
Identify challenges to health that relate to specific client groups and show an understanding of how physiotherapists can promote health and physical activity in these client groups
Comply with all organisational policies and practise within the legal and ethical boundaries of the profession and work within the limits of own practice and seek advice or refer to other professional/ agencies where appropriate.
Analyse the challenges experienced as a professional and the skills required in facilitating a collaborative approach to improving the service and experience for patients and public (service users and carers)
Critically appraise the role of the physiotherapist and multi - disciplinary team in chronic pain management and other complex neuro-musculoskeletal conditions.
Evaluate the contribution of other professionals, outside agencies, patients and public (service users and carers) to specific situations

1 NO POVERTY
Not currently addressed within programme.
2 ZERO HUNGER
Not currently addressed within programme.
MSc Nuclear Medicine
SDG issues covered in the programme | Place in the programme
3 GOOD HEALTH AND WELL-BEING
The need to engage and enhance the feeling of community within the cohort.
Partnerships with clinical practice have enhanced the communal learning experience on line.
4 QUALITY EDUCATION
Maintaining a sustainable programme using innovative approaches to teaching delivery.
Widening access ability to nuclear medicine education.
Distance based e-learning, flexible and student-centred.
5 GENDER EQUALITY
The need to maintain gender diversity.
Selection of students is not based on gender. Application forms are assessed on content and applicant merit.
6 CLEAN WATER AND SANITATION
Not currently addressed within programme.
7 AFFORDABLE AND CLEAN ENERGY
Not currently addressed within programme.
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
The need to income generate via CPD.
The promotion and delivery of CPD activities and modules including doorstep delivery, on-line and blended learning, partnership delivery.
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
The need to explore private providers in healthcare.
The use of private providers and independent sectors for practice placements.
10 REDUCED INEQUALITIES
The need to promote a value based recruitment strategy.
Exploration of the international market.
Engage in selection events, ambitions events
Flexible approach to applications. Bespoke learning packages.
11 SUSTAINABLE CITIES AND COMMUNITIES
Reduce the impact within the local environment of travelling to the university.
Continued development of on-line delivery and self-directed enquiry learning.
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
The need to reduce the paper trail and go paper-lite.
e-portfolios, on-line information on Blackboard learning environment.
13 CLIMATE ACTION
The need to reduce the carbon footprint
Students do not need to travel to attend the university.
14 LIFE BELOW WATER
Not currently addressed within programme.
15 LIFE ON LAND
Not currently addressed within programme.
16 PEACE AND JUSTICE STRONG INSTITUTIONS
The need to prevent people from being drawn into terrorism. https://intranet.uwe.ac.uk/whats-happening/sites/prevent-duty
Ensure professional standards are met and signposting to the support available. Ensure the safeguarding policy is followed at all times.
17 PARTNERSHIPS FOR THE GOALS
Not currently addressed within programme.

Health and Applied Sciences

Nursing and Midwifery

The midwifery programme was the first to be mapped as part of this project. The original programme map is presented below. However, the nursing and midwifery curricula have undergone significant change and SDG mapping informed this review particularly in relation to pathways for care and simulation and skills activities. The discipline level map is also presented below. Programme specific maps are now in development.

Further activity was undertaken to identify specific topics and outcomes linked to the SDGs which could be part of the new midwifery and nursing curriculum. Examples are:

Topic	**Aim**
Introduction to concepts of health	To introduce student nurses and midwives to various concepts of health and encourage students to reflect on how these relate to sustainability
Social determinants of Health & Sustainability	Introduction to work on Social Determinants of Health, including the work by the WHO and the associated Rio Political Declaration on Social Determinants of Health
Ecological public health: what does it mean for nurses?	The challenge for the twenty-first century is crafting an ecological public health in a way that acknowledges humans as part of the ecosystem (includes principles of ecological public health and the concept of planetary health).
Global health introduction: link with nursing practice	Introduction to global health and example global health challenges with links to nursing practice (e.g. brain drain, privatization, spread of infectious diseases, obesity)
Social determinants of health: Sustainability and personal health care	Discuss personal health and the social determinants of health within the context of sustainable development.
Social determinants of health: Sustainability and developing the professional role.	Students discuss current issues of sustainability in the context of their role as professional nurses. Central to this is the combination of sustainable development and an understanding of the professional's roles.
Social determinants of health: Promoting and restoring health.	Establish the link between people's health and the preservation of the environment. Reflect that nurses can only promote and restore health if sustainability is also a central topic within nursing.
The relevance of sustainability and climate change to nursing and healthcare	To introduce student nurses and midwives to the concept of sustainability in health and the relevance of sustainability to clinical practice

Topic	**Aim**
Simple guide to health & sustainability	To provide a guide to basic sustainability, sustainable development and health concepts and links to key resources
Healthcare through the lens of sustainability	To introduce students to an approach that views health through a sustainability lens by considering own health, wellbeing and behaviour
The state of the earth: great acceleration, planetary boundaries, and the Anthropocene	To facilitate students' understanding that global environmental changes endanger human health through destabilizing the ecological and social systems that provide core human needs; explain the key sustainability concepts relating to immense human impact on our global environment (great acceleration, Anthropocene, planetary boundaries)
Climate change: what nurses need to know?	To introduce nurse students to the basics of climate change
Ecosystem services and health	To understand the potential impact of climate change on ecosystems and the healthcare provision
Biodiversity loss and health: Physical and mental effects	To understand the potential impact and effects of the loss of biodiversity on the physical and mental welfare To introduce students to the various ways in which our health depends on biodiversity
Sustaining the global environment – the limited global resources used in nursing care.	To understand the potential environmental impact of everyday items with long supply chains used in healthcare provision
Impact of health care on climate change	To understand the health sector's contribution to climate change (e.g. what health care activities contribute to the carbon footprint of providing health care) and to explore the actions nurses can take in order to reduce emissions.
Sustaining the global environment – the use and overuse of natural materials in healthcare.	How climate change and natural resource scarcity may impact on healthcare item availability

Topic	**Aim**
Sustaining the global environment - orientating nursing practice to quality criteria, legal frameworks and economic and environmental principles.	Professional care is geared towards quality criteria, professional laws and codes, ethical codes and principles, as well as economic and ecological principles. Demonstrate that through this integrative approach, nursing and sustainability
Sustaining the global environment – dealing economically and ecologically with material resources	Demonstrate that the ecologically and responsible handling of resources can also correspond to economic principles.
Sustaining the global environment: responsibility for developments in the health system in terms of effectiveness and efficiency	In the light of shortages of resources, developments within the health care system must be examined in the future for their efficiency and effectiveness, in order to meet the criteria of sustainable development. The goal is to make students familiar with these processes.
Sustaining the global environment –strategies to minimize clinical waste in healthcare.	To gain confidence in appropriate challenges to wasteful practice at ward level and have the ability to demonstrate resilience in assessing and planning the organization of care (in view of sustainability)
Sustaining the global environment – sustainable waste management including toxic waste.	To develop waste conscious nurses who understands global approaches to the management
Sustaining the global environment – link to infection prevention issues.	To apply evidence of infection prevention and waste management effectively and to resolve potential conflicts related to both
Sustaining the global environment – use of gloves and link to infection prevention issues.	To understand how infection prevention policies can be affected by the culture within an ward or hospital and to create new cultures based on evidence
Climate change challenges for emergency services.	To learn how climate change will affect emergency health care delivery
Sustainable resource management, including energy efficiency, reducing carbon emissions.	To be aware of current practice which mitigates healthcare impact on the environment and to calculate individual carbon impact

Topic	Aim
Sustainable procurement in healthcare.	Ability to demonstrate resilience in assessing and planning the organization of care (in view of sustainability) and ability to communicate the evidence base; explain the different types of environmental impacts resulting from healthcare provision
Sustainability considerations in daily nursing practice.	To understand and be able to communicate the different types of environmental impacts resulting from healthcare provision
Sustaining a stable ecological environment – waste reduction, waste disposal, resource ethics	Be aware of the relationship between hand hygiene, the use of gloves and sustainability
Sustaining a stable ecological environment	Highlight the different effects of lifestyles on subsequent generations and present future perspectives for sustainable lifestyles Discuss the impact of our diet, mobility and consumer behaviour on the environment and be aware of ethically responsible decisions
Sustainability and nursing – nutrition in hospitals.	Discuss the impacts of climate change on the environment and agriculture Understand sustainable development in relation to nutrition Demonstrate possibilities and concepts for sustainable nourishment in nursing and health organisations
Healthy ecosystems healthy people: local connections.	To explore the various (health-related) benefits that humans obtain from healthy ecosystem services Use cases from literature, for example look at references in link
Air quality and health impacts.	To discuss the health-related impacts of poor air quality.
Children's health and environment.	To analyse the connections between child health and different environmental factors
Environmental health: what are environmental health problems	To introduce students to the concept of environmental health and the relevance of environmental health to nursing; to enhance understanding of the relationship between environmental conditions and health (including examples) and the importance of incorporating environmental health consideration into nursing

Topic	Aim
Climate impacts on health, including climate resilient health systems	To understand the health impacts of climate change, the framing of climate change as a public health issue and the need for climate resilient health systems
Climate change, population migration and emerging and re-emerging of infectious diseases	Students are informed of the impact of climate change and the related population migration on the emergence and re-emergence of certain infectious diseases e.g., TB, measles, diphtheria, etc.
Our Climate our Health	Climate change and Health: Student will be able to transmit the basics on climate change, demonstrate the effects of climate change on the health of people of all ages, present health promotion and disease prevention strategies for dealing with diseases caused by climate change, explain preventive measures against diseases caused by climate change The goal is to motivate students to work towards sustainability in their professional and private lives
E-Coli outbreak and links to climate change	To use a case study based on changing weather patterns and waterborne bacteria to explore issues for public health and resource management
Climate change and infectious diseases	To provide an introductory overview of changing patterns of infectious disease due to climate change
Environmental impacts on health	To explore the mechanisms by which human health is affected by global events and environmental change
Mental Health Impacts of a changing climate	To highlight the potential mental health impacts of climate change

Geraldine Lucas ***Senior Lecturer in Midwifery***

1 NO POVERTY
• Ensuring access to midwife services & care by the poor
• Models of healthcare toward a more flexible & integrated maternity service
– Holistic assessment of needs: emotional, physical, spiritual, social
2 ZERO HUNGER
• Nutrition for pregnant & lactating women
• Breastfeeding
• Effect of modern agricultural practices on maternal & newborn health
– Government schemes
– Responsive feeding local, seasonal & organic food
– Environmental toxins
Midwifery at UWE Bristol and the Sustainable Development Goals
• Issues to be tackled
– Taught in the Midwifery Programme
UWE Bristol University of the West of England
3 GOOD HEALTH AND WELL-BEING
• Wellbeing
• Mental Health
• Neonatal & maternal health
• Preventable disease
– Maternity & Paternity leave
– Continuity of care
– Natural Birth
– HIV & Hepatitis in mothers
4 QUALITY EDUCATION
• Training of midwives
• Models of education
• Education of families
• Technology & healthcare
– Evidence based practice
– Interdisciplinary
– Enquiry-based learning
– Case based education
– Digital literacy standards
5 GENDER EQUALITY
• Migration
• Understanding the role of women in different cultures
• Respecting individuals
– Models of care/delivery of care
– Individual care plans for women
– Learning from service users and carers
– Digital literacy standards
– FGM - female genital mutilation (not genetic)
– Promoting advocacy
– Reflection on Practice
6 CLEAN WATER AND SANITATION
• Breastfeeding
• Preventable disease
• Role of freshwater in lives of women
– Hygiene
– Vaccinations
– Eco Parenting
7 AFFORDABLE AND CLEAN ENERGY
• Low carbon midwifery practice
• Transportation within practice
• Energy availability for families
– Use of gases in theatre/surgery
– Eco Parenting
– Natural Birth
8 DECENT WORK AND ECONOMIC GROWTH
• Funding for healthcare
• Joined up healthcare system
• Interagency working
• Health implications of unemployment
• Inclusion of midwife care in Aid for Trade Initiatives
– Efficiency in midwife practice
– Differences between consideration of social demographic group
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
• Healthcare infrastructure
• Scientific research for healthcare
• Use of digital technology
– Overseas Working & Learning experience opportunities
– Communication, transport and healthcare e.g. telemedicine/ telehealth
10 REDUCED INEQUALITIES
• Vulnerable women
• Disability
• Midwifery care for migrants
– Prison & Traveling community contexts
– Learning & physical disability
– International perspectives
– Reflection on Practice
– Working with vulnerable
11 SUSTAINABLE CITIES AND COMMUNITIES
• Access to healthcare facilities
• Models of healthcare
– Social, medical & biomedical considerations in urban and rural contexts
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
• Sustainability healthcare practice
• Living in harmony with nature
• Procurement of healthcare equipment
– Nappies
– Use of Medical Equipment
– Eco-parenting
13 CLIMATE ACTION
• Resistance
• Transport
• Emergency midwife care in disaster-stricken area
– Health as a core component of human resilience
– Clients to professional and vice versa
14 LIFE BELOW WATER
• Waste reduction
• Healthcare links to marine environments
– Awareness of waste minimisation & waste disposal
– Waste Minimisation in clinical training
– Eco-parenting
– NHS Sustainable development Strategy
– Reflection on Practice
15 LIFE ON LAND
• Waste reduction
• Green Space and health
• Healthcare links to terrestrial environments
– Mental wellbeing
– Reflection on Practice
– Eco-parenting
16 PEACE AND JUSTICE STRONG INSTITUTIONS
• Holistic assessment
• Community Care
• Healthcare systems
– Family centred care
– Community Care
– Respecting individuals
– Reflection on Practice
– Small group care
17 PARTNERSHIPS FOR THE GOALS
• National health policy
• International health partnerships
• Public/private healthcare provision
– Responsive endorsement of sustainability
– Global learning
– International perspectives
– NHS manager shadowing

1 NO POVERTY
Facilitate students' understanding that global environmental changes endanger human health through destabilizing the ecological and social systems that provide core human needs.
2 ZERO HUNGER
Appreciate the concepts of food scarcity and food security and to recognise the challenges for long-term food supplies in a changing climate.
Be aware of the impacts of climate change on the environment and agriculture.
Understand sustainable development in relation to nutrition.
Explore the evidence and case studies of gardening for health.
Nursing and Midwifery
This map identifies select teaching and learning objectives which align both to the SDGs and to UWE's Future Nurse and Midwifery curriculum. They are informed by the NurSus toolkit developed by the University of Plymouth and World Health Organisation publications linking healthcare and sustainable development.
An ambition of UWE's Nursing and Midwifery programmes is to introduce students to an approach that views health through a sustainability lens by considering the students' own health, wellbeing and behaviour and to introduce student nurses and midwives to the concept of sustainability in health and the relevance of sustainability to clinical practice. The goal is to motivate students to work towards sustainability in their professional and private lives.
3 GOOD HEALTH AND WELL-BEING
Have the ability to consider multiple interventions and choose and substantiate these in relation to sustainability and the personal health of the individual.
Understand the value of outdoor spaces in the management of mental illness.
Analyse the connections between child health and different environmental factors.
Discuss the health-related impacts of poor air quality.
4 QUALITY EDUCATION
Introduce the concept of environmental health and the relevance of environmental health to nursing to enhance understanding of the relationship between environmental conditions and health (including examples) and the importance of this to nursing.
Understand and be able to communicate the different types of environmental impacts resulting from healthcare provision.
Gain confidence in making appropriate challenges to wasteful practice at ward level and have the ability to demonstrate resilience in assessing and planning the organization of care (in view of sustainability).
5 GENDER EQUALITY
Introduce student nurses and midwives to the concept of health inequalities and environmental justice.
Introduction to work on Social Determinants of Health, including the work by the WHO and the associated Rio Political Declaration on Social Determinants of Health.
6 CLEAN WATER AND SANITATION
Use a case study based on changing weather patterns and waterborne bacteria to explore issues for public health and resource management.
Be aware of the relationship between hand hygiene, the use of gloves and sustainability.
7 AFFORDABLE AND CLEAN ENERGY
Introduce student nurses and midwives to the concept of fuel poverty.
Be aware of current practice which mitigates healthcare impact on the environment and be able to calculate individual carbon impact.
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Explore the use of 'High Street' opportunities to promote health and wellbeing.
Explore the use of mindfulness and reflection to sustain health and wellbeing and build professional resilience.
Establish the link between people's health and the preservation of the environment. Reflect that nurses can only promote and restore health if sustainability is also a central topic within nursing.
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Introduce students to new and traditional approaches of public health surveillance
Consider the role of the arts in resilience and sustainability for the benefit of health and wellbeing.
Understand the health sector's contribution to climate change (e.g. what health care activities contribute to the carbon footprint of providing health care) and to explore the actions nurses can take in order to reduce emissions.
10 REDUCED INEQUALITIES
Introduce the concepts of health inequalities and environmental justice.
Introduce the social determinants of health in relation to the disparity between those most responsible and those most affected by environmental change, including the work by the WHO and the associated Rio Political Declaration on Social Determinants of Health.
11 SUSTAINABLE CITIES AND COMMUNITIES
Explore how space and buildings can promote sustainability and wellbeing.
Explore the health and wellbeing benefits of resilient communities.
Identify and be able to communicate the health co-benefits of a sustainable transport policy
Create an evidence-based treatment care pathway which includes the use of outdoor spaces to treat both exacerbations of mental health conditions and maintain wellbeing.
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Make links between living sustainably and potential benefits to health and wellbeing.
Discuss the impact of diet, mobility and consumer behaviour on the environment and be aware of ethically responsible decisions.
In the light of shortages of resources, developments within the health care system must be examined in the future for their efficiency and effectiveness, in order to meet the criteria of sustainable development. The goal is to make students familiar with these processes.
Understand the potential environmental impact of everyday items with long supply chains used in healthcare provision.
13 CLIMATE ACTION
Introduce student nurses and midwives to the concept of climate change and the links between climate change and sustainability.
Be able to transmit the basics on climate change, demonstrate the effects of climate change on the health of people of all ages, present health promotion and disease prevention strategies for dealing with diseases caused by climate change, explain preventive measures against diseases caused by climate change.
14 LIFE BELOW WATER
Understand the links between mindful awareness in blue and green spaces and how these might affect mental health.
Explore the various (health-related) benefits that humans obtain from healthy ecosystem services
Explore the mechanisms by which human health is affected by environmental change.
15 LIFE ON LAND
Explore the role of the health professionals in environmental sustainability.
Understand the links between mindful awareness in blue and green spaces and how these might affect mental health.
Explore the various (health-related) benefits that humans obtain from healthy ecosystem services
Understand the potential impact and effects of the loss of biodiversity on the physical and mental welfare.
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Understand the health impacts of climate change, the framing of climate change as a public health issue and the need for climate resilient health systems.
Demonstrate possibilities and concepts for sustainable nourishment in nursing and health organisations.
Introduce global health and examples of global health challenges linked to nursing practice.
17 PARTNERSHIPS FOR THE GOALS
Understand how infection prevention policies can be affected by the culture within an ward or hospital and to create new cultures based on evidence.
Develop nurses who understand global approaches to healthcare management
Demonstrate an integrative approach to nursing and sustainability such that professional care is geared towards quality criteria, professional laws and codes, ethical codes and principles, as well as economic and ecological principles.

Health and Applied Sciences

Health and Social Sciences

SDG mapping in the social sciences progressed during 2019-20, with BA Sociology, BA Criminology and BA Politics and International Relations mappings completed. BA Philosophy was engaged in a resource-intensive curriculum review and as such the SDG mapping process was not realistically possible. In all cases, Jon Mulholland (KESE Rep for social sciences) contacted the AHoD and Programme Leader for the respective fields and liaised to establish a date, a mapping method and a staff engagement and communication strategy. Securing buy-in from AHoDs and Programme Leaders proved an important part of the process, as messaging the value of the mapping exercise to the team became a shared endeavour, establishing a sense of team ownership and responsibility. In each case it was agreed that the KESE rep would attend a scheduled team meeting to explain the purpose, nature, implications and benefits of undertaking a programme mapping exercise. Staff were able to ask questions, to discuss, to form a working consensus, and establish a team-wide buy-in.

In each case a number of vocal advocates emerged from within the respective teams, and it appeared that their positivity brought others into an emerging consensus. At this preliminary meeting it was possible to establish an agreed future date for a 'one-stop-shop', whole-team mapping event, to take place in one hour of a two-hour forthcoming team meeting. It was agreed that Jon Mulholland (as KESE Rep) would forward all relevant documents and guidance to the team well in advance, to enable staff to reflect on their own modules' relationship to the SDGs. It was clear that many, in fact most, staff had only a modest awareness of the SDGs, reflected in a range of queries before the scheduled event. This opportunity for module leaders to consider the mapping exercise, and specifically the application of the SDGs to their respective modules proved important to the efficiency and effectiveness of the mapping event itself. With this prior preparation, staff were able to resolve uncertainties, come to the event practically prepared, and to further enhance their appreciation of the value of the SDG mapping exercise.

For many staff, it came as a surprise to appreciate how comprehensive the SDGs were, and how applicable the various goals were to the content of the programme's modules. Staff had entered the process with some anxiety about their programme's lack of fit with the SDGs, perceiving the goals in a narrow 'environmentalist' frame. On becoming aware of the extent and range of societal development goals built into the SDGs, the team appeared to feel positively about the SDGs themselves, the mapping exercise, and their own programme's 'performance'. There was a clear and evident fear amongst some teams that the programme would be seen as 'failing' against the SDGs and against other programmes in the Faculty. There were anxieties about whether, and by how much, to 'massage' the reality of the programme and its modules to meet a minimum 'respectable' level of engagement. One could think of this as an 'anxiety of completion'. Staff appeared concerned about what judgement might come from 'gaps' in a programme's coverage of the SDGs. There were concerns that a programme might be demonstrated as 'lagging behind' by the mapping exercise, and that the team themselves might be exposed more broadly as insufficiently abreast of, or committed to, the sustainability agenda.

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Each mapping event was preceded by an email reminder to ensure prior preparation, and the best possible attendance on the day. It was important to gather as much information as possible at the event, in the interests of completeness, and to minimise the need to pursue staff for after-the-event 'catch-up' information. As a result of the prior preparation, and the excellent staff attendance and engagement, all the events were highly effective in harnessing staff knowledge and expertise. The synchronicity of the event allowed staff to discuss and problem-solve together to their mutual benefit, and to the benefit of the mapping quality. By pairing staff in the event, colleagues were able to work together in supporting one another's module level mapping. Staff concluded that the process had been enlightening, and especially that the mapping had enabled them to establish a new level of understanding and appreciation of their own programme's and module's structure, content and purpose. Having a whole-team event helped in ensuring that the mapping exercise was not, and was not seen as, a box-ticking exercise. One important outcome of the whole-team event format was that it served as a platform for a collective programme evaluation and triggered discussions about future opportunities for new sustainable development-related curricula development.

Still to be mapped:

- BA(Hons) Philosophy
- BSc(Hons) Psychology

Jon Mullholland Associate Professor in Sociology

Meetings were held in 2020 with Programme Leaders (PLs) from Social Work, Music Therapy, Specialist Community Public Health Nursing, Environmental Health, Public Health and Psychology) and all programme teams were working to a June 2020 deadline for completing an SDG map for their respective programme. For Public Health, their task was to revise their original map from 2016. All PLs were positive about the task, and see it as a good opportunity to reflect upon, and improve, programme content. Environmental Health were able to complete their first map. However, other teams were not able to finalise their maps amidst COVID-19 disruptions. These maps will be progressed in Phase 2 of the mapping initiative.

Emma Bird Senior Lecturer in Public Health

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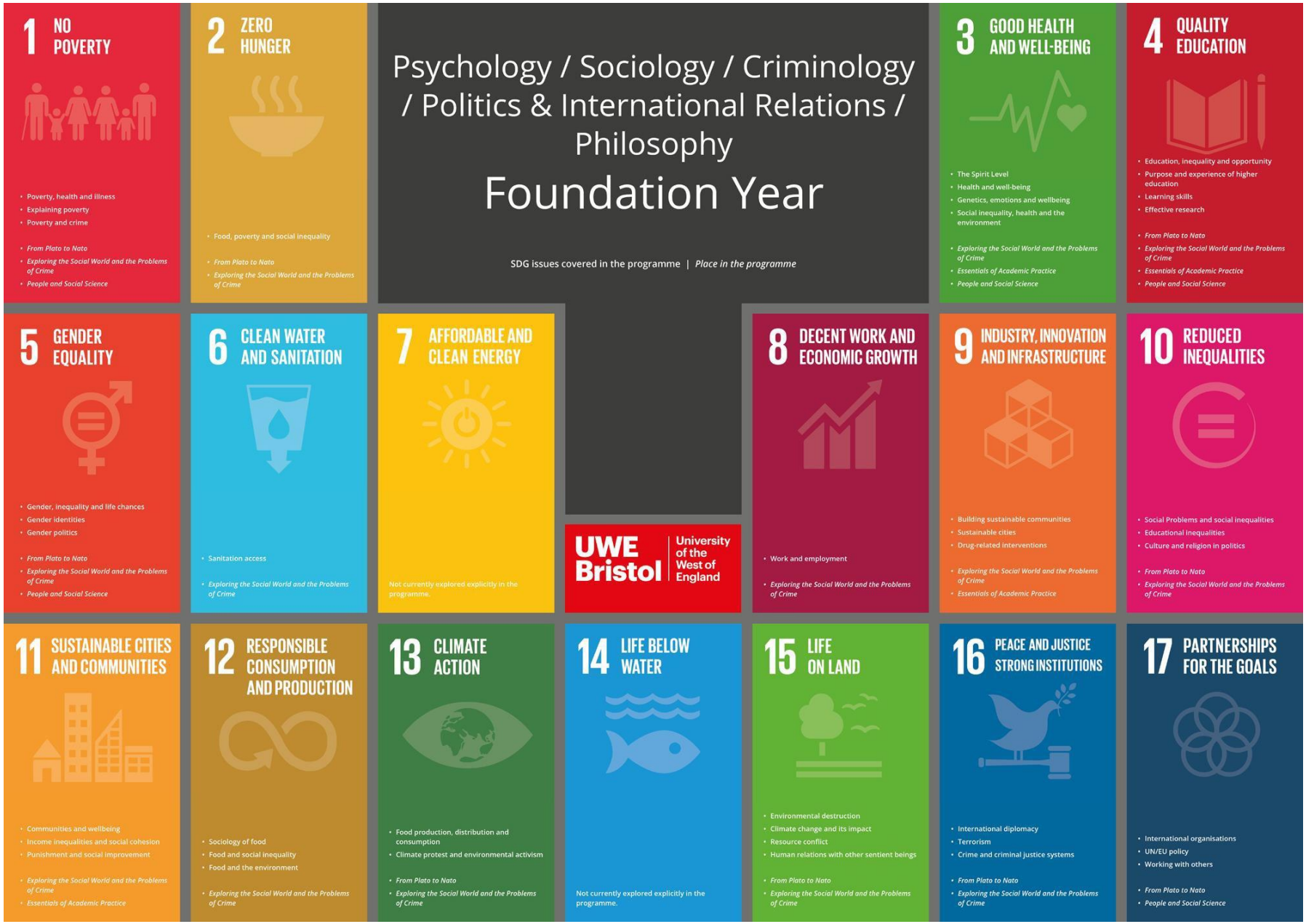
1 NO POVERTY
• Poverty, health and illness
• Explaining poverty
• Poverty and crime
• From Plato to Nato
• Exploring the Social World and the Problems of Crime
• People and Social Science
2 ZERO HUNGER
• Food, poverty and social inequality
• From Plato to Nato
• Exploring the Social World and the Problems of Crime
Psychology / Sociology / Criminology / Politics & International Relations / Philosophy
Foundation Year
SDG issues covered in the programme | Place in the programme
3 GOOD HEALTH AND WELL-BEING
• The Spirit Level
• Health and well-being
• Genetics, emotions and wellbeing
• Social inequality, health and the environment
• Exploring the Social World and the Problems of Crime
• Essentials of Academic Practice
• People and Social Science
4 QUALITY EDUCATION
• Education, inequality and opportunity
• Purpose and experience of higher education
• Learning skills
• Effective research
• From Plato to Nato
• Exploring the Social World and the Problems of Crime
• Essentials of Academic Practice
• People and Social Science
5 GENDER EQUALITY
• Gender, inequality and life chances
• Gender identities
• Gender politics
• From Plato to Nato
• Exploring the Social World and the Problems of Crime
• People and Social Science
6 CLEAN WATER AND SANITATION
• Sanitation access
• Exploring the Social World and the Problems of Crime
7 AFFORDABLE AND CLEAN ENERGY
Not currently explored explicitly in the programme.
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
• Work and employment
• Exploring the Social World and the Problems of Crime
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
• Building sustainable communities
• Sustainable cities
• Drug-related interventions
• Exploring the Social World and the Problems of Crime
• Essentials of Academic Practice
10 REDUCED INEQUALITIES
• Social Problems and social inequalities
• Educational Inequalities
• Culture and religion in politics
• From Plato to Nato
• Exploring the Social World and the Problems of Crime
11 SUSTAINABLE CITIES AND COMMUNITIES
• Communities and wellbeing
• Income inequalities and social cohesion
• Punishment and social improvement
• Exploring the Social World and the Problems of Crime
• Essentials of Academic Practice
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
• Sociology of food
• Food and social inequality
• Food and the environment
• Exploring the Social World and the Problems of Crime
13 CLIMATE ACTION
• Food production, distribution and consumption
• Climate protest and environmental activism
• From Plato to Nato
• Exploring the Social World and the Problems of Crime
14 LIFE BELOW WATER
Not currently explored explicitly in the programme.
15 LIFE ON LAND
• Environmental destruction
• Climate change and its impact
• Resource conflict
• Human relations with other sentient beings
• From Plato to Nato
• Exploring the Social World and the Problems of Crime
16 PEACE AND JUSTICE STRONG INSTITUTIONS
• International diplomacy
• Terrorism
• Crime and criminal justice systems
• From Plato to Nato
• Exploring the Social World and the Problems of Crime
17 PARTNERSHIPS FOR THE GOALS
• International organisations
• UN/EU policy
• Working with others
• From Plato to Nato
• People and Social Science

1 NO POVERTY
Measuring and evaluating poverty
Poverty reduction: intra, and inter-state
Right to development
Critical and Marxist theories on poverty
Poverty, migration and global care chains
International Relations
International Development
Global Political Economy
Gender and Global Politics
Perspectives on Global Migration
2 ZERO HUNGER
Colonialism, famine and food security
Discourses and representations of famine
Hunger-related social movements
Climate Change, agriculture and food
Hunger and migration flows
Politics, States and Resistance
Identity, Agency and Violence in South Asia
Climate Politics
Perspectives on Global Migration
BA (Hons) Politics & International Relations
SDG issues covered in the programme | Place in the programme
3 GOOD HEALTH AND WELL-BEING
Climate change as a health risk
Health, human rights and diversity
Reproductive and sexual rights
US investments in African and Asian poverty and health
Justice, trauma, rehabilitation
Emotional Labour and mental health
US Foreign Policy
Human Rights and the International Order
Climate Politics
Gender and Global Politics
Crimes and Criminality in World Politics
Politics at Work
4 QUALITY EDUCATION
History, memory, revisionism, trauma
International trials as educative instruments
Girl's education in the global South
Climate science and climate scepticism
Religious education in schools
Academic skills development and assessment
From Terror to Trauma
International Relations
Nature and Use of Research
Human Rights and the International Order
Religion and Politics
5 GENDER EQUALITY
Feminist perspectives
Women's and LGBT rights
Violence and Masculinity
Rape as a weapon of war
Gender and sexuality-based atrocities
Theories of Politics
Violence and the International Order
Human Rights and the International Order
Identity, Agency and Violence in South Asia
Crimes and Criminality in World Politics
Gender and Global Politics
6 CLEAN WATER AND SANITATION
Right to water
Urbanisation and the environment
Externalities of Growth
Human security
Environmental/green movements
International Relations
Politics, States and Resistance
International Development
Human Rights and the International Order
Climate Politics
7 AFFORDABLE AND CLEAN ENERGY
Climate change and sustainable energy
Transport and energy
Geo-politics, energy security and resource wars
Carbon literacy
The politics of fracking
Climate Politics
International Relations
US Foreign Policy
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Growth and its ecological impact
Global political economy
Neo-liberalism, austerity and precarity
Regimes of growth
Development and the developmental state
Feminisation of labour market
Global Political Economy
Critical Thinking and Political Theory
International Development
Politics at Work
Climate Politics
Gender and Global Politics
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Research training as a transferable skill
Industrial Policy
The developmental state
Dependency theory
Military-industrial complex
Politics and economics for sustainable development
Nature and Use of Research
International Development
US Foreign Policy
Global Political Economy
Climate Politics
10 REDUCED INEQUALITIES
Forms, causes and consequences of inequality within and between countries
Governance, policy, development and inequality
Climate change and inequality
Post-colonial critiques of global inequality
Hierarchies at the workplace
One world perspective
Politics at Work
Global Governance
Identity, Agency and Violence in South Asia
Global Political Economy
International Relations
Climate Politics
11 SUSTAINABLE CITIES AND COMMUNITIES
Environmental rights and the rights of nature
Ecological Justice
Urban violence
Urban exclusion in the global south
Climate migration
Nation-building and US counter-insurgency policies in the Middle East
International Development
Perspectives on Global Migration
Human Rights and the International Order
US Foreign Policy
Critical Thinking and Political Theory
Identity, Agency and Violence in South Asia
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Critical perspectives on consumption
Climate change and consumption
Consumption and the ecological debt
The citizen-consumer
Culture and development
Fair Trade
Politics at Work
Gender and Global Politics
Critical Thinking and Political Theory
Theories of Politics and IR
13 CLIMATE ACTION
The nature, causes, impact of, and responses to, climate change
Global and regional climate awareness and action
The role of climate NGOs
Political impact of US presidential climate denial
Development and climate change
Climate migration
International Development
International Relations
Perspectives on Global Migration
US Foreign Policy
Politics of Crisis and Change
Critical Thinking and Political Theory
14 LIFE BELOW WATER
Green movement for water quality
Environmental rights
Human Rights and the International Order
Politics, States and Resistance
15 LIFE ON LAND
Climate migration, refugeeism and conflict
Green movement
State sovereignty and territorialism
Agriculture and environmental harm
Politics of Crisis and Change
Climate Politics
Perspectives on Global Migration
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Global governance, institutions and justice
State terror
Collective trauma, justice and truth commissions
UN-US Diplomacy
UNSCR 1325 – Women, peace and security
Conflicts and peace agreements in the South Asian context
Identity, Agency and Violence in South Asia
From Terror to Trauma
Critical Thinking and Political Theory
US Foreign Policy
International Development
Gender and Global Politics
Crimes and Criminality in World Politics
17 PARTNERSHIPS FOR THE GOALS
International relations theories
International diplomacy and cooperation
Collaborative research
Employability workshops with NGOs
Role play as a technique for learning partnership working
Climate Action – Kyoto Protocol, Paris Agreement
Development, Aid, Fair Trade
Critical Thinking and Political Theory
Perspectives on Global Migration
Global Governance
Global Political Economy
Human Rights and the International Order

1 NO POVERTY
Poverty, exploitation and crime
Diversity, poverty and Social Injustice
Poverty, migration, and crimmigration
Poverty and comparative (in)justice
Poverty as a driver of drugs production
Contemporary Perspectives in Criminology
Social Issues and Social Problems
Difference: Race, Ethnicity and Diversity in Contemporary Society
Illegal Drugs: Problems, Markets and Policy
International Crime and Criminology
2 ZERO HUNGER
Poverty and food inequality
Food banks
Social Issues and Social Problems
BA (Hons) Criminology
SDG issues covered in the programme | Place in the programme
3 GOOD HEALTH AND WELL-BEING
Health consequences of environmental crime
Crime victimisation
Abnormal and criminal psychologies
Terrorism and Fear of Crime
Harm reduction and Rehabilitation
Introduction to Criminal Justice
Illegal Drugs: Problems, Markets and Policy
Criminal Psychology
Terrorism
Victims and Victimology
Hate Crime: Offending, Victimisation and Policing
Risk and Risk Management
Green Criminology: Environment, Crime and Justice
4 QUALITY EDUCATION
Understanding and using research
Childhood (il)literacy and its impact
Structural inequalities and education
Human rights awareness
Student protest
Researching Crime and Society
Critical Thinking
Nature and Use of Research
Angels and Demons: Understanding and Managing Youth Offending
Punishment and Human Rights
Protest, Policing and Public Order
5 GENDER EQUALITY
Gendering of crime and the criminal justice system
Sex tourism and trafficking
Sex work
FGM, period poverty, gender-based hate crime
Feminist criminology
Gender exploitation and drugs
Introduction to Criminal Justice
Contemporary Perspectives in Criminology
International Crime and Criminology
Drugs, Crime and Society
Hate Crime: Offending, Victimisation and Policing
Gender, Sex and Social Control
6 CLEAN WATER AND SANITATION
Sustainable development, clean water and sanitation
Pollution and waste as a crime
Social Issues and Social Problems
Green Criminology: Environment, Crime and Justice
7 AFFORDABLE AND CLEAN ENERGY
Climate Change
Climate-related conflict
Social Issues and Social Problems
Green Criminology: Environment, Crime and Justice
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Economic growth and crime
Harassment in the workplace
Equalities legislation and enforcement
Developing transferable skills for the labour market
Contemporary Perspectives in Criminology
Criminology in Action: Engaging in the Real World
Difference: Race, Ethnicity and Diversity in Contemporary Society
International Crime and Criminology
Gender, Sex and Social Control
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Economic change and emergent criminal opportunities and vulnerabilities
Migration – flows, management and border control
Contemporary innovations in policing
Contemporary innovations and interventions in the field of hate crime
Contemporary innovations on drugs policy, strategy, and intervention
Contemporary Perspectives in Criminology
Contemporary Issues in Policing
International Crime and Criminology
Difference: Race, Ethnicity and Diversity in Contemporary Society
Illegal Drugs: Problems, Markets and Policy
10 REDUCED INEQUALITIES
Social inequality, crime and victimisation
Inequality and the cultural representation of crime
Unequal access to, and experiences of, criminal justice
Inequality and children in prison
Social inequalities as a cause of radicalisation
Social distribution of drugs harm
Introduction to Criminal Justice
Drugs, Crime and Society
Angels and Demons: Understanding and Managing Youth Offending
Prisons
Victims and Victimology
Gender, Sex and Social Control
11 SUSTAINABLE CITIES AND COMMUNITIES
Crime, space and place
Urban crime and the fear of crime
Community-level policing
Protest and public order
Safeguarding
Understanding Crime
Difference: Race, Ethnicity and Diversity in Contemporary Society
Contemporary Issues in Policing
Protest, Policing and Public Order
Risk and Risk Management
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Consumption and ecological harm
Markets – supply, demand and crime
Patterns and impacts of drug consumption
Responsibly produced media output
Pornography
Drugs, Crime and Society
Crime, Media and Culture
International Crime and Criminology
Illegal Drugs: Problems, Markets and Policy
Gender, Sex and Social Control
Green Criminology: Environment, Crime and Justice
13 CLIMATE ACTION
Climate protest
Climate change as a social problem
Environmental politics and law
Social Issues and Social Problems
Protest, Policing and Public Order
Green Criminology: Environment, Crime and Justice
14 LIFE BELOW WATER
Water pollution
Bio-diversity loss
Species harm
Social Issues and Social Problems
Green Criminology: Environment, Crime and Justice
15 LIFE ON LAND
Animal Rights
Bio-diversity loss
Critical perspectives on food production and consumption
Species harm
Social Issues and Social Problems
Green Criminology: Environment, Crime and Justice
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Understanding Justice
Comparative criminal justice
Policing and Prisons as criminal justice institutions
Discrimination in the criminal justice system
Restorative Justice
Hard to reach groups
Ecological Justice and ecocide
Introduction to Criminological Theory
Understanding Crime
Introduction to Criminal Justice
Angels and Demons
International Crime and Criminology
Punishment and Human Rights
Contemporary Issues in Policing
Prisons
Green Criminology: Environment, Crime and Justice
17 PARTNERSHIPS FOR THE GOALS
Social justice engagement
Community involvement
Policing international markets
Restorative Justice
Organising for risk management
Environmental legislation, regulation and crime prevention
Illegal Drugs: Problems, Markets and Policy
Criminal Psychology
Punishment and Human Rights
Victims and Victimology
Contemporary Issues in Policing
Risk and Risk Management
Green Criminology: Environment, Crime and Justice

1 NO POVERTY
Nature, causes and consequences of poverty
Child poverty
Diversity and poverty
Poverty, education and health
Student placements
Foundations in Social Theory
Social Issues and Social Problems
Critical Thinking
Developing Self and Society
Difference: Race, Ethnicity and Diversity in Contemporary Society
Childhood Disorder and Disordered Childhood
2 ZERO HUNGER
Families and eating practices
Food distancing and health
Food poverty – issues and policy
Food Banks
Climate change and food shortage
Social Issues and Social Problems
Sociological Practice
Love Intimacy and Personal Life
Sustainable Futures: Environment and Society in an Age of Crisis
BA (Hons) Sociology
SDG issues covered in the programme | Place in the programme
3 GOOD HEALTH AND WELL-BEING
Comparative cultural understandings of health and wellbeing
The social causation of health and illness
Public Health and wellbeing
Mental wellbeing
Sustainable development and health
Comparing Cultures
Social Issues and Social Problems
Theorising Social Life
Psychoanalysis, Society and the Irrational
Sustainable Futures: Environment and Society in an Age of Crisis
4 QUALITY EDUCATION
Education for human rights
Student movements
Evidence-based learning methods
Educational inequality
Educational field trip
Critical Thinking
Theorising Social Life
Nature and Use of Research
Childhood Disorder and Disordered Childhood
Policing, Protest and Public Order
5 GENDER EQUALITY
Gender and family policy
Comparative marriage and family practices
Violence Against Women and Girls
Feminist movements
Feminist methodologies
Social Issues and Social Problems
Comparing Cultures
Gender and Society
Theorising Social Life
Love, Intimacy and Family Life
Nature and Use of Research
6 CLEAN WATER AND SANITATION
Climate change and water supply
Resource Depletion
Agriculture, economy and unsustainable water extraction
Sustainable development, clean water and sanitation
Comparing Cultures
Social Issues and Social Problems
Sustainable Futures: Environment and Society in an Age of Crisis
7 AFFORDABLE AND CLEAN ENERGY
Climate change
Carbon energy
Peak oil
Renewable energy: policy, practice and politics
Risk
Social issues and social problems
Comparing cultures
Sustainable futures: environment and society in an age of crisis
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8 DECENT WORK AND ECONOMIC GROWTH
Class and classical social theory
Changing work and employment practices
Labour movements
Contemporary critiques of work and capitalist political economy
Growth, de-growth and sustainable development
Foundations in Social Theory
Critical Thinking
Theorising Social Life
Contemporary Critiques of Modern Society
Protest, Policing and Public Order
Sustainable Futures: Environment and Society in an Age of Crisis
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Digital innovation and transformation
Established and emerging cultural economies
Social Enterprise
Sustainable economies
Science and research
Developing Self and Society
Nature and Use of Research
Digital Media and Society
Stop, Look and Listen: A Sociology of Culture
Sustainable Futures: Environment and Society in an Age of Crisis
10 REDUCED INEQUALITIES
Nature, causes, consequences and critiques of inequality
Diversity and inequality
Inequality, education and health
Sustainable development and global inequality
Social Movements
Foundations in Social Theory
Theorising Social Life
Difference: Race, Ethnicity and Diversity in Contemporary Society
Gender and Society
Contemporary Critiques of Modern Society
Sustainable Futures: Environment and Society in an Age of Crisis
11 SUSTAINABLE CITIES AND COMMUNITIES
Multicultural, multi-racial and multi-faith family practices
Safeguarding indigenous communities
Diversity, segregation and the city
Environmental and sustainable urban planning
Comparing Cultures
Love, Intimacy and Family Life
Difference: Race, Ethnicity and Diversity in Contemporary Society
Sustainable Futures: Environment and Society in an Age of Crisis
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Environmentally-conscious consumption
Waste, recycling, upcycling
Critical political economy
Sustainable development in modern and non-modern societies
Comparing cultures
Contemporary critiques of modern society
Sustainable futures: environment and society in an age of crisis
13 CLIMATE ACTION
Global environmental governance
National climate change policy and practice
Climate protest
Climate change as a social problem
Social issues and social problems
Theorising social life
Protest, policing and public order
Sustainable futures: environment and society in an age of crisis
14 LIFE BELOW WATER
Ocean plastic waste
Water pollution
Bio-diversity loss
Social Issues and Social Problems
Sustainable Futures: Environment and Society in an Age of Crisis
15 LIFE ON LAND
Bio-diversity loss
Over-population
Critical perspectives on food production and consumption
Reproductive health
Animal rights
Comparing Cultures
Social Issues and Social Problems
Gender and Society
Sustainable Futures: Environment and Society in an Age of Crisis
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Environmental justice
Diversity, inequality and justice
Gender and sexual violence and harm
Policing, criminal justice and power
Family justice
Critical perspectives on justice
Gender and Society
Difference: Race, Ethnicity and Diversity in Contemporary Society
Transgression
Love, Intimacy and Family Life
Sustainable Futures: Environment and Society in an Age of Crisis
Protest, Policing and Public Order
Contemporary Critiques of Modern Society
17 PARTNERSHIPS FOR THE GOALS
Governance for sustainability
Public engagement and civic participation
Digital and visual communications and organisation
Student volunteering
Student placements
Sustainable Futures: Environment and Society in an Age of Crisis
Seeing and Society
Digital Media and Society
Developing Self and Society
Placement Module

1 NO POVERTY
Inequalities in health considered in relation to housing accommodation, work places, and access to healthy food. Approaches to delivering positive health messages and lifestyle changes are explored.
2 ZERO HUNGER
The Food Control module explores relationships with food. As part of professional skills, students deliver a presentation related to 'food waste.'
Environmental Health (On-Campus and Distance Learning Programmes)
SDG issues covered in the programme
3 GOOD HEALTH AND WELL-BEING
This is threaded through all module learning outcomes and forms an underlying principle of Environmental Health as a discipline. There is a thorough exploration of the environmental impacts on health.
4 QUALITY EDUCATION
Students are introduced to the concept of education being the first level of intervention for practitioners. Effective education of those responsible for causing poor health is preferable to regulatory sanctions. The Environmental Health Principles and Practice module examines the psychology of achieving the best educative outcome in the business environment.
5 GENDER EQUALITY
All health inequalities are explored, including those related to gender and the distribution of disease. The relevant regard that legally has to be made to gender in the workplace is a particular focus in the Health and Safety module.
6 CLEAN WATER AND SANITATION
An underlying principle of all environmental health practice referred to throughout the programme but particularly - the importance of good hygiene and communicable disease in the Food Control module, a supply of safe drinking water in the Health and Safety module and environmental contamination in the Environmental Protection module.
7 AFFORDABLE AND CLEAN ENERGY
Fuel poverty is explored in relation to domestic living accommodation in the Housing module: the sustainability of energy sources, air quality and global warming are key components of the Environmental Protection module.
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8 DECENT WORK AND ECONOMIC GROWTH
This is the main and essential content of the Health and Safety module. Legal compliance, workplace culture, mental health and the impact on economic productivity is explored in detail.
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
The safety and health impacts of industrial sectors are incorporated including the use of new technologies to reduce risk to health such as automation and computerisation.
10 REDUCED INEQUALITIES
An underpinning concept embedded in all programme modules and the raison d'être for environmental health practice.
11 SUSTAINABLE CITIES AND COMMUNITIES
Inequity of health is in urban communities is an important aspect of the Housing module including deprivation indices such as super output areas. The wider aspects of health in relation to living in particular communities are explored; including air, water and land contamination. Access to a source of healthy food is also approached in the Food Control module. This is an important aspect of Environmental Health Professional Practice, key skills to deliver sustainable outcomes are taught throughout the programme.
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
This is dealt with specifically in relation to the impact of air quality on health and generally throughout the programme related to food production and industrial processes that generate contaminated by-products.
13 CLIMATE ACTION
This is included in the Environmental Protection Module. An expert external lecturer delivers learning material related to the introduction of clean air zones.
14 LIFE BELOW WATER
The impact on health throughout the consumption of contaminated fish and shell-fish is an aspect of the Food Control module. Students need to be able to identify whether these are fit for human consumption. Water contamination including private water supplies is a learning outcome for the Environmental Protection module.
15 LIFE ON LAND
All aspects of environmental contamination, impact on health and ultimately life are covered in the programme, specifically air, land and water. This is an underlying principle of environmental health practice.
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Students are taught the English legal system that relates to enforcement of food control, health and safety at work, environmental contamination and housing. On qualification they will be able to enforce this legislation if they choose to be employed by a local authority or other Governmental organisation. An essential aspect to the programme's learning outcomes.
17 PARTNERSHIPS FOR THE GOALS
Environmental Health practitioners do not work in isolation, the benefits of partnership working are embedded throughout the programme. Some examples are the emergency services, social work, housing associations, Government agencies such as The Health and Safety Executive, Food Standards Agency, Department of the Environment, Food and Rural Affairs - there are many others.

1 NO POVERTY
Course considers the global burden of disease with research being used to highlight inequalities in health outcomes. Distribution of causes of death and relationship to diet are also explored.
2 ZERO HUNGER
Epidemiology module includes focus on food and nutrition.
Sustainable Development Goals and Public Health (MSc)
The Public Health programme is designed from an ecological/health promotion approach. Many issues related to the Sustainable Development Goals (SDGs) are introduced and explored at multiple points in this programme as described below.
3 GOOD HEALTH AND WELL-BEING
Health and well-being are the raison d'être of the whole public health programme. Further, there is a focus on social justice, capacity building and working with communities, all components of this SDG.
- HIV & Hepatitis in mothers
4 QUALITY EDUCATION
The importance of including health awareness in early education is discussed in the programme. There is also discussion of how hard to reach groups might be targeted through education. The Marmot Review 'Fair Society, Healthy Lives' on effective evidence-based strategies for reducing health inequalities is discussed during the course. The Review identifies education as both a social determinant of health and a component of solutions to improving health equality.
5 GENDER EQUALITY
Inequalities of all kinds are explored in the programme, including in relation to gender. This topic is also frequently chosen by students as a focus for their dissertations.
6 CLEAN WATER AND SANITATION
A module on health protection includes specific reference to the importance of clean water in relation to communicable disease. Water is also implicitly relevant to determinants of health discussed in other modules.
7 AFFORDABLE AND CLEAN ENERGY
Energy is not currently explicitly considered in this programme.
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8 DECENT WORK AND ECONOMIC GROWTH
Issues related to socio-economic health inequalities are discussed in this programme, including links between levels of economic development and health. In particular, the relationship between previous models of economic development, with rapid increases in industrialisation, and public health issues such as air pollution are investigated. Consideration is made of ways in which currently underdeveloped regions and nations might develop in ways which are less environmentally and therefore health damaging.
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Issues of industry are not explicitly considered in this programme. Health related innovation and infrastructure are discussed implicitly. Further, impacts of motorisation on health and safety are explored.
10 REDUCED INEQUALITIES
The theme of inequality is explored in modules including Introduction to Public Health, Health Promotion, Epidemiology and Public Health Policy and Politics, among others.
11 SUSTAINABLE CITIES AND COMMUNITIES
Consideration is made of differences in health outcomes between urban and rural areas. Interdisciplinary teaching activities are facilitated between the health discipline based academics and academics from the Faculty of Environment and Technology. Impacts of urbanisation are part of these discussions.
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Components of this goal are covered explicitly in the public health programme. Food, including consideration of food waste, is referenced at many points in the programme. Further, the impact of chemicals and waste on air, soil and water, and ultimately public health are explored in detail. Provision of information related to the promotion of good public health is core to this programme.
13 CLIMATE ACTION
Changing climate is referenced in this programme in the context of potential implications for the spread of communicable disease. Further, measures which may be required to protect public health in the event of increased frequency and severity of flooding events is also mentioned.
14 LIFE BELOW WATER
Issues related to life below water are not currently included in this programme.
15 LIFE ON LAND
The importance of green space on mental health and for physical exercise is recognised and discussed within the public health programme. Discussion of
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Issues of migration are referred to in this programme in the context of the importance of government policy on public health (direct and indirect). The UK Public Health Outcomes Framework 2013-2016 is analysed and the role of the World Health Organisation is explored. As such, components of SDG 16 are considered in this programme.
17 PARTNERSHIPS FOR THE GOALS
The role of the World Health Organisation in promoting and facilitating improvements in public health is explored implicitly throughout this programme. The need for trained public health professionals in achieving these objectives is also discussed and such professionals are produced by the programme. The necessary competencies of such professionals are considered, and these inform the programme structure.

Health and Applied Sciences

Applied Sciences

Our subject group within the Department (Environmental Science, Wild Ecology and Biological Science) is intimately tied to the SDGs in both teaching and research, so our approach has been relatively straight forward as we already teach the science behind the SDGs. I have discussed the issues with the programme leads of Forensic Science, Biomedical Science and Biological Science and we have made significant progress in developing teaching on the SDGs across the diverse programmes within the department.

The first programme mapped was Environmental Science as sustainability and the SDGs are a core component of this programme. The mapping was completed using all module specifications for the programme in discussion between the programme lead and core module leaders from all three levels. For each specific SDG, targets of relevance to module content were mapped and the solutions to these targets taught in the module identified across all levels of the programme. Importantly this allowed us to note gaps in the teaching of the SDGs that may or may not be of relevance to the provision of teaching environmental science. Once completed the SDG map for Environmental Science has been used as a template example for other programmes such as Forensic Science, allowing members of staff less knowledgeable of sustainability to complete the mapping in their own time.

Sam Bonnett ***Senior Lecturer in Environmental Science***

1 NO POVERTY
Sustainable development linked to environmental issues particularly climate change risks, population growth, human health in response to heat and stress, disease, vulnerability, ecosystem services and economic progress. Scientific enterprise and innovation within business enterprise.
Level 2 - Ecology and Ecosystem Protection; Microbial Life; Human Health and Disease; Human Physiology
Level 3 - Scientific Frontiers and Enterprise; Cell Signalling and Disease; Pathophysiology; Marine Ecosystems; Global Forest Systems; Sustainable Food Production; Physical Activity, Nutrition and Health
2 ZERO HUNGER
Ecosystem services; vertical farming; biofuels; genetic technology; local farming; organic farming; livestock impacts and cellular agriculture; legume biotechnology and carbon farming; climate change impacts on crop growth; pests and diseases; GM; Food quality and waste; sustainable forest practices; sustainable fisheries management.
Level 1 - Human Anatomy and Physiology
Level 2 - Ecology an Ecosystem Protection; Microbial Life; Human Health and Disease; Human Physiology; Wildlife Ecology
Level 3 - Sustainable Food Production;
Global Forest Systems; Marine Ecosystems; Physical Activity, Nutrition and Health; Cell Signalling and Disease; Pathophysiology
BSc (Hons)
Biological Science
SDG issues covered in the programme | Place in the programme
3 GOOD HEALTH AND WELL-BEING
Human health and the environment; pollution pathways, impacts and prevention; sustainable agriculture, forestry and fisheries; climate mitigation; emerging and re-emerging disease; antibiotic resistance; antimicrobial agents and control of microbes; environmental toxicology.
Level 1 - Human Anatomy and Physiology
Level 2 - Ecology an Ecosystem Protection; Microbial Life; Human Health and Disease; Human Physiology; Wildlife Ecology
Level 3 - Sustainable Food Production;
Global Forest Systems; Marine Ecosystems; Physical Activity, Nutrition and Health; Cell Signalling and Disease; Pathophysiology
4 QUALITY EDUCATION
Science skills; applied management skills; philosophy of sustainability; scientific enterprise and innovation within business.
Level 1 - Skills for Biosciences
Level 2 - Research Skills
Level 3 - Science Communication; Tropical Expedition; Scientific Frontiers and Enterprise; Professional Practice in Applied Sciences; Research Project
5 GENDER EQUALITY
Education; family planning; legislation and policy; human reproduction.
Level 1 - Human Anatomy and Physiology
Level 2 - Human Health and Disease; Human Physiology
Level 3 - Science Communication; Tropical Expedition; Physical Activity, Nutrition and Health; Developmental and Stem Cell Biology
6 CLEAN WATER AND SANITATION
Water catchments, local and global catchment systems. Historical case studies of pollution; Waste water recycling research; Microbial fuel cells; Wetland and forest restoration. Water and human health.
Level 2 - Ecology and Ecosystem Protection; Human Health and Disease; Human Physiology; Microbial Life
Level 3 - Environmental Forensics; Global Forest Systems; Sustainable Food Production; Physical Activity, Nutrition and Health; Marine Ecosystems
7 AFFORDABLE AND CLEAN ENERGY
No single solution to climate/energy crisis. Scientific enterprise and innovation. Microbial fuel cells.
Level 2 - Microbial Life
Level 3 - Scientific Frontiers and Enterprise
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Creativity and innovation; field trips and job market; scientific enterprise and innovation; emergence of a new class of entrepreneurial firms that are deeply immersed in science sectors such as biotech, life sciences, nanotech and energy.
Level 2 - Molecular Biotechnology
Level 3 - Scientific Frontiers and Enterprise; Tropical Expedition; Sustainable Food Production
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Climate change and economic development; planning and policy; carbon and energy; green economy; scientific enterprise and innovation; emergence of a new class of entrepreneurial firms that are deeply immersed in science sectors such as biotech, life sciences, nanotech and energy.
Level 1 - Skills for Biosciences
Level 2 - Microbial Life; Molecular Biotechnology; Ecology and Ecosystem Protection; Research Skills
Level 3 - Scientific Frontiers and Enterprise; Research Project; Science Communication
10 REDUCED INEQUALITIES
Sustainable development linked to environmental issues particularly climate change risks, vulnerability and economic progress. Scientific enterprise and innovation within business enterprise.
Level 2 - Human Health and Disease; Human Physiology; Molecular Biotechnology
Level 3 - Scientific Frontiers and Enterprise; Tropical Expedition; Sustainable Food Production;
Global Forest Systems; Physical Activity, Nutrition and Health; Cell Signalling and Disease; Pathophysiology
11 SUSTAINABLE CITIES AND COMMUNITIES
Climate change, planning and policy; carbon and energy; green economy change matters/ green capital award; human health.
Level 1 - Human Anatomy and Physiology
Level 2 - Ecology and Ecosystem Protection; Human Health and Disease; Human Physiology; Wildlife Ecology; Microbial Life
Level 3 - Scientific Frontiers and Enterprise; Tropical Expedition; Sustainable Food Production;
Physical Activity, Nutrition and Health; Cell Signalling and Disease; Pathophysiology; Environmental Forensics
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Food and farming; forestry, fisheries; waste management; local pollution; energy from waste; anaerobic digestion; biofuels; Scientific enterprise and innovation within business enterprise.
Level 2 - Microbial Life; Ecology and Ecosystem Protection
Level 3 - Scientific Frontiers and Enterprise; Sustainable Food Production; Global Forest Systems; Environmental Forensics
13 CLIMATE ACTION
Physical science; impact, vulnerability and adaptation; mitigation; energy technologies; land use change; agricultural and foresty interventions; resilience and risk; ecosystem services; Scientific enterprise and innovation. Microbial fuel cells.
Level 1 - Skills for Biosciences
Level 2 - Ecology and Ecosystem Protection; Microbial Life Molecular Biotechnology; Research Skills
Level 3 - Scientific Frontiers and Enterprise; Sustainable Food Production; Global Forest Systems; Environmental Forensics; Marine ecosystems; Tropical Expedition
14 LIFE BELOW WATER
Biogeochemistry; ocean acidification; marine ecosystems; marine waste disposal; micro-plastics; sustainable fisheries management; Cuba field trip.
Level 1 - Life on Earth; Skills for Biosciences; Cells, Biochemistry and Genetics
Level 2 - Microbial Life; Research Skills Microbial Life; Research Skills
Level 3 - Marine ecosystems; Tropical Expedition; Ecology and Ecosystem Protection; Wildlife Ecology; Environmental Forensics; Sustainable Food Production
15 LIFE ON LAND
Global Biogeochemistry and nutrient cycling; wetland ecology; soils; ecosystems; agriculture; biodiversity loss; ecosystem functions and services; land management and restoration; agricultural technologies; zoology; Madagascar field trip.
Level 1 - Life on Earth; Skills for Biosciences; Cells, Biochemistry and Genetics
Level 2 - Microbial Life; Research Skills
Level 3 - Marine ecosystems; Tropical Expedition; Ecology and Ecosystem Protection; Wildlife Ecology; Environmental Forensics; Sustainable Food Production; Global Forest Systems; Primate Ecology and Conservation
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Diversity, equality and inclusivity tutoring - 'Increasing diversity in Science. Your role and responsibilities'
All levels - Scientific Advisor and Tutoring (SAT) programme
17 PARTNERSHIPS FOR THE GOALS
Connections still under consideration

BSc(Hons) Biological Sciences Multi-element analysis of SDG relevance

SDGs					
No poverty	**Zero hunger**	**Good health and wellbeing**	**Quality education**	**Gender equality**	**Clean water and sanitation**
Relevant targets/issues **Target 1.5** Improve resilience and reduce vulnerability to climate extreme events and other shocks/disasters.	*Relevant targets/issues* **Target 2.1, 2.2, 2.3, 2.4, 2.5** End hunger, malnutrition and double agricultural productivity; Impacts of climate change on agriculture, forestry and fisheries; sustainable production methods; healthy eating; land use change implications, genetic diversity	*Relevant targets/issues* **Target 3.3, 3.4, 3.7, 3.9** Epidemics and disease; sexual and reproductive health-care; Healthy eating/agriculture; climate change; pollution.	*Relevant targets/issues* **Targets 4.3, 4.4, 4.5, 4.6, 4.7, 4.9, 4.10** Access to education and skills; literacy and numeracy skills; skills to promote sustainable development.	*Relevant targets/issues* **Targets 5.5, 5.6** Women's equal opportunities and reproductive rights.	*Relevant targets/issues* **Targets 6.1, 6.2, 6.3, 6.4, 6.5, 6.6** Safe drinking water; sanitation and hygiene; improve water quality; reduce pollution; water management; restore ecosystems.
Solutions Sustainable development linked to environmental issues particularly climate change risks, population growth, human health in response to heat and stress, disease, vulnerability, ecosystem services and economic progress. Scientific enterprise and innovation within business enterprise.	*Solutions* Ecosystem services; vertical farming; biofuels; genetic technology; local farming; organic farming; livestock impacts and cellular agriculture; legume biotechnology and carbon farming; climate change impacts on crop growth; pests and diseases; GM; Food quality and waste; sustainable forest practices; sustainable fisheries management.	*Solutions* Human health and the environment; pollution pathways, impacts and prevention; sustainable agriculture, forestry and fisheries; climate mitigation; emerging and re-emerging disease; antibiotic resistance; antimicrobial agents and control of microbes; environmental toxicology	*Solutions* Science skills; applied management skills; philosophy of sustainability; scientific enterprise and innovation within business.	*Solutions* Education; family planning; legislation and policy; human reproduction.	*Solutions* Water catchments, local and global catchment systems. Historical case studies of pollution; Waste water recycling research; Microbial fuel cells; Wetland and forest restoration. Water and human health.

Professional practice	*Professional practice*	*Professional practice*	*Professional practice*	*Professional practice*	*Professional practice*
Teaching: Level 2 Ecology and Ecosystem Protection; Microbial Life; Human Health and Disease; Human Physiology Level 3 Scientific Frontiers and Enterprise; Cell Signalling and Disease; Pathophysiology; Marine Ecosystems; Global Forest Systems; Sustainable Food Production; Physical Activity, Nutrition and Health	**Teaching**: Level 1 Human Anatomy and Physiology Level 2 Ecology an Ecosystem Protection; Microbial Life; Human Health and Disease; Human Physiology; Wildlife Ecology Level 3 Sustainable Food Production; Global Forest Systems; Marine Ecosystems; Physical Activity, Nutrition and Health; Cell Signalling and Disease; Pathophysiology **Research:** Impact of climate change on plants and soil microbial processes; Plant diseases - Cacao Swollen Shoot Virus	**Teaching**: Level 1 Human Anatomy and Physiology Level 2 Ecology an Ecosystem Protection; Microbial Life; Human Health and Disease; Human Physiology; Wildlife Ecology Level 3 Sustainable Food Production; Global Forest Systems; Marine Ecosystems; Physical Activity, Nutrition and Health; Cell Signalling and Disease; Pathophysiology **Research:** Antibiotic resistance; antimicrobial agents and control of microbes.	**Teaching**: Level 1 Skills for Biosciences Level 2 Research Skills Level 3 Science Communication; Tropical Expedition; Scientific Frontiers and Enterprise; Professional Practice in Applied Sciences; Research Project	**Teaching**: Level 1 Human Anatomy and Physiology Level 2 Human Health and Disease; Human Physiology Level 3 Science Communication; Tropical Expedition; Physical Activity, Nutrition and Health; Developmental and Stem Cell Biology	**Teaching**: Level 2 Ecology and Ecosystem Protection; Human Health and Disease; Human Physiology; Microbial Life Level 3 Environmental Forensics; Global Forest Systems; Sustainable Food Production; Physical Activity, Nutrition and Health; Marine Ecosystems **Research:** Waste water recycling research; Microbial fuel cells; Wetland biogeochemistry

SDGs					
Affordable and clean energy	**Decent work and economic growth**	**Industry, innovation and infrastructure**	**Reduced inequalities**	**Sustainable cities and communities**	**Responsible consumption and production**
Relevant targets/issues **Targets 7.1, 7.2, 7.3** Energy economics; renewable energy; energy efficiency	*Relevant targets/issues* **Targets 8.1, 8.3, 8.4, 8.9** Economic growth; entrepreneurship; ecotourism	*Relevant targets/issues* **Targets 9.1, 9.4, 9.5, 9.8** Infrastructure; resource use efficiency; technologies; communication	*Relevant targets/issues* **Targets 10.2, 10.4, 10.5** Social, economic and policy development; environmental economics	*Relevant targets/issues* **Targets 11.2, 11.3, 11.5, 11.6** Transport; urbanization; climate change and environmental disasters; air quality and waste	*Relevant targets/issues* **Targets 12.2, 12.3, 12.4, 12.5, 12.6, 12.8, 12.9, 12.10** Sustainable management of resources; food and chemical waste; recycling; sustainable lifestyles; technologies developing countries; ecotourism
Solutions No single solution to climate/energy crisis. Scientific enterprise and innovation. Microbial fuel cells	*Solutions* Creativity and innovation; field trips and job market; scientific enterprise and innovation; emergence of a new class of entrepreneurial firms that are deeply immersed in science sectors such as biotech, life sciences, nanotech and energy.	*Solutions* Climate change and economic development; planningand policy; carbon andenergy; green economy; scientific enterprise and innovation; emergence of a new class of entrepreneurial firms that are deeply immersed in science sectors such as biotech, life sciences,nanotech and energy	*Solutions* Sustainable development linked toenvironmental issues particularly climate change risks, vulnerability and economic progress. Scientific enterprise and innovation withinbusiness enterprise.	*Solutions* Climate change; planning and policy; carbon and energy; green economy change matters/ green capital award; human health.	*Solutions* Food and farming; forestry, fisheries; waste management; local pollution; energy from waste; anaerobic digestion; biofuels; Scientific enterprise and innovation within business enterprise

Professional practice **Teaching:** Level 2 Microbial Life Level 3 Scientific Frontiers and Enterprise **Research:** Microbial fuel cells	*Professional practice* **Teaching:** Level 2 Molecular Biotechnology Level 3 Scientific Frontiers and Enterprise; Tropical Expedition; Sustainable Food Production **Research:** Waste water recycling research; Microbial fuelcells	*Professional practice* **Teaching:** Level 1 Skills for Biosciences Level 2 Microbial Life; Molecular Biotechnology; Ecology and Ecosystem Protection; Research Skills Level 3 Scientific Frontiers and Enterprise; Research Project; Science Communication	*Professional practice* **Teaching:** Level 2 Human Health and Disease; Human Physiology; Molecular Biotechnology Level 3 Scientific Frontiers and Enterprise; Tropical Expedition; Sustainable Food Production; Global Forest Systems; Physical Activity, Nutrition and Health; Cell Signalling and Disease; Pathophysiology	*Professional practice* **Teaching:** Level 1 Human Anatomy and Physiology Level 2 Ecology and Ecosystem Protection; Human Health and Disease; Human Physiology; Wildlife Ecology; Microbial Life Level 3 Scientific Frontiers and Enterprise; Tropical Expedition; Sustainable Food Production; Physical Activity, Nutrition and Health; Cell Signalling and Disease; Pathophysiology; Environmental Forensics **Research**: Urban ecology; Wastewater recycling research	*Professional practice* **Teaching:** Level 2 Microbial Life; Ecology and Ecosystem Protection Level 3 Scientific Frontiers and Enterprise; Sustainable Food Production; Global Forest Systems; ; Environmental Forensics

SDGs				
Climate action	**Life below water**	**Life on land**	**Peace, justice and strong institutions**	**Partnerships for the goals**
Relevant targets/issues **Targets 13.1, 13.2, 13.3**	*Relevant targets/issues* **Targets 14.1, 14.2, 14.3, 14.4, 14.5, 14.6, 14.8, 14.10**	*Relevant targets/issues* **Targets 15.1, 15.2, 15.3, 15.5, 15.8, 15.9**	*Relevant targets/issues* **Targets 16.7**	*Relevant targets/issues*
Strengthen resilience and adaptive capacity to climate-related hazards; national policies, strategies and planning; Improve education, awareness- raising and human and institutional capacity on climate change mitigation, adaptation.	Reduce marine pollution; sustainably manage and protect marine and coastal ecosystems by strengthening their resilience, and take action for their restoration; impacts of ocean acidification; regulate harvesting and end overfishing; marine conservation; fisheries subsidies. Increase scientific knowledge, develop research capacity and transfer marine technology; enhance the conservation and sustainable use of oceans	The conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services; sustainable management of all types of forests; restore degraded land and soil; degradation of natural habitats, halt the loss of biodiversity; invasive alien species on land and water ecosystems; integrate ecosystem and biodiversity values into national and local planning.	Ensure responsive, inclusive, participatory and representative decision-making at all levels	

Solutions Physical science; impact, vulnerability and adaptation; mitigation; energy technologies; land use change; agricultural and foresty interventions; resilience and risk; ecosystem services; Scientific enterprise and innovation. Microbial fuel cells	*Solutions* Biogeochemistry; ocean acidification; marine ecosystems; marine waste disposal; micro-plastics; sustainable fisheries management; Cuba field trip	*Solutions* Global Biogeochemistry and nutrient cycling; wetland ecology; soils; ecosystems; agriculture; biodiversity loss; ecosystem functions and services; land management and restoration; agricultural technologies; zoology; Madagascar field trip;	*Solutions* Diversity, equality and inclusivity tutoring - 'Increasing diversity in Science. Your role and responsibilities'	*Solutions*
Professional practice **Teaching:** Level 1 Skills for Biosciences Level 2 Ecology and Ecosystem Protection; Microbial Life Molecular Biotechnology; Research Skills Level 3 Scientific Frontiers and Enterprise; Sustainable Food Production; Global Forest Systems; Environmental Forensics; Marine ecosystems; Tropical Expedition	*Professional practice* **Teaching:** Level 1 Life on Earth; Skills for Biosciences; Cells, Biochemistry and Genetics Level 2 Microbial Life; Research Skills Level 3 Marine ecosystems; Tropical Expedition; Ecology and Ecosystem Protection; Wildlife Ecology; Environmental Forensics; Sustainable Food Production **Research:** Marine biogeochemistry; eDNA	*Professional practice* **Teaching:** Level 1 Life on Earth; Skills for Biosciences; Cells, Biochemistry and Genetics Level 2 Microbial Life; ResearchSkills Level 3 Marine ecosystems; Tropical Expedition; Ecology and Ecosystem Protection; Wildlife Ecology; Environmental Forensics; Sustainable Food Production; Global Forest Systems; Primate Ecology and Conservation **Research:** Microbial functions in wetland ecosystems; soil carbon dynamics; bird and bat ecology	*Professional practice* **Teaching:** All levels Scientific Advisor and Tutoring (SAT) programme	*Professional practice*

1 NO POVERTY
Sustainable development linked to climate change risks, population growth, human health in response to heat and stress, disease, vulnerability, ecosystem services and economic progress.
Level 1 - Infection and Disease; Biomedical Skills; Human Anatomy & Physiology
Level 2 - Studies in the Biology of Disease; Pharmacology; Immunology; Medicinal Chemistry; Microbiology; Human Physiology
Level 3 - Pharmacology & Toxicology; Antimicrobial Agents; Pathophysiology; Physical Activity, Nutrition and Health; Science Communication; Epidemiology and Public Health; Medical Technology and Enterprise
2 ZERO HUNGER
Genetic technology; pests and diseases; Food quality and waste; healthy diets; lifestyle choice; public health.
Level 1 - Human Anatomy and Physiology
Level 2 - Studies in the Biology of Disease; Human Physiology
Level 3 - Antimicrobial Agents; Pathophysiology; Physical Activity, Nutrition and Health; Pathophysiology; Science Communication; Epidemiology and Public Health; Medical Technology and Enterprise
BSc (Hons)
Biomedical Science
SDG issues covered in the programme | Place in the programme
3 GOOD HEALTH AND WELL-BEING
Human health and the environment; pollution pathways, impacts and prevention; sustainable agriculture, forestry and fisheries; climate mitigation; emerging and re-emerging disease; antibiotic resistance; antimicrobial agents and control of microbes; environmental toxicology.
Level 1 - Infection and Disease; Biomedical Skills; Human Anatomy & Physiology
Level 2 - Studies in the Biology of Disease; Pharmacology; Immunology; Medicinal Chemistry; Microbiology; Human Physiology
Level 3 - Pharmacology & Toxicology; Antimicrobial Agents; Pathophysiology; Physical Activity, Nutrition and Health; Science Communication; Epidemiology and Public Health; Medical Technology and Enterprise
4 QUALITY EDUCATION
Science skills; applied management skills; philosophy of sustainability; scientific enterprise and innovation within business.
Level 1 - Biomedical Skills
Level 2 - Research Skills
Level 3 - Science Communication; Professional Practice in Applied Sciences; Research Project
5 GENDER EQUALITY
Education; family planning; legislation and policy; human reproduction.
Level 1 - Human Anatomy and Physiology
Level 2 - Human Physiology; Studies in the Biology of Disease
Level 3 - Physical Activity, Nutrition and Health; Science Communication; Epidemiology and Public Health; Medical Technology and Enterprise; Professional Practice in Applied Science
6 CLEAN WATER AND SANITATION
Water pollution and disease; Water and human health.
Level 1 - Infection and Disease; Human Anatomy & Physiology
Level 2 - Human Health and Disease; Human Physiology; Studies in the Biology of Disease; Microbiology
Level 3 - Physical Activity, Nutrition and Health; Science Communication; Epidemiology and Public Health; Antimicrobial Agents; Pharmacology & Toxicology
7 AFFORDABLE AND CLEAN ENERGY
Debate on fracking
Level 3 - Science Communication
UWE Bristol | University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Creativity and innovation; human health and work; scientific enterprise and innovation.
Level 1 - Infection and Disease; Biomedical Skills; Human Anatomy & Physiology
Level 2 - Molecular Biotechnology
Level 3 - Scientific Frontiers and Enterprise; Tropical Expedition; Sustainable Food Production
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Climate change and economic development; planning and policy; carbon and energy; green economy; scientific enterprise and innovation; emergence of a new class of entrepreneurial firms that are deeply immersed in science sectors such as biotech, life sciences, nanotech and energy.
Level 1 - Skills for Biosciences
Level 2 - Studies in the Biology of Disease; Pharmacology; Immunology; Medicinal Chemistry; Microbiology; Human Physiology.
Level 3 - Pharmacology & Toxicology; Antimicrobial Agents; Pathophysiology; Physical Activity, Nutrition and Health; Science Communication; Epidemiology and Public Health; Medical Technology and Enterprise
10 REDUCED INEQUALITIES
Sustainable development linked to health issues particularly climate change risks, vulnerability and economic progress. Scientific enterprise and innovation within business enterprise.
Level 1 - Human Anatomy and Physiology
Level 2 - Human Physiology; Studies in the Biology of Disease
Level 3 - Physical Activity, Nutrition and Health; Science Communication; Epidemiology and Public Health; Medical Technology and Enterprise; Professional Practice in Applied Science
11 SUSTAINABLE CITIES AND COMMUNITIES
Climate change; planning and policy; carbon and energy; human health.
Level 1 - Infection and Disease; Biomedical Skills; Human Anatomy & Physiology
Level 2 - Studies in the Biology of Disease; Pharmacology; Immunology; Medicinal Chemistry; Microbiology; Human Physiology.
Level 3 - Pharmacology & Toxicology; Antimicrobial Agents; Pathophysiology; Physical Activity, Nutrition and Health; Science Communication; Epidemiology and Public Health; Medical Technology and Enterprise
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Medical enterprise and innovation within business enterprise; education.
Level 1 - Infection and Disease; Biomedical Skills; Human Anatomy & Physiology
Level 2 - Studies in the Biology of Disease; Pharmacology; Immunology; Medicinal Chemistry; Microbiology; Human Physiology.
Level 3 - Pharmacology & Toxicology; Antimicrobial Agents; Pathophysiology; Physical Activity, Nutrition and Health; Science Communication; Epidemiology and Public Health; Medical Technology and Enterprise; Professional Practice in Applied Science
13 CLIMATE ACTION
Impact, vulnerability and adaptation; mitigation; human health, resilience and risk; Medical enterprise and innovation.
Level 1 - Infection and Disease; Biomedical Skills; Human Anatomy & Physiology
Level 2 - Studies in the Biology of Disease; Pharmacology; Immunology; Medicinal Chemistry; Microbiology; Human Physiology.
Level 3 - Pharmacology & Toxicology; Antimicrobial Agents; Pathophysiology; Physical Activity, Nutrition and Health; Science Communication; Epidemiology and Public Health; Medical Technology and Enterprise
14 LIFE BELOW WATER
Connections still under consideration
15 LIFE ON LAND
Connections still under consideration
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Diversity, equality and inclusivity tutoring - 'Increasing diversity in Science. Your role and responsibilities.'
All levels - Scientific Advisor and Tutoring (SAT) programme
17 PARTNERSHIPS FOR THE GOALS
Connections still under consideration

2021 map of BSc (Hons) Environmental Science

2017 map of BSc (Hons) Environmental Science

1 NO POVERTY
Sustainable development linked to environmental issues particularly impact on biodiversity, conservation, policy and economic progress. Carbon and biodiversity offsetting, taxes; Community-Based Natural Resource Management / Integrated Conservation and
Development Projects. Alternative income strategies. Ameliorating human-wildlife conflict.
Level 1 - Wildlife and Society
Level 2 - Ecology and Ecosystem Protection; Conservation in Practice
Level 3 - Contemporary Conservation Science; Global Forest Systems; Sustainable Food Production
2 ZERO HUNGER
Ecosystem services; vertical farming; genetic technology; local farming; organic farming; livestock impacts and cellular agriculture; legume biotechnology and carbon farming; climate change impacts on crop growth; pests and diseases; GM; Food quality and waste; sustainable forest practices; sustainable fisheries management.
Level 1 - Wildlife and Society
Level 2 - Ecology and Ecosystem Protection; Wildlife Ecology
Level 3 - Contemporary Conservation Science; Sustainable Food Production; Global Forest Systems; Marine Ecosystems
BSc (Hons) Wildlife Ecology and Conservation Science
SDG issues covered in the programme | Place in the programme
3 GOOD HEALTH AND WELL-BEING
Human health and the environment; pollution pathways, impacts and prevention; sustainable agriculture, forestry and fisheries; climate mitigation.
Level 1 - Wildlife and Society
Level 2 - Ecology and Ecosystem Protection
Level 3 - Contemporary Conservation Science; Sustainable Food Production; Wildlife Forensics and Conservation; Marine Ecosystems; Global Forest Systems
4 QUALITY EDUCATION
Field and laboratory skills; applied management skills; philosophy of sustainability; Outreach – Madagascar and Cuba field trips.
Level 1 - Wildlife and Society; Field Skills
Level 2 - Environmental and Field Techniques; Ecology and Ecosystem Protection
Level 3 - Contemporary Conservation Science; Tropical Expedition; Professional Practice in Applied Sciences; Research Project; Science Communication
5 GENDER EQUALITY
Education; family planning; legislation and policy; population growth and demography.
Community-Based Natural Resource Management / Integrated Conservation and Development Projects. Alternative income strategies. Ameliorating human-wildlife conflict.
Level 1 - Wildlife and Society
Level 2 - Conservation in Practice
Level 3 - Contemporary Conservation Science; Tropical Expedition; Science Communication
6 CLEAN WATER AND SANITATION
Examination of the water cycle; Historical case studies of pollution; Wetland and forest restoration; aquatic environments.
Level 1 - Wildlife and Society; The Earth
Level 2 - Ecology and Ecosystem Protection;
Level 3 - Wildlife Forensics and Conservation; Contemporary Conservation Science
7 AFFORDABLE AND CLEAN ENERGY
Connections still under consideration
UWE Bristol | University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Economic growth not sustainable – movement towards a steady-state economy; creativity and innovation; field trips and job market. Community-Based Natural Resource Management / Integrated Conservation and Development Projects. Alternative income strategies. Ameliorating human-wildlife conflict.
Level 1 - Wildlife and Society
Level 2 - Conservation in Practice
Level 3 - Contemporary Conservation Science; Tropical Expedition; Primate Ecology and Conservation
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Climate change and economic development; planning and policy; carbon and energy; green economy.
Level 1 - Wildlife and Society; Field Skills
Level 2 - Conservation in Practice; Environmental Field Techniques
Level 3 - Contemporary Conservation Science
10 REDUCED INEQUALITIES
Sustainable development linked to environmental issues particularly climate change risks, vulnerability and economic progress. Introducing the concepts of circular economy, resilience and Anthropocene in relation to Global Environmental Challenges.
Level 1 - Wildlife and Society
Level 2 - Conservation in Practice
Level 3 - Contemporary Conservation Science; Tropical Expedition
11 SUSTAINABLE CITIES AND COMMUNITIES
Climate change; planning and policy; carbon and energy; green economy change matters/ green capital award; Voluntary award.
Level 1 - Wildlife and Society
Level 2 - Conservation in Practice; Ecology and Ecosystem Protection
Level 3 - Contemporary Conservation Science
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Food and farming; forestry, fisheries; waste management; life cycle assessment; local pollution; circular economy; energy from waste; anaerobic digestion; biofuels.
Level 1 - Wildlife and Society
Level 2 - Conservation in Practice
Level 3 - Contemporary Conservation Science; Sustainable Food Production; Global Forest Systems; Marine Ecosystems; Tropical Expedition
13 CLIMATE ACTION
Physical science; impact, vulnerability and adaptation; mitigation; energy technologies; land use change; agricultural and forestry interventions; steady-state economy; resilience and risk; ecosystem services; impact, mitigation and adaptation.
Level 1 - Wildlife and Society; The Earth
Level 2 - Conservation in Practice; Ecology and Ecosystem Protection
Level 3 - Contemporary Conservation Science; Global Forest Systems; Marine Ecosystems
14 LIFE BELOW WATER
Biogeochemistry; ocean acidification; marine ecosystems; marine waste disposal; micro-plastics; sustainable fisheries management; Cuba field trip.
Level 1 - Wildlife and Society; The Earth; Life on Earth
Level 2 - Conservation in Practice; Ecology and Ecosystem Protection; Wildlife Ecology
Level 3 - Contemporary Conservation Science; Marine ecosystems; Tropical Expedition; Wildlife Crime and Forensics
15 LIFE ON LAND
Global Biogeochemistry and nutrient cycling; wetland ecology; soils; ecosystems; agriculture; biodiversity loss; ecosystem functions and services; land management and restoration; agricultural technologies; zoology; Madagascar field trip.
Level 1 - Wildlife and Society; The Earth; Life on Earth
Level 2 - Conservation in Practice; Ecology and Ecosystem Protection; Wildlife Ecology
Level 3 - Contemporary Conservation Science; Global Forest Systems; Sustainable Food Production; Tropical Expedition; Wildlife Crime and Forensics; Primate Ecology and Conservation
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Diversity, equality and inclusivity tutoring - 'Increasing diversity in Science. Your role and responsibilities.'
All levels - Scientific Advisor and Tutoring (SAT) programme
17 PARTNERSHIPS FOR THE GOALS
Connections still under consideration

1 NO POVERTY
Improve resilience and reduce vulnerability to climate extreme events and other shocks/disasters.
Nuclear disasters - Hanford
2 ZERO HUNGER
Ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed.
GM crop technologies
BSc (Hons) / MSci Forensic Science
SDG issues covered in the programme | Place in the programme
3 GOOD HEALTH AND WELL-BEING
Reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being
Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol halve the number of global deaths and injuries from road traffic accidents.
Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.
Substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.
Pathophysiology - diabetes.
Forensic Analysis and Toxicology - alcohol, NPS,
Drugs and Toxicology - informing legislation.
Legislation preventing abuse.
RTC investigation - understanding cause leads to prevention.
Drug synthesis and development - medicinal chemistry.
Pollution of freshwater ecosystems and soils - Environmental Forensics.
4 QUALITY EDUCATION
Substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship inclusive and effective learning environments for all
Team working, practice based learning, technical skills development focus etc- all the stuff from the enterprise 2020 mapping.
5 GENDER EQUALITY
Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation.
Sexual assault investigation in Forensic Biology and Genetics, Forensic Biology, Drug Facilitated Sexual Assault- Drugs and Toxicology
6 CLEAN WATER AND SANITATION
Improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.
Protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.
Pollution case studies.
Water analysis.
Effects of pharmaceuticals in the environment.
7 AFFORDABLE AND CLEAN ENERGY
Increase substantially the share of renewable energy in the global energy mix enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology.
Energy and Combustion- fossil fuels and green chemistry, pollutants.
UWE Bristol | University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products.
Team working, practice based learning, problem based learning, technical skills development focus etc- all the stuff from the enterprise 2020 mapping.
Wildlife Forensics- community initiatives
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries.
Training science researchers - project modules.
10 REDUCED INEQUALITIES
Ensure equal opportunity and reduce inequalities of outcome, including by ... promoting appropriate ... policies and action in this regard.
Targeted outreach activity. Personal tutor support. Learning communities.
11 SUSTAINABLE CITIES AND COMMUNITIES
Strengthen efforts to protect and safeguard the world's cultural and natural heritage.
Wildlife Forensics - forensic toolkits, legislation, community
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Wildlife Forensics - forensic toolkits, legislation, community.
All practical chemistry modules.
Wildlife Forensics- forensic toolkits, legislation, community
All practical chemistry modules.
13 CLIMATE ACTION
Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
Pollution case studies including anthropogenic radiation releases.
Climate change debates in Science Communication.
14 LIFE BELOW WATER
Prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.
Effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices.
Enhance the conservation and sustainable use of oceans and their resources by implementing international law.
Algal blooms, aqueous pollutants
Wildlife Forensics- Shark finning impacts.
CITES- caviar, corals etc.
15 LIFE ON LAND
The conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services; sustainable management of all types of forests; restore degraded land and soil; degradation of natural habitats, halt the loss of biodiversity; invasive alien species on land and water ecosystems; integrate ecosystem and biodiversity values into national and local planning.
Wildlife Forensics inc. bushmeat, ivory, rhino, illegal pet trade etc.
CITES appendix 3 and DNA for forestry protection
Community initiative- northern rangelands trust, black mambas etc.
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Significantly reduce all forms of violence and related death rates everywhere.
Combat all forms of organized crime.
Strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, in particular in developing countries, to prevent, violence and combat terrorism and crime.
Promote and enforce non-discriminatory laws and policies for sustainable development.
Investigation for intelligence, law and the role of expert evidence, prosecution as disrupter and deterrent.
17 PARTNERSHIPS FOR THE GOALS
Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms.
Forensic computing
International laws and conventions, co-operation

Environment and Technology

Research

Work has begun to map various research activities and entities against the SDGs. The first of these was mapping of research themes and centres from within the Faculty of Environment and Technology against the Goals.

1 NO POVERTY
Centre for Architecture and Built Environment Research (CABER)
Centre for Transport and Society (CTS)
Mathematics and Statistics Research Group (MSRG)
Informal settlements in global cities
Exploring poverty-transport linkages
Robust network flow modelling to rapidly supply humanitarian aid
2 ZERO HUNGER
Centre for Machine Vision
Centre for Water, Communities and Resilience (CWCR)
Science Communication Unit (SCU
Automatic weed imaging and analysis
Water, Energy and Food (WEF) nexus
Exploring ways to change food waste behaviour in family households with children in the UK
Research in the Faculty of Environment & Technology
This map identifies research centres and groups from the Faculty of Environment and Technology which conduct research into issues linked to each Goal and selected research themes, streams and projects of researchers within the Faculty.
3 GOOD HEALTH AND WELL-BEING
Centre for Transport and Society (CTS)
Centre for Architecture and Built Environment Research (CABER)
Institute of Biosensing Technology
Air Quality Management Resource Centre (AQMRC)
World Health Organisation Collaborating Centre for Healthy Urban Environments
Software Engineering Research Group
Centre for Machine Vision
Mathematics and Statistics Research Group (MSRG)
Cancer Care infomatics
Improving the measurement of systemic ammonia for better chronic disease management
Novel non-invasive assessment of respiratory function (NORM)
Designing places to support sustainable lifestyles and behaviours
Active travel for a healthier population
Current and future health costs and benefits of urban environments
Effects of exposure over an individual's life course on later health outcomes
4 QUALITY EDUCATION
Science Communication Unit (SCU)
Centre for Water, Communities and Resilience (CWCR)
Creative Technologies Lab
UWE BoxED school focused outreach programme of STEM (Science, Technology, Engineering and Maths)
Use of the computer game Minecraft in engaging children with learning about diabetes
Water education and science communication in water security
Developing and exploiting AI and Machine Learning systems to synthesise virtual environments and interaction mechanics
5 GENDER EQUALITY
Science Communication Unit (SCU)
Women Like Me peer mentoring and outreach project
6 CLEAN WATER AND SANITATION
Centre for Water, Communities and Resilience (CWCR)
Bristol BioEnergy Centre
Water use by the tourism industry
Wastewater technologies and wastewater reuse as a resource
Drinking water and human wellbeing
7 AFFORDABLE AND CLEAN ENERGY
Bristol BioEnergy Centre
Computer Science Research Centre
Engineering Modelling and Simulation (EMS)
Centre for Architecture and Built Environment Research (CABER)
Wind turbine blade design/efficiency)
Microbial Fuel Cells (MFCs)
Consequences of the thermal upgrading of existing buildings
Renewable energies in water and wastewater process engineering
Green energy system design
Complex physical problems such as thermodynamics and heat transfer
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Institute of Biosensing Technology
Centre for Architecture and Built Environment Research (CABER)
Science Communication Unit (SCU)
Health Tech Hub
Impacts of real estate on investment and society
Bespoke training programme for early career researchers from Albania, Bosnia and Herzegovina, Kosovo, Macedonia, Montenegro and Serbia
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Bristol Robotics Laboratory (BRL)
Centre for Transport and Society (CTS)
Centre for Water, Communities and Resilience (CWCR)
Microbial Fuel Cells (MFCs)
Sustainable design, materials and building performance
Innovative construction techniques and building solutions
Driverless cars
GIS and remote sensing for hydrology/water management and community engagements
10 REDUCED INEQUALITIES
Centre for Water, Communities and Resilience (CWCR)
Software Engineering Research Group
Human rights and tourism
Health, social and business data science applications
11 SUSTAINABLE CITIES AND COMMUNITIES
Centre for Sustainable Planning and Environments (SPE)
World Health Organisation Collaborating Centre for Healthy Urban Environments
Centre for Transport and Society (CTS)
Centre for Architecture and Built Environment Research (CABER)
Air Quality Management Resource Centre (AQMRC)
Sustainable mobility
Management and supporting guidelines in air quality in metropolitan cities Sustainable design, materials and building performance
Community action in re-making community spaces
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Bristol BioEnergy Centre
Centre for Water, Communities and Resilience (CWCR)
Engineering Modelling and Simulation (EMS)
Water use by the tourism industry
Sustainable design, materials and building performance
Resource constraints
Modelling, simulation and optimisation of healthcare and humanitarian supply chains
13 CLIMATE ACTION
Centre for Architecture and Built Environment Research (CABER)
Centre for Water, Communities and Resilience (CWCR)
Impact of the changing climate on buildings and developing adaptation strategies to increase the resilience of both new buildings and the existing building stock
Adapting urban and suburban areas for climate change
Human intervention and climate change
Water-related hazards and climate change
14 LIFE BELOW WATER
Centre for Architecture and Built Environment Research (CABER)
Centre for Water, Communities and Resilience (CWCR)
Marine property rights
Monitoring water scarcity and excess
Grey-green-blue infrastructure
Flooding, drought and integrated water management
15 LIFE ON LAND
Centre for Water, Communities and Resilience (CWCR)
Centre for Sustainable Planning and Environments (SPE)
Air Quality Management Resource Centre (AQMRC)
Green infrastructure and the role of green space in climate change
Nature-based solutions and Sustainable Drainage Systems (SuDs)
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Centre for Architecture and Built Environment Research (CABER)
Computer Science Research Centre
Science Communication Unit (SCU)
Sustainable development discourses and narratives
Creation, interaction and framing of spatial policies, institutions and structures
Cyber and digital security
ICT-enabled participatory governance
Science for Environment Policy (SfEP)
17 PARTNERSHIPS FOR THE GOALS
World Health Organisation Collaborating Centre for Healthy Urban Environments
Centre for Architecture and Built Environment Research (CABER)
Computer Science Research Centre
Engagement, collaboration and participation in urban management and spatial planning
Developing conceptual frames for transformational governance integrating top-down and bottom-up engagement in decision-making in collaboration with our European city partners
Data governance
EU Framework INTEGAIRE (Integrated Urban Governance and Air Quality Management in Europe)
Scientific Literacy in Nigeria: Boosting Science Communication and Journalism

Environment and Technology

Geography and Environmental Management

All programmes within geography and environmental management are directly relevant to the SDGs and explicit coverage of many issues is standard within, for example, Geography, Urban Planning, Environmental Management and Civil Engineering. The mapping of programmes in these disciplines was led in part by students (BSc (Hons) Geography) and in other cases by the programme leader (BA (Hons) Geography and BEng (Hons) Civil Engineering).

New benchmark statements in some subject areas within this subject cluster will prompt new SDG mapping in the coming year. Civil Engineering has already been mapped twice as the programme transitioned from Civil and Environmental Engineering, with new module content and structure.

Georgina Gough Associate Professor in Education for Sustainable Development

1 NO POVERTY
Civil engineering is core to providing core public services such as shelter, transport, power generation and resilience; the design principles are taught in the design of structures, hydraulic systems and geotechnics on the programme.
Sustainable development of the built environment is a key component of economic development and poverty alleviation. Careful design and consideration of civil engineering projects can significantly improve quality of life through sustainable development. Discussions of material selection and sustainable considerations is a thread throughout the degree.
2 ZERO HUNGER
Good water management is essential for agricultural prosperity. Understanding hydrological systems and water management allows governments and organisations to sustainably manage water as a natural resource. This is reflected in our teaching of hydraulics and hydrology. Our teaching of floor risk estimation and management directly relates to the civil engineer's ability to ensure the long term viability of intensive agricultural lands, often situated on flood plains.
BEng/MEng
Civil Engineering
This map identifies issues contained within the programme relevant to each of the SDGs.
3 GOOD HEALTH AND WELL-BEING
Management of health and safety, and risk management are key components to civil engineering and a thread taught throughout the programme. We teach how design decisions and construction activities can be developed to maintain and promote the health and well-being of both those both in and outside of the construction industry.
4 QUALITY EDUCATION
The programme has been developed and is continual enhanced to develop quality engineers to address today and tomorrows challenges.
Civil engineers design educational facilities and the infrastructure that support them, enhancing the reach of quality learning environments through building quality education environments such as schools and universities.
5 GENDER EQUALITY
As a department we are engaged in the AthenaSWAN initiative to promote gender equality in education. We have active outreach programmes to raise awareness of civil engineering with female school children.
6 CLEAN WATER AND SANITATION
Civil engineers design water and waste water treatment systems, and manage infrastructure to develop natural water systems such as river and coastal ecosystems. This includes sustainable management and capacity building in areas such as water harvesting and waste water treatment. This is taught through our water based modules in hydraulics and hydrology.
Students within the programme have engaged with the UWE Water Global Security programme, engaging in international field work in their final year projects.
7 AFFORDABLE AND CLEAN ENERGY
Civil engineers design energy infrastructure, including design of renewable energy systems such as tidal barrages and wind farms. This is addressed in the programme through using technologies such as Geographical information systems can combine data streams to allow planning for new wind farms.
We also teach how through the careful selection of materials, civil engineers can promote the use of low and clean energy products, and design energy efficient structures.
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Civil engineering supports the productivity of the construction sector – a high value added and labour intensive sector. This is through innovation and collaboration. This can improve the health, safety and welfare of workers by designing for construction and deconstruction. Civil engineers can also implement sustainable design principles to minimise the impact of the built environment on the natural environment. This thread of sustainability permeates the programme and the teaching of design.
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Civil engineers are responsible developing quality, reliable, sustainable and resilient infrastructure to support economic development and human well being. This is through the development and deployment of efficient, clean and environmentally sound technologies in the design and construction of buildings and infrastructure.
Approaches to this are taught through synthesis modules looking at wider civil engineering systems and technology, and specialist modules looking at innovative technologies and specific disciplines such as transport engineering.
10 REDUCED INEQUALITIES
On the programme we explore issues related to discrimination on the grounds of age, disability, race, ethnicity, religion or other status. This is also approached through discussion of ethical frameworks that are used to tackle challenging questions in society.
11 SUSTAINABLE CITIES AND COMMUNITIES
Through our teaching we emphasis the ability for the next generation of civil engineers to be critical to the development of sustainable and affordable cities. This is through the design of transport systems, structures and public spaces.
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Through selection of civil engineering and construction materials, the environmental impact of projects can be significantly reduced. Through our teaching of materials, and as a wider thread throughout the programme, we identify and discuss how the embodied energy and carbon of projects can be reduced through material choices. Discussions extend to more sustainable construction options including earth and crop based materials.
13 CLIMATE ACTION
In designing infrastructure, civil engineers can identify and design for resilience to the changing climate. We teach this through discussing the impacts of climate change such as more extreme weather conditions and sea level change.
14 LIFE BELOW WATER
On the programme we discuss environmentally conscious interventions and sustainable approaches to coastal management. These can protect coastal ecosystems by strengthening resilience and taking action for restoration.
We also cover wider issues related to management of water resources and design of water based infrastructure.
15 LIFE ON LAND
Through the choice of technologies and processes related to construction and in particular ground works and quarrying, civil engineers can promote the conservation of terrestrial ecosystems, including impacts on ground water resources.
In our teaching we discuss sustainable sourcing of timber from managed forests and use technologies such as Geographical Information Systems to leverage data so engineers can make considered decisions about development sites.
16 PEACE AND JUSTICE STRONG INSTITUTIONS
In our teaching we discuss the importance of ethics and how that relates to corruption and bribery in the construction industry. Discussions cover the system of government and the rule of law; and the accountability of professional engineering institutions and their role in society.
17 PARTNERSHIPS FOR THE GOALS
Through collaborative and cross discipline working civil engineers promote innovation and inclusion of multiple voices in developing projects. Teaching of key technologies such as Building Information Modelling and Geographical Information Systems, works towards these objectives, and help improve the environmental data availability and sharing on projects.

1 NO POVERTY
• UBGMKD-15-1 Civil engineering technology and design
• UBGMVQ-15-2 Design of structural elements
• UBGMNU-30-2 Hydraulics and engineering applications
• UBGMWQ-15-3 Geotechnics
• UBGMY9-15-1 Construction and environmental materials
2 ZERO HUNGER
• UBGMTQ-15-2 Hydrology and flood risk estimation
• UBGMNU-30-2 Hydraulics and engineering applications
• UBGMX9-15-3 Hydraulic modelling for flood risk management
BEng / MEng
Civil Engineering
This map identifies modules which enable students to engage with each SDG.
3 GOOD HEALTH AND WELL-BEING
• UBGMKD-15-1 Civil engineering technology and design
• UBGMGR-15-3 Strategic issues in engineering
• UBGMU9-15-2 Project and risk management
4 QUALITY EDUCATION
• UBGMKD-15-1 Civil engineering technology and design
• UBGMVQ-15-2 Design of structural elements
• UBGMGR-15-3 Strategic issues in engineering
• UBGMWQ-15-3 Geotechnics
5 GENDER EQUALITY
• UBGMGR-15-3 Strategic issues in engineering
6 CLEAN WATER AND SANITATION
• UBGMYD-15-1 Environmental engineering field study
• UBGMTQ-15-2 Hydrology and flood risk estimation
• UBGMNU-30-2 Hydraulics and engineering applications
• UBGMX9-15-3 Hydraulic modelling for flood risk management
7 AFFORDABLE AND CLEAN ENERGY
• UBGMKD-15-1 Civil engineering technology and design
• UBGMSQ-15-1 Engineering graphics and communication
• UBGMY9-15-1 Construction and environmental material
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
• UBGMKD-15-1 Civil engineering technology and design
• UBGMVQ-15-2 Design of structural elements
• UBGMWQ-15-3 Geotechnics
• UBGMGR-15-3 Strategic issues in engineering
• UBGMU9-15-2 Project and risk management
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
• UBGMKD-15-1 Civil engineering technology and design
• UBGMYD-15-1 Environmental engineering field study
• UBGLX8-15-2 Transport engineering design
• UBGLXP-15-3 Traffic management and safety
• UBGMM3-15-3 Advanced structural modelling
• UBGMW9-15-3 Computational civil engineering
• UBGMXQ-30-1: Engineering Principles for Civil Engineers
10 REDUCED INEQUALITIES
• UBGMKD-15-1 Civil engineering technology and design
• UBGMGR-15-3 Strategic issues in engineering
11 SUSTAINABLE CITIES AND COMMUNITIES
• UBGMKD-15-1 Civil engineering technology and design
• UBGLY9-15-3 Design and implementation project
• UBGLX8-15-2 Transport engineering design
• UBGLXP-15-3 Traffic management and safety
• UBGMXQ-30-1: Engineering Principles for Civil Engineers
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
• UBGMKD-15-1 Civil engineering technology and design
• UBGMY9-15-1 Construction and environmental materials
• UBGMPD-15-3 Environmental assessment
13 CLIMATE ACTION
• UBGMKD-15-1 Civil engineering technology and design
• UBGMPD-15-3 Environmental assessment
• UBGMGR-15-3 Strategic issues in engineering
14 LIFE BELOW WATER
• UBGMYD-15-1 Environmental engineering field study
• UBGMKD-15-1 Civil and technology and design
• UBGMTQ-15-2 Hydrology and flood risk estimation
• UBGMNU-30-2 Hydraulics and engineering applications
• UBGMX9-15-3 Hydraulic modelling for flood risk management
15 LIFE ON LAND
• UBGMYD-15-1 Environmental engineering field study
• UBGMSQ-15-1 Engineering graphics and communication
• UBGMUQ-15-2 Soil mechanics
• UBGMWQ-15-3 Geotechnics
• UBGMU5-15-2 Engineering geology design project
• UBGMY9-15-1 Construction and environmental materials
• UBGMT9-15-1 Surveying
• UBGMXQ-30-1: Engineering Principles for Civil Engineers
16 PEACE AND JUSTICE STRONG INSTITUTIONS
• UBGMKD-15-1 Civil engineering technology and design
• UBGMGR-15-3 Strategic issues in engineering
17 PARTNERSHIPS FOR THE GOALS
• UBGMU9-15-2 Project and risk management
• UBGMGR-15-3 Strategic issues in engineering
• UBGLY9-15-3 Design and implementation project

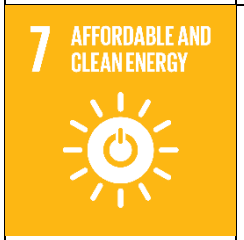
1 NO POVERTY
• UBGMKD-15-1 Civil engineering technology and design
• UBGMVQ-15-2 Design of structural elements
• UBGMNU-30-2 Hydraulics and engineering applications
• UBGMWQ-15-3 Geotechnics
• UBGMY9-15-1 Construction and environmental materials
2 ZERO HUNGER
• UBGMTQ-15-2 Hydrology and flood risk estimation
• UBGMNU-30-2 Hydraulics and engineering applications
• UBGMX9-15-3 Hydraulic modelling for flood risk management
BEng / MEng
Civil and Environmental Engineering
Modules which enable students to engage with relevant issues.
3 GOOD HEALTH AND WELL-BEING
• UBGMKD-15-1 Civil engineering technology and design
• UBGMGR-15-3 Strategic issues in engineering
• UBGMU9-15-2 Project and risk management
4 QUALITY EDUCATION
• UBGMKD-15-1 Civil engineering technology and design
• UBGMVQ-15-2 Design of structural elements
• UBGMGR-15-3 Strategic issues in engineering
• UBGMWQ-15-3 Geotechnics
5 GENDER EQUALITY
• UBGMGR-15-3 Strategic issues in engineering
6 CLEAN WATER AND SANITATION
• UBGMYD-15-1 Environmental engineering field study
• UBGMTQ-15-2 Hydrology and flood risk estimation
• UBGMNU-30-2 Hydraulics and engineering applications
• UBGMX9-15-3 Hydraulic modelling for flood risk management
7 AFFORDABLE AND CLEAN ENERGY
• UBGMKD-15-1 Civil engineering technology and design
• UBGMSQ-15-1 Engineering communication
• UBGMY9-15-1 Construction and environmental material
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
• UBGMKD-15-1 Civil engineering technology and design
• UBGMVQ-15-2 Design of structural elements
• UBGMWQ-15-3 Geotechnics
• UBGMGR-15-3 Strategic issues in engineering
• UBGMU9-15-2 Project and risk management
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
• UBGMKD-15-1 Civil engineering technology and design
• UBGMYD-15-1 Environmental engineering field study
• UBGLX8-15-2 Transport engineering design
• UBGLXP-15-3 Traffic management and safety
• UBGMM3-15-3 Advanced structural modelling
• UBGMW9-15-3 Computational civil engineering
10 REDUCED INEQUALITIES
• UBGMKD-15-1 Civil engineering technology and design
• UBGMGR-15-3 Strategic issues in engineering
11 SUSTAINABLE CITIES AND COMMUNITIES
• UBGMKD-15-1 Civil engineering technology and design
• UBGLY9-15-3 Design and implementation project
• UBGLX8-15-2 Transport engineering design
• UBGLXP-15-3 Traffic management and safety
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
• UBGMKD-15-1 Civil engineering technology and design
• UBGMY9-15-1 Construction and environmental materials
• UBGMPD-15-3 Environmental assessment
13 CLIMATE ACTION
• UBGMKD-15-1 Civil engineering technology and design
• UBGMPD-15-3 Environmental assessment
• UBGMGR-15-3 Strategic issues in engineering
14 LIFE BELOW WATER
• UBGMYD-15-1 Environmental engineering field study
• UBGMKD-15-1 Civil and technology and design
• UBGMTQ-15-2 Hydrology and flood risk estimation
• UBGMNU-30-2 Hydraulics and engineering applications
• UBGMX9-15-3 Hydraulic modelling for flood risk management
15 LIFE ON LAND
• UBGMYD-15-1 Environmental engineering field study
• UBGMSQ-15-1 Engineering communication
• UBGMUQ-15-2 Soil mechanics
• UBGMWQ-15-3 Geotechnics
• UBGMLU-15-2 Engineering geology design project
• UBGMY9-15-1 Construction and environmental materials
• UBGMT9-15-1 Surveying
16 PEACE AND JUSTICE STRONG INSTITUTIONS
• UBGMKD-15-1 Civil engineering technology and design
• UBGMGR-15-3 Strategic issues in engineering
17 PARTNERSHIPS FOR THE GOALS
• UBGMU9-15-2 Project and risk management
• UBGMGR-15-3 Strategic issues in engineering
• UBGLY9-15-3 Design and implementation project

Original mapping of BEng(Hons) Civil and Environmental Engineering ***Nick Simpson (former programme leader)***

Civil engineers are in a unique position of being able to influence and design the next generation of infrastructure and built environment which can tackle the needs and challenges of society. Through their choices they can promote sustainable, environmentally sound technologies and process. In addition, through the teaching of technical analysis andcritical thinking skills, civil engineer are in a unique position of being able to leverage a deeptheoretical understanding to develop innovative solutions.

SDG	Issues relevant to discipline/professions e.g. academic consideration of the issues, implications of the issues for professional practice, contribution which the discipline could make to providing solutions to thechallenges	UWE (teaching / learning / other)
	Civil engineering is core to providing corepublic services such as shelter, transport,power generation and resilience; the design principles are taught in the designof structures, hydraulic systems and geotechnics on the programme. Sustainable development of the built environment is a key component of economic development and poverty alleviation. Careful design and consideration of civil engineering projects can significantly improve quality of life through sustainable development.Discussions of material selection and sustainable considerations is a thread throughout the degree.	UBGMKD-15-1 Civil engineering technology and design UBGMVQ-15-2 Design of structuralelements UBGMNU-30-2 Hydraulics andengineering applications UBGMWQ-15-3 Geotechnics UBGMY9-15-1 Construction and environmental materials
	Good water management is essential foragricultural prosperity. Understanding hydrological systems and water management allows governments and organisations to sustainably manage water as a natural resource. This is reflected in our teaching of hydraulics and hydrology. Our teaching of flood riskestimation and management directly relates to the civil engineer's ability toensure the long term viability of intensive agricultural lands, often situated on flood plains.	UBGMTQ-15-2 Hydrology and floodrisk estimation UBGMNU-30-2 Hydraulics andengineering applications UBGMX9-15-3 Hydraulic modellingfor flood risk management

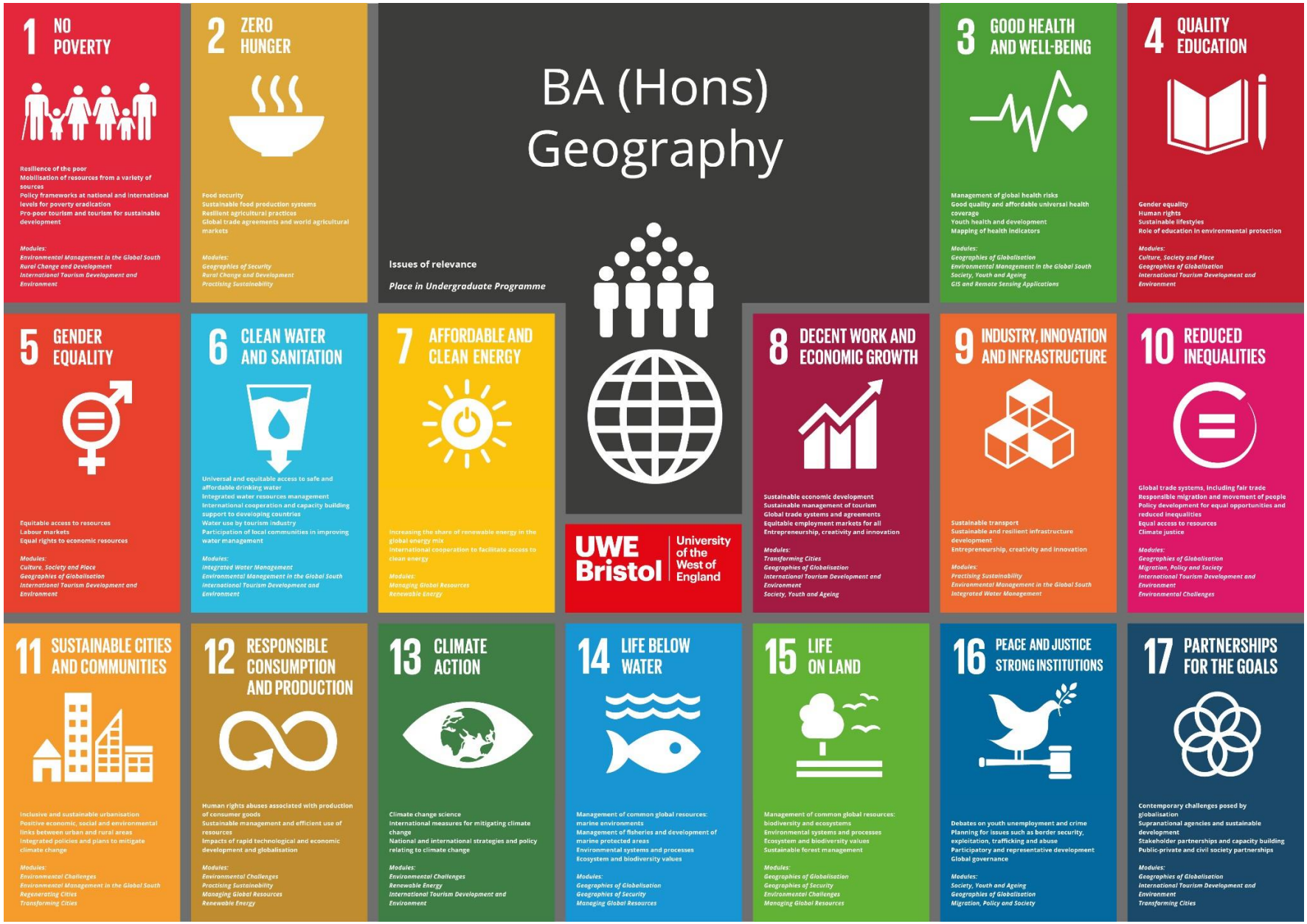
	Management of health and safety, and risk management are key components tocivil engineering and a thread taught throughout the programme. We teach how design decisions and construction activities can be developed to maintain and promote the health and well-being of both those both in and outside of the construction industry.	UBGMKD-15-1 Civil engineering technology and design UBGMGR-15-3 Strategic issues inengineering UBGMU9-15-2 Projectand risk management
	The programme has been developed andis continual enhanced to develop quality engineers to address today and tomorrows challenges. Civil engineers design educational facilities and the infrastructure that support them, enhancing the reach of quality learning environments through building quality education environmentssuch as schools and universities.	UBGMKD-15-1 Civil engineering technology and design UBGMVQ-15-2 Design of structuralelements UBGMGR-15-3 Strategic issues inengineering UBGMWQ-15-3 Geotechnics
	As a department we are engaged in the AthenaSWAN initiative to promote gender equality in education. We have active outreach programmes to raise awareness of civil engineering withfemale school children.	UBGMGR-15-3 Strategic issues inengineering

	Civil engineers design water and wastewater treatment systems, and manageinfrastructure to develop natural watersystems such as river and coastal ecosystems. This includes sustainable management and capacity building in areas such as water harvesting and waste water treatment. This is taught through our water based modules in hydraulics and hydrology. Students within the programme have engaged with the UWE Water Global Security programme, engaging in international field work in their final year projects.	UBGMYD-15-1 Environmental engineering field study UBGMTQ-15-2 Hydrology and floodrisk estimation UBGMNU-30-2 Hydraulics andengineering applications UBGMX9-15-3 Hydraulic modelling for flood risk management
	Civil engineers design energy infrastructure, including design of renewable energy systems such as tidalbarrages and wind farms. This is addressed in the programme through using technologies such as GeographicalInformation systems can combine data streams to allow planning for new wind farms. We also teach how through the careful selection of materials, civil engineers canpromote the use of low and clean energyproducts, and design energy efficient structures.	UBGMKD-15-1 Civil engineering technology and design UBGMSQ-15-1 Engineering communication UBGMY9-15-1 Construction andenvironmental materials
	Civil engineering supports the productivity of the construction sector – a high value added and labour intensive sector. This is through innovation and collaboration. This can improve the health, safety and welfare of workers by designing for construction and deconstruction. Civil engineers can also implement sustainable design principles to minimise the impact of the built environment on the natural environment.This thread of sustainability permeates the programme and the teaching of design.	UBGMKD-15-1 Civil engineering technology and design UBGMVQ-15-2 Design of structuralelements UBGMWQ-15-3 Geotechnics UBGMGR-15-3 Strategic issues inengineering UBGMU9-15-2 Project and risk management

	Civil engineers are responsible developing quality, reliable, sustainable and resilient infrastructure to support economic development and human wellbeing. This is through the development and deployment of efficient, clean and environmentally sound technologies in the design and construction of buildings and infrastructure. Approaches to this are taught through synthesis modules looking at wider civilengineering systems and technology, and specialist modules looking at innovative technologies and specific disciplines such as transport engineering.	UBGMKD-15-1 Civil engineering technology and design UBGMYD-15-1 Environmental engineering field study UBGLX8-15-2 Transport engineering design UBGLXP-15-3 Traffic management and Safety UBGMM3-15-3 Advanced structural modelling UBGMW9-15-3 Computational civil engineering
	On the programme we explore issues related to discrimination on the grounds of age, disability, race, ethnicity, religionor other status. This is also approached through discussion of ethical frameworks that are used to tackle challengingquestions in society.	UBGMKD-15-1 Civil engineering technology and design UBGMGR-15-3 Strategic issues inengineering
	Through our teaching we emphasis theability for the next generation of civil engineers to be critical to the development of sustainable and affordable cities. This is through the design of transport systems, structuresand public spaces.	UBGMKD-15-1 Civil engineering technology and design UBGLY9-15-3 Design and implementationproject UBGLX8-15-2 Transport engineering design UBGLXP-15-3 Trafficmanagement and safety

	Through selection of civil engineering and construction materials, the environmental impact of projects can besignificantly reduced. Through our teaching of materials, and as a wider thread throughout the programme, we identify and discuss how the embodied energy and carbon of projects can be reduced through material choices. Discussions extend to more sustainable construction options including earth and crop based materials.	UBGMKD-15-1 Civil engineering technology and design UBGMY9-15-1 Construction andenvironmental materials UBGMPD-15-3 Environmental assessment
	In designing infrastructure, civil engineers can identify and design for resilience to the changing climate. We teach this through discussing the impacts of climate change such as moreextreme weather conditions and sea level change.	UBGMKD-15-1 Civil engineering technology and design UBGMPD-15-3 Environmentalassessment UBGMGR-15-3 Strategic issues inengineering
	On the programme we discuss environmentally conscious interventions and sustainable approaches to coastal management. These can protect coastalecosystems by strengthening resilience and taking action for restoration. We also cover wider issues related to management of water resources anddesign of water based infrastructure.	UBGMYD-15-1 Environmental engineering field study UBGMKD-15-1 Civil and technology anddesign UBGMTQ-15-2 Hydrology and floodrisk estimation UBGMNU-30-2 Hydraulics andengineering applications UBGMX9-15-3 Hydraulic modellingfor flood risk management

	Through the choice of technologies andprocesses related to construction and inparticular ground works and quarrying, civil engineers can promote the conservation of terrestrial ecosystems, including impacts on ground water resources. In our teaching we discuss sustainable sourcing of timber from managed forestsand use technologies such as Geographical Information Systems to leverage data so engineers can make considered decisions about development sites.	UBGMYD-15-1 Environmental engineering field study UBGMSQ-15-1 Engineering communication UBGMUQ-15-2 Soil mechanics UBGMWQ-15-3 Geotechnics UBGMLU-15-2 Engineering geologydesign project UBGMY9-15-1 Construction andenvironmental materials. UBGMT9-15-1 Surveying
	In our teaching we discuss the importance of ethics and how that relates to corruption and bribery in the construction industry. Discussions cover the system of government and the rule of law; and the accountability of professional engineering institutions and their role in society.	UBGMKD-15-1 Civil engineering technology and design UBGMGR-15-3 Strategic issues inengineering
	Through collaborative and cross discipline working civil engineers promote innovation and inclusion of multiple voices in developing projects. Teaching of key technologies such as Building Information Modelling and Geographical Information Systems, works towards these objectives, and help improve the environmental data availability and sharing on projects.	UBGMU9-15-2 Projectand risk management UBGMGR-15-3 Strategic issues inengineering UBGLY9-15-3 Design and implementationproject


1 NO POVERTY
Resilience of the poor
Mobilisation of resources from a variety of sources
Policy frameworks at national and international levels for poverty eradication
Pro-poor tourism and tourism for sustainable development
Modules:
Environmental Management in the Global South
Rural Change and Development
International Tourism Development and Environment
2 ZERO HUNGER
Food security
Sustainable food production systems
Resilient agricultural practices
Global trade agreements and world agricultural markets
Modules:
Geographies of Security
Rural Change and Development
Practising Sustainability
BA (Hons) Geography
Issues of relevance
Place in Undergraduate Programme
UWE Bristol University of the West of England
3 GOOD HEALTH AND WELL-BEING
Management of global health risks
Good quality and affordable universal health coverage
Youth health and development
Mapping of health indicators
Modules:
Geographies of Globalisation
Environmental Management in the Global South
Society, Youth and Ageing
GIS and Remote Sensing Applications
4 QUALITY EDUCATION
Gender equality
Human rights
Sustainable lifestyles
Role of education in environmental protection
Modules:
Culture, Society and Place
Geographies of Globalisation
International Tourism Development and Environment
5 GENDER EQUALITY
Equitable access to resources
Labour markets
Equal rights to economic resources
Modules:
Culture, Society and Place
Geographies of Globalisation
International Tourism Development and Environment
6 CLEAN WATER AND SANITATION
Universal and equitable access to safe and affordable drinking water
Integrated water resources management
International cooperation and capacity building support to developing countries
Water use by tourism industry
Participation of local communities in improving water management
Modules:
Integrated Water Management
Environmental Management in the Global South
International Tourism Development and Environment
7 AFFORDABLE AND CLEAN ENERGY
Increasing the share of renewable energy in the global energy mix
International cooperation to facilitate access to clean energy
Modules:
Managing Global Resources
Renewable Energy
8 DECENT WORK AND ECONOMIC GROWTH
Sustainable economic development
Sustainable management of tourism
Global trade systems and agreements
Equitable employment markets for all
Entrepreneurship, creativity and innovation
Modules:
Transforming Cities
Geographies of Globalisation
International Tourism Development and Environment
Society, Youth and Ageing
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Sustainable transport
Sustainable and resilient infrastructure development
Entrepreneurship, creativity and innovation
Modules:
Practising Sustainability
Environmental Management in the Global South
Integrated Water Management
10 REDUCED INEQUALITIES
Global trade systems, including fair trade
Responsible migration and movement of people
Policy development for equal opportunities and reduced inequalities
Equal access to resources
Climate justice
Modules:
Geographies of Globalisation
Migration, Policy and Society
International Tourism Development and Environment
Environmental Challenges
11 SUSTAINABLE CITIES AND COMMUNITIES
Inclusive and sustainable urbanisation
Positive economic, social and environmental links between urban and rural areas
Integrated policies and plans to mitigate climate change
Modules:
Environmental Challenges
Environmental Management in the Global South
Regenerating Cities
Transforming Cities
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Human rights abuses associated with production of consumer goods
Sustainable management and efficient use of resources
Impacts of rapid technological and economic development and globalisation
Modules:
Environmental Challenges
Practising Sustainability
Managing Global Resources
Renewable Energy
13 CLIMATE ACTION
Climate change science
International measures for mitigating climate change
National and international strategies and policy relating to climate change
Modules:
Environmental Challenges
Renewable Energy
International Tourism Development and Environment
14 LIFE BELOW WATER
Management of common global resources: marine environments
Management of fisheries and development of marine protected areas
Environmental systems and processes
Ecosystem and biodiversity values
Modules:
Geographies of Globalisation
Geographies of Security
Managing Global Resources
15 LIFE ON LAND
Management of common global resources: biodiversity and ecosystems
Environmental systems and processes
Ecosystem and biodiversity values
Sustainable forest management
Modules:
Geographies of Globalisation
Geographies of Security
Environmental Challenges
Managing Global Resources
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Debates on youth unemployment and crime
Planning for issues such as border security, exploitation, trafficking and abuse
Participatory and representative development
Global governance
Modules:
Society, Youth and Ageing
Geographies of Globalisation
Migration, Policy and Society
17 PARTNERSHIPS FOR THE GOALS
Contemporary challenges posed by globalisation
Supranational agencies and sustainable development
Stakeholder partnerships and capacity building
Public-private and civil society partnerships
Modules:
Geographies of Globalisation
International Tourism Development and Environment
Transforming Cities

BSc (Hons) Geography

Covered Directly | Covered indirectly/optional | Not Currently Covered

Modules	1 NO POVERTY	2 ZERO HUNGER	3 GOOD HEALTH AND WELL-BEING	4 QUALITY EDUCATION	5 GENDER EQUALITY	6 CLEAN WATER AND SANITATION	7 AFFORDABLE AND CLEAN ENERGY	8 DECENT WORK AND ECONOMIC GROWTH	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	10 REDUCED INEQUALITIES	11 SUSTAINABLE CITIES AND COMMUNITIES	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	13 CLIMATE ACTION	14 LIFE BELOW WATER	15 LIFE ON LAND	16 PEACE AND JUSTICE STRONG INSTITUTIONS	17 PARTNERSHIPS FOR THE GOALS
Dynamic Earth	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered
Environmental Challenges	Covered indirectly/optional	Covered Directly	Covered Directly	Not Currently Covered	Not Currently Covered	Covered indirectly/optional	Covered indirectly/optional	Not Currently Covered	Not Currently Covered	Not Currently Covered	Covered Directly	Covered indirectly/optional	Covered Directly	Not Currently Covered	Covered Directly	Not Currently Covered	Not Currently Covered
Geographies of Globalisation	Covered Directly	Covered Directly	Covered Directly	Covered Directly	Covered Directly	Covered Directly	Covered Directly	Covered Directly	Covered Directly	Covered Directly	Covered Directly	Covered indirectly/optional	Covered indirectly/optional	Not Currently Covered	Not Currently Covered	Covered Directly	Covered Directly
Geographical Skills	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered
Field Study in Physical Geography	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Covered Directly	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Covered indirectly/optional	Not Currently Covered	Not Currently Covered
Researching Physical Geography	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered
Professional Development for Geographers	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered
Understanding River Dynamics	Covered indirectly/optional	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Covered indirectly/optional	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Covered indirectly/optional	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered
Meteorology	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered
Sustainable Resource Management	Covered indirectly/optional	Covered Directly	Not Currently Covered	Not Currently Covered	Not Currently Covered	Covered Directly	Covered Directly	Covered Directly	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered Directly	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered Directly
Climate Change: Challenges for the 21st Century	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered Directly	Covered Directly	Not Currently Covered	Not Currently Covered	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered Directly	Not Currently Covered	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional
Tectonic Processes and Landforms	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered
Ecology	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Covered indirectly/optional	Not Currently Covered	Covered Directly	Not Currently Covered	Not Currently Covered
Understanding Coastal Dynamics	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered
Final Year Project	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional
Independent project	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional
Placement	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional
Professional Experience	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional
Study Abroad	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional
Managing Rivers and Coasts	Covered indirectly/optional	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Covered Directly	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered
Biogeography and Conservation	Not Currently Covered	Not Currently Covered	Covered indirectly/optional	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Covered indirectly/optional	Not Currently Covered	Covered indirectly/optional	Covered indirectly/optional	Covered Directly	Not Currently Covered	Not Currently Covered
Hazard and Disaster Management	Covered indirectly/optional	Covered indirectly/optional	Not Currently Covered	Not Currently Covered	Not Currently Covered	Covered indirectly/optional	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered	Covered Directly	Not Currently Covered	Not Currently Covered	Not Currently Covered	Not Currently Covered
GIS and Remote Sensing Applications	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Not Currently Covered	Not Currently Covered
Water and Energy Futures	Covered Directly	Covered indirectly/optional	Not Currently Covered	Not Currently Covered	Covered indirectly/optional	Covered Directly	Covered Directly	Not Currently Covered	Covered Directly	Covered indirectly/optional	Covered Directly	Covered indirectly/optional	Covered Directly	Covered indirectly/optional	Covered indirectly/optional	Covered Directly	Not Currently Covered
Environmental Management in the Global South	Covered indirectly/optional	Covered Directly	Not Currently Covered	Not Currently Covered	Covered Directly	Covered Directly	Covered Directly	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered indirectly/optional	Covered Directly	Not Currently Covered	Not Currently Covered	Covered indirectly/optional	Covered Directly

1 NO POVERTY
• Access to basic services
• Ownership and control of natural resources
• Resilience of the poor and vulnerable
• Mobilisation of resources including enhanced development cooperation
2 ZERO HUNGER
• Access to sufficient food
• Sustainable food production systems
• Maintenance of ecosystems
• Rural infrastructure and agricultural productivity
MSc and BSc (Hons) Urban Planning
This map identifies issues contained within the programme relevant to each of the SDGs.
3 GOOD HEALTH AND WELL-BEING
• Global mortality rates
• Road traffic safety
• Health services
• Hazardous chemicals, pollution and contamination
4 QUALITY EDUCATION
• Gender disparity in education
• Access to education
• Knowledge and skills for sustainable development
• Building and upgrading of education facilities
5 GENDER EQUALITY
Not currently addressed within programme.
6 CLEAN WATER AND SANITATION
• Access to safe and affordable drinking water
• Sanitation and hygiene
• Water quality and wastewater
• Water recycling and reuse
• Water-use efficiency
• Protection of water-related ecosystems
• Local participation in water and sanitation management
7 AFFORDABLE AND CLEAN ENERGY
• Access to affordable, reliable and modern energy services
• Renewable energy
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
• Development-oriented policies which support productive activity, creativity and innovation
• Global resources efficiency in consumption and production
• Decoupling economic growth from environmental degradation
• Labour rights and safe and secure working environments
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
• Quality, reliable, sustainable infrastructure
• Upgrading of infrastructure
• Resilient infrastructure development
10 REDUCED INEQUALITIES
• Social, political and economic inclusion
• Equal opportunity and reduce inequalities of outcome
11 SUSTAINABLE CITIES AND COMMUNITIES
• Access to adequate, safe and affordable housing
• Safe, affordable, accessible and sustainable transport systems
• Inclusive and sustainable urbanization
• Protection of world's cultural and natural heritage
• Impact of disasters and protection of the poor and vulnerable
• Reduction of the environmental impact of cities
• Safe, inclusive and accessible, green and public spaces
• Positive economic, social and environmental links between urban, per-urban and rural areas by strengthening national and regional development planning
• Integration of policies and plans towards inclusion, resource efficiency and mitigation and adaptation to climate change
• Holistic disaster risk management
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
• Sustainable management and use of natural resources
• Reduction of waste generation through prevention, reduction, recycling and reuse
• Awareness of ways to achieve sustainable development and lifestyles in harmony with nature
• Sustainable production and consumption
• Tools for monitoring sustainable development impacts
13 CLIMATE ACTION
• Resilience and adaptive capacity to climate-related hazards and natural disasters
• Integration of climate change measures into national policies, strategies and planning
• Mechanisms for raising capacity for effective climate change-related planning and management
14 LIFE BELOW WATER
• Marine pollution
• Protection of marine ecosystems
• Sustainable use of marine resources
15 LIFE ON LAND
• Conservation, restoration and sustainable use of terrestrial and inland water ecosystems
• Sustainable management of forests
• Conservation of mountain ecosystems
• Integration of ecosystem and biodiversity values into national and local planning and development processes
• Mobilisation and significant increase of financial resources from all sources to conserve and sustainably use biodiversity and ecosystems
16 PEACE AND JUSTICE STRONG INSTITUTIONS
• Effective, accountable and transparent institutions
• Responsive, inclusive, participatory and representative decision-making
• Participation of developing countries in the institutions of global governance
• Non-discriminatory laws and policies for sustainable development
17 PARTNERSHIPS FOR THE GOALS
• Multi-stakeholder partnerships
• Effective public, public-private and civil society partnerships
• Capacity-building support to developing countries to increase significantly the availability of high-quality, timely and reliable data
• Build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries

Environment and Technology

Architecture and the Built Environment

SDG mapping in architecture and built environment disciplines is undergoing a thorough review. Two initial scoping maps (Architecture and Planning and Property Development and Planning were useful as part of the original project definition phase. Since then, postgraduate programmes in Real Estate have been thoughtfully mapped by Grazyna Wiejak-Roy, Senior Lecturer in Urban Economics and Real Estate.

Programmes within this discipline cluster have excellent examples of ways by which sustainability can be embedded in the curriculum. The mapping of these to the SDGs is currently being led by a departmental student representative.

1 NO POVERTY
Healthy Sustainable Communities (Level 1)
Planning Global Cities (Level 3)
2 ZERO HUNGER
Studio 2 (Level 2)
BA (Hons) Architecture and Planning
This map identifies modules in which students are assessed on their knowledge and/or skills linked to each goal.
3 GOOD HEALTH AND WELL-BEING
Healthy Sustainable Communities (Level 1)
Future Places (Level 2)
Integrated Practice Studio (Level 3)
4 QUALITY EDUCATION
Healthy Sustainable Communities (Level 1)
Collaborative Practice (Level 3)
Agency Project (Level 3)
5 GENDER EQUALITY
Theories of Planning (Level 3)
Collaborative Practice (Level 3)
Theories of Architecture (Level 3)
6 CLEAN WATER AND SANITATION
Not currently explored explicitly in any assessment tasks.
7 AFFORDABLE AND CLEAN ENERGY
Healthy Sustainable Communities (Level 1)
Technical Studio (Level 1)
Studio 2 (Level 2)
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8 DECENT WORK AND ECONOMIC GROWTH
Planning Global Cities (Level 3)
Collaborative Practice (Level 3)
Agency Project (Level 3)
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Healthy Sustainable Communities (Level 1)
Studio 2 (Level 2)
10 REDUCED INEQUALITIES
Healthy Sustainable Communities (Level 1)
Planning Global Cities (Level 3)
11 SUSTAINABLE CITIES AND COMMUNITIES
Healthy Sustainable Communities (Level 1)
Future Places (Level 2)
Planning Global Cities (Level 3)
Studio 3 (Level 3)
Integrated Practice Studio (Level 3)
Studio 4 (Level 3)
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Healthy Sustainable Communities (Level 1)
13 CLIMATE ACTION
Healthy Sustainable Communities (Level 1)
Technical Studio (Level1)
Studio 2 (Level 2)
Studio 3 (Level 3)
14 LIFE BELOW WATER
Not currently explored explicitly in any assessment tasks.
15 LIFE ON LAND
Not currently explored explicitly in any assessment tasks.
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Agency Project (Level 3)
Live Projects (extra curricula)
17 PARTNERSHIPS FOR THE GOALS
Agency Project (Level 3)

1 NO POVERTY
Affordable housing that does not restrict the ability to live.
Fuel poverty and cost to access basic services.
2 ZERO HUNGER
Not currently addressed within programme.
BA (Hons)
Property Development
and Planning
This map was produced by a student to initiate discussions of engagement of this programme with the SDGs.
The map identifies issues covered in the programme or relevant to the profession.
3 GOOD HEALTH AND WELL-BEING
Green space for health.
Decent housing for all.
4 QUALITY EDUCATION
Urgent need for more planners and therefore planning should be introduced at an earlier stage of education.
Need quality planning teachers and greater awareness of the profession.
5 GENDER EQUALITY
Ensure that males and females are treated as equals and judged on the work they produce.
Maternity/paternity leave within profession.
Ensure that development manager roles are promoted to and accepted by equal numbers of males and females.
6 CLEAN WATER AND SANITATION
Sustainable urban drainage systems (SUDS).
7 AFFORDABLE AND CLEAN ENERGY
Combined Heat and Power.
Green energy.
Awareness of people's patterns of working and using this to reduce excess energy consumption.
UWE Bristol
University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
New industries and sectors of focus within the built environment.
Growth areas that create ethical sources of income.
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Networking could make sure that all needs are addressed.
10 REDUCED INEQUALITIES
Reduction of inequalities in quality of life through sustainability focused property development.
11 SUSTAINABLE CITIES AND COMMUNITIES
Build resilient and strong communities through good planning and development.
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Use of quality materials with removal of waste at building site level.
13 CLIMATE ACTION
Build for the future and create good urban infrastructure that will last also looking at the adaptability of design and plans of areas.
14 LIFE BELOW WATER
Site protection.
Awareness of causes of water pollution.
Maintenance of natural features.
Biodiversity concerns.
15 LIFE ON LAND
Nature corridors.
Increase in volume and quality of green space.
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Role of professional bodies in promoting sustainable development (such as RIBA, RICS and RTPI).
Set standards and goals to ensure strong planning systems.
17 PARTNERSHIPS FOR THE GOALS
Working across professional roles to consider future development.

1 NO POVERTY
Sustainable development linked to environmental and economic issues including sustainable development.
Real Estate Economics and Valuation
Sustainability in the Built Environment (REM)
2 ZERO HUNGER
Transformation of the logistics property sector to facilitate leaner supply chain in view of changing retail sector.
Real Estate Economics and Valuation
MSc Real Estate Management (REM)
MSc Real Estate Finance and Investment (REFI)
SDG issues covered in the programme | Place in the programme
3 GOOD HEALTH AND WELL-BEING
Human health and built environment related to development and use of properties to ensure health and well-being.
Real Estate Economics and Valuation
Strategic Estate Management
4 QUALITY EDUCATION
Development and practice of generic academic and professional skills including numerical, writing, research, presentation skills and IT literacy.
Real Estate Economics and Valuation
Strategic Estate Management
Real Estate Law
Real Estate Investment and Development
5 GENDER EQUALITY
Gender and other equality issues in the context of the real estate industry. Respecting individuals.
Real Estate Law
6 CLEAN WATER AND SANITATION
Use of technologies to address clean water in development and operation of real estate.
Strategic Estate Management
Sustainability and the Built Environment (REM)
7 AFFORDABLE AND CLEAN ENERGY
Use of technologies to address energy challenges in development and operation of real estate.
Strategic Estate Management
Sustainability and the Built Environment (REM)
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Real estate as an indicator and generator of economic growth.
Real Estate Economics and Valuation
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Innovation in the real estate sector (PropTech, BIM).
Strategic Estate Management
Sustainability and the Built Environment (REM)
10 REDUCED INEQUALITIES
Sustainable development. Equality issues in the context of the real estate industry. Respecting individuals.
Real Estate Law
Sustainability and the Built Environment (REM)
11 SUSTAINABLE CITIES AND COMMUNITIES
Models of tenure to property. Policies and interventions on property development.
Real Estate Law
Real Estate Investment and Development
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Property lifecycle.
Strategic Estate Management
13 CLIMATE ACTION
Promoting sustainable development to minimise carbon footprint. Improving efficiency of the existing real estate stock.
Sustainability and the Built Environment (REM)
Real Estate Finance and Investment (REFI)
14 LIFE BELOW WATER
Marine environmental management and protection (fisheries, biodiversity, habitat restoration).
Dissertation (linking to staff research)
15 LIFE ON LAND
Land management and regeneration. Green spaces and mental health. Green property finance.
Real Estate Investment and Development; Sustainability and the Built Environment (REM);
Real Estate Finance and Investment (REFI)
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Trust in the real estate industry. Real estate market transparency. Professional ethics. Collaboration with the Royal Institution of Chartered Surveyors.
Real Estate Law; Real Estate Investment and Development
17 PARTNERSHIPS FOR THE GOALS
Collaboration with the Royal Institution of Chartered Surveyors, Investment Property Forum (REFI only) and with the Commonwealth Association of Surveyors and Land Economists.
International perspectives delivered through attended and distance learning modes of delivery and international delivery team.

Environment and Technology

Computer Science and Creative Technologies

BSc (Hons) Information Technology Management for Business was one of the first programmes mapped as part of UWE's SDGs and curriculum work. In 2020 new maps have been created for BSc (Hons) Cyber Security and Digital Forensics and MSc Data Science. Initial draft maps are created through analysis of programme documentation by the KESE departmental staff representative, Ian Brooks. Ian's process involved importing the programme and module specifications into QSR NVivo and coding sections of the specifications to the individual SDGs with particular attention to relevance at SDG target level. The resultant draft maps was then enhanced and agreed by the programme leader and core teaching team. Programme leaders were encouraged to use the maps to inform programme amendments, focussing on increasing sustainability content in compulsory modules.

The professional body / association requirements for sustainability in the computer science curriculum are often quite general so the SDGs provide a welcome level of specific challenge. It is frequently the case that SDG content is also included in programmes through the data sets used in course or project work. For example, these may be environmental quality data, satellite ecosystem observation or sociological data sets. The new maps has already been used to discuss how the team cover sustainability as part of the process of programme redesign which took place during the summer of 2020. Opportunities for computer science students to engage with issues of sustainable development continue to increase in number, most recently with the addition of an optional year 3 UG module titled Sustainable Business and Computing

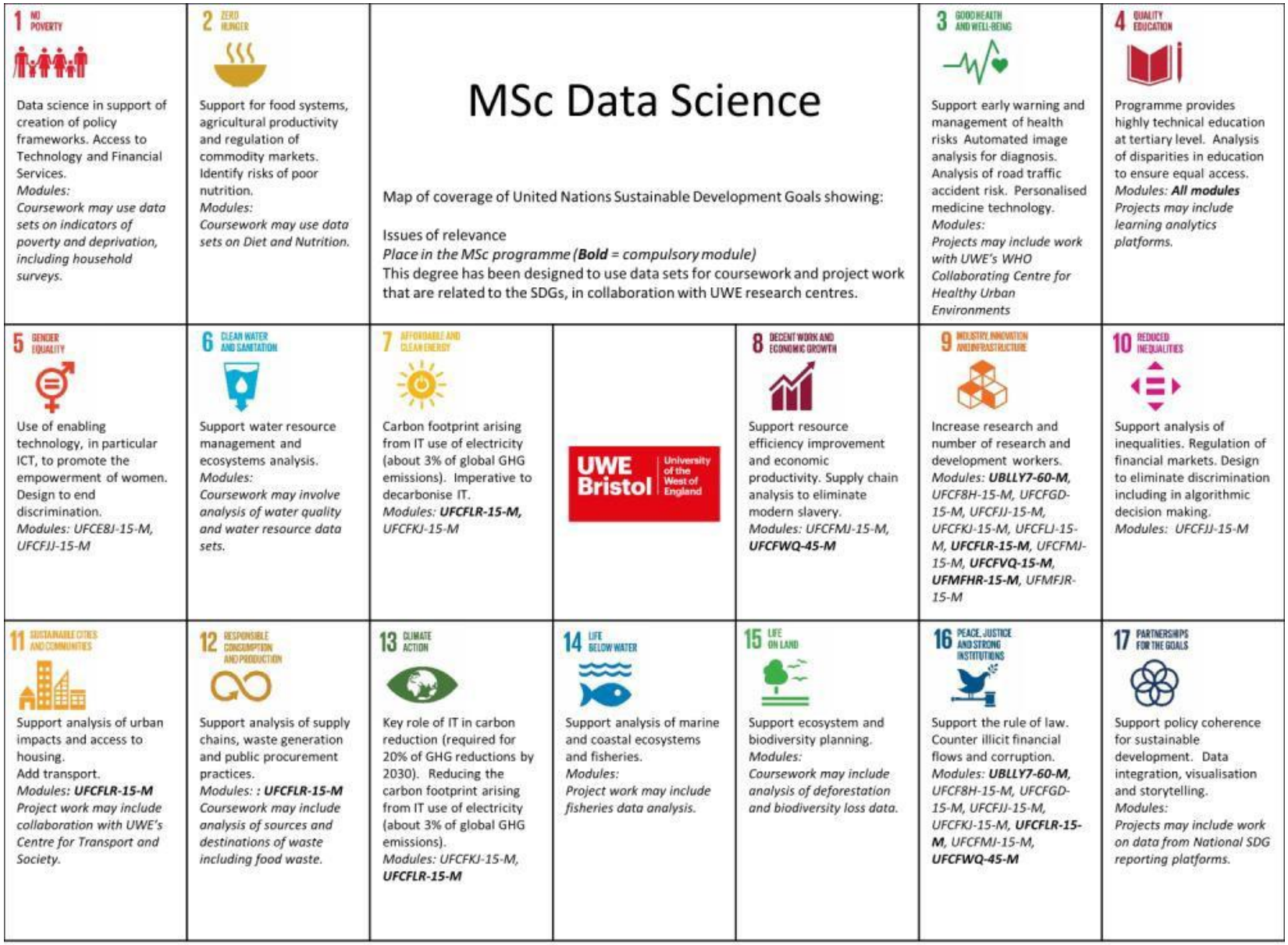
Ian Brooks ***Senior Lecturer in Sustainable IT***

1 NO POVERTY
IT enabling access to resources e.g. financial services, land registries and supporting resilience.
Modules:
Induction Sustainable Technology team project
UFCF6X-30-2 eBusiness
UFCFP6-30-3 The Information Practitioner 3
and 6 other modules
2 ZERO HUNGER
Role of logistics systems in food distribution. Productivity improvement through Smart agriculture.
Modules:
Induction Sustainable Technology team project
UFCF6X-30-2 eBusiness
UFCFP6-30-3 The Information Practitioner 3
and 6 other modules
BSc(Hons) Information Technology Management for Business (ITMB)
Issues of relevance
Place in the ITMB Programme
3 GOOD HEALTH AND WELL-BEING
Use of telehealth to widen healthcare coverage and App-supported healthy behaviour change
Modules:
UFCF6X-30-2 eBusiness
UFCFP6-30-3 The Information Practitioner 3
UMSD7T-15-3 Strategic Management
And 7 other modules
4 QUALITY EDUCATION
ITMB students have extensive learning in Entrepreneurship. Importance of lifelong learning in information systems. Changing nature of skills. Broadening access to education through online learning.
Modules:
UMSD87-15-3 Business Innovation and Growth
UFCF6X-30-2 eBusiness
UFCFP6-30-3 The Information Practitioner 3
And 10 other modules
5 GENDER EQUALITY
Learning about leadership, gender and diversity. Role of IT in enabling work opportunities which improve gender equality e.g. working from home
Modules:
UFCF6X-30-2 eBusiness
UFCFP6-30-3 The Information Practitioner 3
UMSD7T-15-3 Strategic Management
UMOD6F-15-3 Organisational Leadership
And 7 other modules
6 CLEAN WATER AND SANITATION
Role of IT in Integrated Water Resource Management. IT systems for running Water companies.
Modules:
Induction Sustainable Technology team project
UFCF6X-30-2 eBusiness
UFCFP6-30-3 The Information Practitioner 3
and 6 other modules
7 AFFORDABLE AND CLEAN ENERGY
Carbon footprint arising from IT use of electricity (about 3% of global GHG emissions). Imperative to decarbonise IT. Smart Grids.
Modules:
Induction Sustainable Technology team project
UFCF6X-30-2 eBusiness
UFCFP6-30-3 The Information Practitioner 3
and 6 other modules
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Impact of technology on work. Role of entrepreneurship in creating work and growth.
Modules:
UMSD87-15-3 Business Innovation and Growth
UFCFA5-15-3 Information Networks and Society
UFCFE6-15-3 Professional Experience
And 15 other modules
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Guru lectures on areas of IT driven innovation. Role of IT in disrupting old business models and creating new value. Importance of IT infrastructure in enabling innovation.
Modules:
UFCFP3-30-1 Business Applications
UMSD7T-15-3 Strategic Management
UFCF6X-30-2 eBusiness
And 13 other modules
10 REDUCED INEQUALITIES
Key issues raised by ICTs that give rise to ethical concerns. Impact of disruptive technologies on wealth distribution. Precarious work. Use of IT to widen equality of opportunity.
Modules:
UFCFP6-30-3 The Information Practitioner 3
UMSD7T-15-3 Strategic Management
UFCFB5-15-3 Ethical and Professional Issues in Computing and Digital Media
And 7 other modules
11 SUSTAINABLE CITIES AND COMMUNITIES
Smart City systems. IT in management of city traffic. Role of IT in supporting citizen engagement in urban planning.
Modules:
Induction Sustainable Technology team project
UFCF6X-30-2 eBusiness
UMODDP-15-1 Understanding Organisations and people
and 8 other modules
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Role of IT in supply chain. Guru lectures on areas of IT driven innovation. Food waste reduction. IT in business sustainability reporting.
Modules:
Induction Sustainable Technology team project
UFCF6X-30-2 eBusiness
UFCFP3-30-1 Business Applications
UFCFP6-30-3 The Information Practitioner 3
and 9 other modules
13 CLIMATE ACTION
Key role of IT in carbon reduction (required for 20% of GHG reductions by 2030). Reducing the carbon footprint arising from IT use of electricity (about 3% of global GHG emissions).
Modules:
Induction Sustainable Technology team project
UFCF6X-30-2 eBusiness
UFCFP6-30-3 The Information Practitioner 3
and 7 other modules
14 LIFE BELOW WATER
Responsible management of eWaste to reduce water pollution. Use of remote sensing for fisheries management / protection.
Modules:
Induction Sustainable Technology team project
UFCF6X-30-2 eBusiness
UFCFP6-30-3 The Information Practitioner 3
and 6 other modules
15 LIFE ON LAND
IT in sharing benefits of genetic resources. Remote sensing for conservation.
Modules:
Induction Sustainable Technology team project
UFCF6X-30-2 eBusiness
UFCFP6-30-3 The Information Practitioner 3
and 6 other modules
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Social consequences of technological innovation. Issues of surveillance and cybercrime. Socio-technical hybrid nature of information practice.
Modules:
UFCFA5-15-3 Information Networks and Society
UFCFB5-15-3 Ethical and Professional Issues in Computing and Digital Media
UMODDP-15-1 Understanding Organisations and people
And 12 other modules
17 PARTNERSHIPS FOR THE GOALS
Ability to adapt to different academic and cultural settings. Technology sharing and cooperation. Role of the Technology Bank.
Modules:
UFCFWJ-15-3 International Experience
UFCF6X-30-2 eBusiness
UFCFP6-30-3 The Information Practitioner 3
and 9 other modules

1 NO POVERTY
Secure IT enabling access to resources e.g. financial services, land registries and supporting resilience.
UFCF93-30-1, UFCFE6-15-3, UFCFVJ-15-3, UFCFWJ-15-3
2 ZERO HUNGER
Security of logistics systems in food distribution.
UFCF93-30-1, UFCFE6-15-3, UFCFVJ-15-3, UFCFWJ-15-3
BSc (Hons) Cyber Security and Digital Forensics
SDG issues covered in the programme | Place in the programme
3 GOOD HEALTH AND WELL-BEING
Secure use of telehealth to widen healthcare coverage.
UFCF93-30-1, UFCFE6-15-3, UFCFVJ-15-3, UFCFWJ-15-3
4 QUALITY EDUCATION
Programme provides highly technical education at tertiary level.
UFCFVK-15-2, UFCF95-15-3, UFCFXK-30-3
5 GENDER EQUALITY
Use of enabling technology, in particular ICT, to promote the empowerment of women.
UFCFA5-15-3, UFCFB5-15-3
6 CLEAN WATER AND SANITATION
Security risks to water and sewage control infrastructure.
UFCF93-30-1, UFCFE6-15-3, UFCFVJ-15-3, UFCFWJ-15-3
7 AFFORDABLE AND CLEAN ENERGY
Carbon footprint arising from IT use of electricity (about 3% of global GHG emissions). Imperative to decarbonise IT. Security of Smart Grids.
UFCF93-30-1, UFCFDL-15-2
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Impact of technology on work. Role of entrepreneurship in creating work and growth.
UFCFVK-15-2, UFCF95-15-3, UFCFA5-15-3, UFCFB5-15-3, UFCFE6-15-3
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Importance of secure IT infrastructure in enabling innovation, including Internet of Things security. The need for technology development, research and innovation.
UFCFVK-15-2, UFCF95-15-3, UFCFA5-15-3, UFCFB5-15-3, UFCFU3-15-3, UFCFXK-30-3
10 REDUCED INEQUALITIES
Key Issues raised by ICT that give rise to ethical concerns such as automated discrimination. Impact of disruptive technologies on wealth distribution. Use of IT to widen equality of opportunity.
UFCFA5-15-3, UFCFB5-15-3
11 SUSTAINABLE CITIES AND COMMUNITIES
Smart City systems and security / assurance. Secure IT in management of city traffic.
UFCF93-30-1, UFCFE6-15-3, UFCFVJ-15-3, UFCFWJ-15-3
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Role of secure IT in supply chain. IT in business sustainability reporting / assurance.
UFCF93-30-1, UFCFE6-15-3, UFCFVJ-15-3, UFCFWJ-15-3
13 CLIMATE ACTION
Key role of IT in carbon reduction (required for 20% of GHG reductions by 2030). Reducing the carbon footprint arising from IT use of electricity (about 3% of global GHG emissions).
UFCF93-30-1, UFCFE6-15-3, UFCFVJ-15-3, UFCFWJ-15-3
14 LIFE BELOW WATER
Responsible management of e-waste to reduce water pollution.
UFCF93-30-1, UFCFE6-15-3 ,UFCFVJ-15-3, UFCFWJ-15-3
15 LIFE ON LAND
Remote sensing for detection of deforestation / environmental crime.
UFCF93-30-1, UFCFE6-15-3, UFCFVJ-15-3, UFCFWJ-15-3
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Social consequences of technological innovation. Issues of surveillance and cybercrime. Significance of ICT in maintaining rule of law.
UFCFP4-30-1, UFCFJ6-30-2, UJUUKM-30-2, UFCFA5-15-3, UFCFB5-15-3, UFCFC5-15-3, UFCFRB-15-3
17 PARTNERSHIPS FOR THE GOALS
Technology sharing and cooperation.
UFCFA5-15-3

1 NO POVERTY
Data science in support of creation of policy frameworks. Access to Technology and Financial Services.
Coursework may use data sets on indicators of poverty and deprivation, including household surveys.
2 ZERO HUNGER
Support for food systems, agricultural productivity and regulation of commodity markets. Identify risks of poor nutrition.
Coursework may use data sets on Diet and Nutrition.
MSc Data Science
SDG issues covered in the programme | Place in the programme
3 GOOD HEALTH AND WELL-BEING
Support early warning and management of health risks Automated image analysis for diagnosis. Analysis of road traffic accident risk. Personalised medicine technology.
Projects may include work with UWE's WHO Collaborating Centre for Healthy Urban Environments
4 QUALITY EDUCATION
Programme provides highly technical education at tertiary level. Analysis of disparities in education to ensure equal access.
All modules
Projects may include learning analytics platforms.
5 GENDER EQUALITY
Use of enabling technology, in particular ICT, to promote the empowerment of women. Design to end discrimination.
UFCEBJ-15-M, UFCFJJ-15-M
6 CLEAN WATER AND SANITATION
Support water resource management and ecosystems analysis.
Coursework may involve analysis of water quality and water resource data sets.
7 AFFORDABLE AND CLEAN ENERGY
Carbon footprint arising from IT use of electricity (about 3% of global GHG emissions). Imperative to decarbonise IT.
UFCFLR-15-M, UFCFKJ-15-M
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
• Support resource efficiency improvement and economic productivity. Supply chain analysis to eliminate modern slavery.
• UFCFMJ-15-M, UFCFWQ-45-M
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Increase research and number of research and development workers.
UBLLY7-60-M, UFCF8H-15-M, UFCFGD-15-M, UFCFJJ-15-M, UFCFKJ-15-M, UFCFLJ-15-M, UFCFLR-15-M, UFCFMJ-15-M, UFCFVQ-15-M, UFMFHR-15-M, UFMFJR-15-M
10 REDUCED INEQUALITIES
Support analysis of inequalities. Regulation of financial markets. Design to eliminate discrimination including in algorithmic decision making.
UFCFJJ-15-M
11 SUSTAINABLE CITIES AND COMMUNITIES
Support analysis of urban impacts and access to housing.
Add transport.
UFCFLR-15-M
Project work may include collaboration with UWE's - Centre for Transport and Society.
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Support analysis of supply chains, waste generation and public procurement practices.
UFCFLR-15-M
Coursework may include analysis of sources and destinations of waste including food waste.
13 CLIMATE ACTION
Key role of IT in carbon reduction (required for 20% of GHG reductions by 2030). Reducing the carbon footprint arising from IT use of electricity (about 3% of global GHG emissions).
UFCFKJ-15-M, UFCFLR-15-M
14 LIFE BELOW WATER
Support analysis of marine and coastal ecosystems and fisheries.
Project work may include fisheries data analysis.
15 LIFE ON LAND
Support ecosystem and biodiversity planning.
Coursework may include analysis of deforestation and biodiversity loss data.
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Support the rule of law. Counter illicit financial flows and corruption.
UBLLY7-60-M, UFCF8H-15-M, UFCFGD-15-M, UFCFJJ-15-M, UFCFKJ-15-M, UFCFLR-15-M, UFCFMJ-15-M, UFCFWQ-45-M
17 PARTNERSHIPS FOR THE GOALS
Support policy coherence for sustainable development. Data integration, visualisation and storytelling.
Projects may include work on data from National SDG reporting platforms.

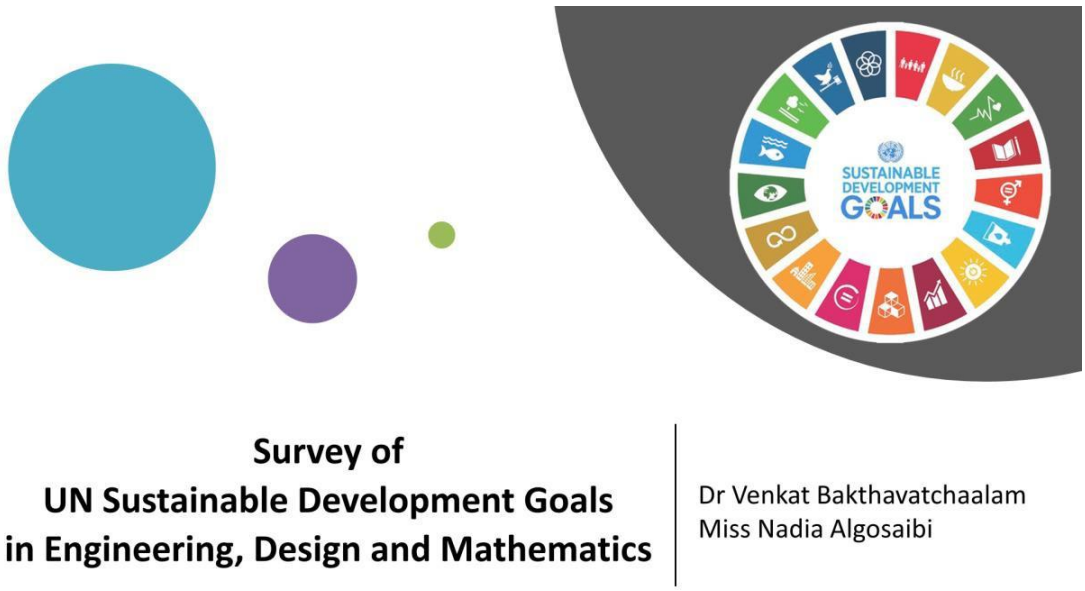
Draft of MSc Data Science map



Environment and Technology

Engineering Design and Mathematics

In response to a departmental-wide survey on inclusion of SDG-relevant issues within programmes in the Department of Engineering Design and Mathematics, 27 module leaders responded on ways by which their 50 modules provided opportunities for students to engage with the SDGs.



In Aerospace Engineering, lectures and tutorials on Design, Materials and CAD/CAM and on Materials and Structures for Special Applications make use of appropriate gender-neutral language and include learning on optimal integration of design, materials, CAD and manufacture to reduce weight, waste and energy consumption. The Aircraft Structural Design module covers wide areas on materials and composites in aerospace structures, starting from the design and ending up with the decommissioning of the hull. Aeroelasticity deals with the problems of vibrations, noise and fuel consumption.

Energy efficiency features in numerous modules across engineering programmes. In Thermofluid Systems and in Energy and Thermodynamics, for example, the relationships between energy efficiency and climate, resource use and sustainable industry practice are discussed.

Sustainable transport features strongly in the Motorsport Performance module, particularly in relation to propulsion systems. Course content investigates transport of the future and the influence of propulsion technology on emissions. In Automotive Technology second year module biofuels, electric vehicles and hybrid vehicles are taught as current and evolving technologies. In third year, students of Automotive Manufacturing learn about sustainable supply chains and waste reduction.

Life cycle analysis is a requirement of an assessment task within the coursework for the second year Design And Electromechanical Systems module, and students use specialist software (Sustainability Xpress and Granta CES) for this process. A third year module, Composite Engineering, includes focus on the life cycle assessment of composite materials and products and the sensitive balance between reduced weight (from composites) and reduced fuel use over the life of a vehicle. Students learn that composites cannot be

recycled at an industrial scale and that at their end of life they go to landfill. Discussion of issues with 'green' so-called sustainable natural composite materials and the energy intensive composite manufacturing processes in comparison to metallic processes helps students to appreciate the sustainability challenges of these materials. Consideration of ways by which the amount of energy required to manufacture composite structures can be reduced also forms part of the module.

In the third year optional module Business Environment, students are taught how to think "environment" when designing and developing innovative business ideas. This is also embedded in their group report and students are advised as follows: "In creating innovative business ideas, you must be environmentally conscious and ensure you create a product or service that can add great values to the environment. The group must conduct appropriate research and make informed decisions in creating a product or services that will reduce or not add negative impact on the environment".

Masters students can study Sustainable Engineering for Global Challenges. The aim of this module is to ensure students are aware of the major global challenges facing society and organisations and the potential for engineering-based solutions. Also at postgraduate level, students are taught about innovative engine technologies that help to reduce emissions and mitigate the impact of climate change as part of the Advanced Powertrain Technology module. Further, the Goals have now been embedded within delivery and assessment of the Structural Integrity in Design module affiliated with Mechanical Engineering programme.

New opportunities and developments identified in the mapping process include instances where SDGs are not covered directly, but applications of content could contribute to a variety of SDGs, such as in Vibrational Dynamics and Control Engineering.

Further, it is recognised that some of the SDGs might be implicit in the work carried out bystudents, for example in selecting the electric motor that has the lightest weight as part ofElectromechanical Systems Integration, but are not currently addressed explicitly.

Some assessments within this subject area link directly to SDG issues. One group work presentation assessment requires students to reflect on the UN 2030 plan. Mathematical Methods Students work in groups of 4-5 as consultants. Their coursework brief requires them tomake projections and recommendations in a video presentation. Examples of scenarios include safe levels of arsenic in drinking water and impacts of climate change on land fertility in Syria.

It is recognised that there is scope to integrate the SDGs into other modules. For example, modules on mathematics and statistical research methods could use resources such as https://unstats.un.org/sdgs/indicators/database/ in their teaching of statistical concepts.

Overview of survey process

Assessment of EDM Modules

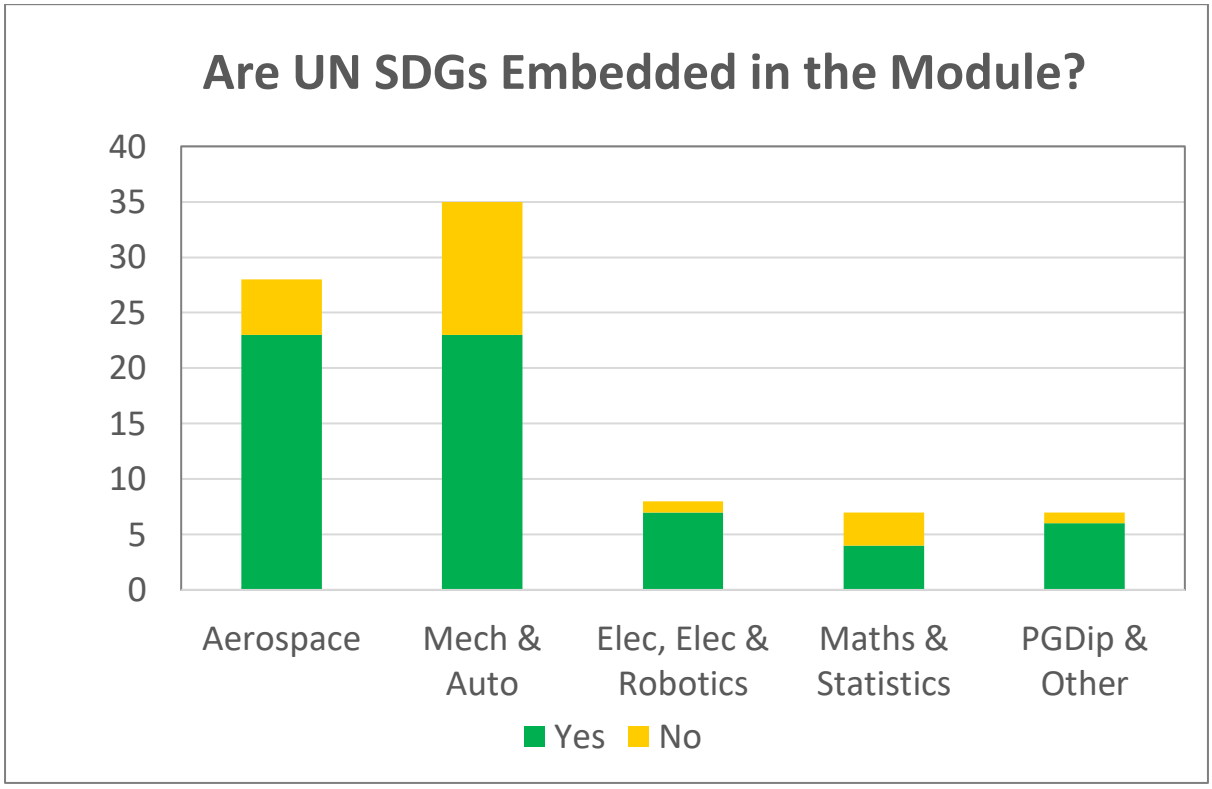
- Module leaders asked to indicate whether UN SDGs are embedded in modules.
- For purposes of analysis, modules were grouped by cluster:
  - Aerospace
  - Mechanical and Automotive
  - Electrical, Electronic and Robotics
  - Maths and Statistics
  - PGDip Engineering Competency and Other
- SDGs may be considered embedded if they are covered during lectures or tutorials, or withincoursework.
- Number of modules surveyed: 60

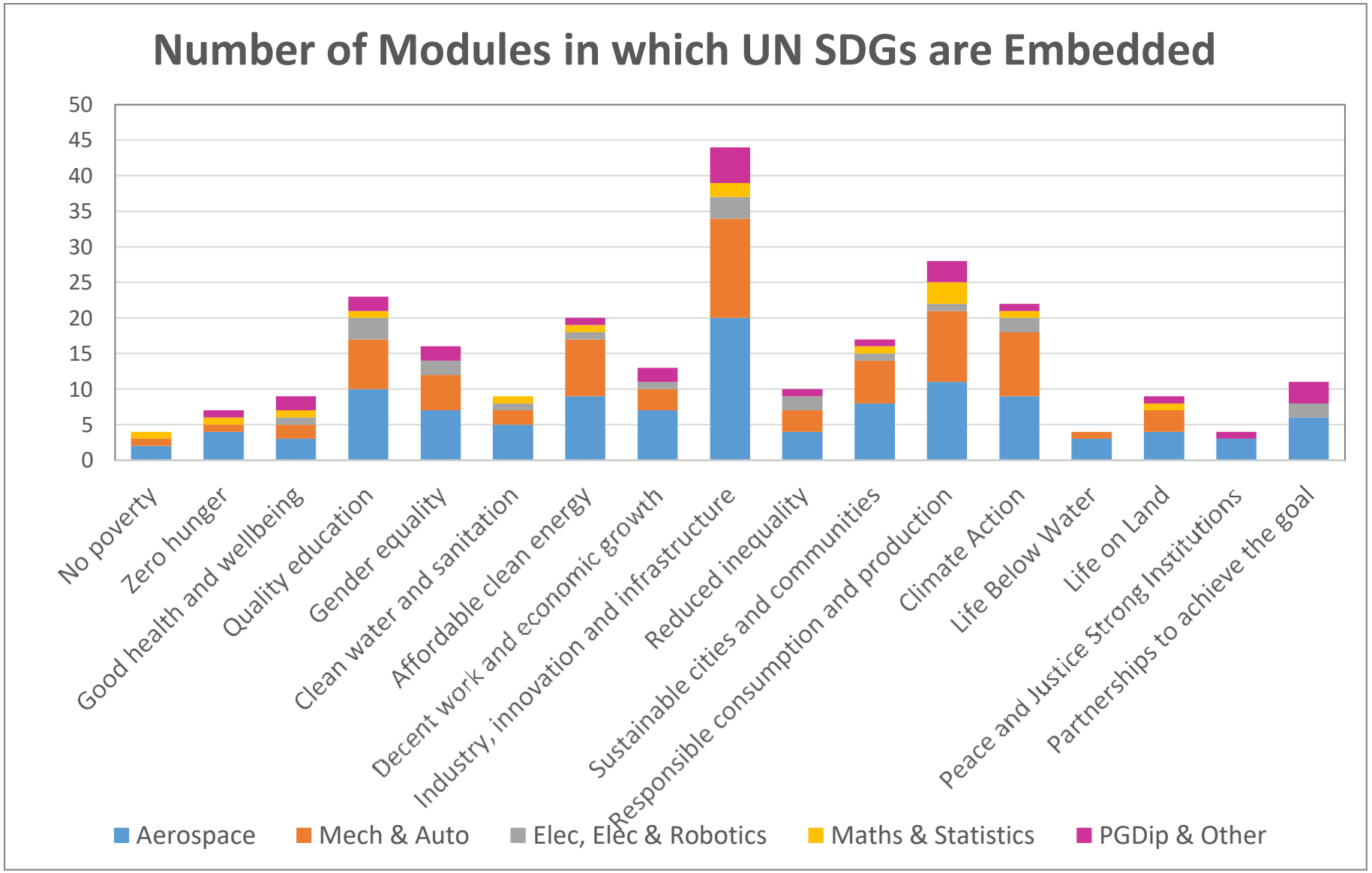
- A number of modules may be affiliated with more than one cluster and included in morethan one programme.

This summary represents the reflections of multiple staff across the cluster, including:

Arnaud Marmier	Joachim Gingele
Aruna Ashraf Afifi	John Kamalu
Benjamin Drew	Laura Fogg-Rogers
Brian Carse	Neil Larson
Chris Toomer	Paul White
David Richardson	Peter Kay
David Western	Pritesh Narayan
Emily Walsh	Ramin Amali
Farid Dailami	Robert Laister
Gary Atkinson	Rohitha Weerasinghe
Iain Barton	Ruth Jones
Jason Matthews	Udonna Okeke
Jerzy Bakunowicz	Wendy Fowles-Sweet

Venkat Bakthavatchaalam ***Lecturer in Mechanical Engineering***




Number of Modules in which UN SDGs are Embedded
50
45
40
35
30
25
20
15
10
5
0
No poverty
Zero hunger
Good health and wellbeing
Quality education
Gender equality
Clean water and sanitation
Affordable clean energy
Decent work and economic growth
Industry, innovation and infrastructure
Reduced inequality
Sustainable cities and communities
Responsible consumption and production
Climate Action
Life Below Water
Life on Land
Peace and Justice Strong Institutions
Partnerships to achieve the goal
Aerospace
Mech & Auto
Elec, Elec & Robotics
Maths & Statistics
PGDip & Other

Heat Map of EDM Modules (%)

Map indicates the percentage of modules within which the SDG is embedded

Less than 15%	16-30%	31-45%	46-60%	60% and above

GOAL 1: No Poverty *n=4, (7%)*	**GOAL 2: Zero Hunger** *n=7, (12%)*	**GOAL 3: Good Health & Wellbeing** *n=9, (15%)*	**GOAL 4: Quality Education** *n=23, (38%)*	**GOAL 5: Gender Equality** *n=16, (27%)*	**GOAL 6: Clean Water & Sanitation** *n=9, (15%)*
GOAL 7: Affordable & Clean Energy *n=20, (33%)*	**GOAL 8: Decent Work & Economic Growth** *n=13, (22%)*	**GOAL 9: Industry, Innovation & Infrastructure** *n=44, (73%)*	**GOAL 10: Reduced Inequality** *n=10, (17%)*	**GOAL 11: Sustainable Cities & Communities** *n=17, (28%)*	**GOAL 12: Responsible Consumption & Production** *n=28, (47%)*
GOAL 13: Climate Action *n=22, (37%)*	**GOAL 14: Life Below Water** *n=4, (7%)*	**GOAL 15: Life on Land** *n=9, (15%)*	**GOAL 16: Peace & Justice Strong Institutions** *n=4 (7%)*	**GOAL 17: Partnerships to achieve the Goal** *n=11 (18%)*	

n = frequency of the modules covering each of the SDGs

The % is calculated by dividing the frequency of the modules covering a particular SDG with the total no. of module responses (60)

Aerospace Programmes

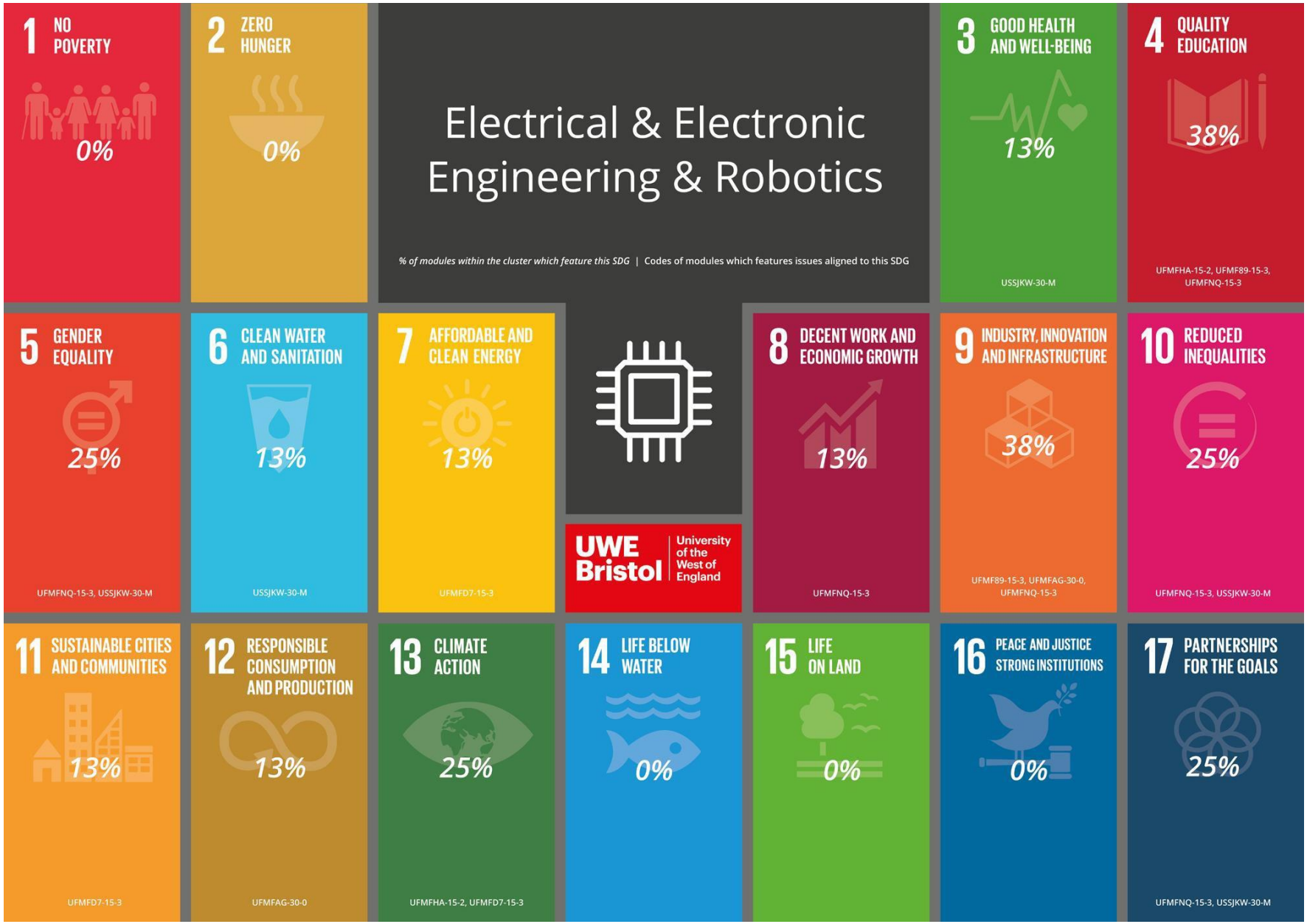
Analysis of SDGs embedded in aerospace programmes.

Indicates goal is embedded in lectures and/or tutorials and/or coursework.

	UN Sustainability Goals																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	No poverty	Zero hunger	Good health and wellbeing	Quality education	Gender equality	Clean water and sanitation	Affordable clean energy	Decent work and economic growth	Industry, innovation and infrastructure	Reduced inequality	Sustainable cities and communities	Responsible consumption and production	Climate Action	Life Below Water	Life on Land	Peace and Justice Strong Institutions	Partnerships to achieve the goal
BEng Aerospace (Design Routeway)		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
BEng Aerospace (Manufacturing Routeway)				■	■	■	■	■	■	■	■	■	■	■	■		■
BEng Aerospace (Systems Routeway)		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
MEng Aerospace wPilot Studies (Design Routeway)		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
MEng Aerospace wPilot Studies (Manufacturing Routeway)				■	■	■	■	■	■	■	■	■	■	■	■		■
MEng Aerospace wPilot Studies (Systems Routeway)		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
MEng Aerospace (Design Routeway)		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
MEng Aerospace (Manufacturing Routeway)				■	■	■	■	■	■	■	■	■	■	■	■		■
MEng Aerospace (Systems Routeway)		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
MSc Engineering Management	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

1 NO POVERTY
7%
UFMFBM-30-M
2 ZERO HUNGER
14%
UFMFCH-15-3, UFMEWA-15-M, UFMFBM-30-M, UFMFLS-30-1
Aerospace Engineering
% of modules within the cluster which feature this SDG | Codes of modules which features issues aligned to this SDG
3 GOOD HEALTH AND WELL-BEING
11%
UFMFCH-15-3, UFMFBM-30-M, UFMFLS-30-1
4 QUALITY EDUCATION
36%
UFMFCH-15-3, UFMFBM-30-M, UFMFLS-30-1
5 GENDER EQUALITY
25%
UFMFD8-30-2, UFMFCL-15-3, UFMFBM-30-M, UFMFNQ-15-3, UFMFKS-30-1, UFMFEQ-30-M, UFMFLS-30-1
6 CLEAN WATER AND SANITATION
18%
UFMFHA-15-2, UFMFCH-15-3, UFMFWF-15-3, UFMFBM-30-M, UFMFKS-30-1
7 AFFORDABLE AND CLEAN ENERGY
32%
UFMFRK-15-2, UFMFCH-15-3, UFMFCL-15-3, UFMEWB-15-M, UFMEWA-15-M, UFMFF3-15-1, UFMFBM-30-M, UFMFKS-30-1, UFMFLS-30-1
UWE Bristol
University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
25%
UFMEWA-15-M, UFMFBM-30-M, UFMFNQ-15-3, UFMFKS-30-1
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
71%
UFMFRK-15-2, UFMFCH-15-3, UFMF89-15-3, UFMFWF-15-3, UFMFM7-15-3, UFMEWB-15-M, UFMEWA-15-M, UFMEWC-15-M, UFMFD8-30-2, UFMEE8-15-M, UFMFD8-30-2, UFMEEC-15-M, UFMFCC-15-M, UFMFJM-15-M, UFMFF3-15-1, UFMFEG-30-0, UFMFBM-30-M, UFMFAG-30-0, UFMFNQ-15-3, UFMFKS-30-1, UFMFLS-30-1
10 REDUCED INEQUALITIES
14%
UFMFM7-15-3, UFMFBM-30-M, UFMFNQ-15-3, UFMFLS-30-1
11 SUSTAINABLE CITIES AND COMMUNITIES
29%
UFMFCL-15-3, UFMFM7-15-3, UFMEWB-15-M, UFMEWA-15-M, UFMFBM-30-M, UFMFKS-30-1, UFMFEQ-30-M, UFMFLS-30-1
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
39%
UFMFCH-15-3, UFMFWF-15-3, UFMFM7-15-3, UFMEE8-15-M, UFMEEC-15-M, UFMFJM-15-M, UFMFEG-30-0, UFMFD8-30-2, UFMFBM-30-M, UFMFAG-30-0, UFMFKS-30-1
13 CLIMATE ACTION
32%
UFMFHA-15-2, UFMFCH-15-3, UFMEWB-15-M, UFMEWA-15-M, UFMEWC-15-M, UFMFF3-15-1, UFMFBM-30-M, UFMFKS-30-1, UFMFLS-30-1
14 LIFE BELOW WATER
11%
UFMFCH-15-3, UFMFWF-15-3, UFMFBM-30-M
15 LIFE ON LAND
14%
UFMFCH-15-3, UFMFWF-15-3, UFMEWA-15-M, UFMFBM-30-M
16 PEACE AND JUSTICE STRONG INSTITUTIONS
11%
UFMFCH-15-3, UFMEWA-15-M, UFMFBM-30-M
17 PARTNERSHIPS FOR THE GOALS
21%
UFMFCH-15-3, UFMEWA-15-M, UFMFBM-30-M, UFMFNQ-15-3, UFMFKS-30-1, UFMFEQ-30-M

1 NO POVERTY
3%
UFMFLS-30-1
2 ZERO HUNGER
3%
UFMFLS-30-1
Mechanical & Automotive Engineering
% of modules within the cluster which feature this SDG | Codes of modules which features issues aligned to this SDG
3 GOOD HEALTH AND WELL-BEING
6%
UFMFLS-30-1, UFMFMP-15-2
4 QUALITY EDUCATION
20%
UFMFCL-15-3, UFMFLS-30-1, UFMFHA-15-2, UFMFMP-15-2, UFMFWF-15-3, UFMF89-15-3, UFMEBP-15-M
5 GENDER EQUALITY
14%
UFMFCL-15-3, UFMFLS-30-1, UFMFMP-15-2, UFMF7K-15-3, UFMEBP-15-M
6 CLEAN WATER AND SANITATION
6%
UFMFHA-15-2, UFMFWF-15-3
7 AFFORDABLE AND CLEAN ENERGY
23%
UFMFCL-15-3, UFMFF3-15-1, UFMFLS-30-1, UFMFW8-30-2, UFMFMC-30-2, UFMF8E-15-M, UFMFMP-15-2, UFMFD7-15-3
UWE Bristol
University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
9%
UFMFCL-15-3, UFMFMP-15-2, UFMEBP-15-M
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
40%
UFMFCL-15-3, UFMFCC-15-M, UFMFF3-15-1, UFMFEG-30-0, UFMFLS-30-1, UFMEEC-15-M, UFMFVL-15-M, UFMFTA-15-3, UFMFAG-30-0, UFMFMP-15-2, UFMEBP-15-M, UFMF7K-15-3, UFMF89-15-3, UFMFWF-15-3, UFMFT9-30-3
10 REDUCED INEQUALITIES
9%
UFMFLS-30-1, UFMFMP-15-2, UFMEBP-15-M
11 SUSTAINABLE CITIES AND COMMUNITIES
17%
UFMFCL-15-3, UFMFU6-15-3, UFMFLS-30-1, UFMFT9-30-3, UFMFD7-15-3, UFMEBP-15-M
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
29%
UFMF88-30-2, UFMFEG-30-0, UFMFU6-15-3, UFMEEC-15-M, UFMFTA-15-3, UFMFAG-30-0, UFMFWF-15-3, UFMFNC-30-3, UFMFMP-15-2, UFMEBP-15-M
13 CLIMATE ACTION
26%
UFMFF3-15-1, UFMFLS-30-1, UFMFW8-30-2, UFMFHA-15-2, UFMFTA-15-3, UFMF8E-15-M, UFMFMP-15-2, UFMFD7-15-3, UFMEBP-15-M
14 LIFE BELOW WATER
3%
UFMFWF-15-3
15 LIFE ON LAND
9%
UFMFU6-15-3, UFMFWF-15-3, UFMFT9-30-3
16 PEACE AND JUSTICE STRONG INSTITUTIONS
0%
17 PARTNERSHIPS FOR THE GOALS
0%


1 NO POVERTY
0%
2 ZERO HUNGER
0%
Electrical & Electronic Engineering & Robotics
% of modules within the cluster which feature this SDG | Codes of modules which features issues aligned to this SDG
3 GOOD HEALTH AND WELL-BEING
13%
USSJKW-30-M
4 QUALITY EDUCATION
38%
UFMFHA-15-2, UFMF89-15-3, UFMFNQ-15-3
5 GENDER EQUALITY
25%
UFMFNQ-15-3, USSJKW-30-M
6 CLEAN WATER AND SANITATION
13%
USSJKW-30-M
7 AFFORDABLE AND CLEAN ENERGY
13%
UFMFD7-15-3
UWE Bristol
University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
13%
UFMFNQ-15-3
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
38%
UFMF89-15-3, UFMFAG-30-0, UFMFNQ-15-3
10 REDUCED INEQUALITIES
25%
UFMFNQ-15-3, USSJKW-30-M
11 SUSTAINABLE CITIES AND COMMUNITIES
13%
UFMFD7-15-3
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13%
UFMFAG-30-0
13 CLIMATE ACTION
25%
UFMFHA-15-2, UFMFD7-15-3
14 LIFE BELOW WATER
0%
15 LIFE ON LAND
0%
16 PEACE AND JUSTICE STRONG INSTITUTIONS
0%
17 PARTNERSHIPS FOR THE GOALS
25%
UFMFNQ-15-3, USSJKW-30-M

Heat Map of SDGs in Electrical, Electronic and Robotics Programmes

Map indicates the percentage of modules within which the SDG is embedded

Less than 5%	6-10%	11-15%	16-20%	20 % and above

GOAL 1: No Poverty *n=0*	**GOAL 2: Zero Hunger** *n=0*	**GOAL 3: Good Health & Wellbeing** *n=1, (13%)*	**GOAL 4: Quality Education** *n=3, (38%)*	**GOAL 5: Gender Equality** *n= 2, (25%)*	**GOAL 6: Clean Water & Sanitation** *n=1, (13%)*
GOAL 7: Affordable & Clean Energy *n=1, (13%)*	**GOAL 8: Decent Work & Economic Growth** *n=1, (13%)*	**GOAL 9: Industry, Innovation & Infrastructure** *n=3, (38%)*	**GOAL 10: Reduced Inequality** *n=2, (25%)*	**GOAL 11: Sustainable Cities & Communities** *n=1, (13%)*	**GOAL 12: Responsible Consumption & Production** *n=1, (13%)*
GOAL 13: Climate Action *n=2, (25%)*	**GOAL 14: Life Below Water** *n=0*	**GOAL 15: Life on Land** *n=0*	**GOAL 16: Peace & Justice Strong Institutions** *n=0*	**GOAL 17: Partnerships to achieve the Goal** *n=2 (25%)*	

n = frequency of the modules covering each of the SDGs

The % is calculated by dividing the frequency of the modules covering a particular SDG with the total no. of module responses in Elec and Robotics (8)

Mathematics & Statistics Modules

Analysis of modules affiliated with mathematics and statistics programmes.

1 NO POVERTY UFMFF9-30-2	2 ZERO HUNGER UFMFF9-30-2			3 GOOD HEALTH AND WELL-BEING UFMFF9-30-2	4 QUALITY EDUCATION UFMF89-15-3	
5 GENDER EQUALITY	6 CLEAN WATER AND SANITATION UFMFF9-30-2	7 AFFORDABLE AND CLEAN ENERGY UFMFF9-30-2		8 DECENT WORK AND ECONOMIC GROWTH	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE UFMFAG-30-0 UFMF89-15-3	10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES UFMFF9-30-2	12 RESPONSIBLE CONSUMPTION AND PRODUCTION UFMFF9-30-2 UFMFAG-30-0 UFMFK8-30-3	13 CLIMATE ACTION UFMFF9-30-2	14 LIFE BELOW WATER	15 LIFE ON LAND UFMFF9-30-2	16 PEACE AND JUSTICE STRONG INSTITUTIONS	17 PARTNERSHIPS FOR THE GOALS

Table indicates where the SDGs are embedded in mathematics and statistics modules.

Number of modules assessed: 7

Arts, Creative Industries and Education

Education and Childhood

Initial mapping began with the largest undergraduate programme: PGCE Initial Teacher Education (350+students) following a staff meeting where the SDGs were introduced to colleagues. A meeting was facilitated by an external chair (UWE's ESD lead) and the programme and module leaders of the course were guided to consider how the SDGs were embedded in the content of what was taught. Having an external (and known knowledgeable) colleague present worked on two levels. Firstly, it brought a sense of importance and focus to discussion in addition to providing myself with a model to undertake further meetings. This initial meeting increased the confidence in staff ('oh, we're doing more than we thought we were') and grew a network of colleagues who had been through the process. Thus, when calls for other programmes to take part were made, colleagues could be reassured and directed to those already through / in the process.

Other programme leaders within the department were invited to take part. Initial emails were followed by conversations regarding the best approach. For larger programmes with many subjects and modules, this involved programme leaders sending out a pre-prepared power point explaining the SDGs and the purpose of the process and then providing a pro forma for staff to fill in with regard the content they plan / teach. It was made clear that not all SDGs had to be covered and that this wasn't a shoe horning exercise. Colleagues were given a set timeframe and were nudged (by email reminder from the programme leader) if they did not keep to the deadline.

For smaller programmes and those programmes under review 1:1 discussions were arranged, using the SDG proforma to guide thinking and prompt discussion. A student voice was also included in the mapping of the BA Education. The Masters in Education course was under review, and so mapping was a feed forward exercise as the Programme Leader was keen to work out how the SDGs could be used in future teaching. Monthly emails of KESE updates keep colleagues up to date and prompt response and engagement.

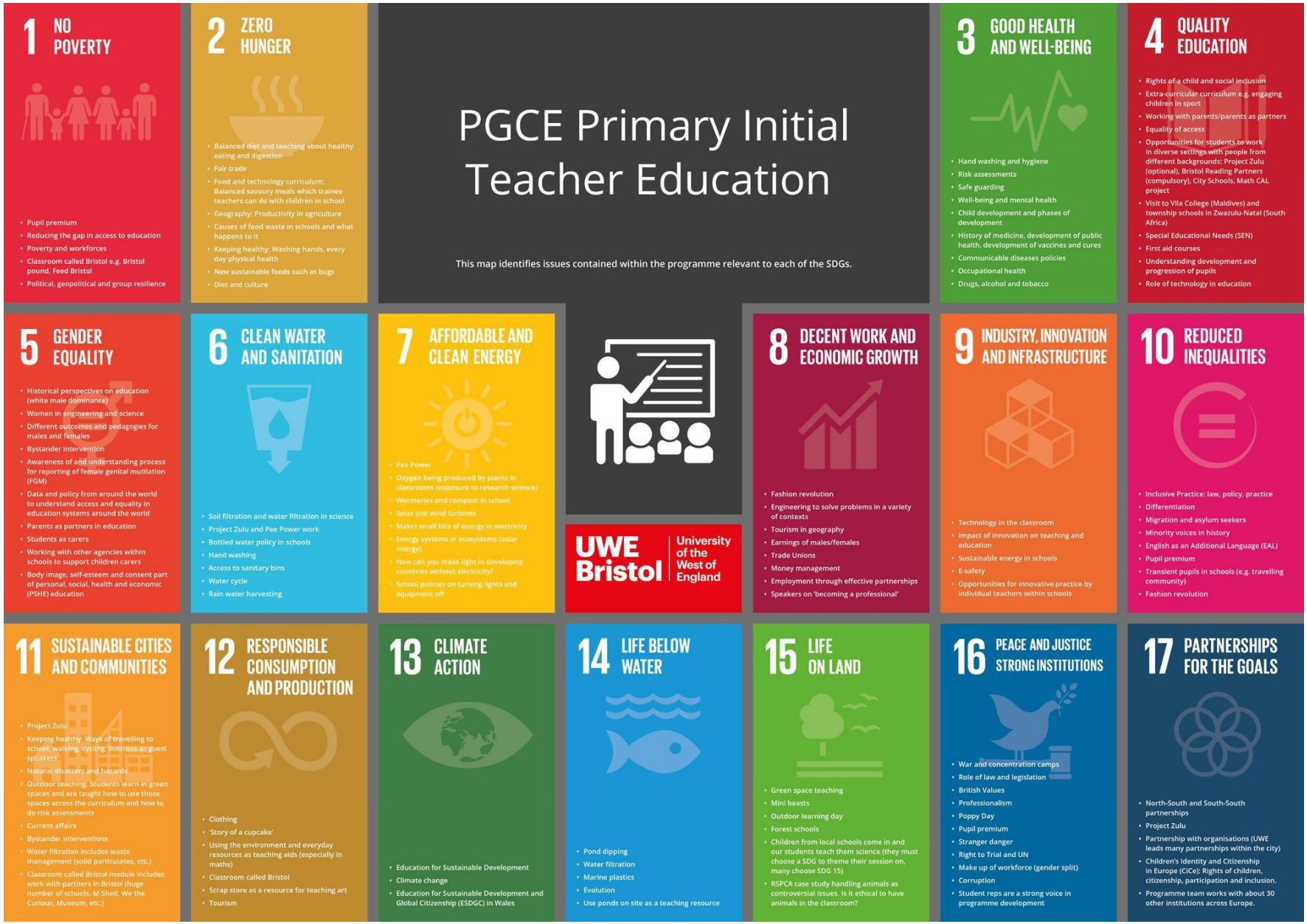
Learning points:

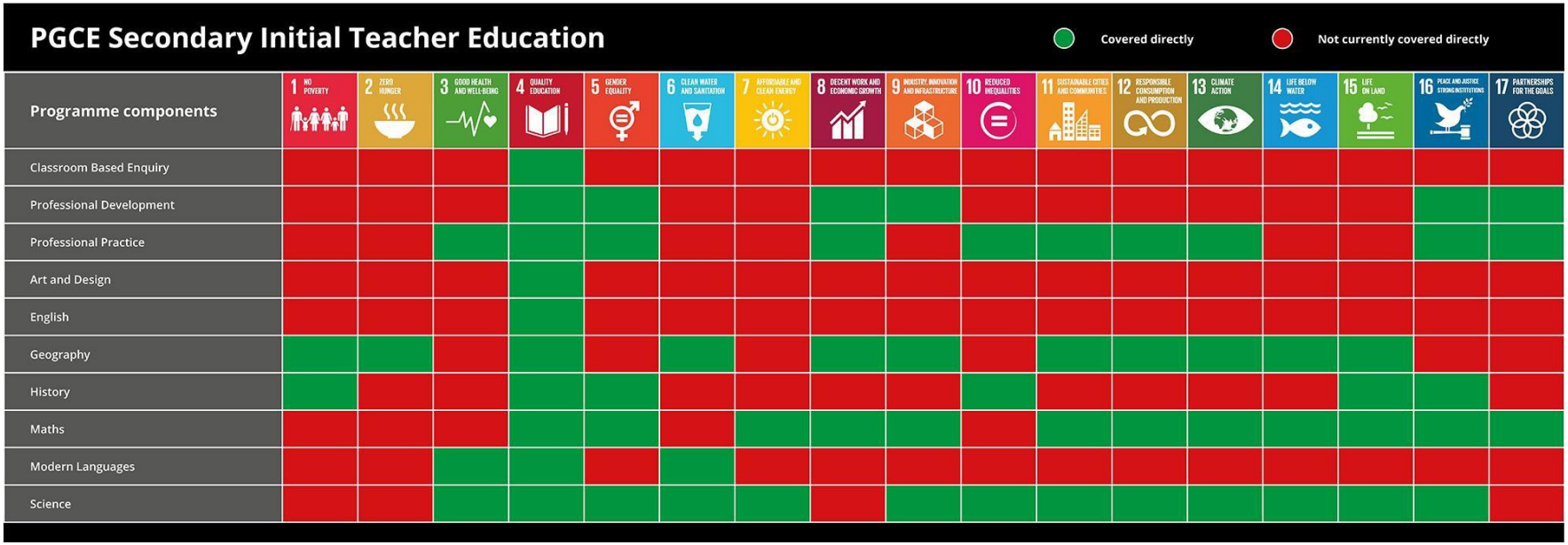
- Having an external facilitator at the start is helpful to instil a sense of importance
- Communicating with a core of colleagues initially helps support the process in other areas of a department as the process widens
- Having an information document to send out to people involved in the process helps frame the purpose and context
- Having a pro forma for colleagues to map onto helps frame thinking
- Having a specific time diarised for this brings focus of thought
- Timing SDG planning discussion around module / programme review/creation enables SDGs to be embedded from outset

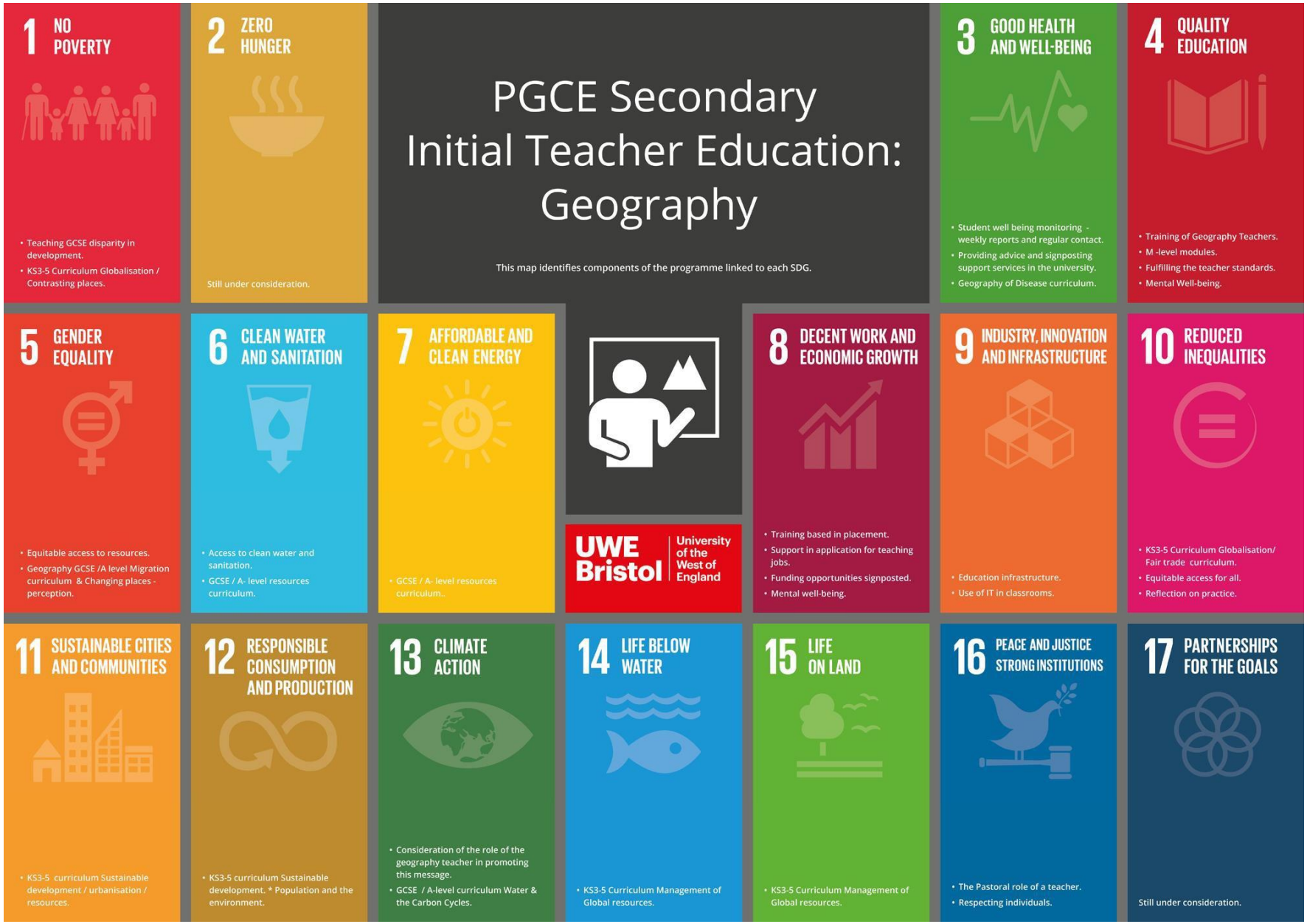
Verity Jones ***Associate Professor in Education***

1 NO POVERTY
• Indicators of Health and Wellbeing and Poverty as a theme for marginalised and vulnerable groups.
• Essay on marginalised/vulnerable groups and rights enablement/realisation
• Discussions around cultural capital highlight the positioning of Early Childhood as key to future opportunity.
• Constructions of Childhood
• Children's Rights, Well-Being & Health
• The Development of Reasoning
2 ZERO HUNGER
• Indicators of Health and Wellbeing and Poverty as a theme for marginalised and vulnerable groups.
• Essay on marginalised/vulnerable groups and rights enablement/realisation
• Discussions around cultural capital highlight the positioning of Early Childhood as key to future opportunity.
• Constructions of Childhood
• Children's Rights, Well-Being & Health
BA (Hons)
Early Childhood
SDG issues covered in the programme | Place in the programme
3 GOOD HEALTH AND WELL-BEING
• Indicators of Health and Wellbeing and Poverty as a theme for marginalised and vulnerable groups.
• Essay on marginalised/vulnerable groups and rights enablement/realisation
• Discussions around cultural capital highlight the positioning of Early Childhood as key to future opportunity.
• Module includes exploration of safeguarding and children's well-being, considering how this links to a range of professional roles across the ECEC sector.
• Children's Rights, Well-Being & Health
• Leadership and Professional Futures
4 QUALITY EDUCATION
• Quality as contested theme- comparison of curriculum theory in terms of quality.
• Assessment essay on quality and curriculum design and comparison
• An understanding of children's thinking highlights what the role of the adult should be to provide quality opportunities for the children in their care
• An exploration of ECEC professional roles, including those involved in formal and informal education.
• Policies and comparative curricula
• The Development of Reasoning
• Leadership & Professional Futures
5 GENDER EQUALITY
• Essays on sexualisation and child exploitation.
• Students can choose as a theme to use for their essay.
• Constructions of Childhood
• Emerging languages & Identities
6 CLEAN WATER AND SANITATION
• Theme around the environmental child and how climate change affects children as a group more than any other.
• Children's Rights Health and wellbeing
7 AFFORDABLE AND CLEAN ENERGY
Connections still under consideration
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
• Children and Labour – the construct of the child historically as mini adults for profit. Historical changing constructs of the child but also contextual discussion on global workforce of children. Economic child and the 'exploited/empowered' debate.
• Constructions of Childhood
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
• Focus on the wider context of professional roles, including structures (teams/ leaderships) and the relevance of private/ public sector delivery.
• Leadership & Professional Futures
10 REDUCED INEQUALITIES
• Throughout the module – inequality as an infringement of Children's rights Gini Co-efficient and indicators of health wellbeing development and equality discussed. Children with SEND also discussed as a marginalised/ vulnerable group. Tying in with poverty.
• Children's rights health and wellbeing
11 SUSTAINABLE CITIES AND COMMUNITIES
• Children's rights health and wellbeing
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Connections still under consideration
13 CLIMATE ACTION
• Children's rights health and wellbeing
14 LIFE BELOW WATER
Connections still under consideration
15 LIFE ON LAND
Connections still under consideration
16 PEACE AND JUSTICE STRONG INSTITUTIONS
• Children's rights health and wellbeing
17 PARTNERSHIPS FOR THE GOALS
• Essay on the role of the UNCRC/ Save the Children/UNICEF in working with government and Children's Rights committees in ratifying countries to enable and uphold children's rights. Looking from global to local level.
• Children's rights health and wellbeing

1 NO POVERTY
Year 1
Cultural deprivation and inequality explored through seminars on issues-based and critical approaches to SEN
Year 2
Building on this due to Special Needs pathway
2 ZERO HUNGER
Year 3
international education will focus on this
BA (Hons) Education
This map identifies issues contained within the programme relevant to each of the SDGs.
3 GOOD HEALTH AND WELL-BEING
Year 1
Develop and work as a community and built this in order to enhance student well being and quality education. This is hoped to help retention.
Year 2
Professional skills and preparation for the workplace
4 QUALITY EDUCATION
Year 1
The provision of quality education is the core pursuit of the course
5 GENDER EQUALITY
Year 1
Becoming an educator is about who you are. We think about how we meet diverse needs and the performances of boys and girls.
Year 2
Have to analyse setting in work place setting as part of assessment.
6 CLEAN WATER AND SANITATION
Not currently addressed within programme.
7 AFFORDABLE AND CLEAN ENERGY
Not currently addressed within programme.
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Year 1
Becoming an Educator module looks at the Educator in different working contexts.
Year 2
Professional skills module
Year 3
Employability and career development module
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Year 1
The explicitly vocational qualities of the course are designed to prepare graduates for entry into educational industries. Students are also made aware of career prospects within, and the national value of, the education industries for the purposes of impacting their curriculum design.
Digital learning module.
Year 2
Digital learning pathway to consider designing digital learning, policy and practice.
10 REDUCED INEQUALITIES
Year 1
Seminars on becoming an educator include UWE interdisciplinary and external visitor speakers to share good practice within SEND
Year 2
Special NEEDS PATHWAY
Education in practice modules – part of analyse will consider this.
11 SUSTAINABLE CITIES AND COMMUNITIES
Year 1
Developing partnerships with outside agencies to increase student engagement with their community. Creating links for second years practice module.
The Programme community is continually developing in order to support wellbeing.
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Year 1
Using online resources instead of having to use paper based. Eg. Talis
13 CLIMATE ACTION
Not currently addressed within programme.
14 LIFE BELOW WATER
Not currently addressed within programme.
15 LIFE ON LAND
Not currently addressed within programme.
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Year 1
Collaborative exercises, including peer-to-peer, inter departmental, and across agencies are discussed, demonstrated, and investigated within the course curriculum
17 PARTNERSHIPS FOR THE GOALS
Not currently addressed within programme.


1 NO POVERTY
Pupil premium
Reducing the gap in access to education
Poverty and workforces
Classroom called Bristol e.g. Bristol pound, Feed Bristol
Political, geopolitical and group resilience
2 ZERO HUNGER
Balanced diet and teaching about healthy eating and digestion
Fair trade
Food and technology curriculum: Balanced savoury meals which trainee teachers can do with children in school
Geography: Productivity in agriculture
Causes of food waste in schools and what happens to it
Keeping healthy: Washing hands, every day physical health
New sustainable foods such as bugs
Diet and culture
PGCE Primary Initial Teacher Education
This map identifies issues contained within the programme relevant to each of the SDGs.
3 GOOD HEALTH AND WELL-BEING
Hand washing and hygiene
Risk assessments
Safe guarding
Well-being and mental health
Child development and phases of development
History of medicine, development of public health, development of vaccines and cures
Communicable diseases policies
Occupational health
Drugs, alcohol and tobacco
4 QUALITY EDUCATION
Rights of a child and social inclusion
Extra-curricular curriculum e.g. engaging children in sport
Working with parents/parents as partners
Equality of access
Opportunities for students to work in diverse settings with people from different backgrounds: Project Zulu (optional), Bristol Reading Partners (compulsory), City Schools, Math CAL project
Visit to Vila College (Maldives) and township schools in Zwazulu-Natal (South Africa)
Special Educational Needs (SEN)
First aid courses
Understanding development and progression of pupils
Role of technology in education
5 GENDER EQUALITY
Historical perspectives on education (white male dominance)
Women in engineering and science
Different outcomes and pedagogies for males and females
Bystander intervention
Awareness of and understanding process for reporting of female genital mutilation (FGM)
Data and policy from around the world to understand access and equality in education systems around the world
Parents as partners in education
Students as carers
Working with other agencies within schools to support children carers
Body image, self-esteem and consent part of personal, social, health and economic (PSHE) education
6 CLEAN WATER AND SANITATION
Soil filtration and water filtration in science
Project Zulu and Pee Power work
Bottled water policy in schools
Hand washing
Access to sanitary bins
Water cycle
Rain water harvesting
7 AFFORDABLE AND CLEAN ENERGY
Pee Power
Oxygen being produced by plants in classrooms (exposure to research science)
Wormeries and compost in school
Solar and wind turbines
Makin small bits of energy in electricity
Energy systems in ecosystems (solar energy)
How can you make light in developing countries without electricity?
School policies on turning lights and equipment off
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Fashion revolution
Engineering to solve problems in a variety of contexts
Tourism in geography
Earnings of males/females
Trade Unions
Money management
Employment through effective partnerships
Speakers on 'becoming a professional'
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Technology in the classroom
Impact of innovation on teaching and education
Sustainable energy in schools
E-safety
Opportunities for innovative practice by individual teachers within schools
10 REDUCED INEQUALITIES
Inclusive Practice: law, policy, practice
Differentiation
Migration and asylum seekers
Minority voices in history
English as an Additional Language (EAL)
Pupil premium
Transient pupils in schools (e.g. travelling community)
Fashion revolution
11 SUSTAINABLE CITIES AND COMMUNITIES
Project Zulu
Keeping healthy: Ways of travelling to school, walking, cycling. Sustrans as guest speakers
Natural disasters and hazards
Outdoor teaching: Students learn in green spaces and are taught how to use those spaces across the curriculum and how to do risk assessments
Current affairs
Bystander interventions
Water filtration includes waste management (solid particulates, etc.)
Classroom called Bristol module includes work with partners in Bristol (huge number of schools, M Shed, We the Curious, Museum, etc.)
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Clothing
'Story of a cupcake'
Using the environment and everyday resources as teaching aids (especially in maths)
Classroom called Bristol
Scrap store as a resource for teaching art
Tourism
13 CLIMATE ACTION
Education for Sustainable Development
Climate change
Education for Sustainable Development and Global Citizenship (ESDGC) in Wales
14 LIFE BELOW WATER
Pond dipping
Water filtration
Marine plastics
Evolution
Use ponds on site as a teaching resource
15 LIFE ON LAND
Green space teaching
Mini beasts
Outdoor learning day
Forest schools
Children from local schools come in and our students teach them science (they must choose a SDG to theme their session on, many choose SDG 15)
RSPCA case study handling animals as controversial issues. Is it ethical to have animals in the classroom?
16 PEACE AND JUSTICE STRONG INSTITUTIONS
War and concentration camps
Role of law and legislation
British Values
Professionalism
Poppy Day
Pupil premium
Stranger danger
Right to Trial and UN
Make up of workforce (gender split)
Corruption
Student reps are a strong voice in programme development
17 PARTNERSHIPS FOR THE GOALS
North-South and South-South partnerships
Project Zulu
Partnership with organisations (UWE leads many partnerships within the city)
Children's Identity and Citizenship in Europe (CiCe): Rights of children, citizenship, participation and inclusion.
Programme team works with about 30 other institutions across Europe.


PGCE Secondary Initial Teacher Education
Covered directly
Not currently covered directly
Programme components
1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
16 PEACE AND JUSTICE STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS
Classroom Based Enquiry
Professional Development
Professional Practice
Art and Design
English
Geography
History
Maths
Modern Languages
Science


1 NO POVERTY
• Teaching GCSE disparity in development.
• KS3-5 Curriculum Globalisation / Contrasting places.
2 ZERO HUNGER
Still under consideration.
PGCE Secondary Initial Teacher Education: Geography
This map identifies components of the programme linked to each SDG.
3 GOOD HEALTH AND WELL-BEING
• Student well being monitoring - weekly reports and regular contact.
• Providing advice and signposting support services in the university.
• Geography of Disease curriculum.
4 QUALITY EDUCATION
• Training of Geography Teachers.
• M -level modules.
• Fulfilling the teacher standards.
• Mental Well-being.
5 GENDER EQUALITY
• Equitable access to resources.
• Geography GCSE /A level Migration curriculum & Changing places - perception.
6 CLEAN WATER AND SANITATION
• Access to clean water and sanitation.
• GCSE / A- level resources curriculum.
7 AFFORDABLE AND CLEAN ENERGY
• GCSE / A- level resources curriculum..
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
• Training based in placement.
• Support in application for teaching jobs.
• Funding opportunities signposted.
• Mental well-being.
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
• Education infrastructure.
• Use of IT in classrooms.
10 REDUCED INEQUALITIES
• KS3-5 Curriculum Globalisation/ Fair trade curriculum.
• Equitable access for all.
• Reflection on practice.
11 SUSTAINABLE CITIES AND COMMUNITIES
• KS3-5 curriculum Sustainable development / urbanisation / resources.
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
• KS3-5 curriculum Sustainable development. * Population and the environment.
13 CLIMATE ACTION
• Consideration of the role of the geography teacher in promoting this message.
• GCSE / A-level curriculum Water & the Carbon Cycles.
14 LIFE BELOW WATER
• KS3-5 Curriculum Management of Global resources.
15 LIFE ON LAND
• KS3-5 Curriculum Management of Global resources.
16 PEACE AND JUSTICE STRONG INSTITUTIONS
• The Pastoral role of a teacher.
• Respecting individuals.
17 PARTNERSHIPS FOR THE GOALS
Still under consideration.

1 NO POVERTY
Cultural deprivation and inequality explored through seminars on issues-based and critical approaches to arts education.
2 ZERO HUNGER
Engagement with the *Empty Bowls* charitable art initiative
PGCE Secondary Initial Teacher Education: Art and Design
This map identifies opportunities within the programme for students to engage with issues linked to each SDG.
3 GOOD HEALTH AND WELL-BEING
Sustainable and balanced career paths encouraged through the promotion of the philosophy of pragmatism in professional practice.
Rationales for art education that include the therapeutic possibilities of practice discussed.
4 QUALITY EDUCATION
The provision of quality education is the core pursuit of the course.
5 GENDER EQUALITY
Specific discussion on gender's relationship to art education and the inequity of the feminisation of study in the arts.
6 CLEAN WATER AND SANITATION
Not currently addressed within programme.
7 AFFORDABLE AND CLEAN ENERGY
Not currently addressed within programme..
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Rationales for art education that include the strength of the creative industries, and art educationalist's place in preparing citizens for entry into the workforce.
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
The explicitly vocational qualities of the course are designed to prepare graduates for entry into educational industries. Students are also made aware of career prospects within, and the national value of, the creative industries for the purposes of impacting their curriculum design.
10 REDUCED INEQUALITIES
Seminars on issues-based and critical approaches to arts education, in particular those influenced by a Freirean critical pedagogy look to tackle social inequities.
11 SUSTAINABLE CITIES AND COMMUNITIES
Partnerships with local schools, arts institutions, and charitable organisations increase student engagement with their community.
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
The effective management of artistic resources in the classroom, and the design of curricula to recycle waste materials or ask students to consider the impact of their making, are explicitly explored.
13 CLIMATE ACTION
Climate action is, among other student-led issues, one of many social justice concerns encountered during investigation of the possibilities in critical arts education.
14 LIFE BELOW WATER
Not currently addressed within programme.
15 LIFE ON LAND
Not currently addressed within programme.
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Collaborative exercises, including peer-to-peer, inter departmental, and across institution are discussed, demonstrated, and investigated within the course curriculum.
17 PARTNERSHIPS FOR THE GOALS
Understand how infection prevention policies can be affected by the culture within an ward or hospital and to create new cultures based on evidence.
Develop nurses who understand global approaches to healthcare management
Demonstrate an integrative approach to nursing and sustainability such that professional care is geared towards quality criteria, professional laws and codes, ethical codes and principles, as well as economic and ecological principles.

1 NO POVERTY
Not currently addressed within programme.
2 ZERO HUNGER
Not currently addressed within programme.
MA Education
Modules which enable students to engage with relevant issues.
3 GOOD HEALTH AND WELL-BEING
30 credit - Reflective Development
4 QUALITY EDUCATION
15 credit - Learning at M level
30 credit - Leadership and Mentoring
30 credit - Reflective Development
30 credit - Policy in Practice
30 credit - Teaching for Learning
45 credit - Researching Education
60 credit - Project
5 GENDER EQUALITY
15 credit - Learning at M level
30 credit - Leadership and Mentoring
30 credit - Policy in Practice
30 credit - Teaching for Learning
45 credit - Researching Education
60 credit - Project
6 CLEAN WATER AND SANITATION
Not currently addressed within programme.
7 AFFORDABLE AND CLEAN ENERGY
Not currently addressed within programme.
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
15 credit - Learning at M level
30 credit - Leadership and Mentoring
30 credit - Policy in Practice
30 credit - Teaching for Learning
45 credit - Researching Education
60 credit - Project
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Not currently addressed within programme.
10 REDUCED INEQUALITIES
15 credit - Learning at M level
30 credit - Leadership and Mentoring
30 credit - Policy in Practice
30 credit - Teaching for Learning
45 credit - Researching Education
60 credit - Project
11 SUSTAINABLE CITIES AND COMMUNITIES
Not currently addressed within programme.
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Not currently addressed within programme.
13 CLIMATE ACTION
Not currently addressed within programme.
14 LIFE BELOW WATER
Not currently addressed within programme.
15 LIFE ON LAND
Not currently addressed within programme.
16 PEACE AND JUSTICE STRONG INSTITUTIONS
30 credit - Policy in Practice
30 credit - Teaching for Learning
45 credit - Researching Education
60 credit - Project
17 PARTNERSHIPS FOR THE GOALS
Not currently addressed within programme.

Examples of links between SDGs and teaching and learning across education

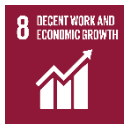
- In PGCE across all subjects-in the module Professional Development student attend lectures and seminars on social justice and equalities, anti-bullying, promotion of acceptance of diversity and tolerance, and inclusion (SDGs 5,10,16) and submit work which indicates knowledge of safeguarding and social justice issues (10, 16).
- In PGCE across all subjects- in the module Professional Practice students are taught about Personal Social Health and Economic Education (PSHEE) (Elements of SDGs 3, 5, 8, 10, 11,12,13,16).
- In the History PGCE route students develop strategies to teach about economic, social, political and military history (1,5,10,12,15,16). They also consider teaching sensitive and controversial histories, such the transatlantic slave trade, the Holocaust, war crimes and crimes against humanity; industrial revolution and empire; women's history; BAME histories and world history, international cooperation, peace education and conflict resolution and avoidance; crime and punishment; colonialism, empires and decolonialism.

In PGCE Secondary Initial Teacher Education Mathematics, there are links with the following SDGs:

Producing high-quality mathematics teachers for the state school sector, who will contribute towards giving the children they teach the widest possible set of options when they make choices about their futures.

Producing high-quality mathematics teachers who are only interested in nurturing the individuals in their charge, irrespective of gender.

Teaching trainees how to use mathematics to model effective and efficient use of the world's resources.



This is covered by part of the Statistics elements of GCSE and A Level. It's also a major part of the newish Core Mathematics (post16) course. Trainees are introduced to the teaching of this during the PGCE year.

Goals 9 and 11-16 (as for 8 above)

Working with other Secondary colleagues to ensure that all trainees leave their training year with a comprehensive understanding ofthe part they have to play.

Arts, Creative Industries and Education

Art and Design

SDG mapping of art and design programmes is another work in progress. The SDGs have been embedded in core modules across all undergraduate programmes and some programmes have been mapped, although these are currently being refreshed following programme reviews.

One student-led action was to engage with students to understand their views on and engagement with the SDGs and related issues. The following communication was sent to art and design students to encourage engagement in SDG mapping of programmes:

UN sustainable development goals (SDGs) Investigation team for Postgraduate Studies

The United Nations have put together a set of 17 goals to 'end poverty, protect the planet and ensure prosperity for all' as part of a new sustainable development agenda. These have been adopted by many countries around the world.

As part of the UWE's SDGs Investigation team we would like to gather information from MA design and MA Multidisciplinary Printmaking students in order to highlight any concerns there might be on social, economic and environmental issues and also discuss any good work that is happening within these areas. For example; environmental issues, poverty, climate change, homeless, hunger *etc.*.

We would like to be able to meet as many of the 17 goals as possible within our postgraduate studies. We would also like to take pictures of work or activities if that is possible.

Do you have any interest in any of these issues?

For myself, for example, I am investigating plastic pollution in our coastal rivers for my MA work. I am also interested in working in non-toxic ways within my print work and looking at how I can re-use and recycle as much as I can within my practice and promote these issues as much as I can within my job as a print technician by making small changes within the establishment. These would come under numbers 3, 6, 12, 13, 14 and 15 of the sustainable goals.

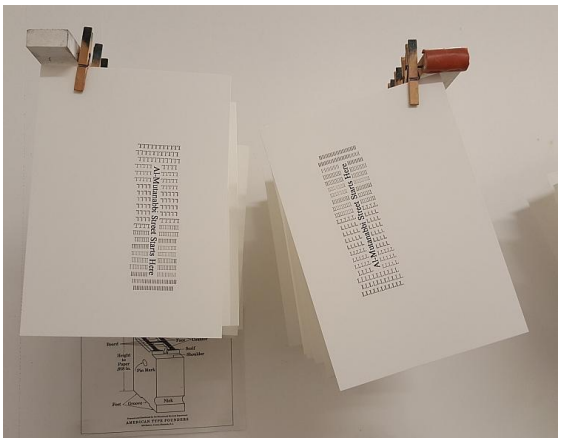
Some questions we would like to ask:

- Do you recognise any of these goals as being relevant to your practice as an artist?
- Do you have any interest in these issues? Personally, within your practice or within society?
- Could you be doing more?
- Are there any activities you have done that you can tell us about?"

Some examples of the findings were:

A few students are involved with projects that raise awareness of certain issues such as Cathey Webb who made these bookmarks for a project that raises awareness of the street

of booksellers in Iraq that was bombed. This street housed several book shops and cafes and was in the historical literary district. Her work is about making books. She has been working on projects that consider freedom of expression. Helping to spread the word. She keeps all her papers, reusing scraps to repurpose within her work. She uses composting bags, a bamboo cup for her tea and likes to keep boxes!!



Bookmarks by Cathey Webb for the Al Mutanabbi street project starts here

Also Catherine Cartwright, who produced this book 'A pile of bricks' in response to the project.

Emily Ketteringham has based her latest work on concrete and how sand is imported from other countries to make it her. She talks about how some Indonesian islands have disappeared because of the export of sand to countries such as ours and it is not seen as an important issue because they are poorer countries than us.

Zelda Velika's work has been centred round non-toxic printing methods. Is politically and gender motivated. She regularly emails her tory MP on local issues. She has strong feelings on recycling at home and always takes her bags shopping and refuses to use straws.

Gen's work is largely about protest using language to engage with people, empowering others and how to make effective change. Sustainability in practice is looked at. There is a big interest in recycling and repurposing, never throwing anything away. Gen has been involved in educating others through classes and workshops in typesetting. She has a make do and mend attitude and believes in therapy through making and that art has value.

Ruth's work is about finding and collecting things with a nature theme. She likes to display. Repurposing is a large part of her work. She has made work for organisations that work in a holistic and cultural way, *i.e.* her lino print 'gentle revolution'. She has also created branding for the Green Belt festival which attracts a melting pot of cultures. She promotes gender equality as she has two girls herself. Runs lino printing workshops in her community and donates to foodbanks and the homeless.

Celia's work involves nature themes largely using wire and metal that she finds, has been donated and also buys from the scrapyard and therefore repurposing for her own use. She has also sold work with some proceeds going to charity. She has had a commission to produce work for a sustainable shopping centre. She likes to keep good health by attending running club, running workshops within her local school and likes to recycle.

Chrystal sees no relevance to any of this within her practice although she sees herself as a quiet activist who likes to promote underrepresented groups within social media. She recycles, composts, buys organic foods. Cycles everywhere, tries to buy local produce and eats no fast food or meat.

Ellie doesn't feel her creative work really reflects any of the goals but she does try to be as sustainable as possible whilst working but finds it limited. She used to work in a commercial printers and is aware how wasteful that industry is which makes her think more when producing her own work. Personally, she feels she is reducing her carbon footprint by 20% by eating a plant based diet. She recycles and gender equality is important to her. Ellie also works for a Swedish company that recycles fibres and offers an incentive to customers to bring in to the shop a bag of clothes to recycle and they receive a voucher for money off clothes within the store.

Ella's work isn't conceptually relevant but is aware within her practice of the need to recycle paper, inks and materials. Within her job as a teacher she is often promoting subjects of gender, poverty, climate change and world issues to students, therefore making them more aware of what is happening. Personally, Ella likes to shop for organic, locally sourced products, using her own bags. She keeps an active lifestyle by walking most places and lift sharing where she can. She uses her own cup for coffee, uses products that aren't tested on animals, donates to the charity Greenpeace and was involved in a community clean up in her local area but feels like she could always do more.

Carmen's work involves looking at the female form as dolls and how these have more significance in some cultures than others as spiritual or ritualistic or play possessions. She likes to use simple, raw materials such as cotton and clay. Carmen likes to recycle, buy organic and takes bags shopping. She has done volunteer work, donated to the charity Aidboxcommunity, which supports refugees and asylum seekers and delivered community workshops in her local area. She has helped within her local school and picks up litter in her local area. She feels that we could all be doing more and we should be more responsible in the choices we make in what we buy.

My work is predominately about plastic pollution in coastal areas and using the waste found from local beaches within my images. I am also trying to promote the use of non-toxic printing methods within the development of my work and combine the two together. I am very conscious of the wastefulness within my job and am trying to educate users within my area of the need to recycle, reuse and be generally less wasteful. I like to use leftover materials within my work. I like to take bags to the shops, uses a reusable cup and I am trying to be more responsible in my choices. I donate regularly to charities and take part in beach cleans within my local area.

Soraya is a photographer who recognises there is a problem with the chemical side of photography and tries to be environmentally aware. She feels like waste is a big issue. She buys locally, is part of a syndicate that keeps pigs, reuses plastic bottles, uses a coffee cup and is big on recycling but feels like she could be doing more. Soraya took part in an anti-war march as she is aware of the damage war causes and has big concerns about arms dealing, stating that our country is the 2nd biggest arms dealer in the world. She also attended a women's march in London promoting gender equality.

Alyn has an interest and concerns in the chemicals used within printmaking. He would like to reduce his footprint by recycling paper and moving away from using white spirit and oil based inks. He has an interest in nature and is concerned about the impact we have on it. He tried to order online within the UK rather than abroad, is mostly vegetarian, recycles, dosen't use plastic bottles and reuses bags when shopping. He is frustrated with the availability and cost of public transport, therefore drives. Alan has taken part in several workshops within schools.

Olivia is aware of the use of paper within her practice. She likes to recycle and repurpose paper to reduce waste and is fully aware of the benefits of good health and well-being. She likes to take the time to rest. Olivia does a lot of walking, recycles, regularly reuses a coffee cup and reuses bags in the supermarket. She has run school workshops on puppetry and carbon monoxide for a utility company and repurposed materials to make the puppets.

Virginia doesn't feel like any of the goals are relevant to her work as a whole. She is however, careful how chemicals are used within her work and recognises that using them is an issue. She has an interest in recycling, walks most places and moved to Bristol to be closer to Uni so doesn't have the long commute every week anymore. Is a vegetarian, tries to shop locally sourced, organic products from independent shops and donates to foodbanks. She is plastic aware and reuses bags in shops and reuses coffee cups. Feels like she could be doing more. Whilst in her position as head teacher in a school in London she made the decision to run it as an inclusive school, offering places to very often vulnerable children from poorer families which she would help out regularly with food parcels.

These are some responses to the questions we have asked and it gives an idea of the good work that people are doing generally in terms of local habits that are seen as normal to most now. The idea of recycling and reusing bags, walking instead of driving where possible are things people now do as choice and without thinking. I've also witnessed certain frustrations that we have choice taken away from us in certain situations such as having to buying products that are wrapped in plastic in the supermarket. This is where we have to make the smart choice and buy elsewhere. We can make a change.

Tracey Stokes Student Sustainability rep

Further SDG mapping activity in art and design included whole team meetings with the Associate Professor in Education for Sustainable Development (Illustration led by Christine Hill, Fashion Textiles led by Deborah Southerland and Fashion Communications led by Anthony Wilkins).

Jo Buckley former KESE rep for Art and Design
Karen Lewis former Head of Department for Art and Design

1 NO POVERTY
Not currently explicitly addressed in the programme.
2 ZERO HUNGER
Not currently explicitly addressed in the programme.
BA (Hons) Fashion Communication
This map represents initial thoughts of the programme team on ways by which the programme engages with issues aligned to each SDG. The programmes comprises multiple short projects which respond to live issues including many related to the SDGs.
3 GOOD HEALTH AND WELL-BEING
Mental health is discussed in the context of professional practices with guest speakers often commenting on this as a feature of their professional life. Promotion of student is foremost and timetabling has included preparation time before visual culture hand in dates. A focus on digital production of final year work can reduce the costs of this work
4 QUALITY EDUCATION
Life-long learning is promoted throughout the Fashion Communication programme. Curriculum is reviewed regularly to incorporate developments in research, enterprise (industry) and professional practice. Students are also encouraged to undertake research.
5 GENDER EQUALITY
Inequality with fashion production is introduced at Level 1. Guest speakers are predominantly female. The course tends to have a female- dominated student base. Female photographers are promoted throughout. A significant volume of student work is based on gender equality. Students create an image-based manifesto early on in the programme which focuses on their individual identity.
6 CLEAN WATER AND SANITATION
Not currently explicitly address in the programme.
7 AFFORDABLE AND CLEAN ENERGY
Digital research file and digital outcomes are likely to have energy implications.
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Fashion communication as an industry is based in London but the programme encourages students to recognise that it can happen anywhere. The programme promotes anti-fashion and non-London based fashion designers, including via social media. Students' digital capabilities are develop through their studies.
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
The programme aspires to develop innovation and sustainable industrialisation as core elements and to facilitate disruption for a purpose. Student acquire a range of digital skills on the programme and become familiar with multiple software programmes.
10 REDUCED INEQUALITIES
Guest speakers represent various cultural backgrounds. Two female speakers spoke explicitly on representation of culture through fashion. The majority of students on programme are white and from a relatively narrow set of socio-economic backgrounds and geographic locations. The programme team are interested in attracting a more diverse range of students over the coming years.
11 SUSTAINABLE CITIES AND COMMUNITIES
Recognition of the developed-world dominated fashion industry is implicit in background work done in Year 1.
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Sustainable consumption and production are core to the purpose of the BA (Hons) Fashion Communication programme. The students visit Bristol Textile Recycling and are frequently shocked at the huge volume of textiles which come through daily, often discarded from charity shops, and either sent back to country of production or elsewhere. Students undertake a project to prolong the life of a garment and are given articles to read and respond to on issues such as diesel engines and cotton production.. Digital assignments are used in preference to physical work where possible.
13 CLIMATE ACTION
Not currently explicitly addressed in the programme.
14 LIFE BELOW WATER
A number of students select plastics in the ocean for self-directed student projects.
15 LIFE ON LAND
Not currently explicitly addressed in the programme.
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Ethics are core to the programme and role of fashion within society is explored across all years of the programme. UWE and the programme are inclusive and give a strong voice to students. All individual students are valued. Perceived validity of work of white students might be an issue.
17 PARTNERSHIPS FOR THE GOALS
Not currently explicitly addressed in the programme.

1 NO POVERTY
Sites of fashion production are explored and there is recognition that there is an increasing trend for brands and suppliers to make clear where there garments are made. Ted Ten used throughout programme.
2 ZERO HUNGER
Not currently explicitly addressed in the programme.
BA (Hons)
Fashion Textiles
This map identifies issues contained within the programme relevant to each of the SDGs.
3 GOOD HEALTH AND WELL-BEING
Emotional resilience sessions are embedded into timetables, to support student mental health and to offer students a toolkit approach to managing their mental health and to dealing with issues outside of their study.
4 QUALITY EDUCATION
Students benefit from a curriculum which reflects the latest thinking and practice and develop a range of key, transferable skills such as research, teamwork, reflection, self-assessment, experimentation, attention to detail, creativity, presentation and professionalism.
6 CLEAN WATER AND SANITATION
Water use in cotton production is a particular focus on the programme. Students engage in a 'dissection' of denim as regards water use and dying techniques.
5 GENDER EQUALITY
Professional practice modules includes discussion of gender equality in UK and on career gaps for care giving and having children. Genderless collections are being developed by more students now.
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
This goal is core to the Fashion Textiles programme. Students work with the Fashion 204 scenarios developed by Forum for the Future to reflect on ways to ensure sustainable fashion production and consumption. End of roll fabrics are sourced from commercial fashion brands for use in teaching and learning. One project requires students to explore the potential use of less usual materials and are encouraged to visit the Fabric Store for inspiration. The TED Ten strategies that infuse the programme includes Design to Minimise Waste, Design for Cyclability, Design to Reduce the Need to Consume and Design to Dematerialise and Develop Systems and Services.
A focus on reducing waste created by the activities of the programme has led to revision of teaching, learning and assessment. Students now produce only three whole outfits for their final year work, complemented by a skills-based portfolio. Significantly more sampling is assessed, as opposed to whole outfit creation. Students are encouraged to do more 2D idea development than previously and half-scale mannequins are being explored. Students produce a technical data pack alongside each garment which outlines material analysis. Every fashion workshop has fabric and paper reuse facilities. Students are taught how to lay their pattern and use fabric efficiently to reduce 'cabbage waste'.
A repair culture is fostered across the programme. Students discuss the loss of clothes-making skills amongst the general population , the fact that poor quality clothes fall apart readily leading to 'throw away fashion' and other changes in industry that have contributed to higher levels of fashion waste (for example, the reduction in seam allowance means that clothes cannot be as readily adjusted).
7 AFFORDABLE AND CLEAN ENERGY
The TED Ten strategies that infuse the programme includes Design to Reduce Energy and Water Use.
UWE Bristol
University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Guest speakers enhance the coverage of current and real world issues within the programme. Students learn about corporate social responsibility within the fashion industry and projects such as Speculative Redesign. Working conditions in UK production facilities are compared with those in China and Turkey. Ideas of circular economy and the work of the Ellen Macarthur Foundation are introduced early on in the programme.
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Industry 4.0, decentralised manufacturing and moves away from big off shore production are explored in the programme. Maker spaces and small run manufacturing systems are discussed. The TED Ten that infuse the programme includes Design that Explores Clean/Better Technologies. Efficiency improvements in industry are incorporated into the curriculum.
10 REDUCED INEQUALITIES
Students engage with the Who Made My Clothes initiative to explore social inequalities caused and reinforced by the fashion industry.
11 SUSTAINABLE CITIES AND COMMUNITIES
Not currently explicitly addressed in the programme.
13 CLIMATE ACTION
Students explore how clothing might be redesigned for the future, considering changes in climate, place and lifestyle. The work of Naomi Klein encourages students to engage with climate change.
14 LIFE BELOW WATER
Students explore the facts of water use in the fashion industry. The TED Ten strategies that infuse the programme includes Design to Reduce Energy and Water Use. The role of fashion and consumer treatment of garments in the accumulation of plastics in the ocean is considered.
15 LIFE ON LAND
Methodologies for zero waste pattern cutting are taught as part of the pattern cutting curriculum. The use of animal skins and products is controlled by UWE's Statement on the Use Of Materials Derived From the Body Covering of Animals. The TED Ten strategies that infuse the programme includes Design to Reduce Chemical Impacts and Design that Takes Models from Nature and History.
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Students are given a politic provocation in year 1 as part of an exercise to help them determine the pathway which they will follow during their programme. The TED Ten strategies that infuse the programme includes Design for Ethical Production.
17 PARTNERSHIPS FOR THE GOALS
Students have worked on a John Lewis project whereby they identify had to identify a new partner organisation for John Lewis. Many students explored sustainable organisations, believing these to be a good fit with John Lewis' values.

1 NO POVERTY
Not currently explicitly addressed in the programme.
2 ZERO HUNGER
Students are encouraged to respond to Royal Society of Arts briefs which have included a focus on hunger.
BA (Hons) Illustration
This map articulates other ways by which students on this programme are engaged with issues and skills aligned to sustainable development.
3 GOOD HEALTH AND WELL-BEING
Mental health is a focus in discussions on professional practice.
4 QUALITY EDUCATION
Skills for sustainable development
Students of the BA (Hons) Illustration programme develop multiple skills which will enable them to be effective agents for sustainable development. These include:
• Problem solving
• Critical research and analysis
• Deep observation
• Negotiation
• Communication and influence
• Critical reflection
• Perspective of authors
5 GENDER EQUALITY
The theme of gender is explicitly introduced and discussed in workshops and gender-based work often emerges from modules such as on Narrative and Sequence and Developing Visual Narratives. Equality issues feature in the Process and Practice module and academics always ensure that the gender balance of authors featured in text lists, such as in the Word and Image module, is carefully considered. Further, the list of workshop facilitators and external speakers is as gender-balanced as possible. However, students also explore whether gender of author necessarily leads to a particular perspective on a topic. In Professional Practice 2, students are encouraged to participate in 'She Lights Up The Night', a graphic art exhibition and auction which supports Refuge, the UK's national domestic violence charity.
6 CLEAN WATER AND SANITATION
Projects on water are selected by students in their professional practice module.
7 AFFORDABLE AND CLEAN ENERGY
Not currently explicitly addressed in the programme.
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Students must not only develop their own understanding of core issues but develop a professional ability to be able to communicate this to an audience. Students are encouraged to response to Royal Society of Arts briefs which have included a focus on ethics.
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Not currently explicitly addressed in the programme.
10 REDUCED INEQUALITIES
Ellen Shakespeare shares her experiences of using illustration to share information on migration and refugees with children. Further, consideration of the influence of the ethnicity of authors is discussed in modules such as Professional Practice 2.
11 SUSTAINABLE CITIES AND COMMUNITIES
One-word provocations are set as the context for coursework on the Process and Practice module. 'Boundary' was one such provocation prompting some responses linked to societies and cultures.
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Use of UWE's own fabrication and print centres is encouraged both for finding materials and disposing of unwanted work. Students are also encouraged to explore other opportunities to source recycled materials such as from Bristol's Scrapstore. Junk-modelling sessions in first year help students to think about materials in innovative ways and scrap, recycling and sustainability are the focus of individual tutorials.
13 CLIMATE ACTION
In Process and Practice students discuss climate issues. Similarly, student work for the Developing Visual Narratives modules often features climate-related content. In Preparation for Extended Study, students are engaged in consideration of how to pitch ideas and content which may be considered 'dry' by a general public audience, with explicit discussion of personal carbon emissions.
14 LIFE BELOW WATER
Work related to habitats is used in teaching. Projects on water are often selected by students in their professional practice module. Low-tech thinking is introduced to students in modules such as Narrative and Sequence with a focus on reducing environmental impact. There is a strong psycho-geographic element to the Visual Essay module also, and students engage in a 'deliberately lost' session to encourage observation of new things. Documenting of place is another way by which students consider the natural environment.
15 LIFE ON LAND
Low-tech thinking is introduced to students in modules such as Narrative and Sequence with a focus on reducing environmental impact. There is a strong psycho-geographic element to the Visual Essay module also, and students engage in a 'deliberately lost' session to encourage observation of new things. Documenting of place is another way by which students consider the natural environment. All library books are sent to a local second-hand store, Bookbarn. Students are encouraged to response to Royal Society of Arts briefs which have included a focus on ecology.
16 PEACE AND JUSTICE STRONG INSTITUTIONS
In the Word and Image module, students are provide with texts from which to choose from in order to create an image-based response. This list includes much geo-political content including, for example, the work of Benjamin Zephaniah. Projects on governance are often selected by students in their professional practice module.
17 PARTNERSHIPS FOR THE GOALS
Students on the BA Illustration programme work in partnership with each other, with academic staff, with local partners and on international initiatives such as the Illustrators Exhibition at the Bologna Children's Book Fair. Live briefs feature heavily in the programmes, including from local and UK partners such as the Festival of Future Cities, the Festival of Ideas and Sustain. Students are also encouraged to take up exchange opportunities where possible and benefit from the input of exchange students who join the UWE programme.

Arts, Creative Industries and Education

Creative and Cultural Industries

The following is the communication sent to academic leaders within this subject cluster to invite their involvement in the SDG mapping work. This initiated a series of group and one-to-one meetings to produce the maps which follow. Many of these are now under review following changes to modules and programmes.

Dear Programme and Module leaders,

Would you be able to, with the help of your programme team, fill in the below table? This is a task that I am working on as Sustainability Lead for ACI is an integral part of a UWE-wide initiative which enables us to demonstrate our alignment with the U.N. Sustainable Development Goals (SDG).

We in ACI are in a good place to demonstrate our adaptability and our important/necessary role in guiding UWE through the inevitable changes towards being a more sustainable campus as well as identifying the roles which graduates of our programmes can play in creating a more sustainable world. I would like us to be proactive in this regard, as we are already slightly behind the ball. This is also important from a student perspective as students are becoming more aware and engaged with creating a sustainable future for our world.

I will be coming around to visit when I am able and I am happy to answer any questions that you might have about this. My main thought is that so many of our modules/programmes engage with the SDGs and, while we do this intrinsically, we might not realise how much we already align with the framework.

I have embedded links in the images to take you to the UN site which better explains the specifics of each SDG.

Thanks in advance for you support everyone! I would like to get this drafted up near the end of April, before we all go into marking mode.

Kindest regards,

_____

Dr Grant Howie ***Lecturer (English Language and Linguistics)***

1 NO POVERTY
In BAC students consider the nature, extent and reasons for economic inequality in different parts of Bristol and how these might be addressed. Students analyse how literary texts and films speak about economic hardship and disparities in Bristol.
2 ZERO HUNGER
Students might choose to explore this topic within our range of assessments.
Creative & Cultural Industries Foundation Year programmes
This map identifies issues contained within the programme relevant to each of the SDGs.
3 GOOD HEALTH AND WELL-BEING
The therapeutic/ cathartic relationship between creative writing / production and well-being is addressed on POW.
4 QUALITY EDUCATION
In BAC students consider inequalities in education provision and outcomes in different parts of Bristol and how these might be addressed. Students study historical examples of how inequalities in education have been challenged in the past.
In TIM and the POW, students examine the role and limitations of the news media as a source of information and education.
In TIM, part of the discussion of fairy tales concerns the fact that they originated as oral tales told by illiterate and uneducated peoples, and so students are encouraged to think about the relationships between education, life-expectancy, economic status and cultural capital.
In ASH our aim is to empower students by supporting the development of their communication and critical thinking skills.
5 GENDER EQUALITY
In BAC students consider the contribution made by women to the campaign for women's suffrage, to the abolition of slavery and to the provision of education, housing and social welfare for women and girls in Bristol.
In TIM and POW students explore how sexism and misogyny manifest themselves in the mainstream and alternative news media.
In TIM, students engage with the representation of gender in fairy tales, myths and contemporary adaptations of both types of story. This includes a wide range of topics, including women's bodies, marriage, women's mental health, women's sexuality, and representations of gender differences. The creative writing section of the module also provides students with the opportunity of rewriting fairy tales and myths in various ways, including changing the representation of gender issues. POW also features material related to similar topics, most notable in 'The Yellow Wallpaper', which explores issues such as the confinement of women, and the regulation of their physical and mental health.
6 CLEAN WATER AND SANITATION
Students might choose to explore this topic within our range of assessments.
7 AFFORDABLE AND CLEAN ENERGY
Students might choose to explore this topic within our range of assessments.
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
In both BAC and the POW, students consider inequalities in employment opportunities in the Arts and Cultural industries and strategies to overcome these. They study the consequences of unemployment and economic deprivation in relation to the St Paul's riot of 1980 and the Hartcliffe riots of (1992) and study the impact of gentrification in different parts of Bristol.
TIM and POW consider the working conditions of journalists and the impact of new technology of institutional practices.
In the literature section of POW, students engage with texts focused on the representation of class inequalities, often linked to issues of employment and economic inequality. The literature section of BAC also touches on aspects of employment and economic disparity in Bristol through literary representations of unemployment and economic deprivation.
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
As part of their consideration of the process and impact of the gentrification of different parts of the city in BAC, students investigate the changes to industry and infrastructure arising from this.
In both TIM and POW, students also consider the impact of technology and digital innovation on working practices within the media industry. Students are encouraged to study and to discuss the impact of technological innovation on the tradition of fairy tales and myths, with reference to Disney in particular.
In ASH students are supported in their use of digital resources, including on the appropriate selection and use of on-line sources.
10 REDUCED INEQUALITIES
In BAC students study historical examples of those who have successfully challenged inequality. These include those who have challenged sex and racial discrimination. Students also discuss inequalities that still exist between different parts of Bristol, and between different groups. In both TIM and POW, students consider the strategies employed by those working in the Arts and Cultural Industries to challenge inequality.
In the literature sections of TIM, POW and BAC, students are given texts that speak from the position of minorities or people who have suffered from various forms of structural inequality. Many of these texts have been used as part of struggles to reduce or end inequality and so the discussions often focus on strategies of writing back to positions of power from the margins.
11 SUSTAINABLE CITIES AND COMMUNITIES
By considering inequalities in different parts of Bristol and the impact of gentrification in BAC students are provided with the opportunity to consider ways in which more sustainable cities and communities can be built.
In POW students consider the role and impact of community action groups.
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
In the POW, TIM and BAC, students consider the practices and ethics of the news media, the advertising industry and social media platforms, as well as the impact of this on consumers.
13 CLIMATE ACTION
In both POW and BAC students consider action on climate change by looking at the aims and tactics of various activist groups.
14 LIFE BELOW WATER
In TIM students consider the impact of David Attenborough's Blue Planet series. In the same module, one of the texts students read (Ali Smith's Girl Meets Boy) not only focuses on gender issues but features commentary on the politics of water through the representation of a multinational corporation that sells bottled water. The text also features characters who fight against this using forms of direct action.
15 LIFE ON LAND
Students might choose to explore this topic within our range of assessments.
16 PEACE AND JUSTICE STRONG INSTITUTIONS
In both POW and TIM, students examine the legal and regulatory framework under which the media operates. They also consider the role of the news media in holding institutions and governments to account and the role of journalism in relation to the democratic process. Students also examine the challenges to justice and strong institutions presented by the rise of unregulated social media platforms and the measures being taken to try to address this. In the literary sections of BAC, POW and TIM, students are encouraged to think about ethical and legal issues around Britain's role in the slave trade, and about various forms of injustice today and how literary texts can speak about such issues in ways that galvanise people's empathy and desire to act to bring about positive changes.
17 PARTNERSHIPS FOR THE GOALS
Students might choose to explore this topic within our range of assessments.

1 NO POVERTY
• UPNN6E-30-1: The curriculum in TB1 engages students with issues of activism, especially in relation to economic justice. They are tasked with producing "10 rules for life" with a focus on promoting equality. These principles can be included in the assessment for this module.
• The curriculum in TB2 engages with issues of structural inequality and its economic impact which students may choose to write about as part of their assessment portfolio.
• UPNN6K-30-2: In Sketch Writing the students will be required to research and engage with at least one SDG as the basis of their sketch.
• For Soap Opera writing the students will be required to research and engage with all the SDGs – no less than five SDGs must be the basis of their Soap Opera Story World.
• In TB2 students in this module will identify, explore, research and create drama from a public, real world issue; which may include poverty and inequality of material opportunity (e.g. a drama about a perilous economic migration).
• UPNN6P-30-3: Students may choose to explore this issue as part of their portfolios.
2 ZERO HUNGER
• UPNN6G-30-2: In TB2 of this module, students consider food sustainability and traceability, using case studies from UK agriculture including artisan food production.
• UPNN6K-30-2: In Sketch Writing the students will be required to research and engage with at least one SDG as the basis of their sketch.
• For Soap Opera writing the students will be required to research and engage with all the SDGs – no less than five SDGs must be the basis of their Soap Opera Story World.
• All Portfolio Modules: Students may choose to explore this issue as part of their portfolios.
BA (Hons) Creative and Professional Writing
This map identifies issues contained within the programme relevant to each of the SDGs.
3 GOOD HEALTH AND WELL-BEING
• UPNN6E-30-1: Memoir and autobiography provide a platform through which students may focus on issues of wellbeing and health. The journalistic element of this module involves engagement with lifestyle and wellbeing journalism. Work produced by students may be filed as part of their assessment for TB1.
• UPNN6K-30-2: In Sketch Writing the students will be required to research and engage with at least one SDG as the basis of their sketch.
• For Soap Opera writing the students will be required to research and engage with all the SDGs – no less than five SDGs must be the basis of their Soap Opera Story World.
• The students' calling card drama (a short play about something they hold dear as a truth for themselves as a writer and a human) often provides a platform through which students may focus on issues of wellbeing and health.
4 QUALITY EDUCATION
• UPNN6F-30-1: L1 Fiction focuses establishes students understanding of the Western Canon and the core debates that surround it.
• UPNN6E-30-1 & UPNN6E-30-2: L1 and L2 Non Fiction equip students with the skills of debate, discussion and effective communication.
• UPNN6K-30-2: In Sketch Writing the students will be required to research and engage with at least one SDG as the basis of their sketch. For Soap Opera writing the students will be required to research and engage with all the SDGs – no less than five SDGs must be the basis of their Soap Opera Story World.
• UPNN6N-30-3: The L3 creative project fosters skills in independent project management, as well as scaffolding the transition from study to freelance/employed work.
• UPNN6P-30-3: Students may choose to explore this issue as part of their portfolios.
• UPNN6M-30-3: L3 copywriting, content marketing and journalism includes production of an essay about human identity, involving engagement with philosophy from Aristotle to contemporary thinkers. The course also considers political communication, orienting students to the spread of political views in the UK and familiarising with the terms by reference to which such debate ensues. They also have a chance to manage the communications of a political organisation in a simulated "spin" activity.
• UPNNEB-15-2: This new module offers an opportunity to engage with the way that writers shape public discourse, using examples from politics, economics, environmentalism and land access. At every turn, the module encourages criticality among students, ensuring their familiarity with the conceptual bases of the writing they engage with.
5 GENDER EQUALITY
• Diverse reading and viewing lists that are representative of a range of human experience.
• UPNN6K-30-2: In Sketch Writing the students will be required to research and engage with at least one SDG as the basis of their sketch.
• For Soap Opera writing the students will be required to research and engage with all the SDGs – no less than five SDGs must be the basis of their Soap Opera Story World.
6 CLEAN WATER AND SANITATION
• UPNN6K-30-2: In Sketch Writing the students will be required to research and engage with at least one SDG as the basis of their sketch.
• For Soap Opera writing the students will be required to research and engage with all the SDGs – no less than five SDGs must be the basis of their Soap Opera Story World.
• Portfolio modules: Students may choose to explore this issue as part of their portfolio.
7 AFFORDABLE AND CLEAN ENERGY
• UPNN6M-30-3: Students have the option of a project considering "the future of the car".
• Portfolio Modules: Students may choose to explore this issue as part of their portfolio.
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8 DECENT WORK AND ECONOMIC GROWTH
• UPNN6E-30-2: Workplace learning partnerships are under development for L2 non fiction. These will allow students to recognise and cultivate transferable skills and prepare them for employment.
• UPNN6C-30-1: The role of creativity and its importance across different sectors (business and industry as well as the arts) is explored in Creative Practice.
• UPNN6G-30-2: This module is delivered in partnership with commercial organisations including Babcock International, John Wainwright & Company Ltd and Anthem Publishing, as well as providing credit towards the Institute of Leadership and Management Diploma.
• UPNN6L-30-3, UPNN6M-30-3 & UPNN6P-30-3: Industry expectations and the flexible skills needed to flourish in the creative industries – whether as a freelance or employed worker – are embedded throughout all 3 levels of the course, but especially at Level 3.
• UPNNAS-30-3: The placement module gives students hands-on experience of the workplace, which they can then use to inform their work in their other modules at Level 3.
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
• UPNN6C-30-1: Students in Creative Practice & Writing Mechanics examine what creativity is and why it is important across different sectors (business and industry as well as the arts).
• UPNN6L-30-3: The fast-changing world of Publishing is studied in Level 3 fiction, including issues of sustainability and online alternatives to print.
• Portfolio modules: Students may choose to explore this issue as part of their portfolio.
10 REDUCED INEQUALITIES
• Diverse reading lists that are representative of a range of human experience plus discussion of inequalities both as portrayed in creative works and being discussed now in the creative industries – for example the work of the Black Publishers and Writers Association.
• Portfolio modules: Students may choose to explore this issue as part of their portfolio.
11 SUSTAINABLE CITIES AND COMMUNITIES
• Students may choose to explore this issue as part of their creative portfolios.
• UPNNEC-15-2: In Poetry and Public Engagement, students study how creative writing can play a community role, whether through events, community projects or (for example) the built environment.
• Currently working with the UWE diversity team to establish a L2 non-fiction course that encompasses black history, the experience of migrant communities, and issues of gender and class within the local community, and how these connect to global institutions.
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
• Students may choose to explore this issue as part of their portfolio.
13 CLIMATE ACTION
• UPNN6G-30-2: Students work on a live brief for the Somerset Earth Science Centre, promoting education, outreach and Corporate Social Responsibility (with a particular focus on the environment) in the quarrying industry.
• Students may choose to explore this issue as part of their portfolio.
14 LIFE BELOW WATER
• Students may choose to explore this issue as part of their portfolio.
15 LIFE ON LAND
• All modules: Students can enrich their understanding and connection to life on land through a range of creative practice: writing place, psycho-geographies, nature writing and critical debate.
16 PEACE AND JUSTICE STRONG INSTITUTIONS
• Currently working with the UWE diversity team to establish a L2 non fiction course that encompasses black history, the experience of migrant communities, and issues of gender and class within the local community, and how these connect to global institutions.
17 PARTNERSHIPS FOR THE GOALS
• UPNNEB-15-2: As part of a process of analysing, interpreting and critiquing the conceptual bases of a variety of written discourses, students engage with issues of national and global policy design and implementation in relation to areas such as: economic aid, access to healthcare, income inequality, access to education, and carbon reduction. They are encouraged to develop their knowledge and understanding of these issues at a practical and theoretical level, and work specifically on policy whitepapers that draw on such knowledge.
• It is also worth noting that students from CPW visited the Gambia in 2019 to volunteer on the Daigo 2 Project, helping reduce inequality by sharing skills acquired at UWE with the local population. See video for an insight into the project.

BA (Hons) English Literature & English Literature with Writing

This map identifies issues contained within the programme relevant to each of the SDGs.

1 NO POVERTY

- UPGNCM-30-2 Literature in the World: core texts about gender equality (Lorraine Hansberry's A Raisin in the Sun, Jesmyn Ward's Salvage the Bones, Charlotte Perkins Gilman's The Yellow Wallpaper, and Naomi Alderman's The Power and a selection of second-wave feminism short stories). Students can undertake research on gender equality for their Extended Study.
- On UPGPPA-30-3 Contemporary American Narrative students study gender equality in relation to several challenging texts about violence and sexual abuse including Bret Easton Ellis' American Psycho, Dorothy Allison's Bastard Out of Carolina, and Annie Proulx's Close Range). They can explore the topic in greater depth in any of the three assignments on the module.
- UPGP6K-30-3 Crime and Detection in 19th Century Literature considers the socio-economic factors that might lead to crime in the 19th century.
- UPGNCR-15-2 Class and Culture in Victorian Literature allows students to reflect on the impact of poverty on individuals and on society as a whole.
- UPGPG-30-1 Genre and Creative Writing uses contemporary drama to explore class and poverty.

2 ZERO HUNGER

- UPGNCM-30-2 Literature in the World: core texts about hunger (Jesmyn Ward's Salvage the Bones). Students can undertake research about hunger for either their presentation or their Extended Study.
- UPGPPA-30-3 Contemporary American Narrative: core texts about hunger (Cormac McCarthy's Child of God, Dorothy Allison's Bastard Out of Carolina, Sherman Alexie's The Lone Ranger and Tonto Fistfight in Heaven). Students can undertake research about hunger for their Independent Study assignment.

3 GOOD HEALTH AND WELL-BEING

- UPGNCM-30-2 Literature in the World: core texts about health and wellbeing (Jesmyn Ward's Salvage the Bones, Charlotte Perkins Gilman's The Yellow Wallpaper, and Naomi Alderman's The Power). Students can undertake research about health and wellbeing for their Extended Study assignment.
- UPGPPA-30-3 Contemporary American Narrative: core texts about well-being (Tim O'Brien's The Things They Carried, Toni Morrison's Song of Solomon, Cormac McCarthy's Child of God, and Dorothy Allison's Bastard Out of Carolina).
- Students can undertake research about health and wellbeing for their Independent Study assignment.
- UPGPSU-30-3 Writing in Practice: this is a placement module and students on placement at The Schumacher Institute undertake research for projects about how to help people prepare for change.
- A number of modules cover the therapeutic effect of writing poetry as a way of dealing with traumatic/difficult experiences.
- UPGPPR-30-3 Children's Fiction since 1900 includes the study of books for children that tackle mental health, such as The Illustrated Mum, Aubrey and the Terrible Yoot and Junk.
- UPGND6-30-1 Literature and the Marketplace considers the health-related benefits of mass reading events (such as "Big Reads") and of reading groups and book clubs.

4 QUALITY EDUCATION

- On UPGNCM-30-2 Literature in the World, students explore education in relation to slavery, segregation and Black Lives Matter in the United States. They may undertake research on good education for all in either their presentation or extended study.
- On UPGPPA-30-3 Contemporary American Narrative students study the value of good education in relation to poverty and race. They may undertake research on good education in their Independent Study.
- UPGP6K-30-3 Crime and Detection in Nineteenth-Century Literature examines the obstacles that poor education and illiteracy pose for people involved in crimes.
- UPGNCW-15-2 The Black Atlantic highlights the importance of literacy for example by studying early African American texts.

5 GENDER EQUALITY

- UPGNCM-30-2 Literature in the World: core texts about gender equality (Lorraine Hansberry's A Raisin in the Sun, Jesmyn Ward's Salvage the Bones, Charlotte Perkins Gilman's The Yellow Wallpaper, and Naomi Alderman's The Power and a selection of second-wave feminism short stories). Students can undertake research on gender equality for their Extended Study.
- UPGNCS-15-2 Gender and Society in Victorian Literature addresses as its overarching theme gender relations and inequality in Victorian literature; this is reflected in the core reading, teaching and assessment. In the course of the module, students are encouraged to reflect upon how far British society has progressed in redressing gender inequality since the nineteenth century.
- UPGPST-30-2 Occasions for Writing a section of the module is dedicated to famous 19th and 20th century speeches on various topics, including gender inequality. Students can choose to frame their assessment around this topic.
- On UPGPPA-30-3 Contemporary American Narrative students study gender equality in relation to several challenging texts about violence and sexual abuse including Bret Easton Ellis' American Psycho, Dorothy Allison's Bastard Out of Carolina, and Annie Proulx's Close Range). They can explore the topic in greater depth in any of the three assignments on the module.
- UPGPSU-30-3 Writing in Practice: this is a placement module and students on placement at Rife Magazine often focus on gender in the articles they produce.
- UPGPG-30-1 Gender and Creative Writing: students study the romance genre and discuss conventional and unorthodox representations of women and men in literature.
- UPGP6K-30-3 Crime and Detection in Nineteenth-Century Literature examines how the treatment and perception of criminals and victims is determined by their gender.
- UPGNCW-15-2 The Black Atlantic explores gendered and intersectional approaches to literary and non-literary texts.

6 CLEAN WATER AND SANITATION

- On UPGNCM-30-2 Literature in the World students consider clean water and sanitation in their discussions of Jesmyn Ward's novel, Salvage the Bones, that deals with poverty, race and Hurricane Katrina.
- On UPGPPA-30-3 students consider the impact of the Deepwater Horizon oil spill in their discussions of Colson Whitehead's dystopian novel, Zone One.
- UPGNCW-15-2 The Black Atlantic touches on depictions of water poverty.

7 AFFORDABLE AND CLEAN ENERGY

- UPGNCM-30-2 Literature in the World: core texts about health and wellbeing (Jesmyn Ward's Salvage the Bones, Charlotte Perkins Gilman's The Yellow Wallpaper, and Naomi Alderman's The Power). Students can undertake research about health and wellbeing for their Extended Study assignment.
- UPGPPA-30-3 Contemporary American Narrative: core texts about well-being (Tim O'Brien's The Things They Carried, Toni Morrison's Song of Solomon, Cormac McCarthy's Child of God, and Dorothy Allison's Bastard Out of Carolina).
- Students can undertake research about health and wellbeing for their Independent Study assignment.
- UPGPSU-30-3 Writing in Practice: this is a placement module and students on placement at The Schumacher Institute undertake research for projects about the use of the world's resources.

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8 DECENT WORK AND ECONOMIC GROWTH

- On UPGNCM-30-2 Literature in the World students study work and economic growth in relation to Annie Proulx's Barkskins. This may also form part of their research for the Extended Study.
- On UPGPPA-30-3 students study economic growth throughout the module, with a particular emphasis on how contemporary writers depict neoliberalism. Students can undertake research on economic growth for any of the three assignments on the module.
- On UPGPTF-30-3 Contemporary British Fiction students explore how contemporary writers engage with the social and human effects of economic changes first implemented in the 1980s, particularly in Sam Byers' novel Perfidious Albion.
- The Sandwich Year placement module encourages students to connect their education to industries and careers.
- UPGND6-30-1 Literature and the Marketplace encourages students to consider how literature is an economic activity valuable for social and personal development.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

- On UPGNCM-30-2 Literature in the World students study aspects of industrial growth, innovation and infrastructure in their discussions of Anne Proulx's Barkskins. These issues may form part of their research for the Extended Study.
- On UPGPPA-30-3 students study industry, innovation and infrastructure in relation to Toni Morrison's Song of Solomon, Bret Easton Ellis' American Psycho, and Colson Whitehead's Zone One. They can undertake further research on these issues for any of the three assignments on the module.
- UPGPG-30-1 Genre and Creative Writing and UPGND6-30-1 encourage students to begin thinking about careers in the creative and/or cultural industries.

10 REDUCED INEQUALITIES

- Several modules on the programmes devote time to literary texts that ask students to think deeply and critically about inequalities and how they might be overcome.
- UPGPST-30-2 Occasions for Writing a section of the module is dedicated to famous 19th and 20th century speeches on various topics, including reduced inequalities. Students can choose to frame their assessment around this topic.
- On UPGPSU-30-3, students on the placement module have the opportunity to work with a variety of organisations devoted to highlighting and reducing inequalities including The Schumacher Institute, Rife Magazine, and Paper Arts.
- UPGNCW-15-2 The Black Atlantic asks students to consider literary and socio-economic imbalances.

11 SUSTAINABLE CITIES AND COMMUNITIES

- On UPGNCM-30-2, students spend six weeks studying the growth of cities and changes to communities as they discuss Annie Proulx's Barkskins.
- UPGPSU-30-3 Writing in Practice: this is a placement module and students on placement at The Schumacher Institute undertake research for projects about supporting communities.
- UPGNCV-15-2 American Genres and UPGNCT-15-2 The Coming Home in British Fiction require questions of urban-ization and the city, partly in contrast with rural settings.
- UPGPTF-30-3 Contemporary British Fiction includes the study of novels set in large urban environments and encourages students to reflect on the personal, social and environmental consequences of urban living.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

- UPGNCM-30-2 explores these issues via literary texts including Annie Proulx's Barkskins. Students can focus on responsible consumpion and production in their Extended Study.
- On UPGPPA-30-3 students discuss these issues in relation to a variety of novels including Toni Morrison's Song of Solomon, Bret Easton Ellis' American Psycho, and Colson Whitehead's Zone One.
- UPGSU-30-3: this is a placement module and students on placement at The Schumacher Institute undertake relevant research.
- UPGNCV-15-2 American Genres engages with theories of mass production.
- UPGPTF-30-3 Contemporary British Fiction considers these issues in the study of Julian Barnes' England, England.

13 CLIMATE ACTION

- UPGNCM-30-2: Studied specially in relation to Annie Proulx's Barkskins and poetry by African, Maori, and Native American writers. Students can undertake further research for the Extended Study.
- UPGPPA-30-3: as students study the United States from the 1980s to today, they learn about key environmental policies/decisions and the role of the US. This includes a discussion of the Kyoto Protocol and the Paris Climate Agreement. They can explore this issue in greater depth in the Independent Study.
- UPGPSU-30-3: this is a placement module and students on placement at The Schumacher Institute undertake relevant research.
- UPGPST-30-2 Occasions for Writing: students look at how news reporting can shape readers' perceptions of particular issues and the ways in which climate change is presented in the media is one example discussed on the module.

14 LIFE BELOW WATER

- On UPGNCM-30-2 students study Australian poet, Mark O'Connor's poem "Reef" about the environmental damage to Australia's coral reefs.

15 LIFE ON LAND

- On UPGNCM-30-2 the environmentalism block looks extensively at the human impact on the land, from deforestation to species extinction. Students can explore this in greater depth in the Extended Study.
- On UPGPPA-30-3, students are encouraged to think critically about the cost of human progress in relation to several texts, but particularly in Colson Whitehead's dystopian novel Zone One.
- On UPGPST-30-2 Occasions for Writing students study travel writing and what it means to be a traveller rather than a tourist. Guest speaker Roger Griffith gives a talk about his travels as a black British man in the Southern US states. Students study Jamaica Kincaid's A Small Place, which discusses tourism as a form of neo-colonialism.
- UPGPTF-30-3 Contemporary British Fiction: students study Melissa Harrison's All Among the Barley and discuss how the relationship between human beings and nature is represented in fiction and other media.

16 PEACE AND JUSTICE STRONG INSTITUTIONS

- UPGNCM-30-2 focuses on the relationship between literature and law, politics, activism and justice.
- UPGPST-30-2 Occasions for Writing a section of the module is dedicated to famous 19th and 20th century speeches on various topics, including peace and justice. Students can choose to frame their assessment around this topic.
- UPGPPA-30-3 starts with a novel about the Vietnam war and throughout the module students consider the challenges to peace and justice.
- UPGNDX-15-1 Imagined Worlds has a political dimension since it discusses idealised and authoritarian societies, past, present and future.
- UPGNCQ-15-2 Romanticism and Slavery in the Age of Revolution examines the condition of slavery and its legacy from both a literary and human rights perspective.
- UPGP6K-30-3 Crime and Detection in Nineteenth-Century Literature critically examines the 19th-century police and court system, focussing on how literature intervenes in debates about justice and state institutions.
- UPGPTF-30-3 Contemporary British Fiction includes the study of novels written in response to the 2016 EU referendum and focuses on how they dissect the role of state institutions in the outcome of the vote.

17 PARTNERSHIPS FOR THE GOALS

- On the placement module, we work with a variety of organisations in Bristol to provide students with the option of working for the common good.

1 NO POVERTY
Students in TB2 of SSC are encouraged to address social questions through language; the questions they ask often address issues around social depravation and disadvantage. They look to raise awareness of the linguistic means by which poverty is created and maintained – the power relationships, for example.
UPNQ4N-30-2: Studying Speech Communities
2 ZERO HUNGER
Students might choose to explore this topic within our range of assessments.
BA (Hons) English Language and Linguistics
SDG issues covered in the programme | Place in the programme
3 GOOD HEALTH AND WELL-BEING
Students taking Creative Writing and the Self engage with this goal through their investigation into the connection between creativity and overall wellbeing.
Students who take Language and the Mind investigate if learning a second language can change speakers' cognitive processes, and thus promote well-being on several levels.
UPNNES15-2: Language of Life
UPNQ9V-30-3: Creative Writing and Self
UPNQ9Q-30-3: Languages and the Mind
4 QUALITY EDUCATION
Information from related research projects undertaken by staff member is used to inform the students, illustrating attainment gaps and different attitudes towards education within minority groups in Bristol and neighbouring areas.
5 GENDER EQUALITY
Students in Creative Writing and the Self investigate how zines (fanzines) are often used as a medium to question and subvert dominant knowledge systems and, in the case of Western cultures, patriarchal cultural norms.
Students in Languages and the Mind engage with current research that staff members undertake on the differences in perception of gender in language.
UPQ4N-30-2 Studying speech communities
UPNQ9W-30-3 Gender, (im)politeness and Power in Language
UPNQ4V-30-3: Creative Writing and the Self
UPNQ9Q-30-3: Languages and the Mind
UPNNWN-15-2: Intercultural Communication
6 CLEAN WATER AND SANITATION
Students might choose to explore this topic within our range of assessments.
7 AFFORDABLE AND CLEAN ENERGY
Students might choose to explore this topic within our range of assessments.
UPNNWH-15-2: Intercultural Communication
EN
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8 DECENT WORK AND ECONOMIC GROWTH
Language at Work addresses and equips students with skills and understanding of the workplace – again through an appreciation of the language used (power dyamics, etc.). They also engage with the careers service and UWE linguistics alumni to gain real-world skills and start developing networks.
UPNNEP-15-2: Language at Work
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Our programme offers students the opportunity to take a placement year. This placement year seeks to allow our students to learn about professional standards, develop networks and combine their academic progress with profession career aspects.
Students in Creative Writing and the Self examine what creativity is and why it is important across different sectors (business and industry as well as the arts).
Placement Year
UPNQ4V-30-3: Creative Writing and the Self
10 REDUCED INEQUALITIES
Our modules on sociolinguistics highlight inequalities based on dialect, second language and investigates myths behind the female/male language dichotomy.
Students studying Intercultural Communication focus on and engage with the sociocultural and (non-)verbal barriers that are present in most intercultural contexts, the resultant biases that occur, and how we can be more observant of language use to work towards reducing biases and inequalities.
In Languages and the Mind, students engage with questions covering language contact, minority/majority languages and the attitudes that surround them.
UPNQ4N-30-2 Studying Speech Communities
UPNNET-15-2 Nonverbal Language
UPNNWN-15-2: Intercultural Communication
UPNQ9Q-30-3: Languages and the Mind
11 SUSTAINABLE CITIES AND COMMUNITIES
As in the name, students in studying speech communities engage with language at a society level, from individual identity markers to language change over entire communities. All areas of interaction are questioned in this module and how the answers to these questions might challenge traditional views of society and of language.
UPNQ4N-30-2 Studying Speech Communities
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Both modules consider the realm of advertising from a linguistic perspective; identifying ways in which corporations use language to persuade the public to purchase their services/products.
UPNQ4J-30-1: Making Meaning
UPNQ9F-30-3: Critical Discourse Analysis
13 CLIMATE ACTION
Coursework – students have investigated language used by big polluters to shift blame on the community.
UPNNER-15-2: Research Language as Social Impact
14 LIFE BELOW WATER
Students might choose to explore this topic within our range of assessments.
15 LIFE ON LAND
Students might choose to explore this topic within our range of assessments.
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Both modules engage in the analysis of political and judicial discourse, often considering the impact that the language used has on the parties involved.
UPNC4 -30-1 Phonetics and Forensic Linguistics
UPNQ9A-30-3 Critical Discourse Analysis
17 PARTNERSHIPS FOR THE GOALS
Students in TESOL actively engage with international students at UWE Bristol and facilitate their education in the English language, providing both practical experience for our TESOL students as well as providing both a tutor and a local point of contact for the new international students.
Students in Creative Working go out and work with primary school students in Walscourt Farm Academy, engaging in professional practice as well as working with children from a variety of backgrounds, enriching their school experience the weeks they are together.
Students in Languages and the Mind get to enjoy a partnership with students from Laurea University, Helsinki, Finland to facilitate their learning and to give real life context to the topics they have.
UPNQ4L-30-3: TESOL
UPNQ4V-30-3 Creative Writing and the Self
UPNQ9Q-30-3: Languages and the Mind

1 NO POVERTY
Students engage with filmic representations of poverty and with critical work on the structural causes of impoverishment, including development discourse and practices. Students might also engage with such films and critical ideas in assessments on modules other than those listed.
UPGN9D-15-1 Imagining Realities
UPGN4X-30-2 Hollywood and World Cinema
UPGN9E-30-2 British Film and Television
UPGN9G-15-2 Screen Representations: Difference and Diversity
UPGN5T-30-3 Contemporary Cinema
UPGN9K-15-3 Outsider Cinema: Indie Films and Cult Movies
2 ZERO HUNGER
Students may engage with filmic representations of hunger and its structural causes, as well as issues around agriculture and food security on various modules in any given year. They might choose to focus assignments on the issues on several modules.
UPGN9D-15-1 Imagining Realities
UPGN9G-15-2 Screen Representations: Difference and Diversity
UPGN5T-30-3 Contemporary Cinema
BA (Hons) Film Studies
SDG issues covered in the programme | Place in the programme
3 GOOD HEALTH AND WELL-BEING
Students might choose to engage with the issues within our range of assessments.
4 QUALITY EDUCATION
Students might choose to engage with the issues within our range of assessments.
5 GENDER EQUALITY
Feminist and LGBTQ+ critical and creative work features in most or all of our modules, with varying degrees of explicitness.
Students are invited to engage with theoretical frameworks and films produced from these perspectives on a wide range of assessments.
Deeply embedded in the discipline and thus probably most modules in any single year, and all modules over time.
6 CLEAN WATER AND SANITATION
This issue might arise in several modules that engage with world cinema, documentary and contemporary cinema.
Students might choose to engage with the issue within our range of assessments.
7 AFFORDABLE AND CLEAN ENERGY
This issue might arise in several modules that engage with world cinema, documentary and contemporary cinema.
Students might choose to engage with the issue within our range of assessments.
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8 DECENT WORK AND ECONOMIC GROWTH
This issue might arise in several modules that engage with world cinema, documentary and contemporary cinema, which may also critique the notion of economic growth and the nature of work under capitalism.
Students might choose to engage with the issues within our range of assessments.
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
These issues are likely to arise on the modules which focus more explicitly on cinema as an industry.
Students might choose to engage with the issues within our range of assessments.
UPGN9B-30-1 Hollywood and Beyond: Commerce Creativity and Authorship
UPGN4X-30-2 Hollywood and World Cinema
UPGN5T-30-3 Contemporary Cinema
UPGN9L-15-3 Wallace Gromit and the Green Hollywood: Bristol's Film and Television Industries UPGN8N-15-3 Stardom: Performance and Agency
10 REDUCED INEQUALITIES
This issue is deeply embedded in the contemporary discipline, and is likely to be addressed across a wide range of our modules beyond those listed. Students might choose to engage with these issues within our range of assessments
UPGN9A-30-1 The Movie Experience: Audience Culture and Taste
UPGN9D-15-1 Imagining Realities
UPGN9E-30-2 British Film and Television
UPGN9G-15-2 Screen Representations: Difference and Diversity
UPGN5T-30-3 Contemporary Cinema
UPGN9K-15-3 Outsider Cinema: Indie Films and Cult Movies
11 SUSTAINABLE CITIES AND COMMUNITIES
This issue might arise in several modules, especially those that engage with world cinema, documentary and contemporary cinema.
Students might choose to engage with the issues within our range of assessments.
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
This issue might arise in several modules, especially those that engage with world cinema, documentary and contemporary cinema, which may also critique consumerism and the profound limitations of consumption-based solutions.
Students might choose to engage with the issues within our range of assessments.
13 CLIMATE ACTION
This issue might arise in several modules, especially those that engage with world cinema, documentary and contemporary cinema.
Students might choose to engage with the issues within our range of assessments.
14 LIFE BELOW WATER
This issue might arise in several modules, especially those that engage with world cinema, documentary and contemporary cinema.
Students might choose to engage with issue within our range of assessments
15 LIFE ON LAND
This issue might arise in several modules, especially those that engage with world cinema, documentary and contemporary cinema.
Students might choose to engage with issue within our range of assessments.
16 PEACE AND JUSTICE STRONG INSTITUTIONS
This issue might arise in several modules, especially those that engage with world cinema, documentary and contemporary cinema.
Students might choose to engage with issue within our range of assessments.
17 PARTNERSHIPS FOR THE GOALS
This issue might arise in several modules, especially those that engage with world cinema, documentary and contemporary cinema.
Students might choose to engage with issue within our range of assessments.

Business and Law

Accounting, Economics and Finance

Economics

In Economics, discussion began in 2014 with KESE rep Peter Bradley asking staff within the department if they would be willing to talk about integration of sustainability into curriculum and teaching. Seven people responded to the request and agreed to an in-depth interview on integrating sustainability into curriculum. For those that participated, their module specifications were also key word searched for terms relevant to sustainable development. Sustainability was defined using the Brundtland definition and three key aims identified by Sneddon *et al*. (2006). The results from this initial audit as well as student surveys are published in Bradley (2019). It was found that a limited number of modules had in depth of integration of sustainability at that time. A sector wide survey of barriers to integrating sustainability into the Economics curriculum was conducted as an extension to Peter's UWE work (*ibid.*).

In 2019/2020 an audit of the integration of the UN SDGs into the UWE economics curriculum and teaching was conducted. The process applied was that a spread sheet was developed identifying each SDG and explaining each goal. Participants were then asked to identify whether their module covers issues or concepts that relate to each goal or not. A second column asked them to provide examples of content or tasks which they include. The response in this second round send out was higher and overall it was found that quite a few modules for each programme do address a range of SDGs. Results were then collated on one master sheet and submitted for inclusion in the institution-wide mapping project work.

Outcomes are that we now have three outputs from the process, an initial scoping study that looked at integrating in relation to the three key aims of sustainable development (published in Bradley *et al.*, 2020) as well as a sector wide study of barriers (*ibid.*). There is now also an up-to-date audit of integration of SDGs into economics undergraduate programmes. A postgraduate programme within economics, the MSc in Global Political Economy, was not surveyed as at the time of mapping it was due to close.

Findings indicated that academics are less likely to integrate issues in to their teaching that are not linked to their own research. Therefore, in 2018 Peter set up the Sustainability Research Cluster (focused on economics, finance and accounting), as part of the Bristol Centre for Economics and Finance. This has now been made an independent group, the Sustainable Economies Research Group (SERG) with 32 members including members from the Faculty for Business and Law and the Faculty of Environment and Technology. The group has had a lot of success in external engagement and hosted the first one day UK Pro-environmental Consumer and Employee behaviour Conference in 2019 (with over 80 registered delegates) as well as success in externally funded research projects, journal papers and an impact case study.

Seminars on integrating sustainability into curriculum have been run with the economics group. The KESE rep has often offered one-to-one time to people to help integrate sustainability into curriculum, and there has been some uptake of this offer. Discussions have begun for an MSc in Economics for Sustainability.

- Bradley, P. (2019) Integrating sustainable development into economics curriculum: A case studyanalysis and sector wide survey of barriers. *Journal of Cleaner Production*, 209, 333-352. https://doi.org/10.1016/j.jclepro.2018.10.184. Available from https://uwe-repository.worktribe.com/output/852575.
- Sneddon, C., Howarth, R.B., Norgaard, R.B. (2006) Sustainable development in a post-Brundtlandworld, *Ecological economics*, 57(2), 253-268.

Peter Bradley ***Associate Professor in Economics***

Accounting and Finance

The KESE staff departmental rep for Accounting and Finance, Nicola Horner, initiated mapping by sending an email request to module leaders of the undergraduate Accounting programmes to complete a template detailing whether their module included examples of teaching that were relevant to each of the SDGs. A response was requested even if none of the SDGs could be mapped to measure the level of engagement. The request was successful in mapping all 17 goals to modules within the N420 BA (Hons) Accounting & Finance programme, primarily as a result of very good coverage of relevant issues within modules relating to Financial Accounting and Reporting and Taxation. Two members of staff linked to these modules were in fact nominated by students for the UWE Student Experience 'Teaching for Sustainable Development' Award.

The N420 programme is currently transitioning into three separate undergraduate accounting programmes (BSc (Hons) Accounting, BA (Hons) Accounting & Finance, BA (Hons) Accounting & Management). The current priorities are to ensure the excellent work that was found in the existing programme is maintained and enhanced across the new undergraduate programmes. From the mapping results, it became apparent that there were many module leaders that were incorporating elements of sustainability into their teaching but found it difficult to map to specific SDGs, or were interested in teaching sustainability within their modules but currently not doing so. A research seminar workshop was held proposing a project investigating the integration of sustainability in the accounting curriculum which received a positive response from staff.

Nicola will be undertaking further interviews with around twenty members of staff who teachon modules which contribute to accounting programmes, investigating barriers and opportunities from a teaching staff perspective. The findings will inform the approach for a more systematic and extensive mapping of sustainability (incorporating the SDGs) into the accounting curriculum. Nicola also hopes to publish a paper from this work in the journal "Accounting Education", which has recently announced a call for papers on Sustainability in Accounting Education.

An optional final year undergraduate module "Accounting for Sustainability" is currently undergoing approval to be included in the new BA (Hons) Accounting and Finance programme, with delivery to commence in 21/22. This request was initiated by an interested member of staff, again demonstrating the increased level of engagement in this area.

Nicola Horner ***Senior Lecturer in Accounting and Finance***

1 NO POVERTY
Discussion of the income approach to GDP capturing changes in incomes, which can contribute to eridicating poverty.
Economic Principles in a Contemporary Context
2 ZERO HUNGER
Not currently addressed within programme.
Accounting Programmes Year 1
BA (Hons) Accounting
BA (Hons) Accounting & Finance
BA (Hons) Accounting & Management
SDG issues covered in the programme | Place in the programme
3 GOOD HEALTH AND WELL-BEING
The Office for National Statistics measures of wellbeing are looked at.
Economic Principles in a Contemporary Context
4 QUALITY EDUCATION
Materials include diverse names and informal drop in sessions to reach all student groups.
Foundations of Financial Accounting
5 GENDER EQUALITY
Encouraging females to succeed in a male-dominated industry
Foundations of Financial Accounting
6 CLEAN WATER AND SANITATION
Not currently addressed within programme.
7 AFFORDABLE AND CLEAN ENERGY
We investigate alternative production models through looking at an example of a green energy company's business model.
Economic Principles in a Contemporary Context
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Employment and GDP are key areas of macroeconomics.
Economic Principles in a Contemporary Context
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
The module promotes innovation and develops awareness and understanding of opportunities and challenges associated with the use of technology. We aim to equip students with the skills necessary to work sustainably in an ever-changing business environment, and employ technology to promote sustainable growth. Students receive hands-on experience of Xero and Bloomberg.
Essential Information Skills
10 REDUCED INEQUALITIES
We critique the 'willingness to pay' approach in terms of meeting needs and whether GDP is a good measure of prosperity.
Economic Principles in a Contemporary Context
11 SUSTAINABLE CITIES AND COMMUNITIES
Not currently addressed within programme.
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Servitisation models are investigated which can result in more responsible consumption and production.
Economic Principles in a Contemporary Context
Discussions around things such as use of plastic throughout module.
Foundations of Financial Accounting
13 CLIMATE ACTION
Input-output modelling examples are shown throughout the course to reduce material flows which contributes to climate action through reducing material flows and therefore energy use.
Economic Principles in a Contemporary Context
14 LIFE BELOW WATER
Not currently addressed within programme.
15 LIFE ON LAND
Not currently addressed within programme.
16 PEACE AND JUSTICE STRONG INSTITUTIONS
The role of professional accountancy bodies and the associated codes of ethics for chartered accountants is discussed, contributing to building accountable institutions.
Professional Development for Accounting & Finance
17 PARTNERSHIPS FOR THE GOALS
This module introduces the Sustainable Development Goals to the students and mentions examples of what companies are doing to contribute to sustainable development, highlighting that the private sector needs to work with governments and society to meet the goals.
Professional Development for Accounting & Finance

1 NO POVERTY
Role of UK taxation system in reducing poverty e.g. working age and retirement benefits, personal allowances.
Principles of Taxation
Proportion of personal income spent on direct and indirect taxation.
Underfunded developing nations giving away revenue in tax breaks to multinationals.
Further Tax (Theory & Practice)
2 ZERO HUNGER
Underfunded developing nations giving away revenue in tax breaks to multinationals.
Further Tax (Theory & Practice)
BA (Hons) Accounting Years 2 & 3
SDG issues covered in the programme | Place in the programme
3 GOOD HEALTH AND WELL-BEING
Role of VAT in healthy eating (e.g. zero-rated vs. standard-rated foods).
Impact of taxes such as sugar tax and potential red meat tax.
Principles of Taxation
4 QUALITY EDUCATION
Learning outcome on students' ability to think critically, challenge viewpoints, ideas and concepts and make well-reasoned judgements.
Further Tax (Theory & Practice)
5 GENDER EQUALITY
Inequalities in historical NIC and taxation due to typical (gender imbalanced) contribution rates.
Principles of Taxation
Unscrutinised tax treaties depriving developing nations of revenue to improve public services such as good schools for girls.
Further Tax (Theory & Practice)
6 CLEAN WATER AND SANITATION
Environmental and social reporting disclosures - UK strategic report requirement on environmental mattters and relevant policies (e.g. polution for a mining company).
Corporate Reporting: Theory and Practice
7 AFFORDABLE AND CLEAN ENERGY
Environmental incentives in the taxation system e.g. to purchase energy saving plant or water efficient systems.
Principles of Taxation
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Economics of taxation on the shrinking working age population.
Principles of Taxation
Further Tax (Theory & Practice)
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Research & Development tax credits for innovation introduced and tax incentives for conversion of homes and energy saving plant etc.
Principles of Taxation
10 REDUCED INEQUALITIES
Impact of government policy on taxation.
International tax avoidance (e.g. corporate tax havens) and the impact on developing nations.
Further Tax (Theory & Practice)
11 SUSTAINABLE CITIES AND COMMUNITIES
Taxation is directly linked to the money available to spend by governments on such projects and we examine where and how this is collected.
Principles of Taxation
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Integrated reporting - concept of value creation and its dependency on the six capitals (financial, manufactured, intellectual, human, social & relationship, natural) promoting responsible consumption and production within organisations.
Corporate Reporting: Theory and Practice
Environmental taxation incentives and behaviour taxes around consumption and food.
Principles of Taxation
13 CLIMATE ACTION
Environmental taxation incentives (e.g. for conversion of homes and energy saving plant).
Principles of Taxation
14 LIFE BELOW WATER
Environmental and social reporting disclosures - UK strategic report requirement on environmental mattters and relevant policies (e.g. sustainable fishing for a supermarket).
Corporate Reporting: Theory and Practice
15 LIFE ON LAND
Environmental and social reporting disclosures - UK strategic report requirement on environmental mattters and relevant policies (e.g. sustainable agriculture for a supermarket).
Corporate Reporting: Theory and Practice
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Moral and ethical aspects of tax avoidance and the damage to society.
"Principles of Taxation
Further Tax (Theory & Practice)"
17 PARTNERSHIPS FOR THE GOALS
Super governmental approaches e.g. OECD and G20.
Further Tax (Theory & Practice)

1 NO POVERTY
Role of UK taxation system in reducing poverty e.g. working age and retirement benefits, personal allowances.
Proportion of personal income spent on direct and indirect taxation.
Underfunded developing nations giving away revenue in tax breaks to multinationals.
Governance and Taxation
2 ZERO HUNGER
Not currently addressed within programme.
BA (Hons) Accounting and Finance Years 2 & 3
SDG issues covered in the programme | Place in the programme
3 GOOD HEALTH AND WELL-BEING
Role of VAT in healthy eating (e.g. zero-rated vs. standard-rated foods).
Impact of taxes such as sugar tax and potential red meat tax.
Governance and Taxation
4 QUALITY EDUCATION
Not currently addressed within programme.
5 GENDER EQUALITY
Not currently addressed within programme.
6 CLEAN WATER AND SANITATION
Environmental and social reporting disclosures - UK strategic report requirement on environmental matters and relevant policies (e.g. pollution issues in a mining company).
Corporate Reporting: Theory and Practice
7 AFFORDABLE AND CLEAN ENERGY
Environmental incentives in the taxation system e.g. to purchase energy saving plant or water efficient systems.
Governance and Taxation
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Not currently addressed within programme.
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Not currently addressed within programme.
10 REDUCED INEQUALITIES
Not currently addressed within programme.
11 SUSTAINABLE CITIES AND COMMUNITIES
Taxation is directly linked to the money available to spend by governments on such projects and we examine where and how this is collected.
Governance and Taxation
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Integrated reporting - concept of value creation and its dependency on the six capitals (financial, manufactured, intellectual, human, social & relationship, natural) promoting responsible consumption and production within organisations.
Corporate Reporting: Theory and Practice
13 CLIMATE ACTION
Not currently addressed within programme.
14 LIFE BELOW WATER
Environmental and social reporting disclosures - UK strategic report requirement on environmental matters and relevant policies (e.g. sustainable fishing for a supermarket).
Corporate Reporting: Theory and Practice
15 LIFE ON LAND
Environmental and social reporting disclosures - UK strategic report requirement on environmental matters and relevant policies (e.g. sustainable agriculture for a supermarket).
Corporate Reporting: Theory and Practice
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Moral and ethical aspects of tax avoidance and the damage to society.
Strong governance is key to building accountable, effective and inclusive institutions, including businesses. Corporate governance regulations are evaluated with an ethical mindset, for example the need to consider of a wide range of stakeholders and contribute to wider society, for long-term sustainable success
Governance and Taxation
17 PARTNERSHIPS FOR THE GOALS
Not currently addressed within programme.

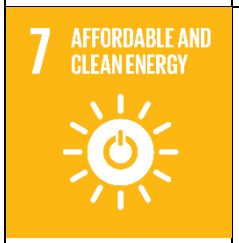
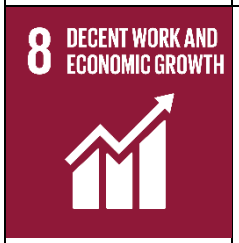
1 NO POVERTY
We do an entire lecture on the evolution of poverty across the globe as one of our "big issues" and the students have the chance of doing coursework on this topic; Looks in depth at Sustainability definitions, inecualities are also picked up when looking at Sustainable business models etc.
Becoming a practical economist (L1); Good business, Bad business and sustainability (L2); Emerging Economies (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
2 ZERO HUNGER
In the module we look at different sectors environmental impacts including Agriculture.
Good business, Bad business and sustainability (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
BA (Hons)
Banking and Finance
SDG issues covered in the programme | Place in the programme
3 GOOD HEALTH AND WELL-BEING
Wellbeing and its measurement are looked at for business models and through a range of index's that are looked at; One clear aim of the module is to understand how to improve the functioning of the financial system - this is something that should improve human well-being and resource distribution.
Good business, Bad business and sustainability (L2); Sustainable business (L3); The Economics of Developing Counties (L3); Contemporary Issues in Banking and Finance UMEDFT-30-3 (L3)
4 QUALITY EDUCATION
Studying Econometrics certainly provides inclusive and quality education for all and should especially benefit female students by enhancing their quantitative and technical skills. They currently make up only 20-25% of enrolment on this module; The module has been consistently approved by the external examiner of high quality.
Introductory Econometrics (L2); Management and cost accounting UMADSJ-15-2 (L2); The Economics of Developing Counties (L3)
5 GENDER EQUALITY
We do a lecture on demographics and discuss various policy responses to high/low fertility rates in the tutorial. A lot of this is connected to gender equality in the labour market etc.; studying econometrics certainly provides inclusive and quality education for all and should especially benefit female students, who currently make up only 20-25% of enrolment on this module; The module gives equal opportunity to all genders and races to learn accounting techniques and use; Looked at a little when looking at sustainability indicators; computing exercise; gender impact in wage determinants.
Becoming a practical economist (L1); Introductory Econometrics (L2); Management and cost accounting UMADSJ-15-2 (L2); Sustainable business (L3); Econometrics (L3)
6 CLEAN WATER AND SANITATION
Water use/scarcity looked at through online tools and discussion in seminars.
Good business, Bad business and sustainability (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
7 AFFORDABLE AND CLEAN ENERGY
Case studies of clean energy business models and intervention approaches for clean energy; We discuss green finance which I suppose is related to sustainable development.
Good business, Bad business and sustainability (L2); Sustainable business (L3); The Economics of Developing Counties (L3); Contemporary Issues in Banking and Finance UMEDFT-30-3 (L3)
UWE Bristol | University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Learning Econometrics should enhance students' job opportunities and skills!; This module equips students with the skills which will help them to increase qulaity life and contribute towards the GDP; A lecture is conducted on circular economy and green growth and we also look at limits to growth.
Good business, Bad business and sustainability (L2); Introductory Econometrics (L2); Management and cost accounting UMADSJ-15-2 (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
The module promotes skills which are essential for businesses in all sectors; Business model innovation.
Good business, Bad business and sustainability (L2); Management and cost accounting UMADSJ-15-2 (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
10 REDUCED INEQUALITIES
We cover inequality indices, links between robots and inequality, the impact of inecuality on growth, inequalities among individuals and the various types of policies that can tackle inequality. See „happovery„Äù above - one does not (in general) discuss poverty without reference to inequality. Students with special needs are catered for. We explore whether there an ethnicity bias in mortgage approval. A better functioning financial system would broadly speaking be expected to reduce inequality and hopefully support the investment needed for a number of the other objectives.
Introductor Macroeconomics (L1); Becoming a practical economist (L1); Introductory Econometrics (L2); Sustainable business (L3); The Economics of Developing Counties (L3); Econometrics (L3); Contemporary Issues in Banking and Finance UMEDFT-30-3 (L3)
11 SUSTAINABLE CITIES AND COMMUNITIES
We look at pro-environmental consumer and employee behaviour and culture.
Sustainable business (L3); The Economics of Developing Counties (L3)
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
We look at pro-environmental consumer and employee behaviour and culture.
Sustainable business (L3); The Economics of Developing Counties (L3)
13 CLIMATE ACTION
We cover the economic and financial effects of climate change, green growth and degrowth, fossil fuel divestment and the Paris Agreement. Students have to write an essay in which they compare green growth and degrowth policies; We watch an "Inconvenient Truth" although mainly to examine the use of rhetoric in this film (i.e. we do not use it to directly discuss climate change); Very strong focus throughout the course on carbon footprinting and reporting + business and economy strategy.
Introductor Macroeconomics (L1); Becoming a practical economist (L1); Sustainable business (L3); The Economics of Developing Counties (L3)
14 LIFE BELOW WATER
Looked at in the first week, we look at biodiversity and staying within key global environmental pressures.
Good business, Bad business and sustainability (L2); Sustainable business (L3)
15 LIFE ON LAND
Mainly through land use, we look at biodiversity and staying within key global environmental pressures.
Good business, Bad business and sustainability (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
16 PEACE AND JUSTICE STRONG INSTITUTIONS
The importance of institutions to sustainability in different forms is looked at throught the course.
Good business, Bad business and sustainability (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
17 PARTNERSHIPS FOR THE GOALS
Actions required by business, government and society is discussed all through the module.
Good business, Bad business and sustainability (L2); Sustainable business (L3); The Economics of Developing Counties (L3)

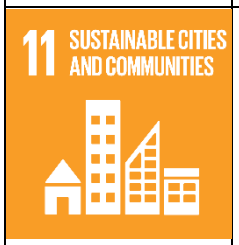
1 NO POVERTY
We do an entire lecture on the evolution of poverty across the globe as one of our "big issues", and the students have the chance of doing coursework on this topic: Work of Sen and Nussbaum; examples and research from developing countries; Looks in depth at Sustainability definitions, inequalities are also picked up when looking at Sustainable business models etc.
Becoming a practical economist (L1); Good business, Bad business and sustainability (L2); Emerging Economies (L2); Wellbeing of people and society (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
2 ZERO HUNGER
In the module we look at different sectors environmental impacts including Agriculture.
Good business, Bad business and sustainability (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
BSc (Hons) Economics
SDG issues covered in the programme | Place in the programme
3 GOOD HEALTH AND WELL-BEING
Microeconomics and wellbeing. Analyse wellbeing, life satisfaction, quality of life in different countries and regions; Wellbeing and its measurement are looked at: for business models and through a range of index's that are looked at.
Applied Microeconomics UMED8K-15-2 (L2); Good business, Bad business and sustainability (L2);Wellbeing of people and society (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
4 QUALITY EDUCATION
May discuss within household and family dynamics: studying Econometrics certainly provides inclusive and quality education for all and should especially benefit female students by enhancing their quantitative and technical skills. They currently make up only 20-25% of enrolment on this module.
Wellbeing of people and society (L2); Introductory Econometrics (L2); The Economics of Developing Counties (L3)
5 GENDER EQUALITY
We do a lecture on demographics and discuss various policy responses to high/low fertility rates in the tutorial. A lot of this is connected to gender equality in the labour market etc.: studying Econometrics certainly provides inclusive and quality education for all and should especially benefit female students, who currently make up only 20-25% of enrolment on this module; Looked at a little when looking at sustainability indicators; computing exercise: gender impact in wage determinants
Becoming a practical economist (L1); Introductory Econometrics (L2); Sustainable business (L3); Econometrics (L3)
6 CLEAN WATER AND SANITATION
Water use/scarcity looked at through online tools and discussion in seminars.
Good business, Bad business and sustainability (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
7 AFFORDABLE AND CLEAN ENERGY
Case studies of clean energy business models and intervention approaches for clean energy.
Applied Microeconomics UMED8K-15-2 (L2); Good business, Bad business and sustainability (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
8 DECENT WORK AND ECONOMIC GROWTH
We consider the great depression, Keynes' attack on (neo) classical theories of output, employment, money and interest and his conclusion that business investment determines aggregate demand in a capitalist economy; learning Econometrics should enhance students' job opportunities and skills; A lecture is conducted on circular economy and green growth and we also look at limits to growth.
History of economic thought UMED8D-15-1 (L1); Good business, Bad business and sustainability (L2); Introductory Econometrics (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Business model innovation
Good business, Bad business and sustainability (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
10 REDUCED INEQUALITIES
We discuss Ricardo's theory of rent and connect this to current debates on rents in the tech sector, mega billionaires etc. and to the housing crisis and asset price inflation; We discuss the advent of marginalism, particularly marginalist theories of income distribution versus classical surplus theories; We cover inequality indices, the links between robots and inequality, the impact of inequality on growth and the various types of policies that can tackle inequality; see "poverty" above - ons does not (in general) discuss poverty without reference to inequality; students with special needs are catered for; Many examples runs throughout the module; inequalities among individuals - computing exercise: is there an ethnicity bias in mortgage approval?
History of economic thought UMED8D-15-1 (L1); Introductor Macroeconomics (L1); Becoming a practical economist (L1); Applied Microeconomics UMED8K-15-2 (L2); Introductory Econometrics (L2); Sustainable business (L3); The Economics of Developing Counties (L3); Econometrics (L3)
UWE Bristol | University of the West of England
11 SUSTAINABLE CITIES AND COMMUNITIES
We look at pro-environmental consumer and employee behaviour and culture.
Sustainable business (L3); The Economics of Developing Counties (L3)
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
We look at pro-environmental consumer and employee behaviour and culture.
Applied Microeconomics UMED8K-15-2 (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
13 CLIMATE ACTION
We discuss Malthus' theories of population versus planetary capacity and connect this to current debates on climate change; We cover the economic and financial effects of climate charge, green growth and degrowth, fossil fuel divestment and the Paris Agreement. Students have to write an essay in which they compare green growth and degrowth policies; We watch an "Inconvenient Truth", although mainly to examine the use of rhetoric in this film (i.e. we do not use it to directy discuss climate change); General market failures based on externalities approach; looks at macroeconomic development that is within environmental constraints and maintains ecological integrity over intergenerational timescales; Very strong focus throughout the course on carbon footprinting and reporting + business and economy strategy.
History of economic thought: UMED8D-15-1 (L1); Introductor Macroeconomics (L1); Becoming a practical economist (L1); Applied Microeconomics UMED8K-15-2 (L2); Wellbeing of people and society (L2); Macroeconomics Theory and Applications UMED8L-30-2 (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
14 LIFE BELOW WATER
Looked at in the first week ,we look at biodiversity and staying within key global environmental pressures.
Applied Microeconomics UMED8K-15-2 (L2);Good business, Bad business and sustainability (L2); Sustainable business (L3)
15 LIFE ON LAND
Mainly through land use, we look at biodiversity and staying within key global environmental pressures.
Applied Microeconomics UMED8K-15-2 (L2); Good business, Bad business and sustainability (L2; Sustainable business (L3); The Economics of Developing Counties (L3)
16 PEACE AND JUSTICE STRONG INSTITUTIONS
The importance of institutions to sustainability in different forms is looked at through the course.
Good business, Bad business and sustainability (L2; Sustainable business (L3); The Economics of Developing Counties (L3)
17 PARTNERSHIPS FOR THE GOALS
Actions required by business, government and society is discussed all through the module.
Good business, Bad business and sustainability (L2); Sustainable business (L3); The Economics of Developing Counties (L3)

1 NO POVERTY
We do an entire lecture on the evolution of poverty across the globe as one of our "big issues", and the students have the chance of doing coursework on this topic; Looks in depth at Sustainability definitions, inequalities are also picked up when looking at Sustainable business models etc; poverty and social exclusion, severe material deprivation, persistent poverty and subjective well-being: Work of Sen and Nussbaum; examples and research from developing countries.
Becoming a practical economist (L1); Good business, Bad business and sustainability (L2); Emerging Economies (L2); Sustainable business (L3); The Economics of Developing Counties (L3); Applied Economics (L3); Wellbeing of people and society (L3)
2 ZERO HUNGER
In the module we look at different sectors environmental impacts including Agriculture.
Good business, Bad business and sustainability (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
BA (Hons) Business Management and Economics
SDG issues covered in the programme | Place in the programme
3 GOOD HEALTH AND WELL-BEING
Wellbeing and its measurement are looked at for business models and through a range of index's that are looked at; subjective well-being; Microeconomics and wellbeing, Analyse wellbeing, life satisfaction, quality of life in different countries and regions.
Good business, Bad business and sustainability (L2); Sustainable business (L3); The Economics of Developing Counties (L3); Applied Economics (L3); Wellbeing of people and society (L3)
4 QUALITY EDUCATION
Studying Econometrics certainly provides inclusive and quality education for all and should especially benefit female students by enhancing their quantitative and technical skills. They currently make up only 20-25% of enrolment on this module; The module has been consistently approved by the external examiner of high quality; May discuss within household and family dynamics.
Introductory Econometrics (L2); Management cost accounting (L2) The Economics of Developing Counties (L3); Wellbeing of people and society (L3)
5 GENDER EQUALITY
We do a lecture on demographics and discuss various policy responses to high / low fertility rates in the tutorial. A lot of this is connected to gender equality in the labour market etc.; studying Econometrics certainly provides inclusive and quality education for all and should especially benefit female students, who currently make up only 20-25% of enrolment on this module; The module gives equal opportunity to all genders and races to learn accounting techniques and use them to excel in their life; Looked at a little when looking at sustainability indicators; computing exercise: gender impact in wage determinants; gender pay gap.
Becoming a practical economist (L1); Introductory Econometrics (L2); Management cost accounting (L2); Sustainable business (L3); Econometrics (L3); Applied Economics (L3)
6 CLEAN WATER AND SANITATION
Water use/scarcity looked at through online tools and discussion in seminars.
Good business, Bad business and sustainability (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
7 AFFORDABLE AND CLEAN ENERGY
Case studies of clean energy business models and intervention approaches for clean energy.
Good business, Bad business and sustainability (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
UWE Bristol | University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Learning Econometrics should enhance students' job opportunities and skills!; This module equips students with the skills which will help them to increase quality life and contribute towards the GDP; A lecture is conducted on circular economy and green growth and we also look at limits to growth.
Good business, Bad business and sustainability (L2); Introductory Econometrics (L2); Management cost accounting; Sustainable business (L3); The Economics of Developing Counties (L3)
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
The module promotes skills which are essential for businesses in all sectors; Business model innovation.
Good business, Bad business and sustainability (L2); Management cost accounting (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
10 REDUCED INEQUALITIES
We cover inequality indices, the links between robots and inequality, the impact of inequality on growth and the various types of policies that can tackle inequality; See "poverty" above - one does not (in general) discuss poverty without reference to inequality; students with special needs are catered for; Many examples runs throughout the module; - inequalities among individuals - computing exercise: Is there an ethnicity bias in mortgage approval?
Introductor Macroeconomics (L1); Becoming a practical economist (L1); Introductory Econometrics (L2); Sustainable business (L3); The Economics of Developing Counties (L3); Econometrics (L3)
11 SUSTAINABLE CITIES AND COMMUNITIES
We look at pro-environmental consumer and employee behaviour and culture.
Sustainable business (L3); The Economics of Developing Counties (L3)
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
We look at pro-environmental consumer and employee behaviour and culture.
Sustainable business (L3); The Economics of Developing Counties (L3)
13 CLIMATE ACTION
We cover the economic and financial effects of climate change, green growth and degrowth, fossil fuel divestment and the Paris Agreement. Students have to write an essay in which they compare green growth and degrowth policies; We watch an "inconvenient Truth", although mainly to examine the use of rhetoric in this film (i.e. we do not use it to directly discuss climate change); Very strong focus throughout the course on carbon footprinting and reporting + business and economy strategy. General market failures based on externalities approach.
Introductor Macroeconomics (L1); Becoming a practical economist (L1); Sustainable business (L3); The Economics of Developing Counties (L3); Wellbeing of people and society (L3)
14 LIFE BELOW WATER
Looked at in the first week, we look at biodiversity and staying within key global environmental pressures.
Good business, Bad business and sustainability (L2); Sustainable business (L3)
15 LIFE ON LAND
Mainly through land use, we look at biodiversity and staying within key global environmental pressures.
Good business, Bad business and sustainability (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
16 PEACE AND JUSTICE STRONG INSTITUTIONS
The importnace of institutions to sustainability in different forms is looked at throught the course.
Good business, Bad business and sustainability (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
17 PARTNERSHIPS FOR THE GOALS
Actions required by business, government and society is discussed all through the module.
Good business, Bad business and sustainability (L2); Sustainable business (L3); The Economics of Developing Counties (L3)

Overview of content for map of BA(Hons) Business Management and Economics

SDG	Relevant issues and examples	Modules
	We do an entire lecture on the evolution of poverty across the globe as one of our "big issues", and the students have the chance of doing coursework on this topic; Yes; Looks in depth at Sustainability definitions, inequalities are also picked up when looking at Sustainable business models etc; Yes; Yes - poverty and social exclusion, severe material deprivation, persistent poverty and subjective well-being; Work of Sen and Nussbaum; examples and research from developing countries	Becoming a practical economist (L1); Good business, Bad business and sustainability (L2); Emerging Economies (L2); Sustainable business (L3); The Economics of Developing Counties (L3); Applied Economics (L3); Wellbeing of people and society (L3)
	Yes; In the module we look at different sectors environmental impacts including Agriculture; Yes;	Good business, Bad business and sustainability (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
	Yes; Wellbeing and its measurement are looked at for business models and through a range of index's that are looked at; Yes; Yes - subjective well-being; Microeconomics and wellbeing, Analyse wellbeing, life satisfaction, quality of life in different countries and regions	Good business, Bad business and sustainability (L2); Sustainable business (L3); The Economics of Developing Counties (L3); Applied Economics (L3); Wellbeing of people and society (L3)
	YES, studying Econometrics certainly provides inclusive and quality education for all and should especially benefit female students by enhancing their quantitative and technical skills. They currently make up only 20-25% of enrolment on this module; YES, The module has been consistently approved by the external examiner of high quality; Yes; May discuss within household and family dynamics	Introductory Econometrics (L2); Management cost accounting (L2) The Economics of Developing Counties (L3); Wellbeing of people and society (L3);

	We do a lecture on demographics and discuss various policy responses to high / low fertility rates in the tutorial. A lot of this is connected to gender equality in the labour market etc.; YES, studying Econometrics certainly provides inclusive and quality education for all and should especially benefit female students, who currently make up only 20-25% of enrolment on this module; YES, The module gives equal opportunity to all genders and races to learn accounting techniques and use them to excel in their life; Looked at a little when looking at sustainability indicators; YES - computing exercise: gender impact in wage determinants; Yes - gender pay gap	Becoming a practical economist (L1); Introductory Econometrics (L2); Management cost accounting (L2); Sustainable business (L3); Econometrics (L3); Applied Economics (L3);
	Yes; Water use/scarcity looked at through online tools and discussion in seminars; Yes;	Good business, Bad business and sustainability (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
	Yes; Case studies of clean energy business models and intervention approaches forclean energy; Yes	Good business, Bad business and sustainability (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
	Yes; YES, learning Econometrics should enhance students' job opportunities and skills!; YES, This module equips students with the skills which will help them to increase quality life and contribute towards the GDP; A lecture is conducted on circular economy and green growth and we also look at limits to growth:Yes	Good business, Bad business and sustainability (L2); Introductory Econometrics (L2); Management cost accounting; Sustainable business (L3); The Economics of Developing Counties (L3)

	Yes; YES, The module promotes skills which are essential for businesses in all sectors; Business model innovation: Yes	Good business, Bad business and sustainability (L2); Management cost accounting (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
	We cover inequality indices, the links between robots and inequality, the impact ofinequality on growth and the various types of policies that can tackle inequality; See "poverty" above - one does not (in general) discuss poverty without reference to inequality; Yes, students with special needs are catered for; Many examples runs throughout the module; Yes; YES - inequalities among individuals - computingexercise: Is there an ethnicity bias in mortgage approval?	Introductory Macroeconomics (L1); Becoming a practical economist (L1); Introductory Econometrics (L2); Sustainable business (L3); The Economics of Developing Counties (L3); Econometrics (L3);
	We look at pro-environmental consumer and employee behaviour and culture; Yes	Sustainable business (L3); The Economics ofDeveloping Counties (L3)
	We look at pro-environmental consumer and employee behaviour and culture; Yes	Sustainable business (L3); The Economics ofDeveloping Counties (L3)
	We cover the economic and financial effects of climate change, green growth and degrowth, fossil fuel divestment and the Paris Agreement. Students have to write an essay in which they compare green growth and degrowth policies; We watch an "Inconvenient Truth", although mainly to examine the use of rhetoric in this film (i.e. we do not use it to directly discuss climate change); Very strong focus throughout the course on carbon footprinting and reporting + business and economy strategy. Yes; General market failures based on externalities approach	Introductory Macroeconomics (L1); Becoming a practical economist (L1); Sustainable business (L3); The Economics of Developing Counties (L3); Wellbeing of people and society (L3)

	Yes; Looked at in the first week ,we look at biodiversity and staying within key global environmental pressures	Good business, Bad business and sustainability (L2); Sustainable business (L3)
	Yes; Mainly through land use, we look at biodiversity and staying within key global environmental pressures; Yes	Good business, Bad business and sustainability (L2); Sustainable business (L3);The Economics of Developing Counties (L3)
	Yes; The importance of institutions to sustainability in different forms is looked at through the course.; Yes	Good business, Bad business and sustainability (L2); Sustainable business (L3); The Economics of Developing Counties (L3)
	Yes; Actions required by business, government and society is discussed all through the module; Yes	Good business, Bad business and sustainability (L2); Sustainable business (L3); The Economics of Developing Counties (L3)

Business and Law

Business and Management

In the early stages of UWE's work to produce sustainability maps of its curriculum, a template was produced by two colleagues in the Bristol Business School to gather information on where relevant content was already covered and where there might be potential to enhance the coverage of sustainability. At this time, in early 2016, it was felt that the SDGs were not the right reference point for engaging with business and management academics on sustainability. Rather, an auditing tool for individual academics to complete was developed and piloted with the marketing, events and tourism cluster. It refered to sustainability concepts which were at that time deemed to be more familiar to business academics than the SDGs. These were devried from the United Nations Principles of Responsible Management Education (PRME) of which UWE has been a signatory since 2010.

Specifically, staff were asked to identify examples of sustainability in their curriculum and pedagogical approach which:

- Explore the impact of business on the ecological crisis (overuse of unrenewable natural resources, climate change and endangered biodiversity);
- Recognise the conflict of values between ecological sustainability and business objectives (e.g. profitability and expansion/growth) and its strategic or behavioural implications;
- Address ensuing global issues such as human rights, poverty, exploitation of labour (women and children in particular);
- Address strategic and operational solutions that organisations can adopt in order to implement a pro-sustainability change;
- Expose to critical scrutiny the notion of corporate social responsibility (CSR), business ethics, social good, sustainable / international development and international aid; and,
- Instil into our students the managerial and leadership skills and competencies that are relevant to the imperative of sustainability.

The template encouraged staff to provide comments on each of above elements in relation to current practice and potential future practice. However, yes/no type responses were given in many instances, or boxes were left blank. This exercise was useful in helping to identify where existing sustainability content was present within a cluster of modules. However, this particular process also yielded some unplanned outcomes. It:

- Enabled staff to be identified who were engaged in relevant teaching and who had ideas (and sometimes plans) for enhancing their engagement with sustainability in their teaching;
- Provided content which was used to create something of a baseline measure of sustainability in the curriculum of the business school;
- Prompted a discussion amongst a cluster of staff about sustainability issues in th offer to students;
- Revealed a potential lack of understanding amongst some staff of the universal relevance of sustainability/sustainable development;
- Highlighted a sense of an already 'overcrowded' curriculum with no space for adding 'new' issues;

- Exposed views amongst some staff that sustainability was not relevant to business and management or not relevant to them individually (in their professional capacity); and,
- Tested one approach to undertaking curriculum mapping and interpreting a centrally-mandated task to a local context.

Issues which were identified as being already included in the curriculum were ethics, consumer behaviour, materialism, waste, energy consumption, food insecurity, corporate communication, globalization, 'green' positioning strategies, environmental impact, environmental reputation, impact of ecological crisis on business, transport and travel (of supplies, goods, workers, clients, *etc.*), public concern for the environment, and sustainability in the context of the business environment (*e.g.* PESTLE), gender equality, labour rights, socialimpact.

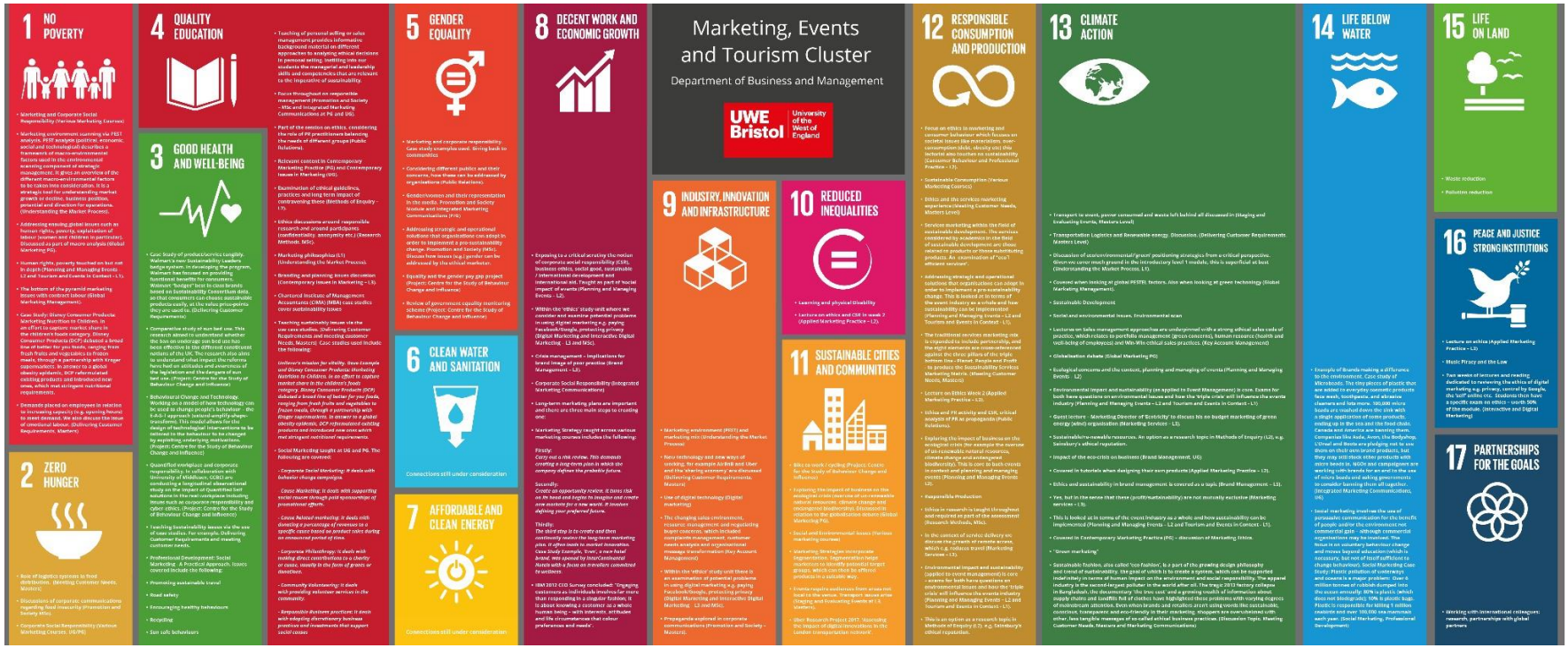
It was acknowledged however, that many of these issues were covered 'superficially, at best', whilst others were discussed critically but often within a single module and without sustained interrogation across programmes of study. A few barriers to further integration were mentioned by staff including lack of 'space' within curriculum (as mentioned above), perceived lack of relevance (e.g. to research methods), perceived lack of student demand/interest in sustainability, a sense that sustainability in business should be covered at postgraduate level, not undergraduate level and a view that sustainability is not as relevant when thinking about business in a UK context as when looking at business from an international perspective.

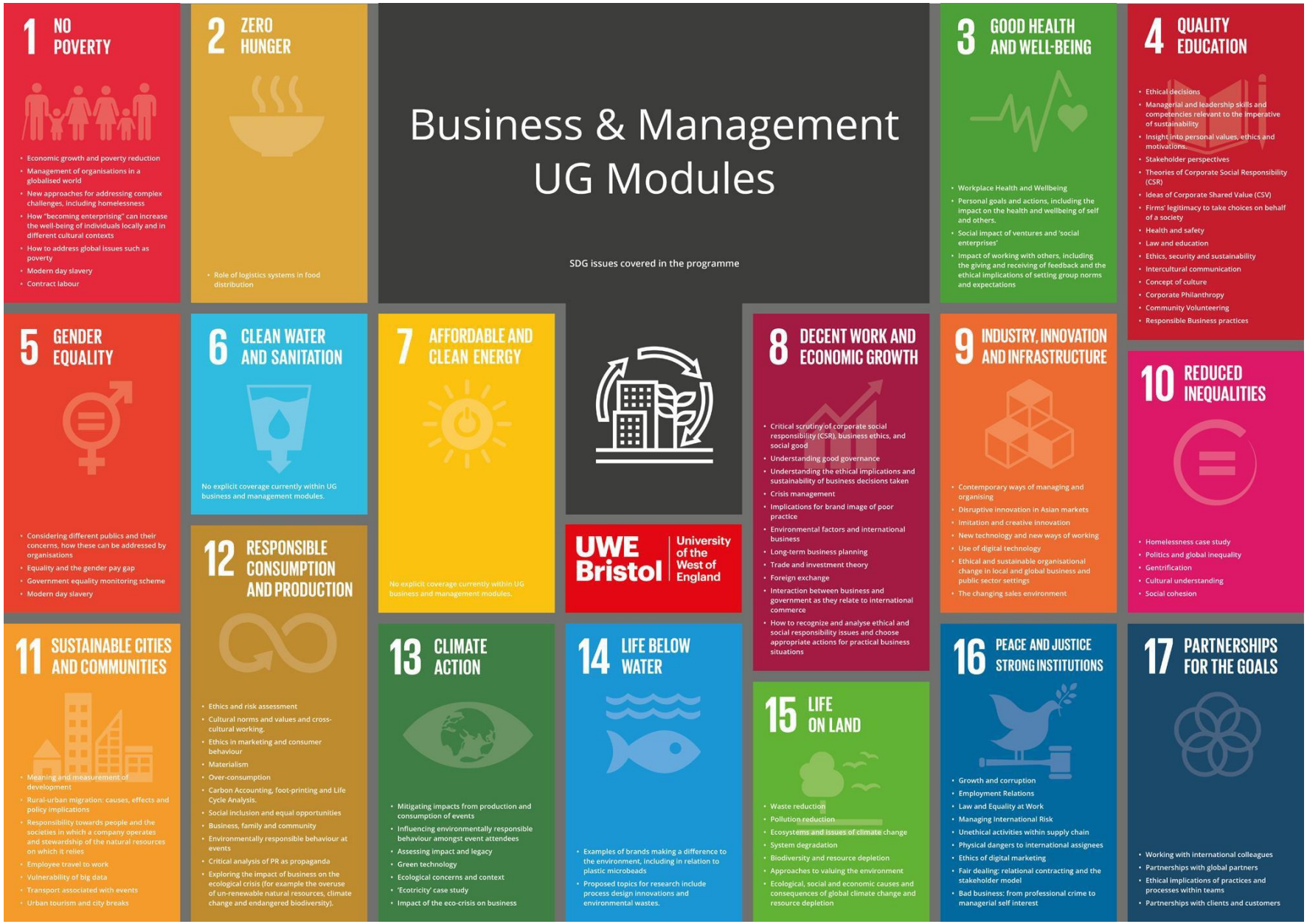
Opportunities for bringing sustainability more into the business and management student experience included use of relevant case studies, guest speakers, integrating across a range of modules throughout programmes of study and taking a more international perspective.

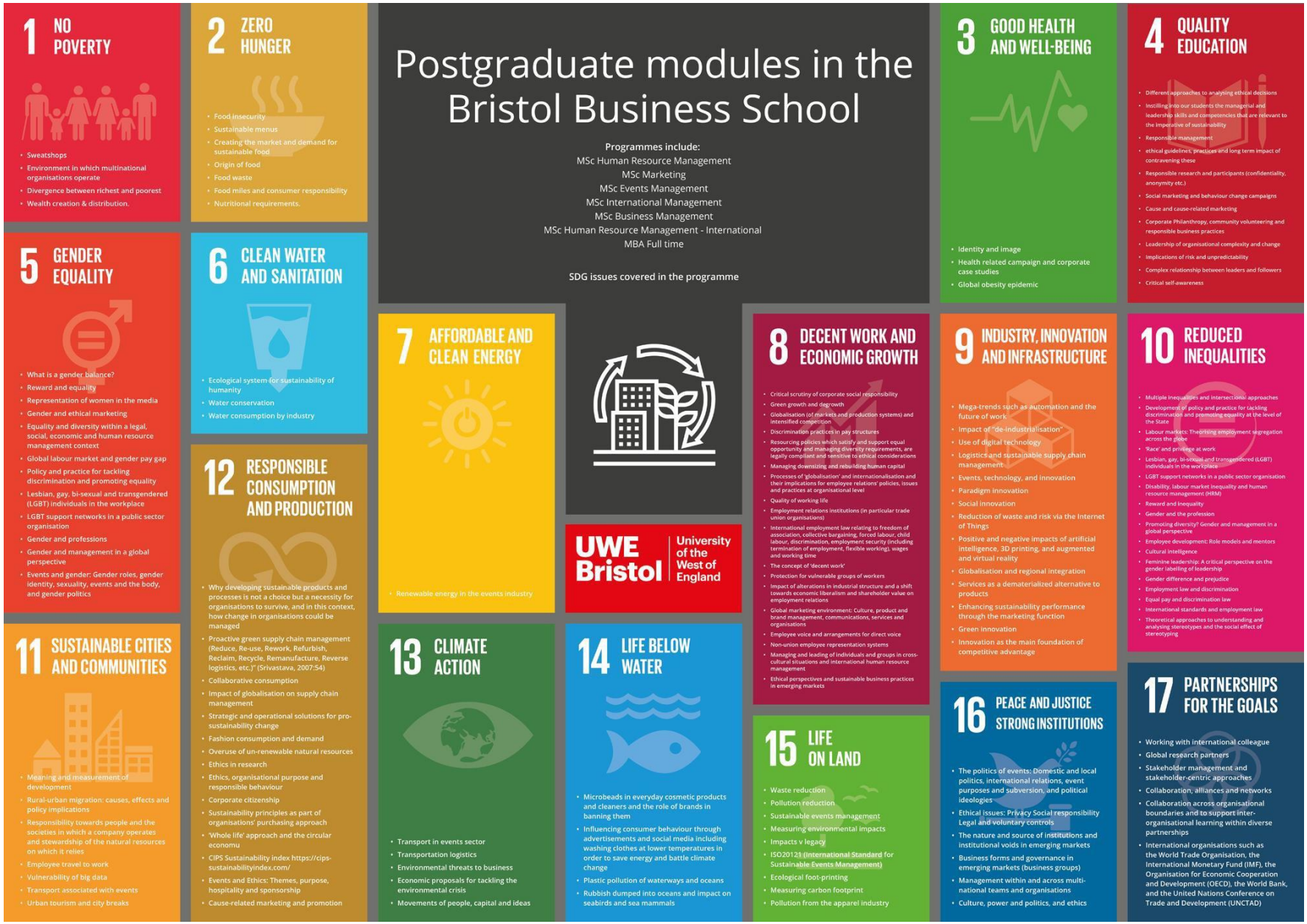
Subsequent to the mapping process just outlined, a follow up exercise was run, again with the marketing, events and tourism cluster; this time using the SDGs. This process identified a wider range of examples of existing teaching activities with each SDG being represented. This process achieved outcomes similar to the previous process but enabled the group to identify SDGs which were less represented in their curriculum currently, and prompted conversations about expertise within the cluster. The 'map' which resulted from this exercise can be seen below.

Following these early contributions to UWE's SDG mapping work, wider engagement by colleagues across the Bristol Business School was sought. A questionnaire was developed to obtain examples of activity which could be mapped. Emails were sent to key staff members such as programme leaders, followed up by telephone calls and personal visits. Progress in obtaining information, and in engaging programmes teams in meaningful mapping was slow. Two key barriers were finally identified: Lack of/inaccurate understanding of what sustainability/sustainable development/SDGs are and a lack of imperative for engaging with education for sustainable development.

Janet Carruthers ***Senior Lecturer in Marketing***
Georgina Gough ***Associate Professor in Education for Sustainable Development***
Svetlana Cicmil ***Visiting Professor in Sustainability and Theory***
Fiona Spotswood ***formerly of UWE Bristol***


1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
Marketing, Events and Tourism Cluster
Department of Business and Management
UWE Bristol University of the West of England
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
16 PEACE AND JUSTICE STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS


1 NO POVERTY
Economic growth and poverty reduction
Management of organisations in a globalised world
New approaches for addressing complex challenges, including homelessness
How "becoming enterprising" can increase the well-being of individuals locally and in different cultural contexts
How to address global issues such as poverty
Modern day slavery
Contract labour
2 ZERO HUNGER
Role of logistics systems in food distribution
Business & Management UG Modules
SDG issues covered in the programme
3 GOOD HEALTH AND WELL-BEING
Workplace Health and Wellbeing
Personal goals and actions, including the impact on the health and wellbeing of self and others.
Social impact of ventures and 'social enterprises'
Impact of working with others, including the giving and receiving of feedback and the ethical implications of setting group norms and expectations
4 QUALITY EDUCATION
Ethical decisions
Managerial and leadership skills and competencies relevant to the imperative of sustainability
Insight into personal values, ethics and motivations.
Stakeholder perspectives
Theories of Corporate Social Responsibility (CSR)
Ideas of Corporate Shared Value (CSV)
Firms' legitimacy to take choices on behalf of a society
Health and safety
Law and education
Ethics, security and sustainability
Intercultural communication
Concept of culture
Corporate Philanthropy
Community Volunteering
Responsible Business practices
5 GENDER EQUALITY
Considering different publics and their concerns, how these can be addressed by organisations
Equality and the gender pay gap
Government equality monitoring scheme
Modern day slavery
6 CLEAN WATER AND SANITATION
No explicit coverage currently within UG business and management modules.
7 AFFORDABLE AND CLEAN ENERGY
No explicit coverage currently within UG business and management modules.
UWE Bristol University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Critical scrutiny of corporate social responsibility (CSR), business ethics, and social good
Understanding good governance
Understanding the ethical implications and sustainability of business decisions taken
Crisis management
Implications for brand image of poor practice
Environmental factors and international business
Long-term business planning
Trade and investment theory
Foreign exchange
Interaction between business and government as they relate to international commerce
How to recognize and analyse ethical and social responsibility issues and choose appropriate actions for practical business situations
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Contemporary ways of managing and organising
Disruptive innovation in Asian markets
Imitation and creative innovation
New technology and new ways of working
Use of digital technology
Ethical and sustainable organisational change in local and global business and public sector settings
The changing sales environment
10 REDUCED INEQUALITIES
Homelessness case study
Politics and global inequality
Gentrification
Cultural understanding
Social cohesion
11 SUSTAINABLE CITIES AND COMMUNITIES
Meaning and measurement of development
Rural-urban migration: causes, effects and policy implications
Responsibility towards people and the societies in which a company operates and stewardship of the natural resources on which it relies
Employee travel to work
Vulnerability of big data
Transport associated with events
Urban tourism and city breaks
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Ethics and risk assessment
Cultural norms and values and cross-cultural working.
Ethics in marketing and consumer behaviour
Materialism
Over-consumption
Carbon Accounting, foot-printing and Life Cycle Analysis.
Social inclusion and equal opportunities
Business, family and community
Environmentally responsible behaviour at events
Critical analysis of PR as propaganda
Exploring the impact of business on the ecological crisis (for example the overuse of un-renewable natural resources, climate change and endangered biodiversity).
13 CLIMATE ACTION
Mitigating impacts from production and consumption of events
Influencing environmentally responsible behaviour amongst event attendees
Assessing impact and legacy
Green technology
Ecological concerns and context
'Ecotricity' case study
Impact of the eco-crisis on business
14 LIFE BELOW WATER
Examples of brands making a difference to the environment, including in relation to plastic microbeads
Proposed topics for research include process design innovations and environmental wastes.
15 LIFE ON LAND
Waste reduction
Pollution reduction
Ecosystems and issues of climate change
System degradation
Biodiversity and resource depletion
Approaches to valuing the environment
Ecological, social and economic causes and consequences of global climate change and resource depletion
16 PEACE AND JUSTICE STRONG INSTITUTIONS
Growth and corruption
Employment Relations
Law and Equality at Work
Managing International Risk
Unethical activities within supply chain
Physical dangers to international assignees
Ethics of digital marketing
Fair dealing: relational contracting and the stakeholder model
Bad business: from professional crime to managerial self interest
17 PARTNERSHIPS FOR THE GOALS
Working with international colleagues
Partnerships with global partners
Ethical implications of practices and processes within teams
Partnerships with clients and customers


1 NO POVERTY
Sweatshops
Environment in which multinational organisations operate
Divergence between richest and poorest
Wealth creation & distribution.
2 ZERO HUNGER
Food insecurity
Sustainable menus
Creating the market and demand for sustainable food
Origin of food
Food waste
Food miles and consumer responsibility
Nutritional requirements.
Postgraduate modules in the Bristol Business School
Programmes include:
MSc Human Resource Management
MSc Marketing
MSc Events Management
MSc International Management
MSc Business Management
MSc Human Resource Management - International
MBA Full time
SDG issues covered in the programme
3 GOOD HEALTH AND WELL-BEING
Identity and image
Health related campaign and corporate case studies
Global obesity epidemic
4 QUALITY EDUCATION
Different approaches to analysing ethical decisions
Instilling into our students the managerial and leadership skills and competencies that are relevant to the imperative of sustainability
Responsible management
ethical guidelines, practices and long term impact of contravening these
Responsible research and participants (confidentiality, anonymity etc.)
Social marketing and behaviour change campaigns
Cause and cause-related marketing
Corporate Philanthropy, community volunteering and responsible business practices
Leadership of organisational complexity and change
Implications of risk and unpredictability
Complex relationship between leaders and followers
Critical self-awareness
5 GENDER EQUALITY
What is a gender balance?
Reward and equality
Representation of women in the media
Gender and ethical marketing
Equality and diversity within a legal, social, economic and human resource management context
Global labour market and gender pay gap
Policy and practice for tackling discrimination and promoting equality
Lesbian, gay, bi-sexual and transgendered (LGBT) individuals in the workplace
LGBT support networks in a public sector organisation
Gender and professions
Gender and management in a global perspective
Events and gender: Gender roles, gender identity, sexuality, events and the body, and gender politics
6 CLEAN WATER AND SANITATION
Ecological system for sustainability of humanity
Water conservation
Water consumption by industry
7 AFFORDABLE AND CLEAN ENERGY
Renewable energy in the events industry
UWE Bristol
University of the West of England
8 DECENT WORK AND ECONOMIC GROWTH
Critical scrutiny of corporate social responsibility
Green growth and degrowth
Globalisation (of markets and production systems) and intensified competition
Discrimination practices in pay structures
Resourcing policies which satisfy and support equal opportunity and managing diversity requirements, are legally compliant and sensitive to ethical considerations
Managing downsizing and rebuilding human capital
Processes of 'globalisation' and internationalisation and their implications for employee relations' policies, issues and practices at organisational level
Quality of working life
Employment relations institutions (in particular trade union organisations)
International employment law relating to freedom of association, collective bargaining, forced labour, child labour, discrimination, employment security (including termination of employment, flexible working), wages and working time
The concept of 'decent work'
Protection for vulnerable groups of workers
Impact of alterations in industrial structure and a shift towards economic liberalism and shareholder value on employment relations
Global marketing environment: Culture, product and brand management, communications, services and organisations
Employee voice and arrangements for direct voice
Non-union employee representation systems
Managing and leading of individuals and groups in cross-cultural situations and international human resource management
Ethical perspectives and sustainable business practices in emerging markets
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Mega-trends such as automation and the future of work
Impact of "de-industrialisation"
Use of digital technology
Logistics and sustainable supply chain management
Events, technology, and innovation
Paradigm innovation
Social innovation
Reduction of waste and risk via the Internet of Things
Positive and negative impacts of artificial intelligence, 3D printing, and augmented and virtual reality
Globalisation and regional integration
Services as a dematerialized alternative to products
Enhancing sustainability performance through the marketing function
Green innovation
Innovation as the main foundation of competitive advantage
10 REDUCED INEQUALITIES
Multiple inequalities and intersectional approaches
Development of policy and practice for tackling discrimination and promoting equality at the level of the State
Labour markets: Theorising employment segregation across the globe
'Race' and privilege at work
Lesbian, gay, bi-sexual and transgendered (LGBT) individuals in the workplace
LGBT support networks in a public sector organisation
Disability, labour market inequality and human resource management (HRM)
Reward and inequality
Gender and the profession
Promoting diversity? Gender and management in a global perspective
Employee development: Role models and mentors
Cultural intelligence
Feminine leadership: A critical perspective on the gender labelling of leadership
Gender difference and prejudice
Employment law and discrimination
Equal pay and discrimination law
International standards and employment law
Theoretical approaches to understanding and analysing stereotypes and the social effect of stereotyping
11 SUSTAINABLE CITIES AND COMMUNITIES
Meaning and measurement of development
Rural-urban migration: causes, effects and policy implications
Responsibility towards people and the societies in which a company operates and stewardship of the natural resources on which it relies
Employee travel to work
Vulnerability of big data
Transport associated with events
Urban tourism and city breaks
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Why developing sustainable products and processes is not a choice but a necessity for organisations to survive, and in this context, how change in organisations could be managed
Proactive green supply chain management (Reduce, Re-use, Rework, Refurbish, Reclaim, Recycle, Remanufacture, Reverse logistics, etc.)" (Srivastava, 2007:54)
Collaborative consumption
Impact of globalisation on supply chain management
Strategic and operational solutions for pro-sustainability change
Fashion consumption and demand
Overuse of un-renewable natural resources
Ethics in research
Ethics, organisational purpose and responsible behaviour
Corporate citizenship
Sustainability principles as part of organisations' purchasing approach
'Whole life' approach and the circular economu
CIPS Sustainability index https://cips-sustainabilityindex.com/
Events and Ethics: Themes, purpose, hospitality and sponsorship
Cause-related marketing and promotion
13 CLIMATE ACTION
Transport in events sector
Transportation logistics
Environmental threats to business
Economic proposals for tackling the environmental crisis
Movements of people, capital and ideas
14 LIFE BELOW WATER
Microbeads in everyday cosmetic products and cleaners and the role of brands in banning them
Influencing consumer behaviour through advertisements and social media including washing clothes at lower temperatures in order to save energy and battle climate change
Plastic pollution of waterways and oceans
Rubbish dumped into oceans and impact on seabirds and sea mammals
15 LIFE ON LAND
Waste reduction
Pollution reduction
Sustainable events management
Measuring environmental impacts
Impacts v legacy
ISO20121 (International Standard for Sustainable Events Management)
Ecological foot-printing
Measuring carbon footprint
Pollution from the apparel industry
16 PEACE AND JUSTICE STRONG INSTITUTIONS
The politics of events: Domestic and local politics, international relations, event purposes and subversion, and political ideologies
Ethical issues: Privacy Social responsibility Legal and voluntary controls
The nature and source of institutions and institutional voids in emerging markets
Business forms and governance in emerging markets (business groups)
Management within and across multi-national teams and organisations
Culture, power and politics, and ethics
17 PARTNERSHIPS FOR THE GOALS
Working with international colleague
Global research partners
Stakeholder management and stakeholder-centric approaches
Collaboration, alliances and networks
Collaboration across organisational boundaries and to support inter-organisational learning within diverse partnerships
International organisations such as the World Trade Organisation, the International Monetary Fund (IMF), the Organisation for Economic Cooperation and Development (OECD), the World Bank, and the United Nations Conference on Trade and Development (UNCTAD)

Business and Law

Bristol Law School

Mapping of UWE's Masters of Law programmes (LLM) was undertaking as part of the very first set of maps in 2016. The UWE LLM programmes comprises 5 LLM awards, namely the LLM in Environmental Law and Sustainable Development, LLM in International Law, LLM in International Trade and Economic Law, LLM in International Banking and Finance Law and LLM in Commercial Law. All modules on the programme are taught from an international perspective and some modules also take a comparative perspective. Students are drawn from around the world including significant numbers from the global south. While the SDGs are most relevant to modules taught on the LLM in Environmental Law and Sustainable Development, all the LLM awards cover material that is relevant to the SDGs in some way. A number of modules, including International Law and Institutions and International Human Rights law aim specifically to provide students with opportunities to discuss the SDGs and to consider the relevance of the material covered in the module to achievement of the SDGS. The LLM SDG maps (below) represents the relevance of each module of the programmes to supporting the achievement of each SDG.

Specific analysis of one module which is core the coverage of the SDGs in the LLM was also undertaken at the time of mapping the programmes as a whole. Sabine Hassler (Module leader: Corporate Governance) provided a following description of the approach taken in the module which has been mapped below.

At all times, the CSR aspects are balanced against corporate governance requirements and the expectations of the core stakeholders in terms of profit generation against those by external stakeholders of long-term sustainability

In relation to mapping of the LLB programme, survey work was undertaken in February and March 2018 with module leaders on the LLB. Questions asked of module leaders related to current practice on their modules ('Do you currently discuss issues relevant to any of the SDGS in your module? If so, which issues and which SDGs do they relate to?') and future practice ('Would you consider including discussion of any of the SDGs in your module and if so, which SDGs would you be able to include?'). There have been ongoing delays in completing this mapping exercise, not least of all due to COVID. This mapping will be resumed in 2021 in collaboration with module leaders. However, numerous examples of relevant activity have been reported in annual education for sustainable development reports from the Bristol Law School.

Jona Razzaque ***Professor of Environmental Law***
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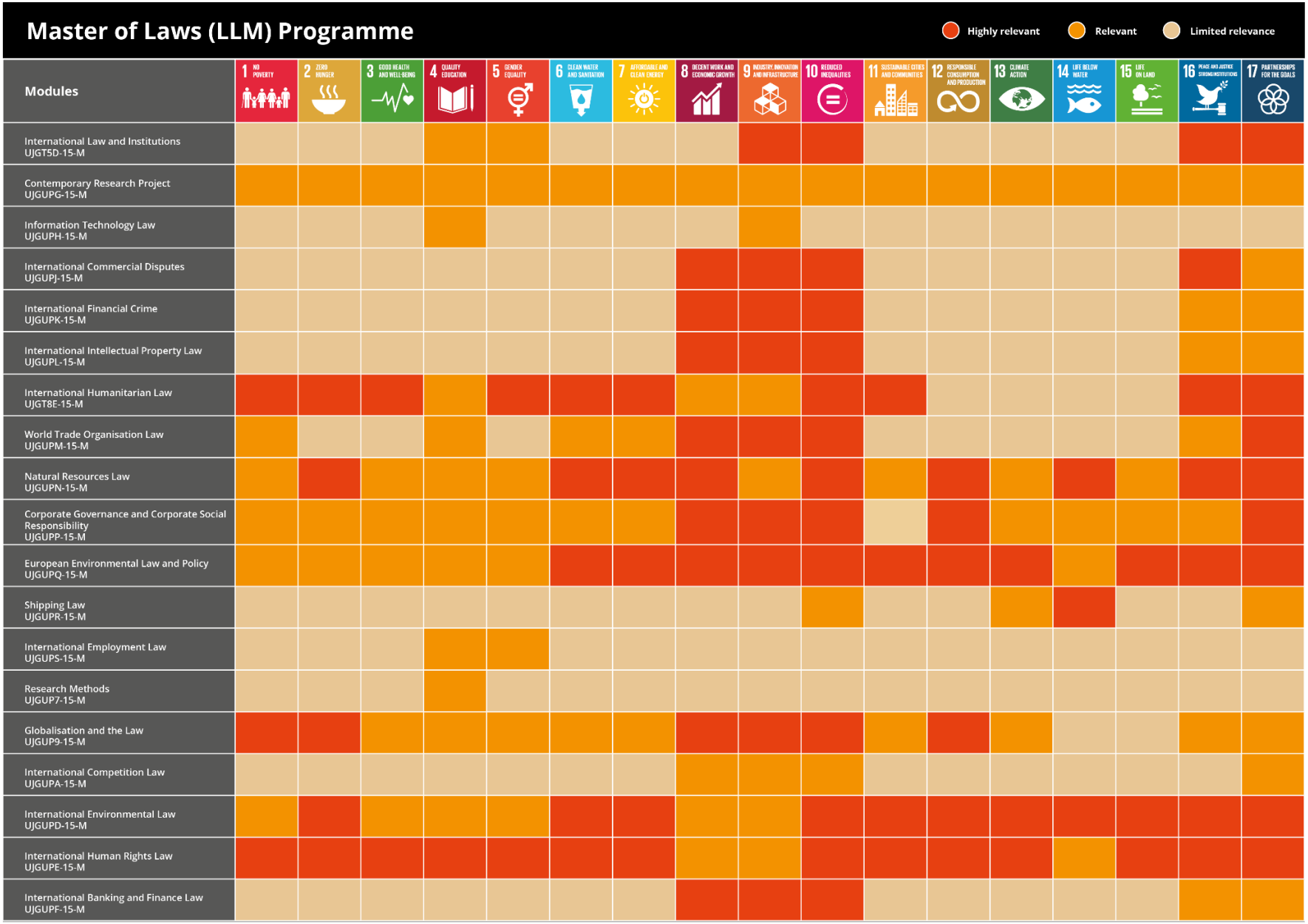
Master of Laws (LLM) Programme



1 NO POVERTY
Part of corporate social responsibility (CSR) is about looking how corporations can exercise their philanthropic discretion as corporate citizens by contributing to the betterment of the societies in which they exist. We look at this, in the module, by considering multinational corporation (MNC) activity in developing countries as well as touching upon FDI and corporate involvement in such deals.
2 ZERO HUNGER
This is partly picked up in discussions about Business and Ethics. Monsanto is one multinational corporation (MNC) that is used to consider whether their sterile but resistant GM crops contribute to food security or create more insecurity through dependence. We also consider the ethical nature of trading in commodities, including grains.
Corporate Governance Module
At all times, Corporate Social Responsibility (CSR) aspects are balanced against corporate governance requirements and the expectations of the core stakeholders in terms of profit generation against those of external stakeholders of long-term sustainability.
3 GOOD HEALTH AND WELL-BEING
Within CSR, we consider to what extent corporations can contribute to human health. For example, we have considered Procter & Gamble's Pampers adverts (each pack of nappies bought = one vaccination) and a Dispatches report on Coca-Cola and its active lobbying at UK government level against the sugar tax. In exploring corporate contributions to human health, the module actually goes back to considering the earlier version of paternalism and Arkwright.
4 QUALITY EDUCATION
Many MNCs nowadays invest in future generations by offering scholarships. Thus, examples are used to underline how corporations can (of course not without ulterior motives) contribute to education e.g. by offering STEM scholarships or by supporting reading initiatives.
5 GENDER EQUALITY
In a session about stakeholder involvement in corporate activity, we consider to what extent equality and diversity are communicated as part of corporate policy and under reporting obligations, and look at examples like Walmart or Sports Direct to explore the reality.
6 CLEAN WATER AND SANITATION
As part of the consideration of MNC impact on local communities, the module considers the reasons why corporations invest in particular locations including the exploitation of natural resources and to what extent the environment is abused as an indirect result or business activity, e.g. Coca-Cola in India (pesticides, water level depletion), Union Carbide in Bhopal, Shell in Nigeria.
7 AFFORDABLE AND CLEAN ENERGY
As a thread through the module, we keep considering what corporations contribute to human existence. With many utilities now in the hands of private corporations, their research and development (R&D) could contribute to the advancement of cheaper and cleaner energy. The question always is: how does this affect their bottom line? The Volkswagen scandal underlined that it is not always in corporations' best interest, in the short-profit term, to invest in clean energy.
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8 DECENT WORK AND ECONOMIC GROWTH
Part of the ongoing CSR discourse is to what extent corporations are to contribute to sustainable growth. As there are MNCs in existence today whose income exceeds the gross domestic product (GDP) of some countries, the relative power vis-à-vis national governments is immense. They have thus the power, and ability, to influence the sustainability goals of whole economies.
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Industry and innovation are considered as part and parcel of corporate sustainable engagement.
10 REDUCED INEQUALITIES
Linked with the points made in Goal 8, when corporations are as powerful as countries, their policy-making influence must not be underestimated.
11 SUSTAINABLE CITIES AND COMMUNITIES
Wherever corporations settle, they should behave as a good corporate citizen. We consider what that means, and to what extent there can be an expectation on corporations to behave responsibly.
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
There are corporations out there that, genuinely, try to achieve sustainable production and consumption. Thus, we do cover the 'responsible sustainable corporation' and to what extent this is possible by looking at, for example, Ben & Jerry's and The Body Shop.
13 CLIMATE ACTION
Climate action is part of corporate sustainable development and is extensively discussed against examples such as Volkswagen.
14 LIFE BELOW WATER
This is not a major thread, but we have discussed to what extent the sustainable and safe exploitation of the world's seas can be achieved by looking at examples like John West's Dolphin-friendly Tuna (is that even possible?) and the Deep Water Horizon scandal.
15 LIFE ON LAND
This is extensively discussed by looking at Shell's actions in the Niger Delta but also by looking at the use of palm oil in just about every product out there and microbeads in cleaning/cosmetic products.
16 PEACE AND JUSTICE STRONG INSTITUTIONS
This is part of the Ruggie Principles and is discussed as part of the international framework on human rights in CSR.
17 PARTNERSHIPS FOR THE GOALS
The module has an ongoing thread which examines the extent to which corporations act in conjunction and cooperation with the societies in which they exist.

Concluding statement

This portfolio is intended to share examples of our thinking, process, outcomes and outputs as we have worked through our SDG mapping work. This remains a live project and we would be very happy to speak to anyone who would like to know more or to work with us to continue the evolution of the project.

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