The tables below are illustrative examples of where elements of **Education for Sustainable Development (ESD)** already exist in the formal curriculum. Further details are available by request, email a.tierney@bristol.ac.uk or visit the ESD Wiki resource https://wikis.bris.ac.uk/display/BristolESD/ESD+at+Bristol (Google keywords: Bristol esd wiki)

Arts ¦ Engineering ¦Medicine & Dentistry ¦ Medical & Veterinary Sciences ¦ Science ¦ Social Sciences & Law

Arts

Economic	Social	Political	Environmental
pop art and consumerism	how the ancient world used art as a tool to promote personal and civic identities and to present gender, social status and ethnicity	individual activism, radicals, dissent and revolution; immigration, integration and parity; pre-democratic society; post-colonialism; national identities; Cold War diplomacy	ethical issues relating to conservation, health and safety, ecological and heritage conflict
poverty	development of knowledge and its movement through cultures and time	debates around justice that have been central to political philosophy	the character of environmental history and the role of nonhuman protagonists

Engineering

Economic	Social	Political	Environmental
ethical dilemmas encountered in business	the issues related to biocompatibility and ethics for medical applications	policy and legal aspects	critical analysis of the environmental impact of human activities such as agriculture and industry
aspects of water management in both developed and developing countries			
environmental protection in low-income and middle-income countries			

Medicine and Dentistry

Economic	Social	Political	Environmental
global inequalities in gender, child and maternal health and implications for global health priorities	manage patients from different social and ethnic backgrounds; dental services for a community	law, ethics and professionalism	the principles of prevention of dental disease - including social and environmental factors

Medical and Veterinary Sciences

Economic	Social	Political	Environmental
employment law, employee rights and discrimination	ways that microbes impact on society and describe the ways they can be controlled	bioterrorism	environmental disease; viruses that have an impact on the earth's biogeochemical systems
the global impact on public health of viruses			
facilitation of global trade	ethical issues of transfusion and transplantation	distinguish between the subjects of ethics, law and professional conduct and explain how they are interrelated	an ecological approach to animal parasitism - how veterinary advice and intervention can be targeted strategically to achieve sustainable control of parasites at the level of the individual and the population
disease prevention and control in relation to environmental protection and economics			disease prevention and control in relation to environmental protection and economics

Science

Economic	Social	Political	Environmental
geographically sensitive research on the politics of economics and the economics of politics	prejudice and social influence, including attitude formation and persuasion, conformity and social modelling		applying clear ecological concepts to applied tasks such as habitat management and environmental assessment
understanding (and solving) the environmental problems such as global warming, feeding the world, energy production, the control of infectious disease and the restoration of damaged and degraded communities			
Global warming, burgeoning populations, unplanned urbanization, logging of tropical forests, loss of biodiversity, modification of gene pools, aging workforces, natural disasters, pandemics, pollution			
political democracy, economic development, and social (in)equality	philosophical and ethical issues and the way different important approaches have built upon each other or interconnected, and how these ideas have changed the way we think about the world	how politics - in the broadest sense of the word - shapes human knowledge of, and interactions with, the physical environment	aspects of chemistry of the environment - the atmosphere, seas and oceans and the geosphere
the global financial crisis; the rise of the BRIC economies, and bio-capitalism	cultural psychological approaches to social cognition		exploitation and management of natural and agricultural ecosystems
the environmental, economic, and social/cultural impacts of tourism	evolutionary theory is considered by some to be untestable, and by others to have undesirable but unavoidable political and moral consequences, especially when applied to human social behaviour		
statistics is now very important in many fields of human endeavour - in science, medicine, industry, social science, commerce and government; multivariate techniques are used in medicine, physical, environmental, and biological sciences, economics and social science, and of course in many industrial and commercial applications			

Social Sciences and Law

Economic	Social	Political	Environmental
wage inequality and the national minimum wage, the scarring effects of unemployment, the rise of the workless household and child poverty, intergenerational transmission and the impact of childhood deprivation, and neighbourhood and peer group effects in economic and social out turns	on the relationship between education and development - Human Capital Theory, Human Rights, social justice - particularly the capabilities approach - and postcolonial and indigenous knowledge perspectives	Liberal theories of justice, namely: communitarianism, multiculturalism, deliberative democracy and feminism.	London congestion charge, climate change mitigation and building dams in India; growth and the environment; Milton Friedman's data on consumption and data on pollution and the environment; environmental misuse; climate change mitigation
dealing with environmental concerns - Sustainable development, pollution, climate change and the exploitation of renewable and non-renewable resources are fundamentally resource allocation problems on which economics has much to say	social welfare and policy such as poverty and social exclusion, health, housing, education, employment, citizenship and immigration, and criminal justice; culture and ethnicity; globalisation, citizenship and risk; welfare; labour migration, human trafficking and asylum seeking; issues of social division and exclusion health policy, the role of health policy in the welfare system and how health policy integrates with wider social policy issues		dealing with environmental concerns - Sustainable development, pollution, climate change and the exploitation of renewable and non-renewable resources are fundamentally resource allocation problems on which economics has much to say
human rights in economic development, aid and trade, in responses to terrorism, and in armed conflicts			marine pollution
improving human development in poor countries		the role of government and institutions in development	tackling environmental issues; the sources of environmental law
globalisation and the integration of the world economy	how language enacts social and cultural perspectives and identities; diversity; issues relating to race and ethnicity	What constitutes development, how to achieve it, and whether it is achievable or desirable takes us into a political and ethical minefield.	contemporary theoretical and empirical debates in environment, energy and resilience
Using an ecological framework, the lives of children, their parents and their communities are explored; the links between the environmental issues, social policy, and the policy making process; connections between the environment and poverty; environmental justice, risk, rational choice, environmental citizenship, transport, and waste Economic sanctions; humanitarian intervention; the United States in world politics; and poverty, inequality and the environment; power, the state, freedom and citizenship Problems, challenges and prospects of regional conflict and cooperation and assesses the implications of possible power transition played for the global future			

Figure 1Wordle of key ESD terms

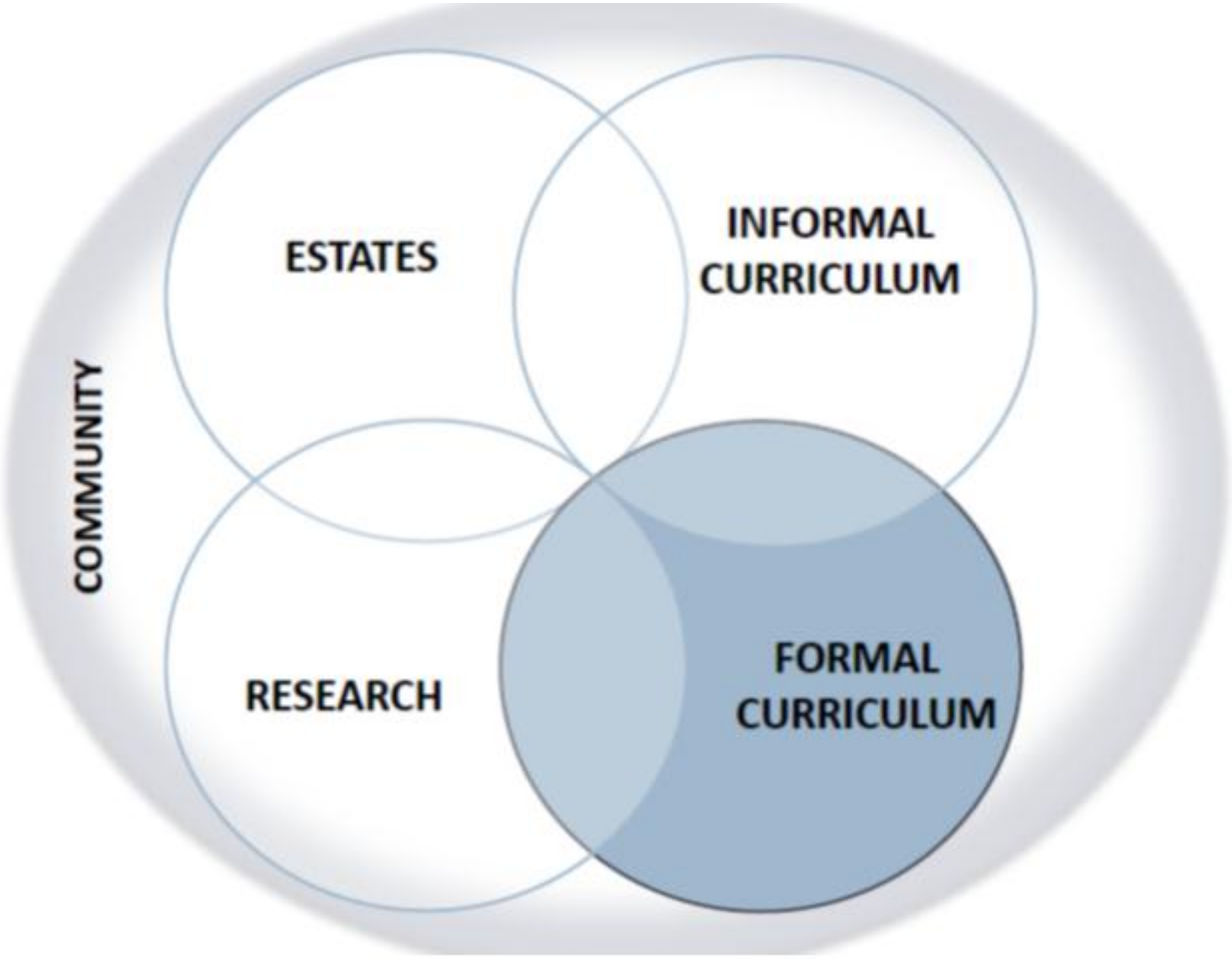

Figure 2 The 5 Circle model of Sustainability at the University of Bristol

ESD can be incorporated into a range of taught units, reflecting the original objectives of the course - not changing what they do, just doing what they do a little differently by building sustainability into a complementary area of the existing curriculum.

ESD and Dentistry

Dentistry demands that students look at their place within the wider community.

One of the key UG courses, ***The Dentist in Society,*** challenges students to reflect critically on a dentist's social responsibility by considering the wider context of health and society, and the ways in which dental services contribute to society.

ESD can be incorporated into a range of taught units, reflecting the original objectives of the course - not changing what they do, just doing what they do a little differently by building sustainability into a complementary area of the existing curriculum.

ESD and History of Art

All **Art** has a context and all artists have multiple identities that influence their pieces.

The Pre Raphaelite movement believed that art should serve a moral purpose often confronting social issues such as class as demonstrated in Ford Maddox Brown's 'Work'.

Their art reacted against the industrialisation of Britain focusing on nature and beauty. Many of the models were artists in their own right, such as Eizabeth Sidal.

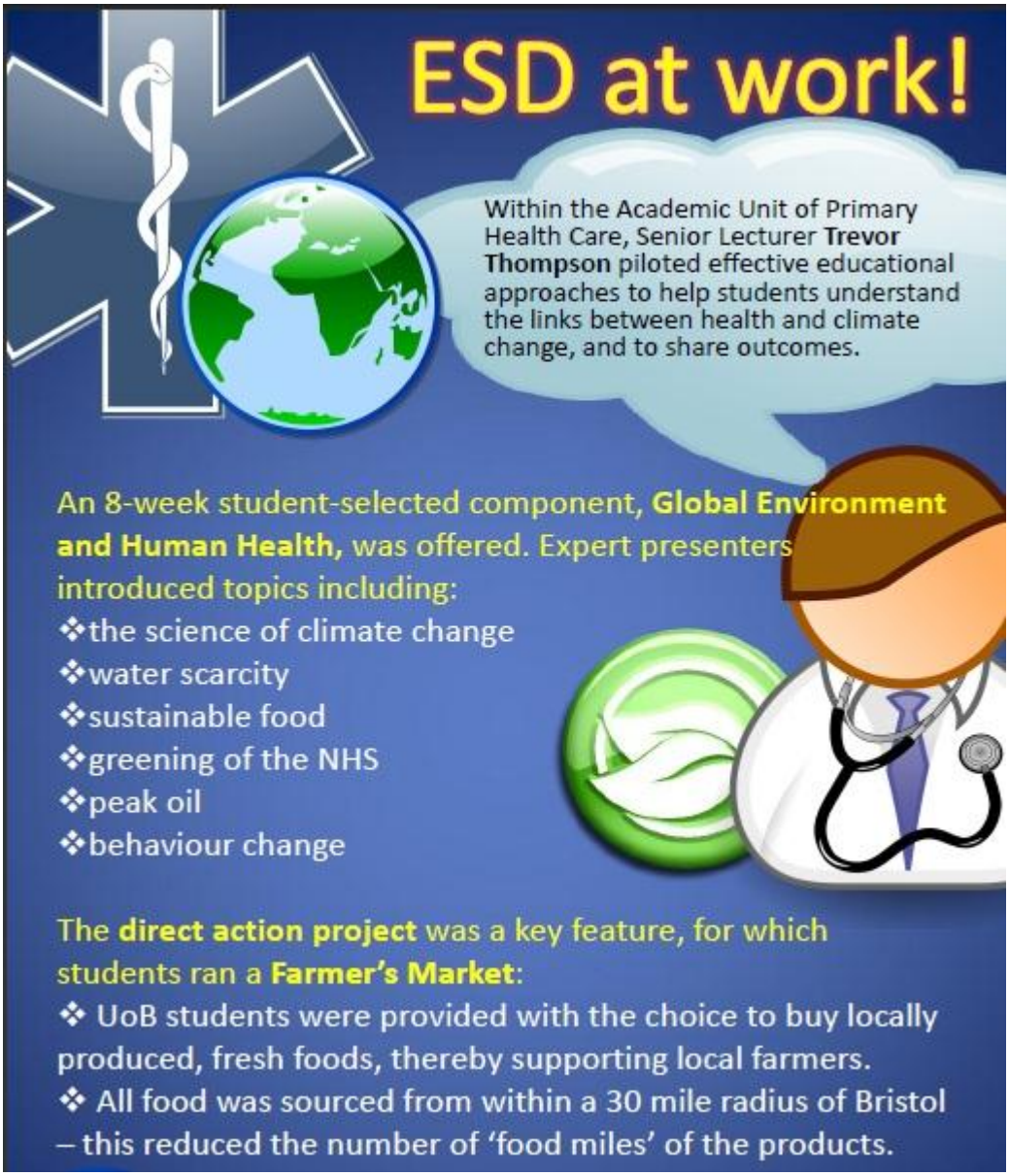

Figure 3 Examples of ESD at work in the formal curriculum