Postgraduate Open Days 2024

THE UNIVERSITY of EDINBURGH
Edinburgh Futures Institute

Join us to **Challenge. Create. Change.**

With you today

- Dr Esther Mijers, Director of Teaching
- Dr Neneh Rowa-Dewar, Director of Students
- Dr Rowan Jackson, MSc Planetary Health
- Dr Ian Russell, MSc Data, Inequality and Society
- Ms Toni Freitas, MSc Circular Economy
- Professor Sean Smith, MSc Future Infrastructure, Sustainability and Climate Change
- Professor John Brennan, MSc Sustainable Lands and Cities
- Veronica Silvestre, Teaching Administrator. EFI Education Team
- Yasmine Lewis, Teaching Administrator. EFI Education Team

Study at Edinburgh Futures Institute

Interdisciplinary

Bringing arts, humanities and social sciences together with sciences, engineering and medicine to address complex global issues.

Participatory and porous

Inviting diverse groupings to bring their ways of working and thinking together. EFI extends this invitation to industry, the public and government.

Critical and research-led

Working on pressing social issues that require new ways of thinking. Mindful of the role of universities in confronting uncomfortable questions.

Future-facing

Embracing the non-traditional, the untried and the unexpected. EFI defines challenges and co-creates responses to build better futures.

Sustainable Futures

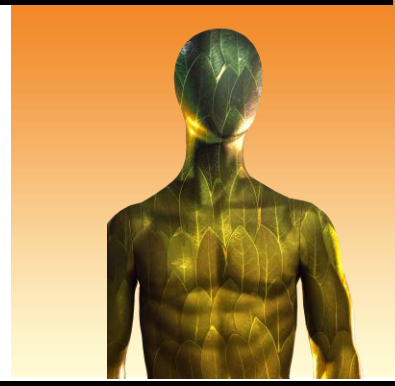
- Data, Inequality and Society
- Planetary Health
- Sustainable Lands and Cities
- Circular Economy
- Future Infrastructure, Sustainability and Climate Change

Creative Futures

- Service Management and Design
- Creative Industries
- Narrative Futures: Art, Data, Society
- Cultural Heritage Futures

Just Futures

- Data and AI Ethics
- Education Futures
- Future Governance
- Child Protection Data Futures



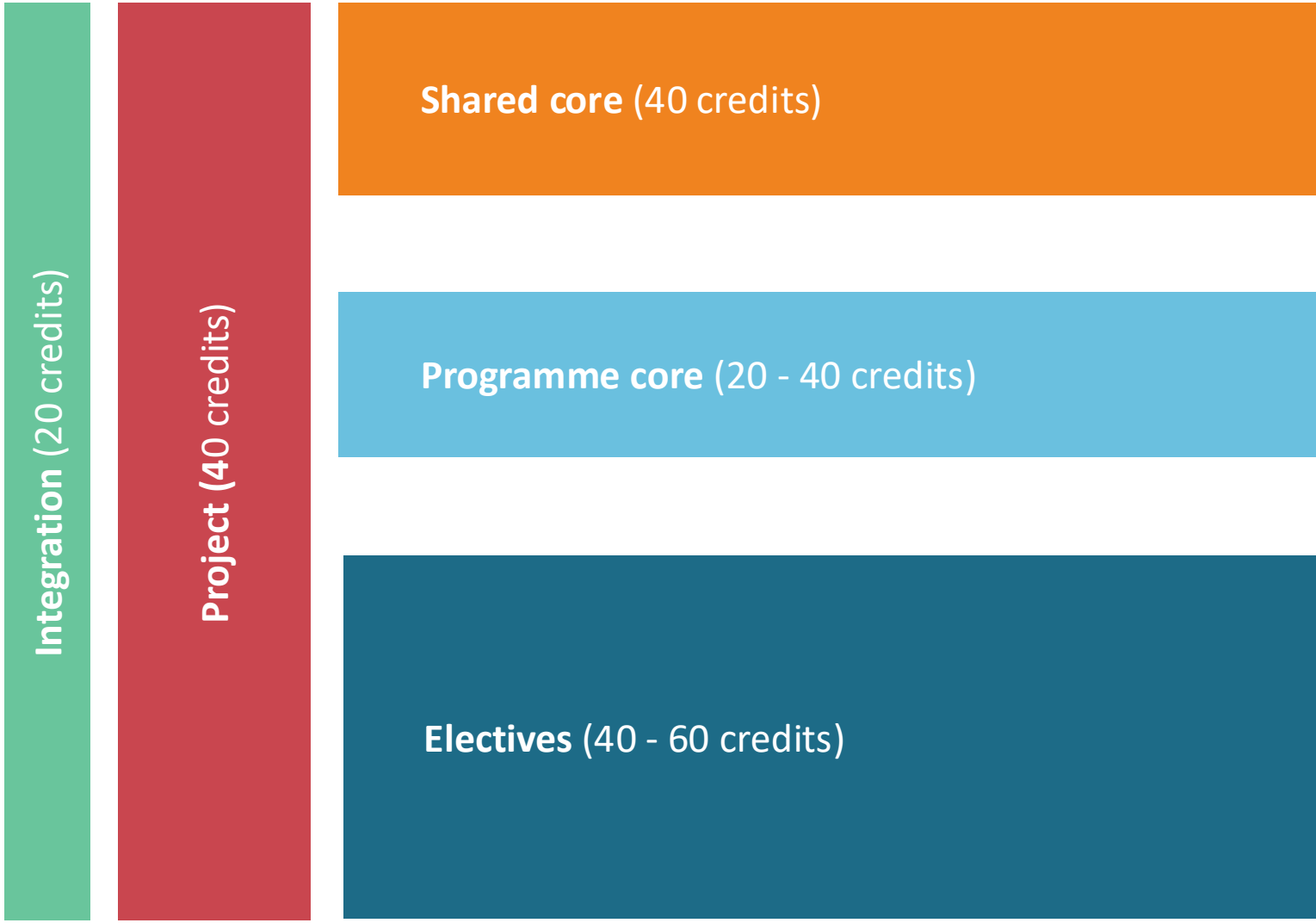
What's different about Education at EFI?

- Interdisciplinary programmes taught by leading academics from different Schools and disciplines
- Equips you with the critical, data and creative skills needed to navigate a rapidly-changing world
- Choose to study online, on-campus or a combination of both (apart from MSc Creative Industries which is currently on-campus only)
- Study part-time over 2 years, or full-time
- Take an MSc, a PG Diploma or a PG Certificate
- We will help you apply leading-edge knowledge to live projects you care about
- We will connect you to our partners in the community, industry and government

Fusion teaching

- Breaking down the online/on-campus distinction
- Inclusive: full time, part time, intermittent and lifelong study
- Flexible: you can choose to study online or on-campus at the level of each individual course
(with the exception of MSc Creative Industries)
- Community-focused: bringing students from across the world together as a single cohort
- Accessible: most courses are taught via two-day intensives with pre- and post-intensive activity
- Connected: employers work with us on the design and teaching of our programmes and help support projects

Our programme structure



Skill focused

Working in cross-disciplinary teams with students from other Futures Institute programmes, you will learn critical data skills, ethical awareness, creative thinking, and methods to address complex issues:

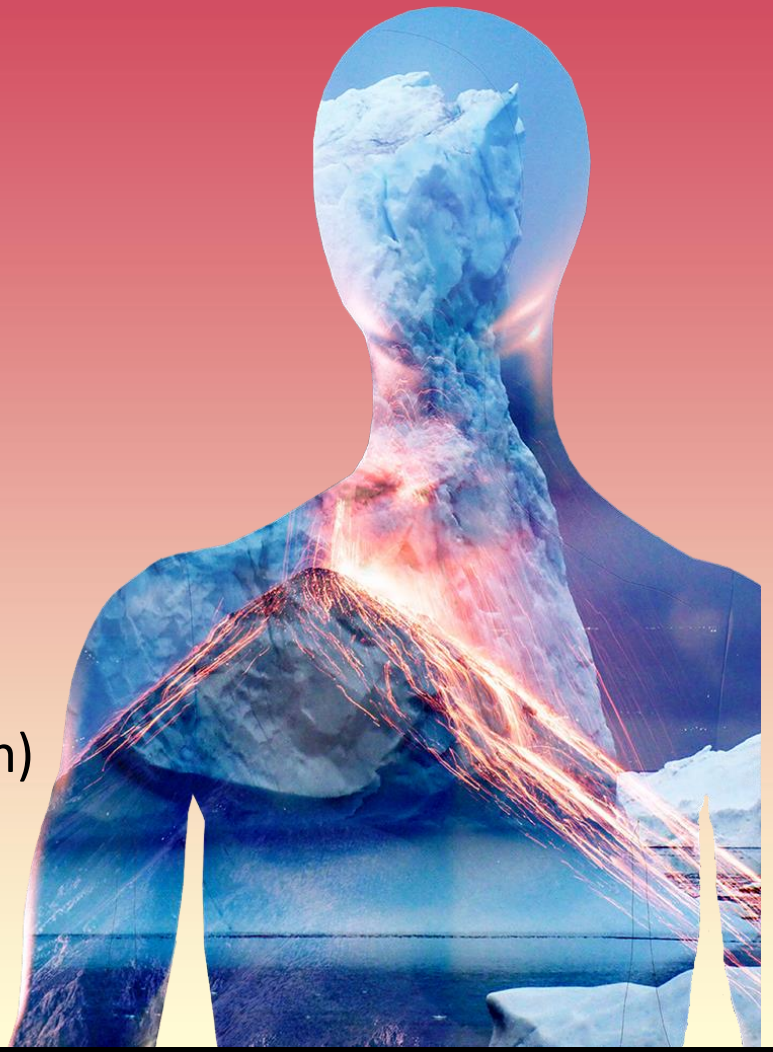
- Collect, manage and analyse computational datasets
- Use emerging methodologies for mapping and designing possible futures
- Learn the fundamentals of data ethics
- Learn how to use creative skills in the analysis and representation of data-informed and qualitative inquiry
- Develop climate change understanding

The student experience

- Global and diverse cohort, on campus and online
- A very well supported experience with a dedicated student experience and support team
- Events and networks to connect with each other
- Meet our students

Sustainable Futures: Interdisciplinary Masters

MSc Data, Inequality and Society (fusion)
MSc Planetary Health (fusion)
MSc Sustainable Lands and Cities (fusion)
MSc Circular Economy (fusion)
MSc Future Infrastructure, Sustainability and Climate Change (fusion)



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Edinburgh Futures Institute

Join us to **Challenge. Create. Change.**

Data, Inequality and Society

Dr Ian Russell
School of Social and Political Science

Dr Marlee Tichnor
School of Social and Political Science

What does this programme do?

- Explore **inequalities**, the very core of the world's most wicked and complex problems: e.g., poverty, basic rights, forced displacement
- Through **data** – of various types – that help understand and act upon inequalities but also hide realities… and can create and entrench inequalities
- Our core questions:
  - How are inequalities created, and what do inequalities produce?
  - What makes societies inclusive?
  - What is the role of data in describing and producing inclusion or exclusion?

The ‘Toolbox’ – exclusion and inequality

- *Where do social, political, cultural, and economic exclusions and inequalities come from, and what are their effects?*

- Equip yourself with skills and knowledge necessary to understand and research exclusion and inequality

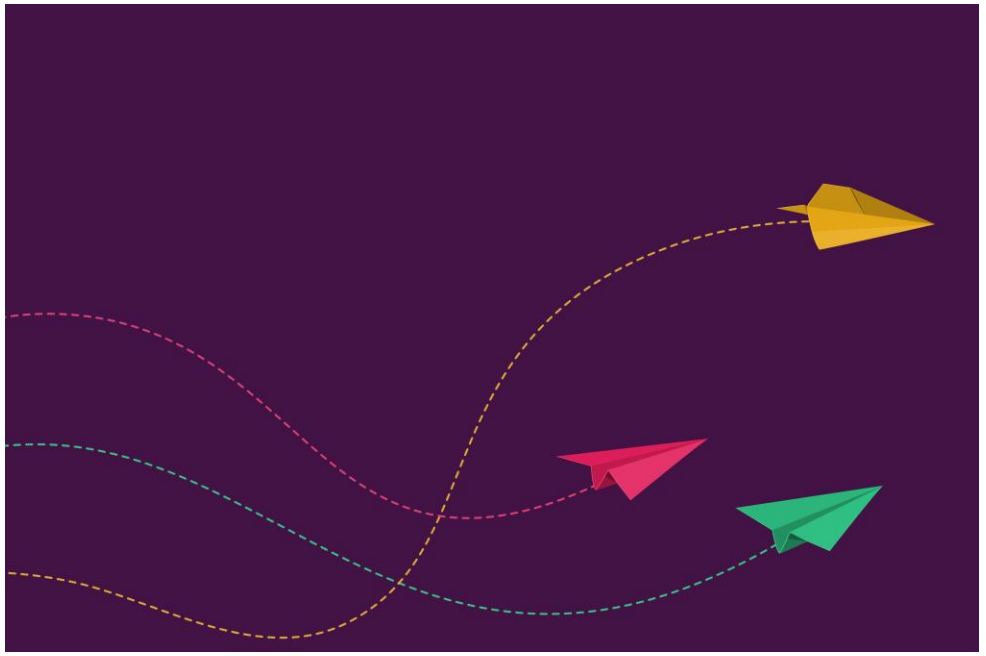
- Connect your learning to concrete issues related to health and healthcare, work and labour, resource flows, and the built environment

The ‘Sandbox’ – inclusive society

- *How are actors across the world addressing inequalities and exclusion?*
- Learn approaches to addressing exclusion and inequality from those leading projects of change
- Engage with initiatives that are concerned with citizen participation, data activism, working with vulnerable groups, and radical wealth and power redistribution initiatives

Electives for 24-25

- Build your own academic journey using programme-specific electives:
  - Aftershock: trauma and recovery in an unequal society
  - Contemporary inequality issues in the Global South
  - Coloniality of data
  - Data science for society
  - Indigenous futures
  - Migration and forced displacement in a digital age
- Many more available from other EFI programmes!



Final project

- Bring together the knowledge and skills gained in the core courses and electives to explore a topic of your choice
- Use your data skills to interrogate inequality and exclusion – e.g., inequalities in access to healthcare, marginalisation of indigenous populations – or to better understand projects of inclusion
- Use your social science skills to interrogate the inequalities connected with data – e.g., algorithmic bias, information asymmetries

Who is this programme for?

- Current students have a wide range of interests and experiences
- Those with a background/interest in data who want to learn to use data for projects of inclusion and equality
- Those with a background/interest in addressing inequality and exclusion who want to build their toolkit and data skills
- Those who are passionate about understanding and addressing the major inequalities and exclusions that exist today

Planetary Health

Professor Liz Grant
Global Health Academy, College of Medicine and Veterinary Medicine

Dr Rowan Jackson
School of Veterinary Studies, Global Academy of Agriculture and Food Systems

Dr Ewelina Rydzewska
School of Health in Social Sciences

Cynthia Naydani, School of Veterinary Studies

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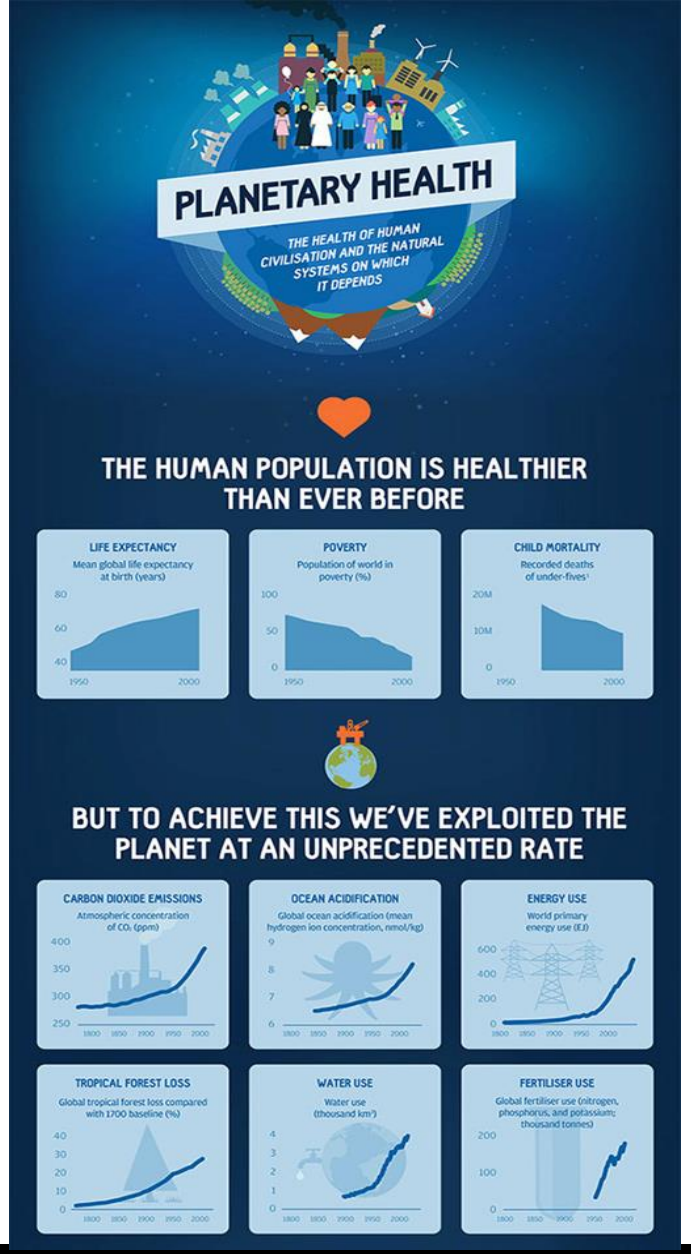
Global Academy of
Agriculture and Food Systems

What is Planetary Health?

Planetary Health: “is the achievement of the highest attainable standard of health, wellbeing, and equity worldwide through judicious attention to the human systems—political, economic, and social—that shape the future of humanity and the Earth’s natural systems that define the safe environmental limits within which humanity can flourish.” (Whitmee et al., 2015: 1973)



What is Planetary Health?

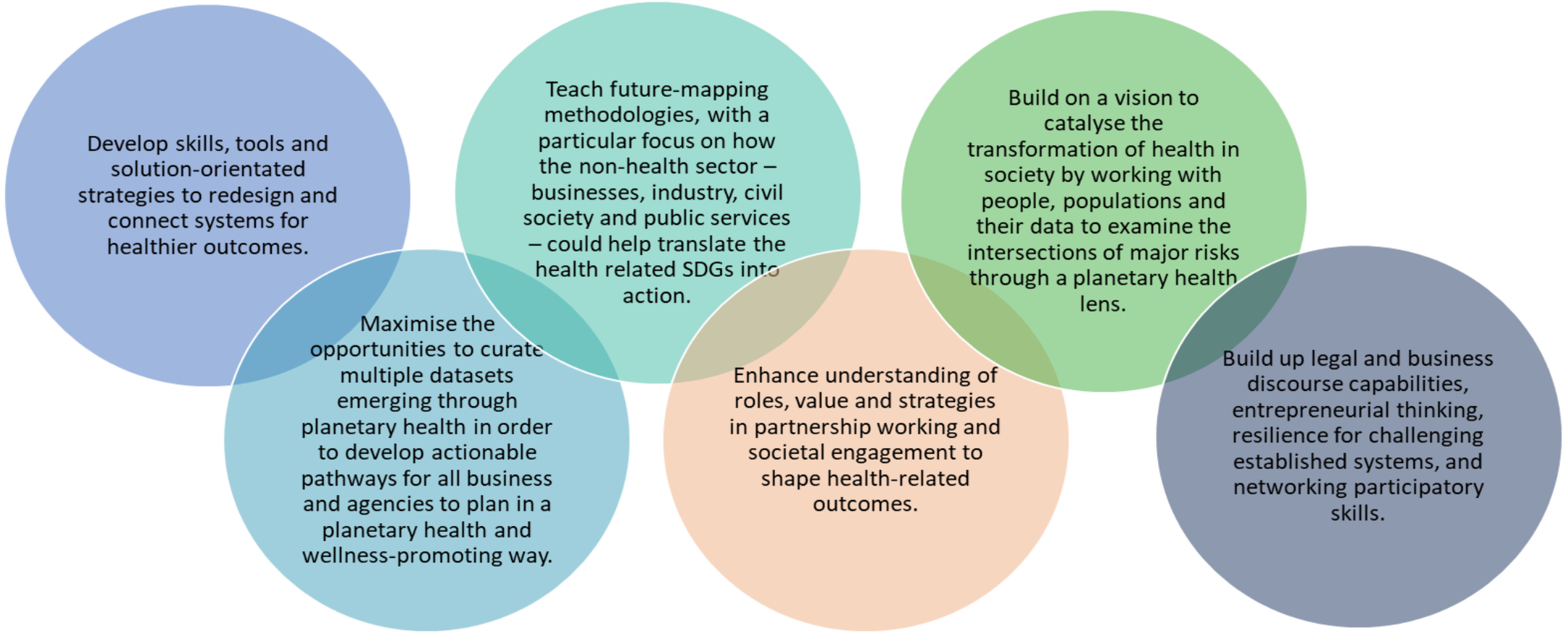
For societies to thrive, communities to grow, people to prosper and sustainable development to be achieved we need to be healthy. And the life sources upon which we depend also need to be healthy. The health of the planet (the air, the soil, the rivers, oceans and forests, our ecosystem and our climate) and the health of all living things are deeply intertwined, and they are deeply out of sync.

The Sustainable Development Goals **describe** a world of complex and multiple crises (biodiversity loss, pollution, shifting disease patterns, food, water and energy insecurity, economic instability and growing conflict) and also **point** to solutions.

Planetary Health seeks to understand the global transitions we are going through, and to propose strategies for bringing about improvements in the health of people and planet that will allow for a more sustainable flourishing future. Planetary Health is the system of health and wellness which underpin the Sustainable Development Goals.

What makes this degree significant?

The MSc in Planetary Health reimagines what the health of the future will look like by connecting those working in business, policy, public services, culture and education together. It will:



Why study Planetary Health at the University of Edinburgh?

You'll be joining a creative, innovative and interdisciplinary environment

Your studies will be supported by team of experts with health, environmental, economic, design and data-science expertise

The University of Edinburgh has world-leading expertise in health and environmental research

You will join a vibrant student community

What makes this degree different

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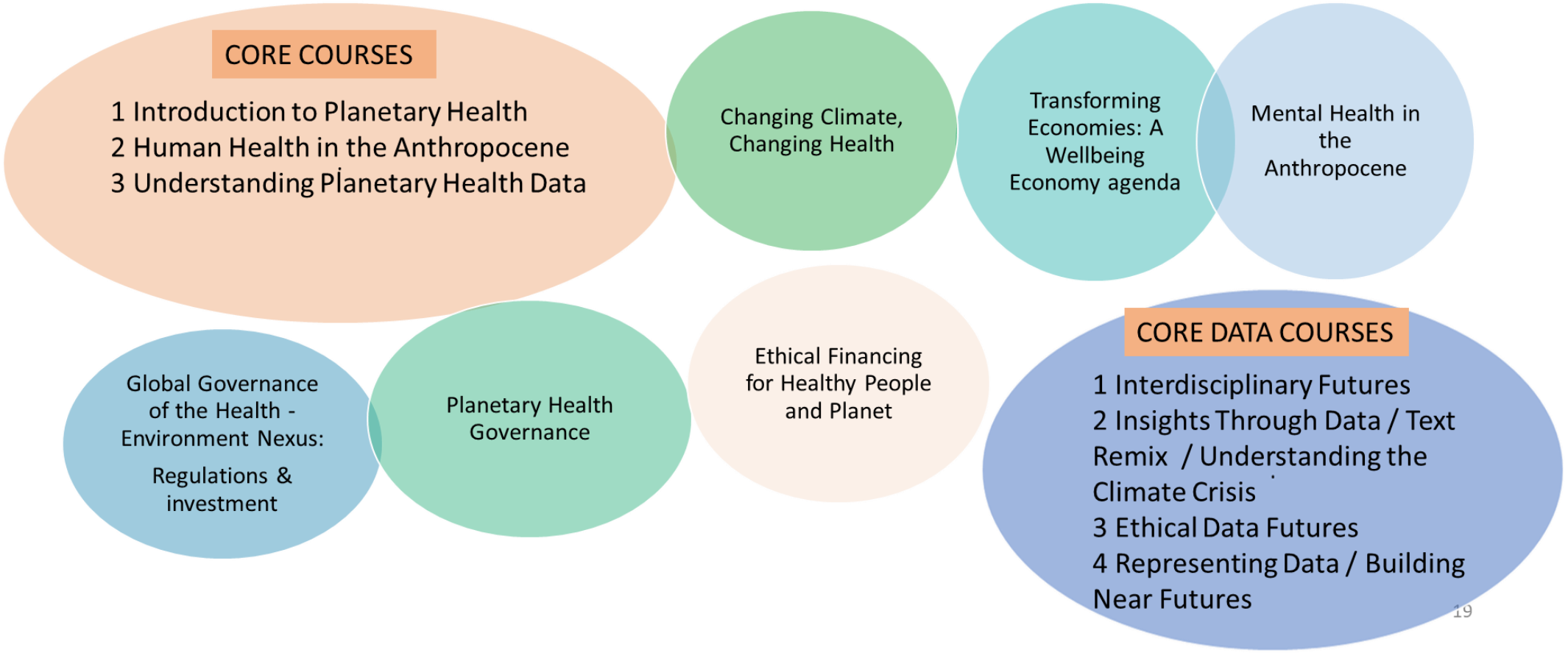
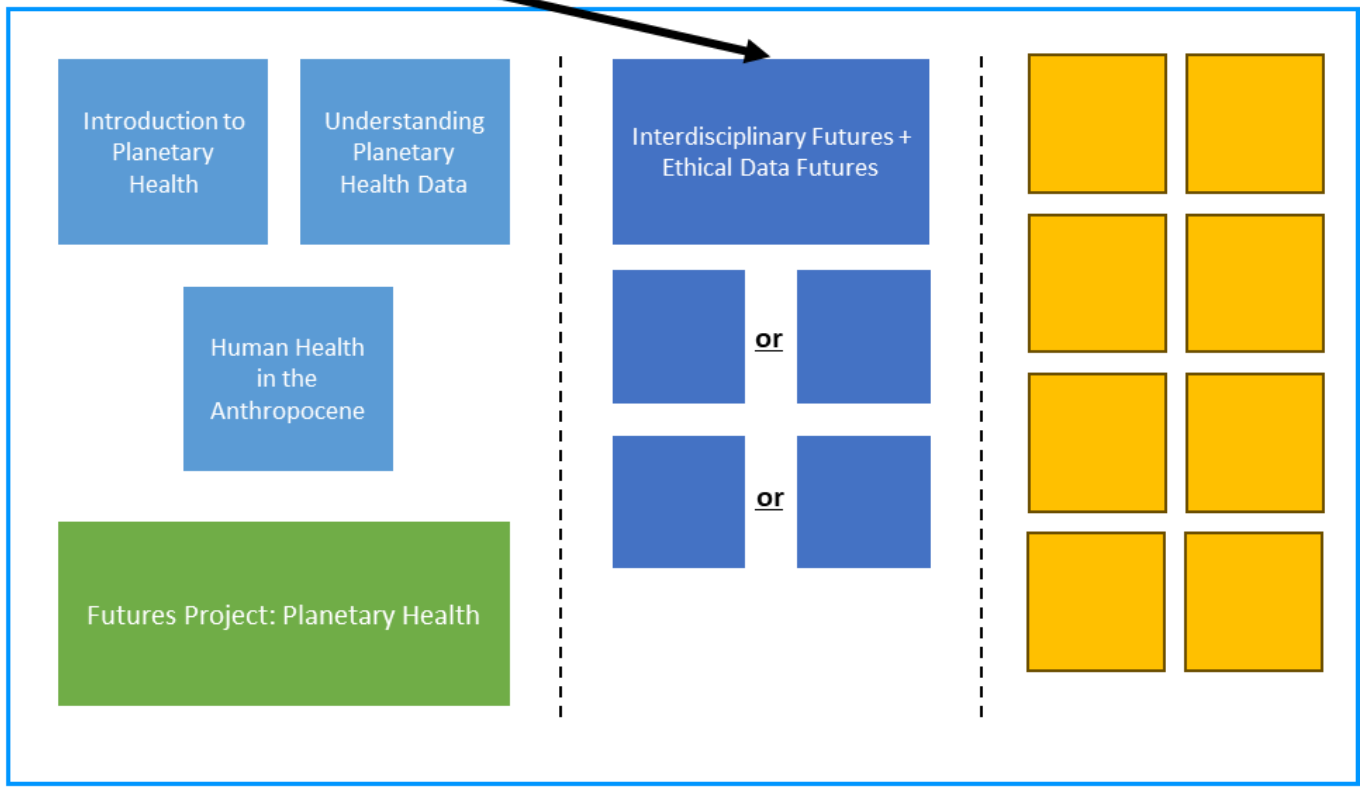


What will I study?

Course Options

- Mental health and the Anthropocene
- Trauma and Resilience
- Global Governance of the Health-Environment Nexus
- Planetary Health Governance
- Changing Climate, Changing Health
- Transforming Economies: A Wellbeing Economy Agenda
- Future Food Systems
- Heritage Environments and Climate Change

Degree Structure



Who will use planetary health knowledge and skills?

- Leaders, or those who aim to be leaders, in all sectors of business and industry who want to align their future vision and their ecological footprint to the global movement for an interconnected and inter-dependent world.
- Likely to be in strategic roles making connections between well-being and societal development, whether that is economic, environmental, social, legal, technological, or industry led.
- Leaders who understand the significance of the wider determinants of health and the intersection of human and environmental health issues within an ESG framework.
- Those currently working, or planning to work, in boundary roles in agencies fore-scanning and dealing with the risks, the impact and the consequences of global challenges to health and well-being at local, national and international level.
- Those considering how their enterprises and industry can contribute to a sustainable agenda, and those working to reduce their risks of being unsustainable or of having stranded assets.
- Careers that involve change-making and advocacy, health tech, sustainability, inclusion, health finance, business development, sectoral agenda setting or international and political engagement.
- Turning prior studies (in any discipline: humanities and social sciences, health, business) into sought after value assets for employment.

Sustainable Lands and Cities

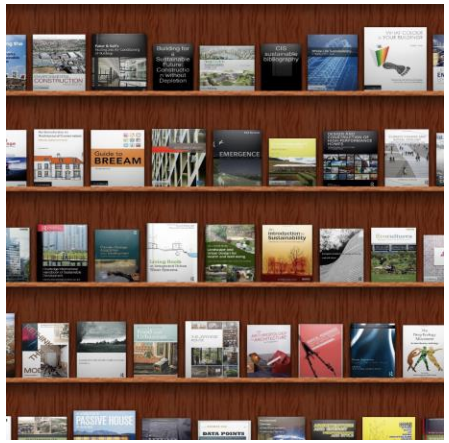
Dr Kirsteen Shields
Global Academy of Agriculture and Food Systems

Professor John Brennan
School of Architecture and Landscape Architecture (ESALA)

MSc Sustainable Lands and Cities: **Addressing Sustainable Challenges**

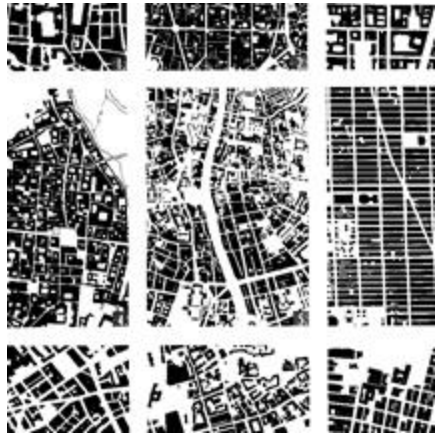
information overload

how do we find what's relevant to plot a path to resilient sustainable strategies?



the ever evolving city

how can we and our infrastructures keep up with cities and countrysides in cycles of rapid change



context is all

every urban and rural context is different; how to move from generic indicators to focused solutions?

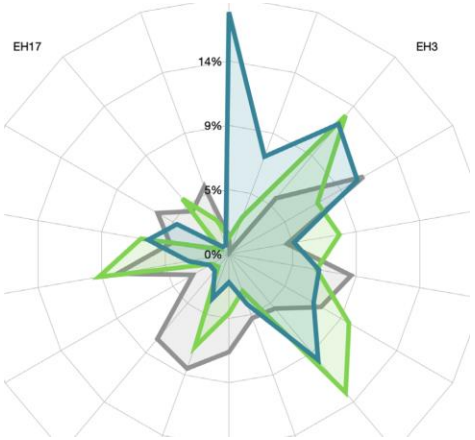
fundamentals of land

understanding how land is owned and controlled underpins any kind of sustainable development

MSc Sustainable Lands and Cities: **Acquiring Expertise**

data analysis

master diverse datasets to understand complex urban environments.



systems thinking

deploy systems analysis to engage with multi-stranded urban challenges

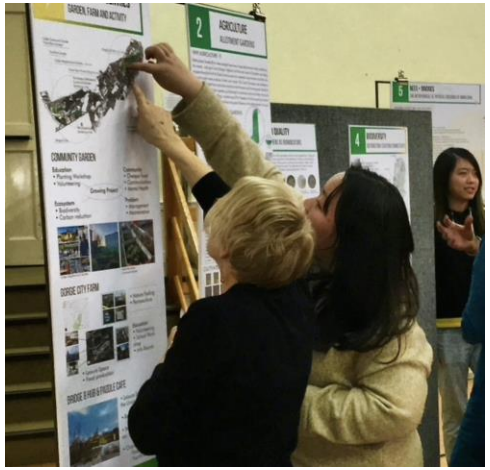
image: Wenze Gu, Liang Wang, Xiaoxiao Fan, Kübra Tanrıkulu

interrogating place

understand how cultural, physical and data infrastructures affect our cities and rural places.

understanding community

learn how communities construct themselves and can become vehicles for sustainable development.



MSc Sustainable Lands and Cities: **Create Sustainable Strategies**

data to strategy

use data to underpin sustainable strategies in the city image Dennis Macaria

unlocking wicked problems

create sustainable strategies for change that embrace complexity and paradox

intervening in place

deploy cutting edge design strategies for adaptation, rewilding and making resilient communities

image Zoe Watters Joshua O Mahoney Richard Beer Ho Kwan Leung

enabling community

use design techniques to empower communities to define and imagine their land and settlements.

MSc Sustainable Lands and Cities: **Our Curriculum**

Envisioning Sustainability
fundamentals of sustainability for our lands and cities — C

Regenerating Place
co-design for neighbourhoods, blue and green ecologies — E

Data Mobility and Infrastructure
work with data to understand mobility in the city — E

Eco Cities
understanding what eco city can really mean — E

Evaluating Sustainability
data fundamentals to understand our lands and cities — C

Land Community Power
ownership & community for sustainable development — E

A Systemic Approach to Sustainability
tools to intervene in complex urban systems — E

EFI Electives
choose electives across EFI to support your learning portfolio — E

Our Staff Disciplines

- Urbanism
- Law
- Business Studies
- Environmental Science
- Architecture+Design
- Data Science
- Community Engagement

bring your learning together in your Sustainable Lands and Cities Futures Project

MSc Sustainable Lands and Cities: **Future Careers**

You will be able to work collaboratively to create and execute sustainable strategies. You can acquire cross-disciplinary skills and understanding to support decision making in complex environments. You will have a range of career opportunities available, both for existing professionals and newer entrants to the job market:

Public and Voluntary Sector Organisations

Public, Third Sector and Non-Profits plan for the future in response to sustainable development goals. You will be able formulate strategy and tools to achieve targets for resilience and sustainability.

Environmental, Spatial & Community Consultancy

Work with multidisciplinary organisations using the skillsets you assemble in this programme. Often urban and rural projects are complex in nature and the ability to work with data sets is valued by employers

Develop within your own field

Graduates already in their professional roles will be able to work within their existing fields but with a specialism in sustainable development. Examples include planning, engineering, design, project management, the environmental sciences, public administration, law and advocacy.

Circular Economy

Ms Toni Freitas

Lecturer in Circular Economy
Programme Director, MSc Circular Economy
School of Geosciences

What is 'Circular Economy'?

Circular economy = finding new ways to **reduce our demand on natural resources,** keep materials & products in use at as **high a value** as possible + for as **long** as possible. **The circular economy is based on three principles, driven by design:**

- Eliminate waste and pollution
- Circulate products and materials (at their highest value)
- Regenerate nature

Why study MSc/PG Certificate/Diploma in Circular Economy?

- Designed to be agile & responsive the ongoing climate crisis and developments in the field of circular economy.
- Gain advanced circular economy knowledge to support communities, businesses & policy makers for a sustainable future.
- Explore and nurture ideas for disrupting the 'take, make, dispose' status quo.
- Governments & business leaders are looking for employees that are committed to more regenerative, sustainable ways of working.
- Develop your career opportunities in related fields including policymaking, waste management, design, manufacturing, consultancy, construction, engineering, supply chain management, textiles, plastics, and agriculture and public sector.

What you will do and learn

The MSc Circular Economy interactive core courses focus on:

- Fundamentals of a Circular Economy
- Designing for a Circular Economy
- Circular Economy in Business
- Understanding the Climate Crisis

Elective courses may include:

- Circular Economy in the Built Environment (School of Engineering)
- Waste Law in Circular Economy (Law School)
- Introduction to Life Cycle Assessment (Business School)
- Textile Revolution: Unstitching the Linear (Edinburgh College of Art)

Project

Have the chance to shape your learning journey to meet your own circular economy interests and objectives through your final project: options include creating a business plan for your own CE idea, working with industry, or your own chosen research project.

Future Infrastructure, Sustainability and Climate Change

Professor Sean Smith
School of Engineering,
Centre for Future Infrastructure

- Tackling the **major challenges** facing global **societal & related infrastructure** is essential.

- Together we will develop the **inter-disciplinary understanding crucial** to creating impactful resilient solutions.

The quickening need for 'Manhattan Project #2' process for climate emergency response

The Scale

The scale of infrastructure changes and retrofit programme may appear daunting but also provides the opportunity for transformational approaches to how we enable processes and delivery to meet the needs of current and future generations.

11 million homes per annum for 2050 targets. Unlike previous individual country economic and environmental approaches the global synergetic demand for low carbon project works by so many countries in parallel suggests that previous route map processes to delivery are unlikely to prevail. Both Italy and Germany identified this issue, even before the current

Above

Complexity and bespoke nature of non-domestic retrofit even for buildings constructed during the last decade

© Sean Smith

Aims of the programme

To tackle some of the **key future challenges** of climate change on **future infrastructure, society's needs, government policy and industry delivery.** From addressing carbon emissions and net zero targets, to accelerating beyond such targets and material resource constraints the course provides critical insights to sustainable infrastructure needs.

- To understand the role of infrastructure (current and future) for governments, public sector, industry and society in the delivery of climate change adaptation, mitigation and resilience for urban, rural and coastal areas.
- To analyse increasing demand and supply factors, the pressures on water systems, food and environment and future sustainable development
- To understand the critical role of data in infrastructure needs and future planning

Related career paths and sector interests

- UN, World Bank, AIIB
- Multinational Companies
- Private Sector Consultancies
- Public & Municipality Authorities
- Banking & Investment
- Economists & Actuary
- Legal Services and Legislative
- Government Policy / Advisory
- NGOs

- Social Sciences & Policy
- Infrastructure Planners
- City & Urban Planners
- Environmental Science
- Environmental Engineers
- Data Analysts
- Civil Engineering
- Technical Directors

Other areas include:
(Architecture / Technologists / Geoscientists / Strategic Advisory Roles / Risk Analysts / Insurers / Resilience & Adaptation Experts)

Key staff involved

Prof Sean Smith
Infrastructure, Innovation, Policy, Net Zero, Circular Economy

Dr Melissa Bedinger
Transport & Society, Systems Thinking, Data Analysis

Prof Dan Van der Horst
Energy & Society, 20min Neighbourhoods,

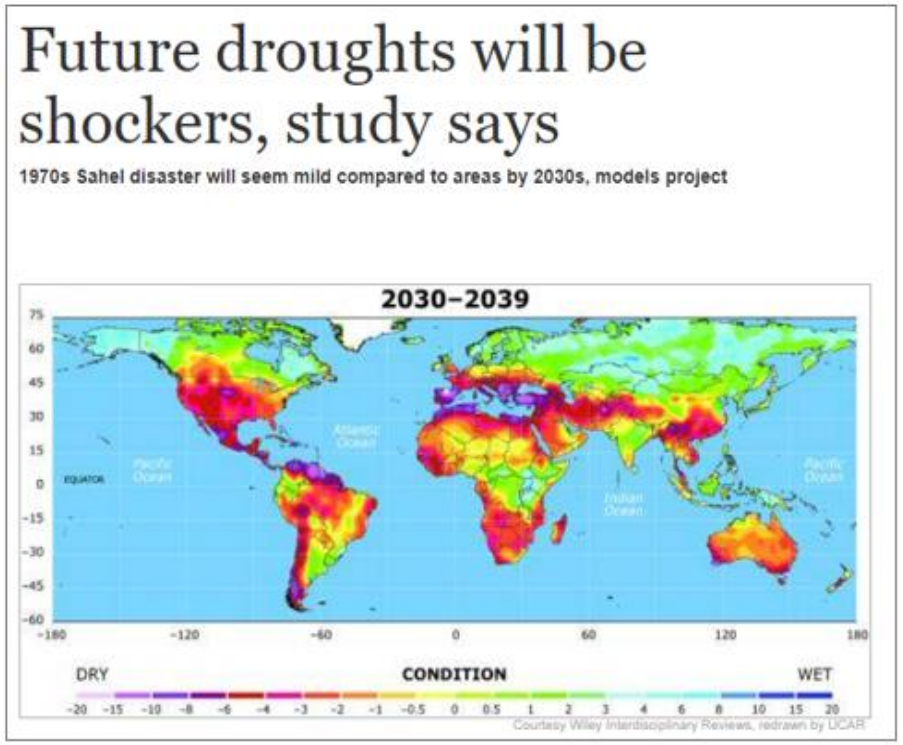
Prof Sole Garcia Ferrari
Urbanism, Planning, Sustainable Communities

Dr Julio Bros-Williamson
Net Zero, Buildings, Housing, Energy Efficiency, Behaviours

Future drivers...

Image sources: BBC

Future drivers...



Sustainability – Net Zero – Circular Economy – Embodied Carbon – Transport – Food & Water – Resilience – Adaptation Energy – Multi-disciplinary

Source: Getty Images

MSc outline:

MSc CORE Courses

- Future Infrastructure & **Climate Change Challenges**
- Future Infrastructure, **Policy & Innovations**

Elective Courses

- Net Zero Infrastructures
- Energy & Society
- Transport & Society
- Urban Project

Plus many other electives Available within EFI

EFI Core Courses

- Understanding the climate change challenges
- Data Ethics
- Other Data related courses

Core courses:

Future Infrastructure Climate Change Challenges

The scale of change, required resilience measures and adaptations to come provides students with a strong understanding of the future challenges.

Impacts on society, environment, food and related infrastructure will impact all countries and students will have the opportunity to analyse the complexity and inter-disciplinary approaches required.

Infrastructure Innovations and Policy

Involving conceptual, emerging and specific major innovation drivers will allow students to explore the inter-relationship of solutions and technology readiness levels.

Importantly the role of future policy, regulation and impacts on society will allow students to have a holistic approach to direct and indirect outcomes of such changes.

Net Zero Infrastructures (elective)

- Covering key **net zero challenges** for infrastructure from local to global scales.
- With so many countries transitioning to net zero and improving sustainable development over the next 2-3 decades this creates **severe pressures on supply chains** and highlights the importance of critical pathways.
- You will learn how future **policy drivers, global population growth, how data driven approaches** assist in backcasting and foresighting delivery plans for industry, public sector and governments.
- The **complexities of climate change** needs on material resources, skills development and supply factors will be discussed and how they provide integral components to potential outcome delivery.

Urban Project (elective)

This course introduces students to the process of formulating an urban project within a specific urban context and identifying issues with which to engage and develop a set of **urban strategies and urban designs involving primarily local 'actors' and relevant publics**, while relating to the specific social, economic, and environmental context. Methods and techniques of investigation, research and analysis are introduced and developed, as well as practice-related skills and knowledge.

Transport & Society (elective)

- Scenarios for the future of how society will adapt and future transport technologies
- EV and Hydrogen systems will be integral to our futures.
- Logistics: Future refuelling/recharging / societal urban and rural modelling of change.
- Business operations / Municipality planning / Data systems

Energy & Society (elective)

This particular course was set up in recognition of the pedagogic imperative for students to explore the numbers **behind politicized discussions on our energy future** (e.g. the cost of new nuclear, the intermittency of renewables, the scope for improved energy efficiency).

The course seeks to help students improve their numerical energy literacy, to encourage students to look at society **'through the energy lens'** and unpack our overdependence on scarce and contested resources, the social impacts of energy provision and the lock-in and externalising effects of **energy provision** under incumbent (and unsustainable) energy regimes and associated technologies.

The course cuts across scales **from the domestic to the national and international,** seeking to draw lessons from historical energy transitions and from comparative analysis in different national, geographical, political and socio-economic contexts.

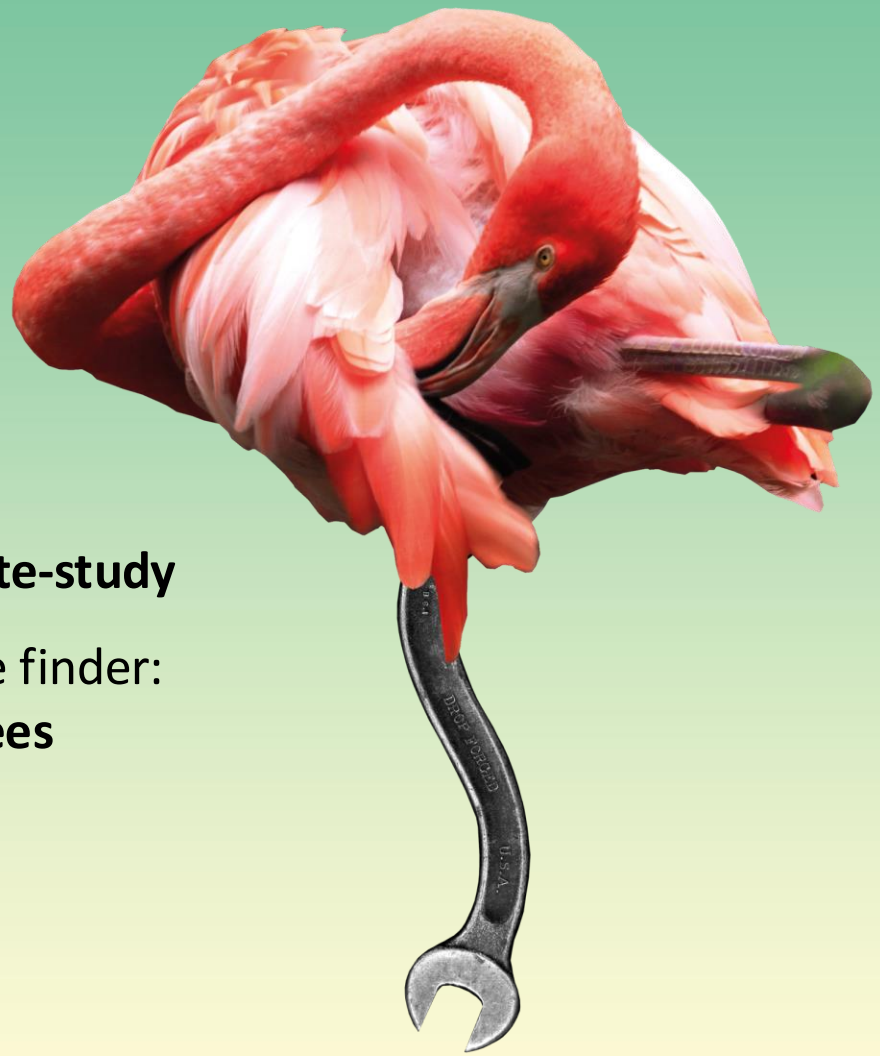
& many other electives to choose from
Land & Cities, Circular Economy etc..

Teaching staff and external experts

- UoE teaching staff involved bring a wide range of expertise having engaged with **over 40 countries** through projects across **Europe, Middle East, South America, North America and Asia.**
- As **lead advisors to government departments, international organisations and multi-national companies** they bring a wealth of experience and understanding to the complex climate change, society and infrastructure challenges.
- **Guest lectures from leading international experts** will enhance the course content bringing previous and live issues they have tackled or are addressing currently and planning for the future.

Questions?

- for further queries contact: **efi.education@ed.ac.uk**
- visit the EFI website: **https://efi.ed.ac.uk/postgraduate-study**
- search for '**Edinburgh Futures Institute**' on our degree finder: **https://www.ed.ac.uk/studying/postgraduate/degrees**



Join us to **challenge**, **create**, and make **change** happen.