Design Fundamentals –GRA1184M
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Project: Climate Action (Cop 26)
Presntation date: 25th (A) & 26th Nov 2021 (B&C)

‘The denial of the climate and ecological crisis runs so deep that hardly anyone takes real notice anymore.’

— Greta Thunberg.

Overview:

Climate change is already wreaking havoc around the world, and it’s happening faster, harder, and in more terrifying forms than anyone predicted. Hotter temperatures are causing droughts, heat waves beyond the limits of human tolerance, and rising seas that will submerge many of the islands, cities and countries that we live in today.

Climate change is not just an environmental issue, but a global crisis. We can’t afford to wait for further destructive consequences before we call for action!

In November, the UK, together with our partners Italy, will host an event many believe to be the world’s best last chance to get runaway climate change under control. For nearly three decades the UN has been bringing together almost every country on earth for global climate summits – called COPs – which stands for ‘Conference of the Parties’. In that time climate change has gone from being a fringe issue to a global priority.

This year will be the 26th annual summit – giving it the name COP26. With the UK as President, COP26 takes place in Glasgow.

While mitigation is essential, we must also find ways to adapt to the unavoidable impacts of climate change. Following this, the challenges focus are two-fold:

1. We have to adapt to more frequent and intense natural disasters, as well as weather patterns that we’ve never had to cope with before. We also have to deal with the effects: food and water shortages, homelessness, ill health, mass migration, and conflict.

2. We have to adapt to a new energy reality. We depend on energy for our food and water supply, housing, clothing, medical care, and transportation — from the basics to relative luxuries. We have to change our ways in order to survive beyond the age of fossil fuels. Consider how we change the way we live, eat, use water or use energy.

Project

DESIGN STORIES TO HELP PEOPLE IMAGINE NEW WAYS OF LIVING AMIDST CLIMATE CHANGE

Designers are powerful storytellers. This visual communication skill is much needed to educate people about and help them imagine the changes they need to make in their lives to adapt to shortages or disasters caused by climate change. Climate change affects everything in our life, from our water to food, energy and housing and it is your job to research, ideate, explore, develop and refine a “Concept” using a range of methods provided in current (and ongoing) workshops and one of the themes set out below.

The final work should document the ideas, process and a refined artefact which could be, but not limited to a poster, book, app, interface, game, AR, projection map, installation, packaging, signage etc, which should be based on your personas, scenario and user requirements work. This project a long with the work developed in workshops should be consolidated and delivered as a PechaKucha presentation on the presentation date outlined above. 20 slides. 20 seconds of commentary per slide. Additional work and critical analysis should be added to your process book.

1:FOOD

What can design do to inspire change in the uk's eating habits?

THE CHALLENGE

Changes in the climate mean that food sources we are used to eating may no longer be available. Extremely high and low temperatures can destroy crops and kill livestock and marine life, while a higher incidence of pathogenic bacteria due to hot temperatures could make some foods more dangerous to eat. We need to learn to eat differently to avoid food shortages and famine.

THE OPPORTUNITY

Create and deliver stories that build on real-life personal stories to show people how an alternative diet of 'climate-change-proof' foods can be even more delicious, convenient, affordable or healthy than their current diet. This could be achieved by educating consumers about biodiversity, ecosystems and food sources, possibly using local, traditional or indigenous knowledge.

2:ENERGY

What can design do to inspire people to cope with energy shortages or blackouts in the UK due to climate change?

THE CHALLENGE

Consequences of climate change such as extreme or unusual temperatures and natural disasters can reduce access to energy. For example, storms can damage power lines, while floods can destroy firewood. High demand for energy during heat waves and prolonged cold weather can also cause blackouts due to strain on the grid. In many cases, individuals are ill-equipped to cope without energy.

THE OPPORTUNITY

Create and deliver stories that build on real-life personal stories to teach people how to cope with energy shortages while still fulfilling their daily needs. This could be done by raising awareness about how renewable technologies can be used in place of conventional energy sources, or by showing people how to use passive solutions involving ventilation, insulation and sunlight. You could also educate people on how to reduce and prioritise energy consumption.

3:HOUSING

What can design do to inspire people in the UK to adopt more resilient forms of housing?

THE CHALLENGE

Many people live in homes that will be damaged or destroyed by rising seas, storms, floods and heat waves caused by climate change, possibly endangering their life. Many of them find it difficult to consider moving or significantly adapting their home due to financial, social, personal and cultural factors.

THE OPPORTUNITY

Create and deliver stories that build on real-life personal stories that empower people to strengthen their own homes or relocate to avoid damage due to climate change. You could explore how to raise awareness about the need for relocation due to climate risk. This could be achieved by demonstrating the additional benefits of moving or adapting homes, such as higher quality of life or better health. It could also be achieved by educating people about how to adapt their homes using existing, affordable and accessible technologies.

4:HEALTH

What can design do to inspire people to reduce the health risks in the UK caused by extreme weather.

THE CHALLENGE

Higher temperatures will cause heat-related deaths and illnesses, and worsen air quality, causing respiratory and cardiovascular diseases. Burning conventional fuels also produces toxic air. Mosquitoes and ticks will also thrive in hotter weather, leading to a higher infection rate of malaria, dengue, and Lyme disease. Higher temperatures will also breed more pathogenic bacteria in food and water, leading to diarrhoea.

THE OPPORTUNITY

Create and deliver stories that build on real-life personal stories that educate people about existing and accessible practices to prevent illness and infection. Think about the ways in which hygiene and sanitation practices have been spread and taught. Explore ways in which people can be empowered to live their life to the fullest without falling sick. If your region is not at risk from heat-related disease, consider how to combat air pollution from conventional energy sources.

5:WATER

What can design do to inspire people in the uk consume water more responsibly.

THE CHALLENGE

Climate change will cause fresh water shortages, sometimes due to insufficient rainfall, and sometimes due to a breakdown of centralised water utilities. Irresponsible consumption and unfair distribution in these circumstances leads to other consequences such as illness, death and conflict.

THE OPPORTUNITY

Create and deliver stories that build on real-life personal stories to educate people on the impact of their water consumption. This could involve empowering them to store their own water. Consider leveraging indigenous, traditional and local knowledge to prioritise water consumption where it is needed, or leveraging existing technologies and methods for managing water.

Additional Insights

The UK (Europe)

The Uk will suffer from flooding in river basins and coasts, from water restrictions, and from wildfires. Both acute disasters and the long-term consequences of a changing climate will cause economic losses and reduce labour productivity.

Extreme levels of rainfall are already causing frequent flooding, which damages housing, infrastructure, power lines and transportation, and leaves people without clean water, medical treatment, light and a means to cook food. Increasing urbanisation and urban density is also a contributing factor to floods, as more paved ground and built areas prevent the ground from absorbing rainfall. Coastal erosion and rising sea level due to melting ice-caps also threatens seaside populations with floods.

Heatwaves are becoming more common in Europe, causing illnesses and health problems, particularly among the elderly. According to UNISDR, 90 percent of the total deaths relating to heatwaves were recorded in Europe (2015). Heatwaves can also reduce water resources (drainage and runoff) as a result of more water evaporating, particularly in southern Europe. Hot-ter summers will also lead to crop failure, which has enormous economic impact: droughts have cost over €100 billion in the past 30 years. Temperatures in mountain ranges such as the Alps and the Pyrenees are predicted to rise to temperatures that will melt glaciers.

The Mediterranean area and the Russian boreal area is becoming drier, making it more vulnerable to drought, which is causing crop failures and wild-fires. The fumes and air pollution from wildfires cause respiratory illnesses and aggravate existing conditions. Extreme weather events such as wild-fires have a big impact on health, including mental health. All over Europe, pollution from cars increases concentrations of ozone near ground level, which causes 21,000 hospital admissions a year. The number of people hospitalised for respiratory problems due to particulate matter exposure from car exhaust is almost five times that.

LOCAL CHALLENGES IN EUROPE

- Overall, 92% of deaths from heatwaves were recorded in high-income countries, with Europe reporting the lion's share at 90%. More than 55,000 people died during a heatwave in Russia during the summer of 2010, while Western and Southern Europe experienced major heatwaves in 2003 and 2006 which killed more than 72,000 and 3,400 people respectively. (UNISDR 2015)

- UK's National Flood Resilience review found that 530 critical infrastructure sites, such as water and telecoms, are at serious risk from floods, each potentially affecting at least 10,000 people. (The Guardian, Sept. 2016)

- Monthly rainfall averages fell by as much as 80% in parts of France, and parts of northern Spain experienced daily temperatures over 30 degrees for more than 40 consecutive days. (EDO; The Guardian)

- A heatwave in 2003 likely caused over 500 premature deaths in Paris and London, among an estimated tens of thousands of deaths across the whole of Europe. (Environmental Research Letters)

- In 2030, under a high CO_2 emission scenario, more than 400 attribut-able deaths per year are expected in Athens, Budapest, Paris, and Rome.(European Commission)

- Researchers assessing the impact of drought have found that the south of France, Italy and the Balkans will be most negatively affected with periods of water shortages and lowered river flow levels. [European Com-mission's Joint Research Centre (JRC)]

- In January 2017, air pollution in London surpassed its annual limit in five days.

Learning Outcomes:

LO1: Ability to demonstrate a developing understanding of the basic design principles and of the visual communication design process through the imaginative use of digital media and studio techniques associated with graphic design practice.

LO2: Ability to utilise suitable software applications along with studio, workshop based skills and techniques to demonstrate understanding of contemporary graphic design practices.

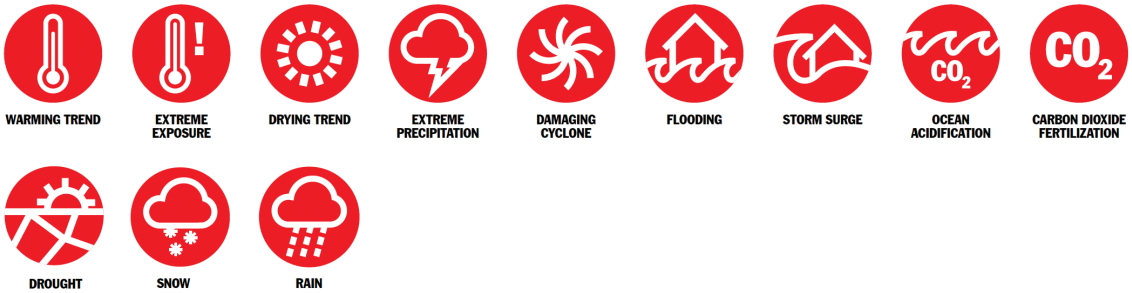
LO3: Have begun to develop the ability to make effective use of processes and materials appropriate to the various project outcomes required during the course and evidence these through sketchbooks or visual research notebooks.

LO4; Demonstrate an understanding of the materials and processes associated with the subject of Graphic Design

Regional Risks:

KEY RISK	CLIMATIC DRIVERS	TIMEFRAME	RISK & POTENTIAL FOR ADAPTATION
			Very low — Medium — Very high
Increased economic losses and people affected by flooding in river basins and coasts, driven by increasing urbanization, increasing sea levels, coastal erosion, and peak river discharges **(high confidence)**.		Present	
		Near term (2030-2040)	
		Long term (2080-2100)	
Increased water restrictions. Significant reduction in water availability from river abstraction and from groundwater resources, combined with increased water demand (e.g., for irrigation, energy and industry, domestic use) and with reduced water drainage and runoff as a result of increased evaporative demand, particularly in southern Europe **(high confidence)**.		Present	
		Near term (2030-2040)	
		Long term (2080-2100)	
Increased economic losses and people affected by extreme heat events: impacts on health and well-being, labor productivity, crop production, air quality, and increasing risk of wildfires in southern Europe and in Russian boreal region **(medium confidence)**.		Present	
		Near term (2030-2040)	
		Long term (2080-2100)	

CLIMATE-RELATED DRIVERS OF IMPACTS



LEVEL OF RISK & POTENTIAL FOR ADAPTATION

CONFIDENCE OF IMPACTS ATTRIBUTED TO CLIMATE CHANGE