APPENDIX: CATERGORY DESCRIPTIONS

a. Science

    i.   Environmental -freshwater, biodiversity, ecology.
Interdisciplinary approach to the study of the environment, examining its structure, functions and interactions with humans and other ecological systems.

    ii.   Geology
The study of Earth and space with the examination of rocks, minerals, landforms, climates, biota, and the process that affects them. Includes careers in environmental protection and sustainability, natural hazard assessment, renewable energy, engineering, and construction.

    iii.   Volcanology
Investigation of magmatic systems with geochemical techniques to identify the signature of major eruptions, the crystal-specific nature of magma chambers, and applying volcanological techniques to improve eruption records, volcanic processes, and hazard assessment.

    iv.   Biotechnology
Harnesses cellular and biomolecular processes to develop technologies and products that help improve lives and the health of the planet.

    v.   Neuroscience
Study of the brain and nervous system and the network of neurons responsible for thoughts, feelings, and actions. Multidisciplinary science that combines physiology, anatomy, molecular and developmental biology, computer science and mathematical modelling.

    vi.   Epidemiology
Method used to identify the cause, transmission, and distribution of diseases in population groups to inform public health programmes and prevent the spread of the disease.

    vii.   Microbiology
Study of micro-organisms such as algae, fungi, bacteria and viruses, and their diverse affect on humans in both negative and positive ways. Areas of interest include biosecurity, biocontrol (microbes used to kill insect pests), and bioremediation (destruction of harmful chemicals such as pesticides).

    viii.   Psychology
Study of behaviour, brain and cognition, exploring the complex way humans and other animals interact with the world and each other.

b. Technology

    i.   Information and Communication Systems
Focus on multiple aspects of information systems to analyse, design, develop, implement, and maintain information systems across a variety of industries and business types. Includes business and system analysis, data management and analytics, network engineering, security, software engineering, web/mobile development, systems administration, and project management.

    ii.   Geographic Information Systems (GIS)
GIS is a system that uses spatial and geographic data to create, manage, analyse, and map all types of information. GIS is fundamental in various industries and business groups to communicate, share information, perform analysis, and solve complex problems.

    iii.   Programming

The process of designing and building an executable computer program to accomplish a specific computing result or to perform a specific task.

iv. Design Innovation
A unique blend of design thinking, computational thinking, maker culture and business. Integrated and cross-disciplinary learning to become skilled in creative design, design education, critique and curation, and design collaboration in other disciplines.

v. Media and Creative Technologies
Contemporary media analysis and the application of creative technologies, with a particular focus on online audio/video, portable devices, networking, and on-demand culture.

c. Engineering

i. Civil
The design and development of infrastructure projects such as transport systems, water supply networks, buildings.

ii. Structural
Sub-discipline of civil engineering to construct the form and shape of man-made structures and use simple structural concepts to build complex structural systems.

iii. Surveying
Plan, direct and conduct survey work to determine position of boundaries, locations, topographic features and built structures.

iv. Geotechnics
The application of geological, geophysical, and hydrological scientific principles for the solution to engineering problems.

d. Mathematics

i. Statistics
The collection, organisation, analysis, interpretation, and presentation of data. Statistics can be applied to a scientific, industrial, or social problem.

ii. Analytics
Systematic computational analysis of data or statistics to discover, interpret and communication meaningful patterns in data.

iii. Predictive Analysis
Encompasses a variety of statistical techniques from data mining, predictive modelling, and machine learning to analyse current and historical facts to make predictions about the future.

iv. Economics
Logically examine a variety of issues – economic growth, housing, income inequality, unemployment, international trade, sustainable development, and the environment – in a range of disciplines including business, politics, law, health science and biotechnology.