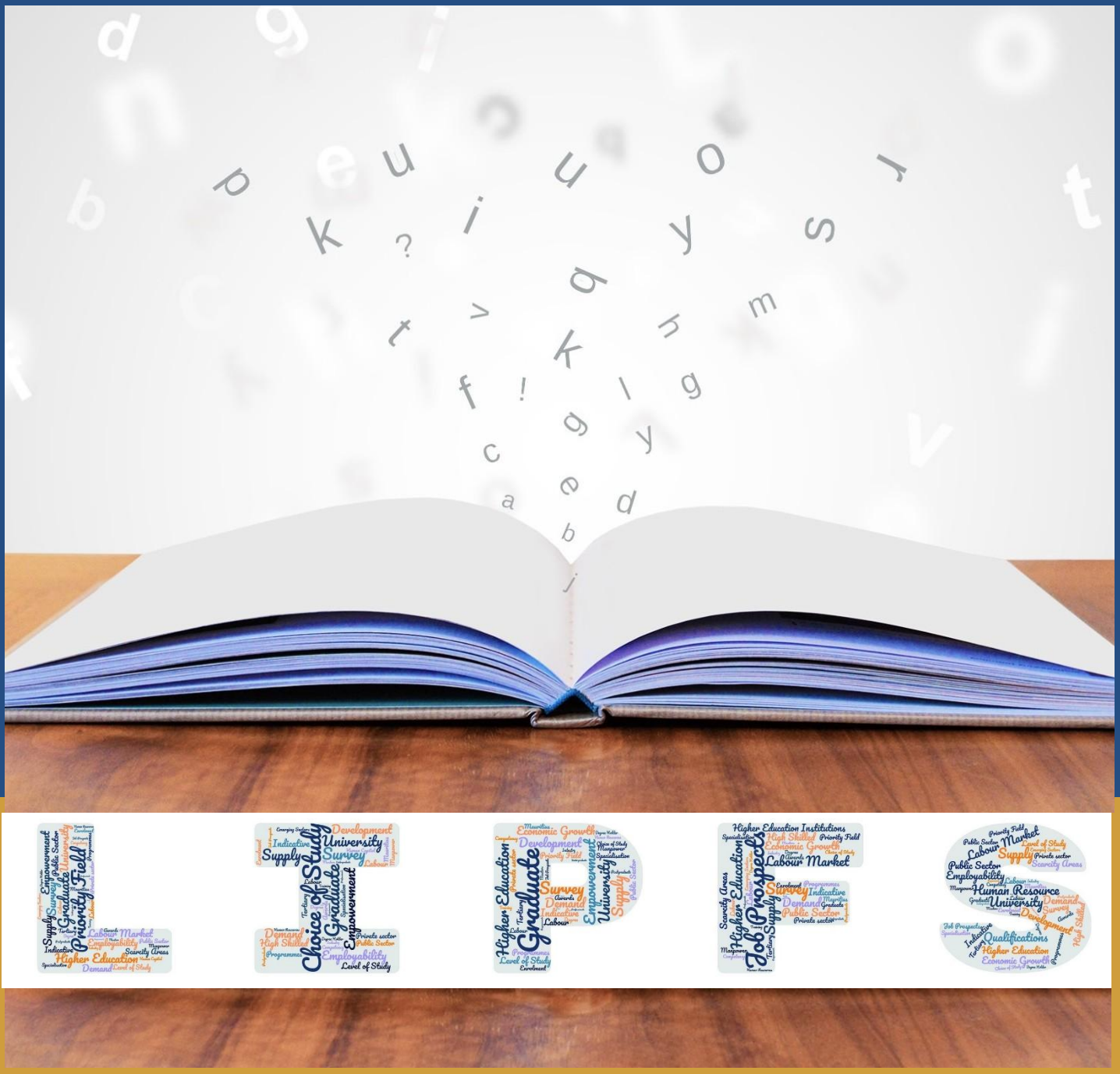
HIGHER EDUCATION COMMISSION

LIST OF INDICATIVE PRIORITY FIELDS OF STUDY 2021/2023



Higher Education Commission
October 2021

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Acknowledgement

The HEC acknowledges the contribution of all those who participated in the Employers' Survey and wishes to thank them for their invaluable inputs. A special commendation to the key informants from the Consultative Exercise as well as Members of the Working Group for their guidance and advice throughout this important national exercise.

Disclaimer

Users of the List of Indicative Priority Fields of Study (LIPFS) are invited to exert caution and to consult the appropriate authorities conversant with latest labour market developments prior to taking any decision concerning their final choice of study. The local labour market for graduates being very small and dynamic, the risk of high level human resource needs in any one field changing from scarcity to oversupply within a short time-span is real. As such, the possibility for immediate employment after graduation is not guaranteed by any institution or by the Government.

The attention of users is also drawn to the fact that the LIPFS comprises those fields in which the country is having difficulty to recruit graduates currently or is expected to experience a shortage of graduates in future and, accordingly, does not include fields in high demand where a critical mass of graduates already exist or are being produced.

Introduction

Education and training are critical factors determining the economic development and well-being of a country. The availability of a mass of high-skilled graduates and professionals is needed to fuel and sustain growth and development. Given the dynamic and fast-changing technologically-driven environment, Mauritius as a small country with relatively limited resources can only rely on its human capital in the form of an adequately trained workforce to prosper. In such a context, to ensure the judicious utilisation of the available human resources and to ascertain that higher education better serves national development, human resource planning is essential.

The List of Indicative Priority Fields of Study (LIPFS) attempts to do just that, as it sets the country's priority needs for high-level human resources for the short-to-medium terms. By identifying areas where a scarcity of graduates currently exists or likely to arise in the future, the LIPFS guides prospective higher education students in making informed decisions concerning their fields of study to enhance their competencies for increased employment opportunities after graduation. The LIPFS is also used by the Government as a reference document for the award of scholarships and by the Higher Education Institutions for reviewing their programmes as well as for capacity building. The List also guides potential investors on the national and priority human resource needs with regard to high-level professionals.

In an endeavour to update the LIPFS, the Commission carried out an Employers' Survey targeting the main economic operators in the country and conducted wide and comprehensive consultations with key persons in selected fields.

In view of the difficult and highly uncertain environment facing the business community and the economy as a result of the COVID-19 pandemic, the HEC could not conduct a large scale Employers' Survey as it used to. Instead, it was deemed more appropriate to opt for a smaller sample comprising of key employers from main economic sectors and to focus on the collection of qualitative information.

It is worth pointing out that the COVID-19 pandemic has created considerable disruption to the labour market and impacted on employment and jobs in several economic sectors. The economic lockdown has resulted in several job losses. But at the same time, the process of preserving jobs and building a more resilient labour market which is technology-driven and digitalised has led to the creation of new jobs and employment prospects.

The LIPFS 2021/2023 follows the International Standard Classification of Education as adopted by the United Nations Educational, Scientific and Cultural Organization (UNESCO) for classifying fields of study. The fields at undergraduate and postgraduate level are presented in alphabetical order for ease of reference and, as such, do not reflect any priority order.

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Methodology

The List of Indicative Priority Fields of Study (LIPFS) is updated every 2 years and the review process is overseen by the Working Group on LIPFS under the chairmanship of the Commissioner, Higher Education Commission.

The Working Group comprises both the public and private sectors. The public sector is represented by Higher Education Commission, Ministry of Education, Tertiary Education, Science & Technology, Prime Minister's Office, Ministry of Labour, Human Resource Development and Training, Economic Development Board, Statistics Mauritius and Human Resource Development Council; while the Mauritius Chamber of Commerce & Industry and Business Mauritius represent the private sector.

The role of the Working Group consists in advising the Commission on the methodology to adopt for updating and validating the List. It also provides relevant inputs (data, studies or surveys) for revising the List. The difficult and highly uncertain environment facing business organisations and the economy as a result of the COVID-19 pandemic has led to a change in the methodology and to focus more on qualitative aspects rather that the quantitative aspects, by adopting a smaller sample of the key employers while laying emphasis on direct consultations with field specialists in different sectors.

The updating exercise was conducted in two phases, namely data collection through an Employers' Survey to identify the fields of study for which there would be a scarcity of graduates in the short and medium term, followed by the validation of the data collected.

The data collection process involved both primary and secondary sources of information on the demand and the supply of graduates. These two data sets were used to establish a gap analysis, on the basis of which a preliminary list of priority fields of study was developed.

The Preliminary LIPFS was thereafter validated through a consultative process by key persons across the economy representing Heads of Regulatory Bodies, Employers' Associations, academics, and independent consultants. Their observations and recommendations were taken into account while finalising the new List of Priority Fields of Study.

The updating exercise which started in February 2021 took more than six months to complete and was delayed by the COVID-19 lockdown in March 2021.

Phase 1: Data Collection

The Employers' Survey was the primary instrument used for collecting demand for graduates in the economy. This was substantiated by secondary sources of information.

Employers' Survey: A sampling frame was provided by Statistics Mauritius targeting 165 organisations including 13 Ministries, 54 parastatal bodies and 98 private organisations within the country. The participants were derived from the main economic sectors employing graduates, including amongst others the Financial Services, Information and Communication Technology, Engineering, Environment, Agriculture, Manufacturing, Transport & Logistics, Health and Public Administration. A questionnaire was sent electronically to each employer requesting them to indicate fields/ areas where they were having difficulties to recruit graduates as well as priority areas in which they plan to recruit graduates in the future. The survey was conducted between February and June 2021. Out of a total of 165 employers/ organisations contacted, 103 responded positively resulting in a participation rate of 62.4%. This included all 13 ministries, 43 parastatal bodies (79.6%) and 47 private organisations (47.95%). It is worth noting that the field work met with significant challenges as the country went into a lockdown in March 2021 which resulted in delays in following up as many businesses were temporarily closed. Nonetheless, the overall response turned out to be highly satisfactory, confirming the reliability and representativeness of the available information.

The data collected was subsequently cleaned to generate a set of fields of study with relatively high prospect of employability in the short and medium term. In parallel, secondary data sources related to, amongst others, Graduate Enrolment, Registered Unemployed Graduates/Professionals, Occupational Permits and other labour market studies and related documents were tapped to get an indication of future graduate requirements in different economic sectors, that could be used for cross-verification with the findings of the survey.

The data collected from the survey was analysed taking into account the following:

- Fields where a critical number of students were pursuing their higher studies either locally or overseas;
- Fields not available locally but with very low demand to justify inclusion in the List;
- Fields where no related programmes could be identified either locally or overseas; and
- Fields where unemployed graduates exist.

After reconciling the above information, a preliminary List has been developed comprising those fields where high demand for graduates exists and in respect of which a scarcity is presently being experienced or likely to arise in the future.

Phase 2: Validation Process

The preliminary List was further refined through consultations on a one-to-one basis with key informants/ professionals in different fields including Regulatory Bodies, Professional bodies and Industry/ Employers' Associations, etc. The aim was to gather their views on emerging and potential areas of graduate employment in their area of expertise. Out of 33 key informants contacted, a total of 21 (63.6%) responded positively to share their feel of their respective sectors and validate the findings of the survey.

The LIPFS 2021/2023 was finally arrived at after further scrutiny. The draft LIPFS was thereafter submitted to the Working Group for endorsement and the HEC Board for approval.

The LIPFS 2021/2023 is divided into two main parts:

Part A - Undergraduate Level

Part B - Postgraduate Level

List of Indicative Priority Fields of Study 2021/2023

Part A
Undergraduate Level

FIELDS	SUB-FIELDS	PROGRAMME OF STUDY
EDUCATION		
	Teacher Training and Education Science	▪ Educational Technologies/ Instructional Design ▪ Special Needs Education
HUMANITIES AND ARTS		
	Arts	▪ Creative Industries ▪ Design and Technology ▪ Film Production
	Humanities	▪ Mandarin/ Chinese ▪ German
SOCIAL SCIENCES, BUSINESS AND LAW		
	Business and Administration	▪ E-Commerce ▪ Finance and Technology (FinTech) ▪ Marketing with Digital Technologies ▪ Procurement and Supply ▪ Risk Management

FIELDS	SUB-FIELDS	PROGRAMME OF STUDY
SCIENCE		
	Life Sciences	▪ Marine Sciences
	Physical Sciences	▪ Oceanography
	Mathematics and Statistics	▪ Mathematics/ Statistics with Computer Science
	Computing	▪ Business Intelligence and Data Analytics ▪ Computer Science ▪ Computer Science with *(i) Data Analytics/ Big Data Analytics* *(ii) Data Science* *(iii) Digital Forensics* *(iv) Blockchain Technologies* *(v) Computer Games Development* ▪ Computing with Creative Design ▪ Cyber Security & Digital Forensics ▪ Data Science & Artificial Intelligence ▪ Digital Media ▪ Information Technology Auditing

FIELDS	SUB-FIELDS	PROGRAMME OF STUDY
SCIENCE		
	Computing	▪ Information Technology/ Information and Communication Technology ▪ Information Technology with Internet of Things/ Financial Technology ▪ Information Technology Management for Business ▪ Multimedia and Web Development ▪ Multimedia Technology with Virtual Reality/ Augmented Reality ▪ Multimedia Technology and Design ▪ Network Management/ Engineering ▪ Software Development/ Engineering ▪ Web Design and Development
ENGINEERING, MANUFACTURING & CONSTRUCTION		
	Engineering and Engineering Trades	▪ Chemical Engineering ▪ Electrical Engineering

FIELDS	SUB-FIELDS	PROGRAMME OF STUDY
ENGINEERING, MANUFACTURING & CONSTRUCTION		
	Engineering and Engineering Trades	▪ Electronic Engineering ▪ Environmental Engineering ▪ Landscape Architecture ▪ Marine Engineering/ Marine Engineering & Naval Architecture ▪ Maritime Engineering ▪ Mechanical Engineering ▪ Renewable and Sustainable Engineering
	Architecture and Building	▪ Civil Engineering ▪ Construction Engineering ▪ Green Architecture ▪ Structural Engineering ▪ Transport Engineering ▪ Water Resources Engineering and Management

FIELDS	SUB-FIELDS	PROGRAMME OF STUDY
AGRICULTURE		
	Agriculture, Forestry and Fishery	▪ Agri Business Management & Entrepreneurship ▪ Agri-Food Technology ▪ Aquaculture ▪ Veterinary Medicine/ Sciences ▪ Wildlife and Conservation Management
HEALTH AND WELFARE		
	Health	▪ Audiology ▪ Ayurvedic Medicine ▪ Bio-Medical Engineering ▪ Biomedical Sciences ▪ Chinese Traditional Medicine ▪ Clinical Psychology ▪ Dental Prosthesis ▪ Midwifery ▪ Nursing with specialisation in *(i) Anesthesiology* *(ii) Geriatrics* *(iii) Intensive Care* *(iv) Nephrology* *(v) Primary Care* *(vi) Psychiatry* *(vii) Viral Hepatitis*

FIELDS	SUB-FIELDS	PROGRAMME OF STUDY
HEALTH AND WELFARE		
	Health	▪ Prosthetics and Orthotics ▪ Podiatry ▪ Respiratory Therapy ▪ Speech Therapy
SERVICES		
	Transport Services	▪ Nautical Science and Maritime Transport

List of Indicative Priority Fields of Study 2021/2023

Part B
Postgraduate Level

FIELDS	SUB-FIELDS	PROGRAMME OF STUDY
EDUCATION		
	Teacher Training and Education Science	▪ Child Development ▪ Education Pedagogy ▪ Educational Psychology ▪ Guidance and Counselling ▪ Instructional Design ▪ Learning Design and Technology ▪ Special Needs Education
HUMANITIES AND ARTS		
	Arts	▪ Design and Technology ▪ Film Production
	Humanities	▪ Conservation and Museum Studies ▪ Translation Studies
SOCIAL SCIENCES, BUSINESS AND LAW		
	Social and Behavioural Science	▪ Clinical/ Counselling Psychology ▪ Economics with Econometrics ▪ Fisheries Economics ▪ Marine Economics

FIELDS	SUB-FIELDS	PROGRAMME OF STUDY
SOCIAL SCIENCES, BUSINESS AND LAW		
	Journalism and Information	▪ Curatorial Studies
	Business and Administration	▪ Anti-Money Laundering ▪ Asset and Investment Management ▪ Asset and Wealth Management ▪ Digital Business ▪ Digital Marketing ▪ Entrepreneurship and Small Business Management ▪ Forensic Accounting ▪ Fund/ Trust Management ▪ Insurance and Risk Management ▪ Integrated Resort Management ▪ International Business ▪ Investment Management ▪ Logistic and Supply Chain Management ▪ Logistic and Transport Management ▪ Marine Surveying ▪ Procurement and Supply

FIELDS	SUB-FIELDS	PROGRAMME OF STUDY
SOCIAL SCIENCES, BUSINESS AND LAW		
	Business and Administration	▪ Maritime Operations Management ▪ Maritime Safety and Environmental Management ▪ Maritime Safety/ Security Management ▪ Ocean Governance ▪ Port and Terminal Management ▪ Port Planning and Infrastructure Design ▪ Real Estate/ Property Financing and Management ▪ Shipping and Logistics
	Law	▪ Law with specialisation in *(i) Arbitration Law* *(ii) Corporate and Insolvency Law* *(iii) Financial Regulation* *(iv) International Corporate Governance* *(v) Cyber Law* *(vi) Maritime Law*

FIELDS	SUB-FIELDS	PROGRAMME OF STUDY
SCIENCE		
	Life Sciences	▪ Bioinformatics ▪ Maritime Resource Management ▪ Marine Science/ Technology ▪ Microbiology ▪ Natural Resources Management
	Physical Sciences	▪ Climate Change Science and Policy ▪ Environmental Science/ Climate Change ▪ Oceanography
	Computing	▪ Artificial Intelligence & Robotics ▪ Business Intelligence and Analytics ▪ Cloud Computing ▪ Computer Science ▪ Computer Science with specialisation in *(i) Virtual and Augmented Reality* *(ii) Innovative Computing*

FIELDS	SUB-FIELDS	PROGRAMME OF STUDY
SCIENCE		
	Computing	▪ Computer Engineering ▪ Cyber Security and Forensics/ Digital Forensics ▪ Data Analytics/ Big Data Analytics ▪ Data Science ▪ Database and Network Administration ▪ Digital Currency & Blockchain Technologies ▪ Digital Service Design ▪ Information Technology ▪ Information Technology with specialisation in Digital Transformation ▪ Innovation and Design Engineering ▪ Intelligent Systems and Machine Learning & Deep Learning ▪ Mobile Computing/ Technology ▪ Multimedia and Interactive Computer systems ▪ Multimedia with specialisation in Computer Animation

FIELDS	SUB-FIELDS	PROGRAMME OF STUDY
SCIENCE		
	Computing	▪ Network Engineering/ Management ▪ Network and Security ▪ Software Development/ Engineering ▪ Systems Engineering ▪ Web Design and Development
ENGINEERING, MANUFACTURING & CONSTRUCTION		
	Engineering and Engineering Trades	▪ Chemical Engineering ▪ Port/ Harbour/ Coastal Engineering ▪ Energy Engineering/ Sustainability ▪ Engineering Project Management ▪ Environmental Engineering ▪ Flood Risk Management ▪ Geomatics ▪ Geotechnical Engineering/ Management ▪ Marine and Coastal Engineering ▪ Renewable Energy Systems/ Technologies ▪ Robotics and Automation Engineering

FIELDS	SUB-FIELDS	PROGRAMME OF STUDY
ENGINEERING, MANUFACTURING & CONSTRUCTION		
	Manufacturing and Processing	▪ Additive Manufacturing (3D Printing) ▪ Fiber Science/ Apparel Design ▪ Textile Technology
	Architecture and Building	▪ Architectural Engineering ▪ Geoinformatics ▪ Green Architecture ▪ Structural Architecture ▪ Structural Engineering ▪ Sustainable Urban Development ▪ Urban Planning ▪ Water Resources Engineering and Management
AGRICULTURE		
	Agriculture, Forestry and Fishery	▪ Bio-security ▪ Seed Science & Technology ▪ Wildlife and Conservation Management
	Veterinary	▪ Veterinary Medicine

FIELDS	SUB-FIELDS	PROGRAMME OF STUDY
HEALTH AND WELFARE		
	Health	▪ Biomedical Science with subspeciality in *(i) Molecular Diagnostics* *(ii) Stem Cell Technology* ▪ Cardiology with subspeciality in *(i) Interventional Cardiology* *(ii) Paediatric Cardiology* ▪ Epidemiology ▪ Health Systems ▪ Internal Medicine with subspeciality in *(i) Critical Care Medicine / Intensive Care Medicine,* *(ii) Endocrinology* *(iii) Gastroenterology* *(iv) Geriatrics* *(v) Nephrology* *(vi) Palliative Care* ▪ Nuclear Medicine ▪ Nutrition with subspeciality in *(i) Enteral Nutrition* *(ii) Public Health Nutrition* ▪ Obstetrics and Gynaecology ▪ Oncology with subspeciality in *Medical Oncology* ▪ Paediatrics with subspeciality in *Neonatology* ▪ Pathology with subspeciality in *(i) Clinical Haematology* *(ii) Microbiology* *(iii) Virology*

FIELDS	SUB-FIELDS	PROGRAMME OF STUDY
HEALTH AND WELFARE		
	Health	▪ Periodontics ▪ Pharmacy with subspeciality in *(i) Pharmaceutics* *(ii) Quality Control/ Assurance* ▪ Preventive Medicine with subspeciality in *Occupational Health* ▪ Primary Care with subspeciality in *Family Medicine* ▪ Prosthodontics ▪ Psychiatry ▪ Public Health Dentistry ▪ Radiology with subspeciality in *Interventional Radiology* ▪ Surgery with subspeciality in *(i) Cardiac Surgery* *(ii) Cardiothoracic Surgery* *(iii) Genitourinary Surgery (Urology)* *(iv) Neurosurgery* *(v) Paediatric Cardiac Surgery* *(vi) Paediatric Surgery* *(vii) Plastic and Reconstructive Surgery* *(viii) Spinal Surgery* *(ix) Thoracic Surgery* *(x) Transplant Surgery* *(xi) Vascular Surgery*
	Social Services	▪ Substance use and Substance use disorders

FIELDS	SUB-FIELDS	PROGRAMME OF STUDY
SERVICES		
	Transport Services	▪ Maritime Affairs
	Environmental Protection	▪ Coastal and Ocean Management ▪ Environmental Policy and Regulation ▪ Hazard Waste Management ▪ Marine Conservation ▪ Marine Renewable Energy ▪ Natural Hazards and Disaster Risk Management ▪ Sustainable Environmental Management

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