

DELTA UNIVERSITY
FOR SCIENCE AND TECHNOLOGY

Mapping Between Sustainable Development Goals (SDGs) and the University Curriculum, Concerning Environment, Climate Sciences and Environmental Sustainability


DELTA UNIVERSITY


SUSTAINABLE DEVELOPMENT GOALS
1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS



(SDGs) Concerning Environment, Climate Sciences and Environmental Sustainability

2 ZERO HUNGER	End hunger, achieve food security and improved nutrition and promote sustainable agriculture
6 CLEAN WATER AND SANITATION	Ensure availability and sustainable management of water and sanitation for all
7 AFFORDABLE AND CLEAN ENERGY	Ensure access to affordable, reliable, sustainable and modern energy for all
8 DECENT WORK AND ECONOMIC GROWTH	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
11 SUSTAINABLE CITIES AND COMMUNITIES	Make cities and human settlements inclusive, safe, resilient and sustainable

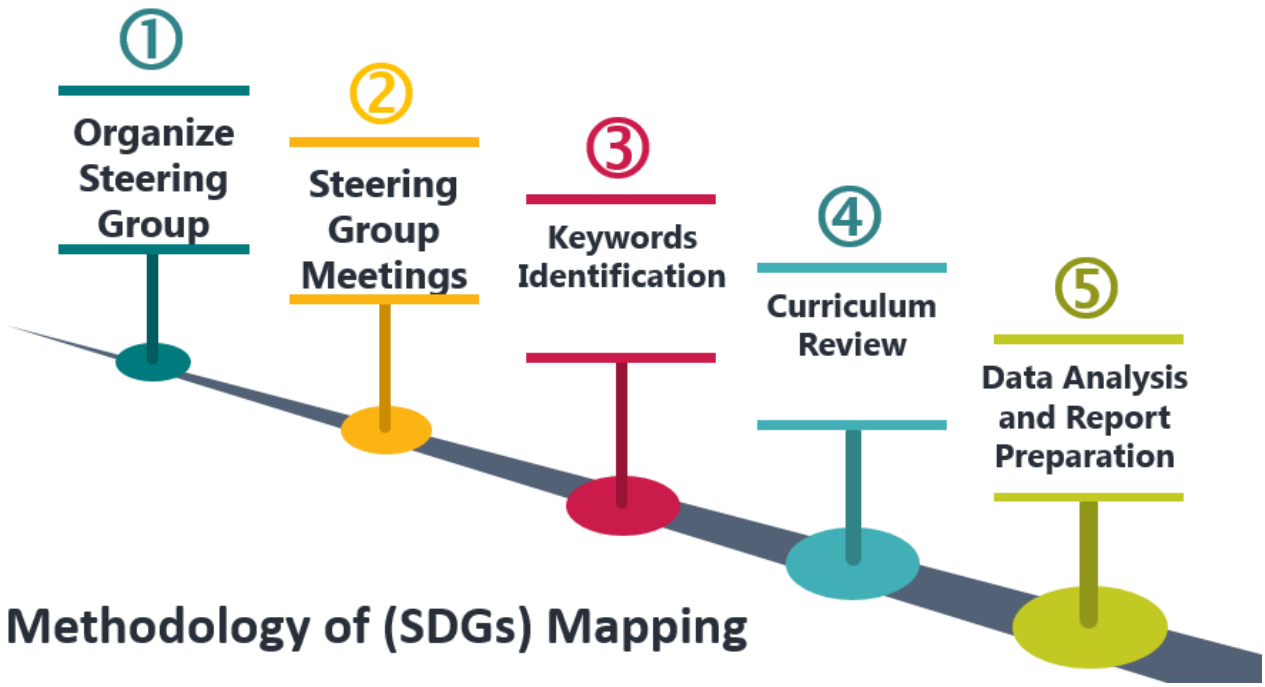


12 RESPONSIBLE CONSUMPTION AND PRODUCTION	**Ensure sustainable consumption and production patterns**
13 CLIMATE ACTION	**Take urgent action to combat climate change and its impacts**
14 LIFE BELOW WATER	**Conserve and sustainably use the oceans, seas and marine resources for sustainable development**
15 LIFE ON LAND	**Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss**



1. Methodology of Mapping

The main objective of this report is to review the curriculum of Delta University for Science and Technology offered by its nine faculties. This review is the first step of mapping the curriculum to the sustainability development goals (SDGs) concerning the fields of environment, climate change and environmental sustainability.



The first step was to organize the steering group of experts from the university staff. Next, meetings were held to distribute the work tasks. Third, the meeting results in identification of SDGs keywords concerning the fields of environment, climate change and environmental sustainability. Fourth, the curriculum contents were revised. Finally, data was collected, analyzed and the report was created.

2. Keywords

The keywords were obtained according to our benchmarks, University of Toronto-Canada and the university of Auckland-New Zealand, side by side with brain storming.

https://sustainability.utoronto.ca/inventories/sustainable-development-goals-sdgs-keywords/

https://www.sdgmapping.auckland.ac.nz/



Goal	Keywords
2 ZERO HUNGER	agriculture, nutrition, food security, food insecurity, food-secure, food system, child hunger, food justice, food scarcity, food sovereignty, food culture, culinary, permaculture, indigenous crops, regenerative agriculture, urban agriculture, organic food, biodynamic, food literacy, food education, benefit sharing, access and benefit sharing (ABS), malnutrition, end hunger, food price, zero hunger, Fertilizers, Food Security AND Genetic Diversity
6 CLEAN WATER AND SANITATION	water, sanitary, contamination, arid, drought, hygiene, sewage, water scarcity, remediation, untreated wastewater, water harvesting, desalination, water efficiency, groundwater depletion, desertification, water filtration, latrines, open defecation, hydrological cycle, water and energy nexus, stormwater management, low impact development, green infrastructure, living infrastructure, Water Resources Management, Wastewater, Water Quality, Water Harvesting, Aquifer
7 AFFORDABLE AND CLEAN ENERGY	energy, renewable, wind, solar, geothermal, hydroelectric, fuel efficient, fuel-efficient, carbon capture, emission, greenhouse, biofuel; energy sovereignty, energy security, Clean Fuel
8 DECENT WORK AND ECONOMIC GROWTH	employment, economic growth, sustainable development, labor, worker, wage, economic empowerment, entrepreneur, small- and medium-sized enterprises, sustainable tourism, youth employment, green job, economic recovery, green growth, sustainable growth
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	infrastructure, buildings, capital, invest, internet, globalize, Industrialization, value chain, affordable credit, industrial diversification, Clean Industrial Processes, Retrofit Industries AND Sustainable
11 SUSTAINABLE CITIES AND COMMUNITIES	cities, urban, resilience, rural, sustainable development, public transport, metro, housing, green infrastructure, low impact development, climate change adaptation, climate change mitigation, green buildings, affordable housing, walkable, transit, civic spaces, open spaces, accessible, indigenous placemaking, indigenous place keeping, Land Consumption AND Population Growth, Sustainable Building



Goal	Keywords
	consume, production, waste, natural resource, recycle, industrial ecology, sustainable design, supply chain, outsource, offshore, reuse, decarbonize, carbon tax, carbon pricing, food waste, public procurement, fossil fuel subsidies, Efficient Use, Sustainable Consumption Patterns, Environmental Agreements
	climate, greenhouse gas, global warming, weather, environmental, planet, vegan, vegetarian, anthropogenic, fossil fuel, emissions, carbon dioxide, CO2, carbon-neutral, carbon neutral, net zero, net-zero, methane, sea level, climate change mitigation, climate change adaptation, climate impacts, climate scenarios, climate solutions, climate justice, global climate models, carbon capture, carbon sequestration, low carbon, resilience, Anthropocene, climate positive, offsets, carbon trading, carbon markets, climate finance, loss and damage
	ocean, marine, pollution, conservation, fish, natural habitat, species, animal, biodiverse, coral, maritime, ocean literacy, ecosystem, fish stocks, ocean, sustainable use, traditional use, Coastal Areas, Nutrient Pollution,
	forest, biodiverse, ecology, pollution, conservation, land use, natural habitat, species, animal, regeneration, resilience, sustainable and traditional use, land ecological restoration, forest conservation, carbon sequestration, carbon capture, soil, erosion, habitat loss, endangered species, ecosystem, deforestation, reforestation, wildlife, flora and fauna, benefit sharing, Genetic Resources, Freshwater Biodiversity, Mountain Biodiversity, Plant Species, Biological Indicators, Ecosystem Health



3. Results

According to the above-mentioned keywords, the review process started for the curriculum of all faculties of Delta University for Science and Technology. The results of the review and the mapping table is being illustrated hereafter

3.1 University Elective Courses

Course	Compulsory	Elective	Credits	Sustainable Development Goals (SDGs)									
				SDG2	SDG6	SDG7	SDG8	SDG9	SDG11	SDG12	SDG13	SDG14	SDG15
GEN 401| Marketing skills		✓	2				✓			✓			
GEN 302| General Risk Management							✓			✓	✓		
GEN 310| Industrial Safety and Environmental Management		✓	2				✓			✓			
GEN 202| Legislations, Contract and Procurement Management		✓	2		✓					✓	✓		
GEN 403| Introduction to Economics		✓	2				✓			✓			



3.2 Faculties Courses

For the nine faculties of Delta University for Science and Technology, the mapping is illustrated hereafter.

3.2.1 Faculty of Engineering

Course	Compulsory	Elective	Credits	Sustainable Development Goals (SDGs)									
				SDG2	SDG6	SDG7	SDG8	SDG9	SDG11	SDG12	SDG13	SDG14	SDG15
CIV241|Open Channels Hydraulics	✓		2		✓								
CIV242|Irrigation and Drainage	✓		3		✓							✓	
CIV341| Design of Water Structures	✓		3		✓							✓	
CIV342|Sanitary Engineering	✓		3		✓								✓
CIV343|Design of Water Structures (2)	✓		3		✓							✓	
MEC 131| Thermodynamics	✓		2			✓							
MEC 231|Heat and Mass Transfer	✓		3			✓							
MEC 363|Hydraulic and Pneumatic Systems	✓		2			✓							
ARC222|Architectural Design (4)	✓		3					✓	✓				
ARC271|Introduction to town planning	✓		3					✓	✓				
ARC281| Environmental Studies in Architecture	✓		2					✓	✓				
ARC 322| Architectural Design (6)	✓		3					✓	✓				
ARC371|Urban Design	✓		3					✓	✓				
ARC400a|Graduation Project-Architecture (1)	✓		3					✓	✓				
ARC400b|Graduation Project-Architecture (2)	✓		5					✓	✓				
CIV291|Transportation Planning & Traffic Engineering	✓		3					✓					
CIV391| Highway Engineering	✓		3					✓					



Course	Compulsory	Elective	Credits	Sustainable Development Goals (SDGs)									
				SDG2	SDG6	SDG7	SDG8	SDG9	SDG11	SDG12	SDG13	SDG14	SDG15
CIV400a|Graduation Project-Civil Engineering (1)	✓		3					✓	✓				
CIV400b|Graduation Project-Civil Engineering (2)	✓		4					✓	✓				
CIV491|Highway Engineering (2)	✓		3					✓					
ARC471|Housing	✓		2						✓				
ARC481|Buildings Physics	✓		3						✓				
CIV441|Harbors, Navigation and Shore Projects	✓		3								✓	✓	✓
CIV442|Water Resources Engineering		✓	2	✓	✓						✓	✓	✓
CIV444| Water Quality and Environment		✓	2	✓	✓						✓	✓	✓
CIV446| River Engineering		✓	2	✓	✓						✓	✓	✓
CIV448|Water Supply Engineering		✓	2	✓	✓				✓		✓	✓	✓
CIV443| Environmental Hydrology		✓	2		✓						✓	✓	✓
CIV445|Water and Wastewater Treatments		✓	2		✓			✓	✓		✓	✓	✓
CIV447|Dams Engineering		✓	2		✓				✓		✓	✓	✓
ARC482|Codes of Green Buildings		✓	2					✓	✓				
ARC 485| Sustainability in Architecture		✓	2					✓	✓				✓
ARC431| Intelligent Buildings		✓	2					✓	✓				✓
CIV492|Railway Engineering		✓	2					✓					
CIV493| Advanced Topics in Transportation Engineering		✓	2					✓					
CIV494|Airport Planning and Design		✓	2					✓					
ARC 484| Environmental Impact Assessment		✓	2						✓		✓		✓
ARC455|Building Rehabilitation and Protection		✓	2										✓



3.2.2 Faculty of Artificial Intelligence

Course	Compulsory	Elective	Credits	Sustainable Development Goals (SDGs)									
				SDG2	SDG6	SDG7	SDG8	SDG9	SDG11	SDG12	SDG13	SDG14	SDG15
CSC115 Introduction to Computer Systems	✓		3			✓	✓	✓					
CSC124 Structural Programming	✓		3				✓	✓					
CSC125 Database Management Systems	✓		3				✓	✓					
CSC213 Data Mining and Exploration	✓		3				✓	✓					
CSC214 Computer Networks and Data Communication	✓		3			✓		✓	✓				
CSC222 Computer Graphics and Vision	✓		3				✓	✓	✓				
CSC223 Computer Architecture	✓		3					✓					
AI128 Introduction to Artificial Intelligence	✓		3					✓					
AI215 Digital Logic Design	✓		3					✓					
AI216 Machine Learning and Pattern Recognition	✓		3				✓	✓					
AI224 Artificial Intelligence Programming Languages	✓		3					✓					
CSC227 Work-based Professional Project in Computer Science (I)	✓		2				✓						
CSC311 Big Data Analytics	✓		3					✓					
CSC313 Data Structure	✓		3					✓	✓				
AI314 Agent-Based Systems	✓		3					✓	✓		✓		
AI315 Computational Cognitive Science	✓		3				✓						
AI317 Work-based Professional Project in Artificial Intelligence (I)	✓		1		✓	✓	✓						
CSC322 Cloud Architecture and Computing	✓		3					✓					
AI324 Automated Reasoning	✓		3					✓	✓		✓		
AI325 Human-Computer Interaction	✓		3				✓	✓					



AI326 Embedded Systems and Automation	✓		**3**			✓	✓	✓	✓				
AI327 Work-based Professional Project in Artificial Intelligence (II)	✓		**1**			✓	✓			✓			
AI411 Principles and Design of IoT Systems	✓		**3**			✓		✓	✓		✓		
AI412 Theory of Automata and Formal Languages	✓		**3**					✓					
AI413 Interactive Systems Design	✓		**3**				✓	✓	✓				
AI414 Cyber-Physical Systems	✓		**3**			✓		✓			✓		
AI415 Graduation Project in AI (I)	✓		**2**				✓			✓			
AI421 Data Center Virtualization	✓		**3**			✓		✓		✓	✓		
AI422 Embedded and Real-Time Operating Systems	✓		**3**			✓	✓	✓	✓				
AI423 Wireless Sensor Protocols and Programming	✓		**3**			✓		✓	✓		✓		✓
AI424 Deep Learning	✓		**3**				✓	✓	✓				
AI425 Graduation Project in AI (II)	✓		**2**				✓			✓			
AIE31 Fog Computing		✓	**3**		✓	✓		✓	✓		✓		
AIE32 Virtual Environment		✓	**3**				✓	✓	✓		✓		
SEC322 Cyber Security Risk Management		✓	**3**				✓	✓	✓				
AIE431 Cloud Storage Infrastructure		✓	**3**			✓		✓		✓	✓		
AIE42 Software Architecture and Interoperability		✓	**3**					✓	✓				
AIE44 Cloud Strategy Planning and Management		✓	**3**			✓	✓	✓		✓	✓		
AIE45 New trends in IoT		✓	**3**					✓	✓	✓	✓		
AIE46 New trends in AI		✓	**3**		✓		✓	✓			✓		
CSC115 Introduction to Computer Systems	✓		**3**			✓	✓	✓					
BIO312 Biological database	✓		**3**					✓					
CSC313 Algorithms and Data Structure	✓		**3**					✓					
BIO314 Introduction to Bioinformatics	✓		**3**					✓					
BIO315 Molecular and cell biology	✓		**3**	✓				✓					



BIO316 Work-based Professional Project in Bioinformatics(I)	✓		**3**				✓						
BIO321 Basic and Population Genetics	✓		**1**	✓				✓					✓
AI323 Computational Neuroscience	✓		**3**					✓					
BIO324 Bioinformatics Programming	✓		**3**					✓					
BIO325 Work-bas2ed Professional Project in Bioinformatics (II)	✓		**1**				✓						
BIO411 Genetic Engineering	✓		**3**	✓									
BIO414 Genomics and Proteomics	✓		**3**					✓					
BIO415 Graduation Project in Bioinformatics (1)	✓		**3**				✓						
BIO421 Biomathematics	✓		**3**	✓	✓								✓
BIO422 Automation Solution in Biotechnology	✓		**3**				✓	✓					
BIO423 Computational Gene Finding and Genome Assembly	✓		**3**	✓	✓			✓					
AI424 Deep Learning	✓		**3**					✓					
BIO426 Graduation Project in Bioinformatics (II)	✓		**3**				✓						
BIOE31 Methods and Applications of Molecular Modeling		✓	**3**					✓					
BIOE42 Multicellular Life		✓	**3**							✓		✓	✓
BIOE43 Applied Genomic Technologies		✓	**3**					✓					
BIOE44 Recombinant DNA Techniques		✓	**3**	✓				✓			✓		
BIOE45 Applied Biotechnology		✓	**3**	✓				✓			✓		
BIOE46 New Trends in Bioinformatics		✓	**3**	✓				✓			✓		
BIO312 Biological database		✓	**3**					✓					
SEC415 Graduation Project in Cyber Security (I)	✓		**3**				✓						
SEC425 Graduation Project in Cyber Security (II)	✓		**3**				✓						
SECE43 Virtualization and Cloud Security		✓	**3**					✓					



SECE45 Enterprise Security and Information Assurance		✓	3					✓					
SECE46 Systems Administration and Network Services		✓	3			✓		✓	✓				
SECE48 New Trends on Cyber Security		✓	3					✓					

3.2.3 Faculty of Arts

Course	Compulsory	Elective	Credits	Sustainability Development Goals (SDGs)									
				SDG2	SDG6	SDG7	SDG8	SDG9	SDG11	SDG12	SDG13	SDG14	SDG15
GIS 111| Surface Processes, Landforms and Soils	✓		3		✓	✓		✓	✓		✓		✓
GIS 112| Natural and Physical Geographic	✓		3			✓							
GIS 113| Environment & Topography	✓		3						✓		✓		
GIS 114|Introduction to Geoinformatics	✓		3						✓				
GIS 121| Arab World Geography	✓		3			✓			✓				✓
GIS122|Climate and Meteorological Geography	✓		3			✓					✓		
GIS123| Plane Survey	✓		3			✓							✓
GIS 124|Data Modelling and Data Structures	✓		3		✓			✓			✓		
GIS 125| Natural Geography of Egypt	✓		3		✓	✓		✓	✓		✓		✓
GIS211| Mineral and Energy Geography	✓		3		✓			✓			✓		✓
GIS 212| Political, Economic and Urban Geography	✓		3		✓			✓	✓		✓		✓
GIS 213| Statistical Analysis	✓		3		✓			✓			✓		✓



Course	Compulsory	Elective	Credits	Sustainability Development Goals (SDGs)									
				SDG2	SDG6	SDG7	SDG8	SDG9	SDG11	SDG12	SDG13	SDG14	SDG15
GIS 214| Oceans and seas Geography	✓		*3*			✓			✓				
GIS 221| Digital Topographic Contoured Maps	✓		*3*			✓					✓		
GIS 222| Remote Sensing essentials	✓		*3*		✓				✓				✓
GIS 223| Introduction to GIS	✓		*3*			✓					✓		
GIS 224| Geography of Africa and Nile Basin	✓		*3*		✓	✓		✓					✓
GIS 225| Process Geomorphology	✓		*3*			✓			✓		✓		✓
GIS 311| Geological Maps	✓		*3*										
GIS 312| Tachometric surveying	✓		*3*		✓	✓							✓
GIS 313| Digital Distribution Maps	✓		*3*		✓								✓
GIS 314| Fundamentals of Mapping and Surveying	✓		*3*			✓		✓			✓		
GIS 321| Global Navigation Satellite Systems	✓		*3*					✓			✓		
GIS 111| Surface Processes, Landforms and Soils	✓		*3*		✓	✓							✓
GIS 112| Natural and Physical Geographic	✓		*3*					✓			✓		
GIS 113| Environment and Topography	✓		*3*			✓							
GIS 114| Introduction to Geoinformatics	✓		*3*		✓								✓
GIS 121| Arab World Geography	✓		*3*			✓							
GIS122| Climate and Meteorological Geography	✓		*3*		✓						✓		



Course	Compulsory	Elective	Credits	Sustainability Development Goals (SDGs)									
				SDG2	SDG6	SDG7	SDG8	SDG9	SDG11	SDG12	SDG13	SDG14	SDG15
GIS123| Plane Survey	✓		***3***					✓	✓				✓
COM121| Mass Media Ethics &Legislation	✓										✓		
COM122| Inter Personal Communication	✓										✓		
COM123| Public Opinion, Persuasion and Propaganda	✓										✓		
COM211| Media Sociology and Impacts of Social Communication Networks	✓										✓		



3.2.4 Faculty of Business

Course	Compulsory	Elective	Credits	Sustainability Development Goals (SDGs)									
				SDG2	SDG6	SDG7	SDG8	SDG9	SDG11	SDG12	SDG13	SDG14	SDG15
MAG110| Principle of management	✓		3				✓		✓	✓	✓		
MAG111| Principles of Marketing	✓		3				✓	✓	✓	✓	✓		
COM251| E-Commerce	✓		3				✓	✓		✓			
ECO330| Economic Feasibility Studies	✓		3				✓		✓	✓	✓		
MAG310| Production & Operation Management	✓		3				✓		✓	✓	✓		
MAG330| Logistics Management	✓		3				✓		✓	✓	✓		
MAG313| Consumer Behavior	✓		3				✓			✓			
MAG410| International Marketing	✓		3				✓		✓	✓	✓		
MAG315| Marketing Research	✓		3				✓			✓	✓		
MAG411| Services Marketing	✓		3				✓		✓	✓			
MAG321| Stock Exchange & Stock Markets	✓		3				✓		✓	✓	✓		
MAG322| Insurance & Investment Management	✓		3				✓			✓	✓		
MAG332| Project Management	✓		3				✓		✓	✓	✓		
MAG418| Supply Chain Management		✓	3				✓		✓	✓	✓		
MAG419| Enterprise Resource Planning		✓	3				✓		✓	✓	✓		
ECO430| Sustainability Development		✓	3				✓		✓	✓	✓		
STA 440| Operation Research		✓	3				✓		✓	✓			
ACC120| Principles of Accounting 1	✓		3				✓						
ACC121| Principles of Accounting 2	✓		3				✓						
ECO130| Micro Economics	✓		3				✓	✓					
ECO131| Macro Economics	✓		3				✓	✓					



Course	Compulsory	Elective	Credits	Sustainability Development Goals (SDGs)									
				SDG2	SDG6	SDG7	SDG8	SDG9	SDG11	SDG12	SDG13	SDG14	SDG15
MAG211| Organizational Behavior	✓		3				✓	✓					
MAG311| Human Resources Management	✓		3				✓	✓					
ACC220| Intermediate Accounting 1	✓		3				✓						
ACC221| Intermediate Accounting 2	✓		3				✓						
ACC325| Advanced Accounting	✓		3				✓						
ACC320| Cost Accounting	✓		3					✓		✓			
ACC425| Cost Accounting Systems	✓		3					✓		✓			
ACC321| Managerial Accounting	✓		3					✓		✓			
ACC324| Accounting for Financial Institutions	✓		3				✓						
ACC432| Financial Reporting Analysis and Valuation	✓		3				✓						
ACC322| Auditing 1	✓		3				✓						
ACC323| Auditing 2	✓		2				✓						
ACC424| Tax Accounting	✓		3				✓						
ACC420| Accounting Information Systems	✓		3					✓					
ACC421| Accounting Applications using Computers	✓		2					✓					
ACC422| Governmental and National Accounting	✓		3				✓			✓			
ACC426| International Accounting		✓	3				✓						
ACC427| Quantitative Techniques in Accounting		✓	3					✓					
ACC428| Contemporary Issues in Accounting		✓	3						✓				
ACC429| Accounting for Specialized Institutions		✓	3				✓	✓					
ECO230| Money & Banking	✓		3				✓						
MAG314| Knowledge Management	✓		3				✓	✓	✓				



3.2.5 Faculty of Medicine

Courses	Compulsory	Elective	Credits	Sustainable Development Goals (SDG)									
				SDG2	SDG6	SDG7	SDG8	SDG9	SDG11	SDG12	SDG13	SDG14	SDG15
GMB205| Genetics & molecular biology	✓		4	✓	✓								
BCDT207| Basic concepts of diseases & therapy	✓		4	✓						✓	✓		✓
CIBL309| Circulatory, Immune, Blood and Lymphatic system	✓		8							✓	✓		✓
EAR310| Endocrine and Reproduction Systems	✓		6	✓	✓					✓	✓		✓
RAR411| Respiratory and Renal Systems	✓		6		✓			✓		✓	✓		✓
CNS412| Central Nervous System and Special Sense	✓		8					✓		✓	✓		✓
GLNM413| Gastro-Intestinal System, liver, Nutrition and Metabolism	✓		8	✓	✓					✓	✓		✓
CTP515| Clinical Toxicology and pharmacology	✓		4		✓			✓		✓	✓		✓
SAV517| Skin and venereal diseases	✓		3		✓					✓	✓		✓
SURG619| Introduction to Surgery	✓		6		✓					✓	✓		✓
CMOE621| Community medicine, occupational and environmental health	✓		6	✓	✓			✓		✓	✓		✓
SURG723| Surgery & integrated problem (I) (Endocrine and Urology)	✓		3	✓	✓			✓		✓	✓		✓
CWH725| Child and women health (I)	✓		12	✓	✓			✓		✓	✓		✓
ONC726| Oncology	✓		2		✓			✓		✓	✓		✓
CWH829| Child and women health (II)	✓		12	✓	✓			✓		✓	✓		✓
INFD830| Infectious Diseases	✓		2	✓	✓			✓		✓	✓		✓
SS931| Special sense (Ophthalmology and Otorhinolaryngology)	✓		9	✓	✓			✓		✓	✓		✓



Courses	Compulsory	Elective	Credits	Sustainable Development Goals (SDG)									
				SDG2	SDG6	SDG7	SDG8	SDG9	SDG11	SDG12	SDG13	SDG14	SDG15
FMIMC932| Family medicine and integrated management of common illness	✓		8	✓	✓			✓		✓	✓		✓
MED 1036| Medicine & integrated problem (III) (Chest diseases and Cardiology)	✓		3		✓			✓		✓	✓		✓
PSIC1039| Patient safety and infection control	✓		4		✓			✓		✓	✓		✓



3.2.6 Faculty of Pharmacy

Course	Compulsory	Elective	Credits	Sustainability Development Goals (SDGs)									
				SDG2	SDG6	SDG7	SDG8	SDG9	SDG11	SDG12	SDG13	SDG14	SDG15
PC 102| Pharmaceutical Organic Chemistry – I	✓		3								✓		✓
PC 203| Pharmaceutical analytical Chemistry- II	✓		3								✓		
PC 911| Quality Control of Pharmaceuticals	✓		3		✓							✓	
PC 012| Drug Design	✓		2							✓			
PC E014| Food Analysis		✓	2	✓									
PCE015| Eco-Friendly Synthetic Approaches in Drug Synthesis		✓	2										✓
PT 708| Pharmaceutical Technology – I	✓		3					✓					
PT 809| Pharmaceutical Technology – II	✓		3					✓					
PT 910| Good Manufacturing Practice	✓		3					✓					
PT E12| Applied Industrial Pharmacy		✓	2					✓					
PM 401| General Microbiology And Immunology	✓		3		✓								
PM 502| Pharmaceutical Microbiology	✓		3		✓								
PM 603| Parasitology And Virology	✓		3		✓								
PM 906| Public Health	✓		2		✓								
PM E 09| Infection Control		✓	2		✓								



Course	Compulsory	Elective	Credits	Sustainability Development Goals (SDGs)									
				SDG2	SDG6	SDG7	SDG8	SDG9	SDG11	SDG12	SDG13	SDG14	SDG15
PG 101| Pharmacognosy- I	✓		3							✓		✓	✓
PG 202| Pharmacognosy- II	✓		3							✓		✓	✓
PG 503| Phytochemistry- I	✓		3							✓			
PG 604| Phytochemistry- II	✓		3							✓			
PG 705| Applied and Forensic Pharmacognosy		✓	2							✓			
PG 906| Phytotherapy and Aromatherapy		✓	2							✓			
PG E07| Biotechnology of natural products		✓	2	✓									✓
PG E08| Production and Manufacture of Medicinal plants		✓	2					✓					
PB 402| Biochemistry – I	✓		3	✓									
PB 606| Clinical Biochemistry	✓		3										✓
PB E011| Clinical Nutrition	✓		2	✓									



3.2.7 Faculty of Physical Therapy

Courses	Compulsory	Elective	Credits	Sustainable Development Goals (SDG)									
				SDG2	SDG6	SDG7	SDG8	SDG9	SDG11	SDG12	SDG13	SDG14	SDG15
BASM103|Biochemistry (1)	✓		3	✓	✓			✓		✓	✓		✓
BASG105|Biophysics	✓		3	✓	✓			✓		✓	✓		✓
BASM109|Biochemistry (2)	✓		3	✓	✓			✓		✓	✓		✓
BASM111|Human Genetics and Molecular Biology	✓		2	✓	✓			✓			✓		✓
BASPT112|Hydrotherapy	✓		2	✓	✓			✓		✓	✓		✓
BASPT216|Therapeutic Exercises (1)	✓		3		✓			✓					
BIOPT219|Biomechanics (1)	✓		2	✓	✓			✓					✓
BASPT223|Therapeutic Exercises (2)	✓		3		✓			✓					
BIOPT226|Biomechanics (2)	✓		3	✓	✓			✓					✓
BASM327|Principles of Disease	✓		2	✓	✓			✓			✓		✓
BIOPT329|Biomechanics (3)	✓		3	✓	✓			✓					✓
INTM330|Internal Medicine and Geriatric	✓		2	✓	✓			✓			✓		✓
INTPT331|Physical Therapy and Rehabilitation for Internal Medicine and Geriatric	✓		4	✓	✓			✓			✓		✓
INTM332|Heart and Chest Surgery and Intensive care	✓		1	✓	✓			✓			✓		✓
INTPT333|Physical Therapy and Rehabilitation for Heart and Chest Surgery and Intensive care	✓		4	✓	✓			✓			✓		✓



Courses	Compulsory	Elective	Credits	Sustainable Development Goals (SDG)									
				SDG2	SDG6	SDG7	SDG8	SDG9	SDG11	SDG12	SDG13	SDG14	SDG15
BASG335|Bioethics and Human Rights	✓		2	✓	✓			✓		✓	✓		✓
BASM336|Pharmacology	✓		2	✓	✓			✓		✓	✓		✓
BASM337|Public Health and Infection Control	✓		2	✓	✓			✓		✓	✓		✓
ORTM443|Traumatology	✓		2	✓	✓			✓			✓		✓
ORTPT444|Physical Therapy and Rehabilitation for Traumatology	✓		4	✓	✓			✓			✓		✓
ORTPT446|Physical Therapy and Rehabilitation for Orthopedic Surgery	✓		4	✓	✓			✓		✓			✓
ORTPT447|Physical Therapy and Rehabilitation for Sports Injuries	✓		2	✓	✓			✓		✓	✓		✓
GYNM338|Woman Health	✓		2	✓	✓			✓					✓
GYNPT339|Physical Therapy and Rehabilitation for Woman Health	✓		4	✓	✓			✓					✓
INTPT340|Therapeutic Nutrition	✓		2	✓	✓			✓			✓		✓
SURM449|Skin Disease	✓		2	✓	✓			✓					✓
SURPT451|Physical Therapy and Rehabilitation for General Surgery, Burn and Skin Diseases	✓		4	✓	✓			✓					✓
BASG453|Medical Biostatistics	✓		2	✓	✓			✓		✓	✓		✓



3.2.8 Faculty of Applied Health Science Technology

Courses	Compulsory	Elective	Credits	Sustainable Development Goals (SDG)									
				SDG2	SDG6	SDG7	SDG8	SDG9	SDG11	SDG12	SDG13	SDG14	SDG15
AHS111 General Chemistry	✓		3		✓								
AHS112 General Biology	✓		3	✓									
AHS115 Physics	✓		3		✓								
AHS122 Biochemistry	✓		3					✓					
AHS124 Pharmacology for health science Technologists	✓		2				✓			✓			
AHS125 Bio statistics	✓		3		✓		✓						
AHS126 Ethical and Legal Issues in Health Profession	✓		2								✓		
MLA213 Organic Chemistry	✓		4					✓					
MLA311 Forensic Chemistry and Analytical Toxicology	✓		4							✓			
MLA312 Laboratory Parasitology	✓		6							✓			
MLA322 Clinical Chemistry 2	✓		6										✓
MLA412 Quality Management in Medical Laboratories	✓		4				✓				✓		
MLA422 Body Fluids and Urine Analysis	✓		6					✓					
MLA424 Graduation Project	✓		6	✓			✓						
RAD311 Vascular Imaging Technique	✓		4				✓			✓			
RAD313 Radiological Pathology	✓		4		✓		✓						



Courses	Compulsory	Elective	Credits	Sustainable Development Goals (SDG)									
				SDG2	SDG6	SDG7	SDG8	SDG9	SDG11	SDG12	SDG13	SDG14	SDG15
RAD321 MRI: Examination Technique 1	✓		6										✓
RAD323 Quality Management in Medical Imaging	✓		4				✓	✓					
RAD412 Radiology &Radiation Protection	✓		4				✓	✓					
RAD413 CT Examination Technique	✓		4					✓					
RAD421 Medical Imaging Informatics	✓		4								✓		
RAD422 MRI: Examination Technique 2	✓		6				✓						✓
RAD423 Ultrasonic and Doppler Examination	✓		6				✓			✓			
RAD424 Graduation Project	✓		7		✓		✓						
ECC221 Respiratory Emergencies	✓		4	✓									
ECC222 Environmental Hygiene and Safety	✓		4		✓		✓						✓
ECC313 Infection Control	✓		7							✓			
ECC321 Cardiac and Diabetic Emergencies	✓		9		✓			✓			✓		✓
ECC423 Graduation Project	✓		11							✓			✓
DNT213 Dental Materials	✓		4	✓									
DNT214 Fundamentals Of Technology of Dental Prostheses Manufacture	✓		3					✓					
DNT215 Dental Morphology & Occlusion Technology	✓		4							✓			



Courses	Compulsory	Elective	Credits	Sustainable Development Goals (SDG)									
				SDG2	SDG6	SDG7	SDG8	SDG9	SDG11	SDG12	SDG13	SDG14	SDG15
DNT221 Removable Complete Prosthodontics Technology (1)	✓		8					✓					
DNT222 Removable Partial Prosthodontics Technology 1	✓		8								✓		
DNT224 Dental Biomaterials	✓		4										✓
DNT314 Dental Impression Materials Practices	✓		4					✓					
DNT321 Fixed Prosthodontics Technology (2)	✓		7							✓			
DNT322 Orthodontics Technology (2)	✓		7	✓									
DNT324 Dental Radiology	✓		4							✓			
DNT411 CAD CAM in Prosthodontics : Digitization	✓		4		✓		✓						
DNT421 CAD/CAM: Manufacturing	✓		11				✓						✓
DNT422 Applied Partial Removable Prosthodontics (2)	✓		4										✓
DNT423 Applied Fixed Prosthodontics (2)	✓		11							✓			
DNT424 Graduation Project	✓		7		✓		✓						✓



3.2.9 Faculty of Oral and Dental Medicine

Courses	Compulsory	Elective	Credits	Sustainable Development Goals (SDG)									
				SDG2	SDG6	SDG7	SDG8	SDG9	SDG11	SDG12	SDG13	SDG14	SDG15
DEN 3202 | Emergency Preparedness in the Dental Office	✓		1		✓		✓			✓	✓		
DEN 3203 | Anxiety and Pain Control (General Anesthesia & sedation)	✓		1		✓		✓			✓	✓		
DEN 3204 | General Surgery (ENT and Ophthalmology) II	✓		3		✓		✓			✓	✓		
DEN 3210 | Endodontics (Preclinical) II	✓		3		✓		✓			✓	✓		
DEN 3112 | Oral and Maxillofacial Radiology II	✓		3		✓		✓			✓	✓		
DEN 4101 | Comprehensive Patient Care and Practice Management I	✓		3		✓		✓			✓	✓		
DEN 4102 | Operative Dentistry V	✓		4		✓		✓			✓	✓		
DEN 4103 | Removable Prosthodontics V	✓		4		✓		✓			✓	✓		
DEN 4104 | Fixed Prosthodontics III	✓		4		✓		✓			✓	✓		
DEN 4105 | Endodontics III	✓		4		✓		✓			✓	✓		
DEN 4107 | Pedodontics (Preclinical) I	✓		3		✓		✓			✓	✓		
DEN 4108 | Periodontics I	✓		3		✓		✓			✓	✓		
DEN 4109 | Oral Medicine I	✓		3		✓		✓			✓	✓		
DEN 4110 | Oral and Maxillofacial Surgery I	✓		4		✓		✓			✓	✓		
GEN 310 | Medical Report Writing II	✓		2		✓		✓			✓	✓		
DEN 4201 | Comprehensive Patient Care and Practice Management II	✓		3		✓		✓			✓	✓		



Courses	Compulsory	Elective	Credits	Sustainable Development Goals (SDG)									
				SDG2	SDG6	SDG7	SDG8	SDG9	SDG11	SDG12	SDG13	SDG14	SDG15
DEN 4202 | Operative Dentistry VI	✓		4		✓		✓			✓	✓		
DEN 4203 | Removable Prosthodontics VI	✓		4		✓		✓			✓	✓		
DEN 4204 | Fixed Prosthodontics IV	✓		4		✓		✓			✓	✓		
DEN 4205 | Endodontics IV	✓		4		✓		✓			✓	✓		
DEN 4206 | Orthodontics (Preclinical) II	✓		3		✓		✓			✓	✓		
DEN 4207 | Pedodontics (Preclinical) II	✓		3		✓		✓			✓	✓		
DEN 4208 | Periodontics II	✓		3		✓		✓			✓	✓		
DEN 4209 | Oral Medicine II	✓		3		✓		✓			✓	✓		
DEN 4210 | Oral and Maxillofacial Surgery II	✓		4		✓		✓			✓	✓		
DEN 5101 | Comprehensive Patient Care and Practice Management III	✓		3		✓		✓			✓	✓		
DEN 5102 | Selection of Clinical Dental Materials I	✓		2		✓		✓			✓	✓		
DEN 5103 | Operative Dentistry VII	✓		4		✓		✓			✓	✓		
DEN 5104 | Removable Prosthodontics VII	✓		4		✓		✓			✓	✓		
DEN 5105 | Fixed Prosthodontics V	✓		4		✓		✓			✓	✓		
DEN 5106 | Endodontic V	✓		4		✓		✓			✓	✓		
DEN 5107 | Orthodontics III	✓		4		✓		✓			✓	✓		



Courses	Compulsory	Elective	Credits	Sustainable Development Goals (SDG)									
				SDG2	SDG6	SDG7	SDG8	SDG9	SDG11	SDG12	SDG13	SDG14	SDG15
DEN 5207 | Orthodontics IV	✓		4		✓		✓			✓	✓		
DEN 5208 | Pedodontics IV	✓		4		✓		✓			✓	✓		
DEN 5209 | Periodontics IV	✓		4		✓		✓			✓	✓		
DEN 5210 | Advanced Radiographic Interpretations & Differential Diagnosis II	✓		2		✓		✓			✓	✓		
DEN 5211 | Oral and Maxillofacial Surgery IV	✓		4		✓		✓			✓	✓		