Alignment of Programme Learning Outcomes

for Master of Data Science (proposed implementation date for the new programme: September 1, 2018)

Statement of Programme Learning Outcomes (PLOs) aligned with or mapped against University Educational Aims (UEAs)

UEAs	PLOs						
		Centrality					
		Core	Auxiliary				
Critical intellectual enquiry and acquiring up-to- date knowledge and research skills in a discipline/ profession	To apply a scientific approach to cleaning, massaging, organizing data, to understand and to use appropriate and relevant statistical methods and modern computational tools applicable to data science	Х					
Application of knowledge and research skills to practice or theoretical exploration, demonstrating originality and creativity	To equip with hands-on experience in data science methods using programming software and be competent for data-scientists who require advanced computing and modelling skills	Х					
Tackling novel situations and ill-defined problems	To extract meaningful insights and make informed decisions on complex real-life problems encountered in the big data era	Х					
Collaboration and communication of disciplinary knowledge to specialists and the general public	To collaborate with and communicate results of data science projects to a variety of audiences	Х					
Awareness of and adherence to personal and professional ethics	To apply effectively relevant standards, ethical considerations and fundamental statistical and algorithmic thinking in the data science process	Х					
Enhancement of leadership and advocacy skills in a profession	To prepare to be confident data scientists for solving real-life problems and providing professional view	X					

Core: PLOs considered central to the discipline or profession, and assessed Auxiliary: PLOs considered to be important but not assessed Mapping of courses against the PLOs (in the form of a matrix). The mapping should include the disciplinary core and elective courses, but not the Common Core, language and other elective courses. The Core and Auxiliary classification should be included.

Course	Programme Learning Outcomes						
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	
Core courses							
COMP7305 Cluster and Cloud Computing (6 credits)		С	С		С	А	
COMP7404 Computational Intelligence and Machine Learning (6 credits)		С	С		С	А	
DASC7011 Statistical Inference for Data Science (6 credits)		С			С	С	
DASC7104 Advanced Database Systems (6 credits)		С	С				
STAT6014 Advanced Statistical Learning (6 credits)		С	А	С	С	А	
STAT7008 Programming for Data Science (6 credits)		С	С	С			
Elective courses							
COMP7503 Multimedia Technologies (6 credits)	С	С	С		С	А	
COMP7506 Smart Phone Apps Development (6 credits)	С	С	С		А	А	
COMP7507 Visualization and Visual Analytics (6 credits)	С	С	С	С	Α	С	
COMP7605 Advanced Multimedia Data Analysis and Applications (6 credits)	С	С	С		Α	А	
COMP7906 Introduction to Cyber Security (6 credits)	С	С	С				
DASC7606 Deep Learning (6 credits)	С	С	С	С	С	С	
ICOM6044 Data Science for Business (6 credits)		Α	С	С			
MATH6502 Topics in Applied Discrete Mathematics (6 credits)		С					
MATH6503 Topics in Mathematical Programming and Optimization (6 credits)		С					
STAT6013 Financial Data Analysis (6 credits)		Α	С		С	С	
STAT6015 Advanced Quantitative Risk Management and Finance (6 credits)	С	А	C	Α	C	А	
STAT6016 Spatial Data Analysis (6 credits)	С	C	А	C		С	
STAT8003 Time Series Forecasting (6 credits)	С	С	С	A			
STAT8017 Data Mining Techniques (6 credits)	С	С	С	С	С	С	
STAT8019 Marketing Analytics (6 credits)	С	С			Α		
STAT8301 Big Data Analytics (3 credits)	С	С	С	С	С	С	
STAT8306 Statistical Methods for Network Data (3 credits)	С	С	С		С		
Capstone requirement							
DASC7600 Data Science Project (12 credits)	С	С	С	С	С	С	