UNDERGRADUATE CERTIFICATE OF DATA SCIENCE
UNIT LEARNING OUTCOMES

BLOCK 1

MATHEMATICS FOR DATA SCIENTISTS (UCDS MAT 101)

- Recognise the basic concepts, problems and applications of mathematics in data science [Knowledge of Data Science]

- Develop inquiry and quantitative abilities to solve mathematical problems [Problem Solving and Decision Making]

- Evaluate mathematical problems, identify and innovate solutions [Creativity and Innovation]

- Demonstrate teamwork skills by working in a group project to arrive at mathematical solutions for problems assigned [Teamwork]

- Express effectively the mathematical solutions through writing and making presentations [Intercultural Competence/Communication]

INTRODUCTION TO COMPUTER PROGRAMMING (UCDS CSC 101)

- Recognise the basic concepts in computer programming and their applications to data science discipline [Knowledge of Data Science]

- Demonstrate skills to write, debug and test computer programs [Problem Solving and Decision Making]

- Explain the process of software development and propose changes to improve the final software product [Creativity and Innovation]

BLOCK 2

INTRODUCTION TO DATABASES (UCDS DSC 201)

- Demonstrate concepts in database systems and their application in business contexts [Knowledge of Data Science]

- Develop inquiry and quantitative abilities to Implement SQL [Problem Solving and Decision Making]

- Construct a relational database design and data modelling using the Entity-Relationship (ER) model. [Creativity and Innovation]

- Demonstrate communications skills, orally and in writing, in presenting built databases [Intercultural Competence/Communication]

INTRODUCTION TO DATA SCIENCE (UCDS DSC 202)

- Examine the basic concepts of data science and applications [Knowledge of Data Science]

- Use quantitative abilities to solve data science problems [Problem Solving and Decision Making]

- Evaluate and dissect data in different ways [Creativity and Innovation]

- Demonstrate teamwork skills to formulate solutions for mathematical problems[Teamwork]

- Interpret a data set and present findings in oral and written form [Intercultural Competence/Communication]