



Institiúid Teicneolaíochta Chorcaí  
Cork Institute of Technology

APPROVED

**Awards**

HDip in Sc

**Programme Code:** CR\_SDAAN\_8

**Mode of Delivery:** Full Time, Part Time, ACCS

**No. of Semesters:** 2

**NFQ Level:** 8

**Embedded Award:** No

**Programme Credits:** 60

**programmeReviewDate:** March 2022

**Department:** MATHEMATICS

## Programme Outcomes

Upon successful completion of this programme the graduate will be able to demonstrate... :

<b>PO1</b>	Knowledge - Breadth
	(a) Demonstrate detailed knowledge and understanding of areas of Mathematics, Statistics, Computer Science and Business Intelligence relevant to the Data Analyst.
<b>PO2</b>	Knowledge - Kind
	(a) Demonstrate understanding of the terminology, defining concepts and theories underlying the Data Science and Analytics field; demonstrate knowledge of the advanced methods and technologies for acquiring, interpreting and analysing big data, with a critical understanding of the appropriate contexts for their use; relate current issues in Data Science to society; understand current knowledge of the Data Science field, including current limits of theoretical and applied knowledge.
<b>PO3</b>	Skill - Range
	(a) Demonstrate mastery of relevant skills and tools in Statistics, Mathematics, Computer Science and Business Intelligence; use these to solve complex problems involving big data sets; interpret and apply appropriate and referenced literature and other information sources; work independently within defined time and resource boundaries; communicate scientific information in a variety of forms to specialist and non-specialist audiences.
<b>PO4</b>	Skill - Selectivity
	(a) Formulate and test hypotheses; design experiments; appreciate current limits of knowledge in the Data Science field and respond appropriately; think independently and make effective decisions; contribute fully to the day-to-day operations of the Data Science work setting.
<b>PO5</b>	Competence - Context
	(a) Apply data analysis skills and technologies in a range of contexts in order to critically interpret existing knowledge and apply in new situations; make and report appropriate decisions in a responsible and ethical manner.
<b>PO6</b>	Competence - Role
	(a) Act effectively under guidance in a peer relationship with qualified practitioners; participate constructively in a complex interdisciplinary team environment; plan for effective project implementation; reflect on own practices.
<b>PO7</b>	Competence - Learning to Learn
	(a) Learn to act in variable and unfamiliar learning contexts; identify learning needs and undertake continuous learning in the Data Science field; assimilate and apply new learning.
<b>PO8</b>	Competence - Insight
	(a) Demonstrate an understanding of the wider social, political, business and economic contexts of Data Science, including an appreciation of the philosophical and ethical issues involved.

## Semester Schedules

### Stage 1 / Semester 1

Mandatory	
Module Code	Module Title
DATA8001	<a href="#">Data Science and Analytics</a>
STAT8006	<a href="#">Applied Stats &amp; Probability</a>
MATH8009	<a href="#">Maths Methods and Modelling</a>
COMP8042	<a href="#">Analytical and Scientific Prog</a>
DATA8002	<a href="#">Data Management Systems</a>
DATA8003	<a href="#">Unstructured Data &amp; Visualis'n</a>

### Stage 1 / Semester 2

Mandatory	
Module Code	Module Title
STAT8007	<a href="#">Statistical Meth for Big Data</a>
DATA8005	<a href="#">Distributed Data Management</a>
DATA8006	<a href="#">Data Science Analytics Project</a>
Group Elective 1	
Module Code	Module Title
DATA8007	<a href="#">Data Visualisation &amp; Analytics</a>
DATA8004	<a href="#">DataMining &amp; KnowledgeDiscovery</a>
Elective	
Module Code	Module Title
COMP8043	<a href="#">Machine Learning</a>
STAT8008	<a href="#">Time Series &amp; M-V Analysis</a>