H9DGCE: Data Governance, Compliance and Ethics

Module Code:	H9DGCE
Long Title	Data Governance, Compliance and Ethics APPROVED
Title	Data Governance, Compliance and Ethics
Module Level:	LEVEL 9
EQF Level:	7
EHEA Level:	Second Cycle
Credits:	5
Module Coordinator:	Horacio Gonzalez-Velez
Module Author:	Manuel Tova-Izquierdo
Departments:	School of Computing
Specifications of the qualifications and experience required of staff	

Learning Outcomes	
On successful completion of this module the learner will be able to:	
#	**Learning Outcome Description**
LO1	Critically interpret the corporate Governance, Compliance and regulatory frameworks associated with the capture, processing, and stewardship of Data.
LO2	Critically interpret the roles and responsibilities pertaining to data security, privacy, risk management, and data protection. Data protection and GDPR as key constraints in the business environment to be reflected in the internal environment of the organisation.
LO3	Evaluate ethical constructs and their dynamic evolution within an ICT data environment and appraise the interplay of fairness, accountability, and transparency in algorithmic decision making systems.

Dependencies
Module Recommendations
No recommendations listed
Co-requisite Modules
No Co-requisite modules listed

Entry requirements	This module will focus on Data Governance and its relationship with Corporate Strategy and Corporate Governance. It will place the establishment of a Data Governance Structure within the context of the regulatory environment and will address the key issues of a Data Governance System including Data Management, Data Security and Data Protection. Data Ethics will need to be considered and placed within a Data Governance System.

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Module Content & Assessment

Indicative Content
Data Governance Data quality and provenance. Data management. Roles and responsibilities. Management of data policies, processes and procedures.
Data Governance II Data integrity & security. Risk management. Models and tools for data governance.
Privacy, Data Protection and Legal Aspects The right to privacy – constitutional and statutory protections, privacy and the European Convention on Human Rights and EU Charter of Fundamental Rights. Common law protection. Data Protection Regulation Scope, processing of personal data, legitimate bases, principles of data protection, sensitive data, issues of consent.
Privacy, Data Protection and Legal Aspects II Rights, supervision and enforcement. Data Protection in practice including international transfers, surveillance, cloud computing, and auditing. Current reform of the area.
Ethical Issues Pertaining to Data Ethics and Computing – examining moral problems when using the Internet - spam, censorship and free speech, anonymity offered by the Internet. Ethical issues arising from the increasing use and pervasiveness of Information Technology and socio-technical systems.
Ethical Issues Pertaining to Data II The ACM Code of Ethics and Professional Conduct. Health technology. Pervasive monitoring and tracking. Image, video and sound capture. Identity. Perpetuity of data storage. Transnationality. Copyright. IOT.
Fairness of Algorithmic Systems The meaning of fairness with respect to algorithmic systems. Techniques and models for fairness-aware data mining, information retrieval, recommendation, etc. Legal, social, and philosophical models of fairness. Specification of mathematical objectives with respect to fairness.
Fairness of Algorithmic Systems II Perceptions of algorithmic bias and unfairness. Interventions to mitigate biases in systems, or discourage biased behaviour from users.
Accountability of Algorithmic Systems The meaning of accountability with respect to algorithmic systems. Processes and strategies for developing accountable systems.
Accountability of Algorithmic Systems II Methods and tools and standards for ensuring that algorithms comply with fairness policies (e.g., IEEE P7003 TM).
Transparency of Algorithmic Systems The meaning of transparency with respect to algorithmic systems. Explanations for algorithmic logic and outputs. Trade-offs between privacy and transparency.
Transparency of Algorithmic Systems II Tools and methodologies for conducting algorithm audits. Frameworks for conducting ethical and legal algorithm audits. Empirical results from algorithm audits.

Assessment Breakdown	%
Coursework	40.00%
End of Module Assessment	60.00%

Assessments

Full Time

Coursework

Assessment Type:	Continuous Assessment	**% of total:**	40
Assessment Date:	Week 9	**Outcome addressed:**	1,2,3
Non-Marked:	No		

Assessment Description:
Project: The project assessment element will assess learners' insights and evaluation of ethical issues that are related to their own research work.

Assessment Type:	Test	**% of total:**	60
Assessment Date:	Sem 2 End	**Outcome addressed:**	1,2,3
Non-Marked:	No		

Assessment Description:
This will assess learners' knowledge, in-depth understanding and ability to appraise and address issues relating to data governance, ethics, privacy, data protection, fairness, accountability, and transparency of algorithmic systems .

No End of Module Assessment

No Workplace Assessment

Reassessment Requirement

Repeat examination
Reassessment of this module will consist of a repeat examination. It is possible that there will also be a requirement to be reassessed in a coursework element.

Reassessment Description
The repeat strategy for this module is a terminal exam. All learning outcomes will be assessed in the repeat exam.

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Module Workload

Module Target Workload Hours 0 Hours

Workload: Full Time

Workload Type	*Workload Description*	*Hours*	*Frequency*	*Average Weekly Learner Workload*
Lecture	Classroom & Demonstrations (hours)	24	Every Week	24.00
Tutorial	Other hours (Practical/Tutorial)	12	Every Week	12.00
Independent Learning	Independent learning (hours)	89	Every Week	89.00
			Total Weekly Contact Hours	36.00

Module Resources

Recommended Book Resources

Robert F. Smallwood. (2014), Information Governance: Concepts, Strategies, and Best Practices (Wiley CIO), John Wiley & Sons, p.442, [ISBN: 1118218302].

Katherine O'Keefe,Daragh O Brien. (2018), Ethical Data and Information Management, Kogan Page, p.344, [ISBN: 0749482044].

Sanjay Sharma. (2019), Data Privacy and GDPR Handbook, Wiley, p.352, [ISBN: 9781119594246].

Herman T. Tavani. (2012), Ethics and Technology, Wiley, p.456, [ISBN: 1118281721].

Supplementary Book Resources

Anno Bunnik,Anthony Cawley,Michael Mulqueen,Andrej Zwitter. (2016), Big Data Challenges, Palgrave, p.140, [ISBN: 1349948845].

Jeff Collman, Sorin Adam Matei. (2016), Ethical Reasoning in Big Data, An Exploratory Analysis., Springer.

Paul Voigt,Axel von dem Bussche. (2017), The EU General Data Protection Regulation (GDPR), Springer, p.358, [ISBN: 9783319579580].

Recommended Article/Paper Resources

Association for Computing Machinery. (2018), ACM Code of Ethics and Professional Conduct,
https://www.acm.org/code-of-ethics

Other Resources

[Website], (2019), GDPR and You,
http://gdprandyou.ie/

[Website], (2019), EUROPEAN DATA PROTECTION SUPERVISOR,
https://edps.europa.eu/

[Website], (2019), Complete guide to GDPR compliance,
https://gdpr.eu/

Discussion Note:	