QUALITY ASSURANCE DOCUMENT QA3 – PROGRAMME SPECIFICATION

1. Programme Code						
2. Programme Title	MSc Engineering Management					
3. Target Award Title	MSc Engineering Management PGCert Engineering Management PGDip Engineering Management					
4. Exit Award Title(s)	PG Diploma in Engineering Management PG Certificate in Engineering Management					
5. Subject area	N100 (Business Studies)					
6. School	School of Supply Chain, Logistics and Project Management					
7. Programme Team Leader(s)	Dr Serkan Ceylan					
8. Programme Type	Specialist					
9. Delivery Model	DL F/T	x	BL F/T	x	Apprenticeship	
	DL P/T	x	BL P/T	x	Other	
Where delivery model identified as 'Other' please provide details	N/A					
10. Location of delivery	All locations to be used for delivery					
11. Proposed Start date	September 2022					
12. Reference points	QAA benchmarks for Masters' Degrees (N100) in Business and Management (2015), the Masters' Degrees General Characteristics: type 1 (Sept 2015); FHEQ L7; Quality Code 2019 (QAA) Full QAA mapping table can be found in Appendix (1)					
13. Professional, Statutory & Regulatory Bodies (PSRB)	Outline approval for professional accreditation has been secured from: The Chartered Management Institute (CMI) The following modules are mapped against the **CMI L7 Diploma in Strategic Management and Leadership Practice 7D30.** Competitive Strategy in Engineering Management (20 credits); Developing People, Leadership and Capabilities (20 credits); Analysing big data (20 credits); Engineering Transformation Project (60 credits). *Potential approval for professional accreditation will been secured from:* *Association for Project Management (APM)* *Project Management Institute (PMI)* **All approvals are subject to final validation by the above PSRBs.**					

14. Programme aims
The aim of the Arden University MSc Engineering Management programme is to provide a distinctive, inter-disciplinary and integrative educational programme aimed primarily to either solidify or move into the field of engineering management.

The programme is designed to expose students to a range of relevant topics relating to management within an engineering context. Teaching materials align to develop critical analysis, reflection, and further development of interpersonal skills in preparation for management roles.

Programme participants will gain salient understanding of the management of engineering projects and organisations in a way that allows them to relate this to a range of contemporary management ideas and practice within a global context.

In particular, the purpose of the programme is to provide students with:

- A critical analysis of the theory and practice relating to the role of project management within engineering organisations;
- A critical understanding of a range of management topics relevant to managers in engineering;
- A critical evaluation of the management theory related to engineering within a global context;
- A contextual overview and management understanding of data metrics and analysis;
- The opportunity to complete a detailed piece of applied research relating to a management issue within an organisation;
- An ability to apply knowledge and understanding of business and management to complex issues, both systematically and creatively, to improve business and management practice;
- A stimulating academic environment, which is based upon the values of academic openness and critical appraisal.

15. Programme Entry Requirements

Standard entry: A first degree or equivalent at 2:2 level in any recognised discipline.

Candidates who lack formal qualifications but possess significant relevant experience will also be considered.

Programme entry is also subject to Arden University's standard policies on APEL and ACL.

16. Graduate Attributes

The concept of the Arden University Graduate based upon the definition of "graduate attribute" by Bowden et al (2000) has been developed around 6 attributes:
01 Discipline Expertise
02 Effective Communication
03 Responsible Global Citizenship
04 Professional Skills

05 Reflective Practitioner
06 Lifelong Learning

The Means by which Graduate Attributes are Achieved and Demonstrated

1 – Professional Skills: achieved and demonstrated through:

- Development of proficiencies with proprietary software
- Reflecting upon own practice and work product outputs via exercises
- Critiquing own outputs and assessments
- Evaluating digital business solutions including software applications

2 – Reflective Practitioner: achieved and demonstrated through:

- Reflecting upon exercises and tasks
- Reflecting upon software applications and appraisals

3 – Responsible Global Citizen: achieved and demonstrated through:

- Identifying digital project management regulatory and ethical issues
- Reflecting upon "best practice" approaches regarding digital business decision-making and strategies
- Exploring international case studies

4 – Lifelong Learning: achieved and demonstrated through:

- Developing a foundational knowledge of proprietary software, digital technologies and analytical techniques
- Developing self- awareness and marketing skills

5 – Effective Communication: achieved and demonstrated through:

- Participation in team-based exercises and tasks
- Online collaborative exercises and presentations
- Development of digital project proposals and plans

6 – Discipline Expertise: achieved through and demonstrated through:

- Awareness of software, analytical and technological solutions relevant to digital business
- Gathering, sharing and consolidating relevant theory via self-study, peer to peer exchanges and discussions, and practical applications

Adopting a research informed approach to learning, assessments and individual and collaborative exercises.

17. **Learning, teaching and assessment methods and strategies**

The programme uses an eclectic mix of teaching methods and assessment strategies. Teaching strategies and assessments methods are based around blended and online interventions involving an innovative range of asynchronous and synchronous activities.

Learning and Teaching

In line with Arden University's "digital first" teaching focus, interventions are enriched and enhanced by the deployment of a range of digital assets including: groupware, discussion fora, social media channels, collaborative tools, webinars and e-presentation software. Teaching is designed to engage and inspire students via a range of innovative activities and retains a "real world" focus via the use of contemporary case studies, industry data sets and engagement with relevant proprietary software related to transformations such as data analytics and cloud technology. Teaching is student led; learners are expected to take ownership of their own learning journeys, reflect upon the teaching

interventions and case materials and act on tutor feedback as they develop an understanding of project management in the digital business environment.

The programme also involves engagement with relevant business software; students are expected to evaluate the contribution of such applications, develop skills in software applications and reflect upon their contribution to business transformations.

Students are required to engage in group working and projects as they navigate module materials, exchange peer to peer feedback and reflect upon study materials, case studies, data sets and formative feedback to broaden their understanding of digital business transformation.

Assessment

The assessment strategy centres on a strong alignment with real world business transformation projects and embraces a range of assessment types including: reflective analyses, portfolio development, work products, narrated presentations, case study reports, risk assessments and proposals for agile implementation.

Students are expected to apply their transferable skills, knowledge, and theory explored in the modules and produce assessments that simultaneously focus on real business situations within engineering. Furthermore, student have to show appropriate levels of critical and diagnostic thinking required to meet the standards of a Level 7 business qualification. The prerequisite for the assessment strategy is that assignments are contextualised into engineering and in line with the assessment type. Focus is also given to provide adequate flexibility to choose possible engineering areas a student may wish to emphasis upon to aid specific engineering career aspirations any student may have.

The programme culminates in the submission of the independent study assessment (Business Transformation Project) that builds upon content examined in the other modules and requires students to develop a transformation project plan within engineering.

Notional Hours (NSH)

Notional Hours refers to the amount of time a student is expected to study to warrant being awarded one academic credit. This is widely accepted as 10 hours of study time for 1 credit, regardless of level, mode, or discipline. The programme envisages to follow the following notional hours pattern:

Level	Scheduled and/or Directed Learning	Independent Learning	Assessment
7	30%	40%	30%

18. Intended programme learning outcomes and the means by which they are achieved and demonstrated		
Learning outcomes	**The means by which these outcomes are achieved**	**The means by which these outcomes are assessed**
At the end of this course you, the student, will be able to: *(No more than 10 programme learning outcomes are permitted per programme.)*		
LO1: Apply and synthesise knowledge and understanding relevant to project management in traditional and agile engineering environments **(Knowledge and understanding)**	Acquisition of knowledge and understanding at all levels is through an integrated learning and teaching pedagogy that includes both asynchronous and synchronous activity. Learning is supported throughout the programme by comprehensive classroom based and online multi-media teaching materials and resources. (LO1-4) Formation of group discussions where students engage with each other to effectively navigate complex (working) relationships with others from any background. (LO1, LO2, LO3) Discussion in class and online forums where students discuss and critically engage with themes emerging from the materials they engage with, following the posing of questions or propositions, case studies or similar by either tutor or students themselves. (LO1-4) Engagement tools with a variety of learning tools and digital software that best meet Student learning styles, overall objectives, and personal circumstances. (LO2, LO3) Independent and directed student study, supported throughout by comprehensive online multi-media teaching materials and resources accesses through our VLE. (LO1-4)	Knowledge and understanding are assessed through in-module assessments of portfolio submissions, presentations, groupwork, and case study report-based assignments. Formative assessments are the precursor to the summative assessments. Appropriate and diverse formative assessments are provided for students and are communicated to them via a clear overview to be found in the assessment brief for each module.
LO2: Critically analyse the context in which an organisation operates, and understand the impact that this may have on engineering management activities **(Knowledge and understanding)**		
LO3: Demonstrate a critical understanding of current thinking and research in a range of strategic management topics relevant to engineering projects and activities **(Knowledge and understanding)**		
LO4: Critically contextualise the role of data, analytics and decision making in the management of engineering projects **(Knowledge and understanding)**		
LO5: Apply and where appropriate synthesise models and theories to meet the needs of a range of	Intellectual skills are developed throughout the programme by the methods and strategies outlined in LO1-4. Intellectual development is further	Intellectual skills are assessed through a combination of in-course formative

situations of different complexity, with the outcome of giving high quality effective and realistic advice **(Intellectual skills)**	encouraged via formative assessment tasks including set briefs, in-module activities, case studies, self-initiated briefs, and discussion with tutors and peers (in class and online forums/debates). Specific modules support the development of quantitative and qualitative analysis, and the development of criticality and self-reflective skills. In addition, the student's thinking skills will be evident a summative assessment process which requires and rewards learners for the demonstration of creative thinking and problem solving, analysis, judgement and self-reflection in the development of contextually relevant solutions, and a willingness to explore and engage with a range of media. Throughout, the learner is encouraged to develop intellectual skills further by undertaking further independent study and research	exercises and summative assignments, including the submission of portfolios, self-reflective evidence, statistical analyses, qualitative judgements, and research reports.
LO6: Undertake research on a topic relevant to engineering management and report the research with appropriate recommendations **(Intellectual skills)**		
LO7: Develop leadership and team working skills relevant to the engineering management environment **(Practical skills)**	Practical and professional skills are employed in the production of solutions to real life situations developed through set briefs, exercises and practical activities. The important modern-day skills of managing projects, working within differing organisational and national cultures are provided by specific modules, as are specific inputs with an emphasis upon practical functional decision-making skills related to market planning and strategy, market intelligence, stakeholder inputs and communications; managing others; and managing knowledge. Practical skills are further developed and integrated through a series of in-class and online activities and projects intended to test skills acquired. Group forums provide opportunities to discuss ideas, informal peer assessment, progress, the work of others and the strengths and weakness in the work presented. Activities are provided so that students can work independently to consolidate their knowledge and grasp of practical skills. The in-course activities and assessment processes emphasise the practical differences in management skills required in differing contexts.	To support the development of practical skills students must supply worked materials and evidence in support of their assignments. Critical reasoning, good presentation and sound evidence trails in all assignments are rewarded. Assessment briefs include a variety of commercial and geographical contextual settings. Students receive feedback on all activities and assignments which includes practical examples for improvement in the application of theory to practice helping them improve both aspects of their skill base.
LO8: Identify practical and ethically sound solutions to theoretical and practical management related problems, thereby demonstrating praxis **(Practical skills)**		
LO9: Undertake effective communication and presentation skills using digital tools and techniques consummate with a management position **(Practical skills)**		

18. Summary of modules and mapped programme learning outcomes

List modules in order of delivery

Level	Module title and Code	Module type and Credits	Pinned Modules	LO 1	LO 2	LO 3	LO 4	LO 5	LO 6	LO 7	LO 8	LO 9	GA1	GA2	GA3	GA4	GA5	GA6
7	Management of Traditional Engineering Projects* (PRM7011)	***Compulsory 20 Credits***	**Pi**	x		x		x			x	x	x					
7	Agile Methodologies in the Business Environment (PRM7010)	***Compulsory 20 Credits***	**Pr1**	x		x		x		x		x	x					x
7	Competitive Strategy within Engineering Management* (BUS7028)	***Compulsory 20 Credits***	**Pi**		x	x		x		x		x				x		
7	Developing People, Leadership and Capabilities* (PRM7009)	***Compulsory 20 Credits***	**Pr1**		x	x				x		x		x				
7	Introduction to Supply Chain Management (SCM7001)	***Compulsory 20 Credits***	**Pr2**			x		x							x			
7	Analysing big data (BUS7017)	***Compulsory 20 Credits***	**Pr2**				x										x	x
7	Engineering Transformation Project (PRM7012)	***Compulsory 60 Credits***	**N/A**	x	x				x		x				x	x	x	

Master's (MA/MSc/MBA)

To be awarded the Masters, students must complete a total of 180 credits at Level 7 including 60 credits from the final project/dissertation.

Master's Top-Up

Master's top-up programmes must include 60 credits from the final project/dissertation.

PG Cert

To be awarded the PG Cert in Engineering Management students must successfully complete 60 credits at Level 7 ***(specified modules as *).***

LO for this award are LO1; LO2; LO3; LO5; LO7: LO8; LO9

PG Diploma
To be awarded the PG Dip in Engineering Management students must successfully complete all modules except the final project
Total minimum of 120 credits at Level 7.

Appendix 1 Full QAA mapping

	Management of Traditional Engineering Projects	*Developing People, Leadership and Capabilities*	*Competitive Strategy within Engineering Management*	*Introduction to Supply Chain Management*	*Analysing big data*	*Agile Methodologies in the Business Environment*	*Engineering Transformation Project*
Markets	*X*		*X*				*X*
Marketing and sales							
Customers and stakeholders	*X*	*X*				*X*	
Finance	*X*						*X*
People	*X*	*X*				*X*	
Operations	*X*		*X*	*X*			*X*
Information systems and BI			*X*	*X*	*X*		
Communications		*X*			*X*		
Digital business				*X*	*X*		
Business innovation				*X*	*X*		
Globalisation			*X*	*X*			
Strategic management	*X*		*X*				
Leadership and management of people within organisations		*X*				*X*	

QAA (2015) Section 3.12: "Within the broad framework of organisations, their external context and management. Graduates will gain knowledge and development in most of the areas" In line with the QAA generalist programme requirements most of the areas above have been matched.