UNIVERSITY OF LEICESTER

Programme Specification (Postgraduate)
For students entering in 2020/21
Date amended January 2020

1. Programme Title(s):

Postgraduate Certificate - Quarry Management and Operations (Company specific)

2. Awarding body or institution:

University of Leicester

3. a) Mode of study

Part-time

b) Type of study

Distance Learning

4. Registration periods:

The normal period of registration is 12 months

The maximum period of registration is 28 months

5. Typical entry requirements:

BSc degree from a UK University or an equivalent qualification, or APL/APEL equivalence to graduate skill set. Experience of the extractive industry is required and a current professional role in which course learning outcomes can be implemented and documented

Satisfy the University's English Language requirements.

6. Accreditation of Prior Learning:

N/A

7. Programme aims:

The programme aims to provide graduate level employees of the partner companies with higher level knowledge and understanding of the scientific, technological, managerial and industrial context of the bulk extractive industries. It is particularly aimed at the needs and legal responsibilities of existing and aspiring Quarry Managers, technical specialists and general managers employed by LafargeHolcim, but can be extended to other partner companies.

It aims to meet the needs of the partner companies as part of their people development strategy while operating within the University's rigorous academic standards and UK Qualification Framework. In addition it also operates within a legal context governed by UK and European Quarry legislation.

The course will be a fundamental tool in building capacity within the companies to achieve improved individual performance in the job role, career development and support succession planning. The programme is intended to build accredited high level operationally aware Managers within each company's talent pool as a means of driving individual and corporate performance.

By the end of the programme, students will have acquired a thorough high-level knowledge of business management and engineering technologies involved within the Partner company businesses, enhanced transferable skills such as communication, self-management, team working

and planning and developing strategic decision-making within the industry and business context. They will be able to reflect on their learning and apply it to their individual work context in order to improve performance and effectiveness.

8. Reference points used to inform the programme specification:

- PDR report (November 2013)
- University Learning Strategy
- University Employability Strategy
- University of Leicester Academic Audit Evaluation
- Student feedback (2014)
- First Destination Survey
- External Examiner's Reports
- Quarry Regulations specifically The Safety, Health and Welfare at Work (Quarries) Regulations, 2008, Safety, Health and Welfare at Work Act, 2005 and its General Application Regulations 2007.
- Company talent development strategy and aims.

9. Programme Outcomes:

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
(a) Discipline specific knowledge and competencies		
(i) Mastery of an appropriate body of knowledge		
Define the principal drivers and content of Health and Safety legislation and practice and relate it to extraction processes. Define comminution theory and describe crusher technology and set-up. Identify the key elements of an effective maintenance system, and describe how to implement and manage it. Define the importance of sustainability in aggregates business strategy. Identify methods to maximise the benefits of stakeholder engagement, Describe the basic financial accounting tools needed to manage the aggregate business at site and national level, and define the principles underlying the company's marketing strategies. Describe the key elements in dealing with the planning systems as they relate to minerals. Explain how all aspects of the business must be considered when planning or reviewing the performance of an aggregates operation.	Distance learning materials, directed reading, electronic resources including technical websites delivered via Blackboard; residential presentations, case studies, fieldwork, on-line Self Assessed Questions, group and independent problem solving, site-based and classroom-based exercises and independent research.	Assessed on-line discussion forum, short answer examination and a technical report on a large case study. Short answer examination. Short answer examination, review of site maintenance system. Assessed on-line discussion forum, short answer examination, and a report. Short answer examination and a technical report on a large case study. Assessed on-line discussion forum.
(ii) Understanding and application of key concepts and techniques		
Describe the influence of geology, geological structure and geotechnical	Distance learning materials, directed reading, electronic resources including technical	Assessed on-line discussion forum, short answer examination and a technical report on a large case

assessments on safety and productivity. Identify the key factors in calculation and management of reserves. Define the principals of blasting practice and use them to calculate a blast design and vibration prediction using appropriate spreadsheets Describe the principals of mobile plant operations and be able to estimate and measure productivity. Describe the different elements of quarry planning and design and demonstrate how they fit together to produce a successful quarry operation. Describe the technology, operation and set-up of crushers, screens, conveyors, feeders, washing plant and sand plant. Describe the nature and classification of aggregate materials, together with the required technical properties, and be aware of current developments.	websites delivered via Blackboard; residential presentations, case studies, fieldwork, on-line Self Assessed Questions, group and independent problem solving, site-based and classroom-based exercises and independent research.	study. Short answer examination and a technical report on a large case study. Assessed on-line discussion forum, short answer examination, technical report assignment and a technical report on a large case study. Assessed on-line discussion forum, short answer examination, PowerPoint presentation and a technical report on a large case study. Short answer examination and a technical report on a large case study. Assessed on-line discussion forum, short answer examination, PowerPoint presentation and a technical report on a large case study. Short answer examination. Assessed on-line discussion forum, short answer examination, short PowerPoint presentation. Assessed on-line discussion forum, short answer examination.
(iii) Critical analysis of key issues		
Define the key issues in the sustainable management of water in a quarry. Describe the advantages and disadvantages of recycled and secondary aggregates. Assess the efficiency of aggregate processing plant design, and be able to	Distance learning materials, directed reading, electronic resources including technical websites delivered via Blackboard; residential presentations, case studies, fieldwork, on-line Self Assessed Questions, group and independent problem solving, site-based and classroom-based exercises and independent	Short answer examination and a short PowerPoint presentation. Classroom assignment, followed by short presentation.

recommend improvements. Define Key Performance Indicators and explain how they aid operational management	research.	Assessed on-line discussion forum and technical report for plant review.
(iv) Clear and concise presentation of material		
Produce professional standard Technical Reports on assignments such as Geotechnical Face Appraisals. Prepare PowerPoint presentations which are fit for purpose.	Clear instructions given and examples provided. Web-based resources used. Extensive feedback given for early assessed coursework submissions.	A number of summative Technical Reports, including a large case study. A number of assessed PowerPoint presentations designed for delivery to an audience, and presentation of conclusions from residential coursework to tutors and students.
(v) Critical appraisal of evidence with appropriate insight		
Debate quarrying ideas. Construct and test scientific hypotheses and analyse using data gathered on site.	Distance learning materials and web-based resources. Extensive use of group problem solving exercises at residential, both site-based and classroom-based.	Assessed on-line discussion forums and a number of open discussions at the residential, based on conclusions from residential coursework
(vi) Other discipline specific competencies		
Develop responsibility for the working quarry environment. Describe risks for hazard assessment for quarry-based work. Identify safe practice.	Distance learning materials and web-based resources. Company specific guidelines are issued, with reminders on a regular basis.	Compliance with all company Health & Safety guidelines. Site-based problem solving exercises which require assessment of risks and delivery of safe systems of work.
(b) Transferable skills		
(i) Oral communication		
Present quarrying data and theories using appropriate methods.	Residential-based presentations and discussion groups, with feedback given.	Oral presentations at residential.
(ii) Written communication		
Communicate effectively and appropriately in Technical Reports and projects Use of PowerPoint presentations with the notes facility to convey key ideas, conclusions and recommendations	Clear instructions given and examples provided. Web-based resources used. Extensive feedback given for early assessed coursework submissions.	Assessed Technical Reports and project based on extensive case study. Assessed PowerPoint presentations, including notes.
(iii) Information technology		
Use spreadsheets or other software to enter, manipulate and display numerical data. Use appropriate software	Subject-embedded exercises. Instructions given at residentials. Web-based tutorials used, and	Assessed Technical Reports. Assessed Technical Reports and

packages to prepare written reports and presentations (e.g. Word, PowerPoint)	examples and guidelines provided.	PowerPoint presentations.
(iv) Numeracy		
Select appropriate numerical, statistical and graphical methods to explain and interpret geological concepts.	Instruction given at residential.	Assessed Technical Reports and PowerPoint presentations.
(v) Team working		
Organize and work effectively within a team, and evaluate performance of self and of team.	Residential site-based and classroom-based assignments.	Group presentations of conclusions and recommendations of assignments
(vi) Problem solving		
Solve different design and operational problems relating to the extraction and processing of aggregates.	Distance learning material, residential classes, group work, and individual projects.	Residential presentations, Technical Reports and Final Case Study Project
(vii) Information handling		
Effectively search for, gather and utilise information relevant to aggregate production problem solving.	Distance learning material, residential classes, group work, and individual projects.	Discussion Forums, Technical Reports and PowerPoint presentations
(viii) Skills for lifelong learning		
Demonstrate intellectual independence. Develop and implement a personal plan of work to meet assignment deadlines. Identify targets for personal, career and academic development.	Independent assignments and presentations requiring assessment of Distance Learning information and wider resources. Clear guidance given throughout programme, with deadlines spaced throughout. Informal tutorials with each student allow areas for development to be identified	Assessed independent work, including Discussion Forums and Final Case Study project. Assessed coursework. Assessed coursework

10. Progression points:
Not Applicable

11. Special features:
There are a number of special features involved in a multi-national, blended learning, joint taught and assessed, specialist course of this type.

The course provides the opportunity for students to combine their learning with their professional job role, embedding learning in these activities and using real workplace issues as a vehicle for their learning and study. This aligned study pathway ensures a rapid 'return' on the investment in the student and visible and measureable improvement to the individual and partner companies.

Company aims and objectives for the programme are met by the use of many real extractive industry operations as 'field teaching facilities', residentials for corporate and specialist network development, and aligned assessment methods to the company environment

12. Indications of programme quality:

It has received excellent reports from external examiners in the areas of teaching and learning, assessment and student support.

The current partner company is one of the world's largest aggregate companies. The programme has a Steering Committee which includes academic members of the University of Leicester, together with senior training and operational managers from the partner company, reflecting the collaborative nature of the programmes. Many regional and national managers are involved in delivering or coaching aspects of the programme. They undertake regular reviews of the course content and delivery. Their continued sponsorship is clear evidence of the course's value and credibility.

13. Scheme of Assessment

Award is Postgraduate Certificate – Quarry Management and Operations

This programme follows the Regulations for Taught Postgraduate programmes as published in the Senate Regulation 6.

This programme follows the 60 credit PGCert route.

14. Resits

This programme follows the Regulations for Taught Postgraduate programmes as published in the Senate Regulation 6.

15. Additional Information

None.

16. External Examiners

The details of the External Examiner(s) for this programme and the most recent External Examiners' reports can be found here.

Appendix 1: Programme structure (programme regulations)

The programme comprises three modules of 20 credits each, each module being delivered over a 16 week period. Each module starts with a five week study period, during which they study the resource material, engage with on-line discussion topics and attempt a number of self-assessed questions. This is followed by a six day residential comprising a mixture of seminars, site visits and problem solving exercises, culminating in a short-answer examination. The module concludes with a ten week period of further study and completion of assessed assignments/projects.

Module 1	GL7061 Aggregate Quarry Operations (20 credits)
Module 2	GL7062 Aggregate Processing Operations (20 credits)
Module 3	GL7063 Aggregate Business and Sustainable Management (20 credits)

Appendix 2: Module Specifications

See module specification database http://www.le.ac.uk/sas/courses/documentation