



الكلية الدولية للهندسة والإدارة

International College of
Engineering & Management

PROGRAMME HANDBOOK



MECHANICAL ENGINEERING (WELL ENGINEERING)

ACADEMIC YEAR
(2023 / 2024)

Please read this Programme Handbook in conjunction with the College's **Student Handbook**.

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Welcome to the Programme

Making the decision to go to College or University to continue your education and then choosing which College or University and which course to study will change your life. Well done for considering this course and College. This course includes professional, strong theoretical and practical skills. Graduates are well equipped for an excellent career in the energy and engineering industry. The course includes an optional industrial placement opportunity. New technology is continually emerging, creating an industry that is full of both challenges and opportunity. This handbook is intended to be a source of information on the academic and administrative aspects of your course. You will find information on the course you will be taking together with examination and assessment regulations, as well as other rules and regulations of the college/university. Please read this handbook carefully and make sure that you understand what is required of you. If you find that there are points you do not understand or wish to discuss further, do not hesitate to contact the head of your department. We value your participation and your feedback. We hope you will contribute to the department, whilst making full use of the resources at your disposal to develop your potential.

It is worth keeping this handbook as it contains information you may wish to refer to throughout the course.

AP. Dr. Girma T. Chala

Head of the Department

ICEM Mission, Vision and Values

Vision

To be an internationally recognized institution of higher and professional education, research and community engagement.

Mission

To provide high quality education that prepares students in the areas of engineering and management for national and international markets through innovation and research.

Values

1. Excellence.
2. Integrity.
3. Professionalism.
4. Equality.
5. Transparency.

Graduate Attributes

1. Knowledge of engineering and management disciplines

Graduates have comprehensive knowledge and understanding of their field of specialization.

2. Critical, Analytical and Creative thinking

Graduates demonstrate an ability to think critically and solve problems innovatively.

3. Leadership and teamwork

Graduates can play constructive leadership roles in their careers and contribute in a collaborative manner to achieve common goals.

4. Communication skills

Graduates convey ideas and information effectively to a range of audiences for a variety of purposes.

5. Ethics and Professionalism

Graduates use their skills to act in a professional and ethical way and are aware of the importance of ethical standards on personal and social levels.

6. Lifelong Learning, Research and Innovation

Graduates have a commitment to continue research based inspired independent learning.

7. Global competitiveness

Graduates have skills that help them to be a competent in the global job market and to be productive member of their work teams and society.

8. Technological Literacy

Graduates are able to locate, manage, integrate and convey information using the appropriate resources, tools and strategies.

1. General Information

1.1. Programme Learning Outcomes

A. Knowledge and Understanding

A1. Demonstrate knowledge of the main concepts and principles that underpin Well Engineering and Technology such as to enable a career in either drilling operations or the drilling service industry;

A2. Understand the fundamental concepts of engineering to enable alternative methods to solve engineering problems;

A3. Demonstrate the capability for independent and lifelong learning in a professional career

B. Subject-specific skills

B1. Apply practical skills and techniques appropriate to working as a professional in well engineering (mechanical engineering).

B2. Prepare reports relating to specific practical mechanical and well engineering problems

B3. Apply design methodology that integrates mechanical engineering within a well engineering situation.

B4. Engineer solutions to problems in drilling operations which demonstrate appropriate analytical skills

B5. Use information and communication technology in application to mechanical (well) engineering including the use of computer aided design and simulation softwares.

C. Thinking Skills

C1. Select, collate, interpret and evaluate information from a range of sources

C2. Interpret and analyse qualitative and quantitative data relating to complex mechanical and well engineering problems

C3. Conduct and present individual research projects

C4. Formulate and produce creative and innovative technical solutions to problems by applying engineering principles to real situations

C5. Show originality in the development of design solutions, and to have flexibility in progression through the design process

C6. Communicate in an appropriate form (e.g. oral, written, drawing) the results of research and investigation

D. Other skills relevant to employability and personal development

D1. Research and evaluate a wide range of sources of information from text books, journals, the media, CD-ROM, newspapers, internet, technical indexes, catalogues, Standards

D2. Complete reports in a succinct and coherent format

D3. Communicate ideas

D4. Demonstrate Presentation skills, IT skills, high level analytical skills, written and oral English language skills

D5. Work independently and within a team

D6. Manage time to meet deadlines over both short and long time periods

1.2. Programme Team

The programme team consists of the following:

No	Staff Name	Role	Room	Email	Phone
1	AP. Dr. Girma T. Chala	Programme leader	M 23	girma@icem.edu.om	24512041
2	Mr. Alex Bernard	Module Tutor	M 24	alex@icem.edu.om	24512043
3	Mr. Asif Zamir	Module Tutor	M 24	asif@icem.edu.om	24512043
4	Dr. Nasir Khan	Module Tutor	M 24		24512043
5	Mr. Al Haitham Al Kalbani	Lab Technician	E 04	alhaitham@icem.edu.om	24512043

1.3. Expertise of staff

AP. Dr. Girma T. Chala

Qualifications:

A chartered engineer and member of the Institution of Mechanical Engineers (IMechE), UK.

B.Sc. degree in mechanical engineering from Addis Ababa University, Ethiopia, in 2006.

M.Sc. and PhD degrees in Mechanical Engineering from Universiti Teknologi PETRONAS, Malaysia, in 2009 and 2016, respectively.

Experiences: More than 10 years of teaching experience at tertiary level.

Research Interest: Flow assurance of waxy crude oil, rheology, thermo-fluids, renewable energy, IC engines, motorsport engineering, mathematical modelling and simulations, and computational fluid dynamics.

Alex Bernard

Qualifications:

Bachelor of Technology in Mechanical Engineering.

Master of Technology in Production Engineering from University of Calicut, India.

Post Graduate Diploma in Business Management from Symbiosis Management School.

Currently undergoing PhD in Human factors Engineering for Manual Material Handling operations at National Institute of Technology Calicut, India.

Experiences: 20 years of higher education teaching experience and one year in industry.

Research Interests: CAD/CAM, Engineering Design, Mechanics of Materials, Ergonomics and Manufacturing Technology

Asif Zamir

Qualifications:

MSc degree in Petroleum Engineering from King Saud University (Saudi Arabia).

B.sc degree in Petroleum Engineering from BUIITEMS Pakistan.

MBA degree from virtual university of Pakistan.

Experience: 11 years as lecturer and researcher in well reputable educational institutions and oil and gas industry.

Research Interests: Well control, drilling fluids & Cementing, directional drilling, drilling hydraulics, casing design, rig design, drill string & BHA design, pore pressure and fracture pressure estimation, principles of well design & Well engineering courses for UG & PG students.

Dr. Nasir Khan

B.Sc. (Chemical Engineering), University of Engineering and Technology, Peshawar, Pakistan in 2010.

M.Sc. (Oil & Gas Well Engineering) from School of Petroleum Engineering, China University of Petroleum (East China), China in 2015.

Ph.D. degree in Oil-Gas field development Engineering from School of Petroleum Engineering, China University of Petroleum (East China), China in 2018.

Experiences: 6 years as lecturer and researcher in well reputable educational institutions.

Research Interest: Formation damage mitigation, design of environment-friendly drilling fluid, machine learning applications in petroleum, particularly drilling engineering and production engineering, heavy oil viscosity reduction using ultrasonic waves/ microwaves.

Al Haitham Al Kalbani

Qualifications:

Bachelor's Degree in mechanical (Well) Engineering

Currently, pursuing his education in MSc Mechanical Engineering and Management at University of Glasgow (UK).

Experience: One year of experience as lecture/lab technician.

Research Interests: Nanotechnology in drilling fluids, Oil field

Won the Best dissertation award of 2021 and was the first of Class of Engineering of 2021.

1.4. Communication

The college expects students to use their college email address and check regularly for messages from staff. Students sending email messages from other addresses risk being filtered out as potential spam and discarded unread. Students are automatically allocated UCLan as an email address. They can use their email and password to login to e-mail and Blackboard account.

1.5. External Examiner

An External Examiner is appointed to your programme who helps to ensure that the standards of your programme are comparable to those provided at other higher education institutions in the UK. The External Examiner is responsible for ensuring that standards and comparability are maintained, assuring fairness in the application and implementation of assessment processes and procedures in accordance with the approved programme/course regulations, and for judging whether students have fulfilled the learning outcomes of courses to a satisfactory standard.

1.6. Semester Timetable

A timetable will be available at the beginning of each academic semester, through the Admission and Registration Department. It will be published on the Student Portal, noticeboards and the college website.

1.7. Attendance Requirements

You are required to attend all timetabled learning activities for each module. Notification of illness or exceptional requests for leave of absence must be made to your Module Tutor.

1.8. Class Attendance Policy

All students are expected to attend all regularly scheduled classes.

1. Students are expected to participate fully in their programme of study, engage actively with learning opportunities and take responsibility for their learning.
2. Students are expected to attend and participate in all scheduled sessions and activities.
3. Attendance at scheduled classes is monitored and recorded through the SIS system.
4. Persistent failure of a student to attend classes may result in modules failure or

termination of registration. Students are liable for tuition fee debts for periods during which they were registered.

5. All modules require a specific attendance level in order to meet the award requirements which are described in the Programme Specification.
6. Students are expected to notify Module Tutors of absence in advance or as soon as possible following absence.
7. Students get email notifications on a daily basis.

1.8.1. Students Absences

1. The first warning will be sent to student through SIS system to his/her email if he/she is absent from class for more than 10% of the total lecture hours. The Personal Tutor will also be notified by email.
2. The second warning will be sent to student via email if he/she misses more than 20% of the module total lecture hours. The Personal Tutor, HOD and Counselor will be also notified.
3. Parents/guardians and Sponsors may be provided with a report about their student's attendance upon their request.
4. In the event the student misses 25% of the module total lecture hours, the student should submit a request to the module tutor allowing him to sit the exam and explaining the reason for the absences. The request should be supported by evidence. The module tutor and the head of department may accept or reject the request based on the reasons and supporting evidence.
5. In the event the student misses more than 50% of the module total lecture hours without excuses, the student will not be allowed to sit the final exam or to submit the coursework which may lead to module failure. She/ He must spare the module.
6. The module tutor shall not give substitute assessments to students who miss classes.

1.8.2. Excused Absences

Excused absence shall be filed by the students within the first 2 days of reporting back and submit the same to the respective HoD who will submit it to the responsible department (Admission and Registration) for further consideration:

Absences based on the following circumstances will be considered as valid excuse by the responsible department:

1. **Medical Excuse:** A student may be excused from his/her absence provided that a signed and stamped medical certificate is presented. The medical certificate must state the nature of the visit to the hospital/clinic, including the number of days of leave recommended.
2. **Emergency Excuse.** A student may be excused from his/her absence provided sufficient evidence/document is presented in cases of emergencies such as family emergency, deaths in the family, any accidents incurred by the student or family member and any other circumstances as approved by the Office of the Assistant Dean for Student Affairs (ADSAR).

1.8 Expected hours of study

A standard module size is 20 credits and equals 200 notional learning hours. Students can typically expect 4 hours of class contact per module per week which equates to approximately 60 hours contact per module with the remainder of the 200 learning hours taken up with self-study in the form of research, revision and assessment.

1.9 Classification of Awards

All higher education programmes offered at ICEM are designed to lead to Bachelors (Honours) degrees in the following disciplines. The duration of study for this program is four years. To get a degree with honours you must pass the equivalent of 24 standard modules - six at each level. However, if you decide to leave the College at some point before completing the four years, and you have successfully completed all the modules, you can be awarded:

1. At the end of the first year a Certificate of Higher Education in Facilities Management.
2. At the end of the second year a Diploma of Higher Education in Facilities Management.
3. At the end of the third year an Advanced Diploma in Facilities Management.

Classification of award is based on APM (Average Percentage Mark) calculation.

APM from 70 - 100%	First Class Honours
APM from 60 - 69.99%	Upper Second Class Honours
APM from 50 - 59.99%	Lower Second Class Honours
APM from 40 - 49.99%	Third Class Honours

1.10 Industrial Placement

Developing industrial skills is an important part of a student's lifetime at the College. Graduate recruiters look for evidence of what skills students have developed and how they can apply them to the world of work. Students have the option of taking two industry-based modules, namely the Industrial Experience Module (OM1040) and the Industrial Placement Module (OM3000/Eidaad). Students who successfully complete Year 2 are eligible to take the optional eight-weeks Industrial Experience Module (OM1040) during the summer break whereas students can take the optional one-year industrial placement module (OM3000/Eidaad) on completion of Year 3.

The Industrial Placement opportunity is designed to give students the opportunity to gain further practical experience in an industrial and commercial environment. The College has close contact with local companies in different industries. If you wish to take this opportunity, you may contact your Personal Tutor/ Course Leader for further details.

2. Student Support, Guidance and Conduct

2.1. Student Support and Guidance

ICEM students can receive full support and guidance from a variety of resources, including their module tutor, Personal Tutor/Academic Advisor, Head of Departments and the Student Support Services Department.

2.1.1. Module Tutor and Course Leader

For module specific queries, students should always seek clarification from a member of the respective module teaching staff (e.g., Module Tutor) in the first instance. Module Tutors are much more likely to have detailed knowledge of the issues in question and can offer professional advice immediately.

The head of the department is responsible for ensuring that students have fulfilled the learning outcomes of programme to a satisfactory standard and have received academic and non-academic support when they need them.

2.1.2. Personal Tutor/Academic Advisor

The Personal Tutor/Academic Advisor System is an initiative set in place to help you not only settle into life in Higher Education but also to better understand what is expected from you as a student at the College. Every student is given a Personal Tutor/Academic Advisor from within the department during the induction period. Your Personal Tutor/Academic Advisor will be your first point of contact if you wish to discuss any problems or issues (academic or not) which you are faced with while at the College.

2.1.3. Student Support Services Department

The Student Support Services Department provides academic and non-academic support for students and is located on the ground floor of the main building which is open from 08.00am until 04.00pm Sunday to Wednesday, 08:00am until 03:00pm on Thursdays.

The Student Support Services Department oversees various activities organized within the College working closely with other departments, such as the college clinic, the Student Counsellor Office and Career Guidance Department to achieve both academic and psychological stability. By providing assistance and guidance, the SSSD helps students become active members of the college community and develop their interpersonal skills.

Also, to provide students with the practical skills and professionalism required by the labor market to be available after graduation from the College.

2.1.4. Student Counsellor

In some cases, students may require specialized counselling to ensure they get the most of their time at ICEM. The SSSD is committed to offering the necessary support and providing a safe space for students to explore and address any concerns they may have. These concerns might include:

- Relationship or family problems
- Anxiety or depression
- Fear of failure

The Student Counsellor understands that instant solutions may not always be possible, but they are here to provide a listening ear and assist in raising your self-awareness and exploring various possibilities.

2.1.5. Study Support

A library containing copies of relevant books, periodicals and non-book teaching and learning materials is available. For registered students, all the module texts and recommended reading material listed in the module bibliographies are available together with copies of relevant UCLan publications.

ICEM has a cooperation with Sultan Qaboos University Main Library. Students are allowed to visit the library and use the resources inside the library, but they are not allowed to borrow books from SQU Main Library.

Registered students are also entitled to access the on-line library services provided by the affiliate university. This access enables students to view the library catalogue and use the on-line journal materials which are available to all university students.

Click here for [UCLan e-Library](#)

2.1.6. IT Support

The College has fully equipped information technology suites with full Internet access. The Department of Information Technology collaborates closely with the other departments to provide a wide range of supportive services to students in all activities, whether on or off campus.

The department offers a variety of technical support services, including account creation, password changes and resets, software installation, network problem resolution, printer and lab support, and more.

2.2. Student Voice

You can play an important part in the process of improving the quality of your student experience through the feedback you give.

Different communication channels are developed to support you in voicing your opinion, provide on-going advice and support, and encourage your involvement in all feedback opportunities. You will be requested to complete various questionnaires throughout the academic year for all services provided, including your feedback on academic staff.

2.2.1. Student Representatives

The representatives are students who are elected by their fellow students in order to voice any issues concerning the course. They represent the students of their programme at the Student Staff Liaison Committee meetings which normally take place once each semester. One student from each year of study, from each programme will be elected for this role.

Student Representatives should help students - by making sure that their suggestions, observations, views, opinions and concerns reach College staff who can help. Also, they should help staff by informing students about actions, decisions and plans that will affect students and their programme.

2.2.2. Student Staff Liaison Committee Meetings (SSLC)

The purpose of SSLC meetings is to provide the opportunity for Student Course Representatives to give feedback to staff about the course, the overall student experience and to inform developments which will improve future modules/programmes. These meetings are normally scheduled once per semester. The minutes of the meetings will be read by the College Management Team and sent to UClan. At least once in the Academic Year, a member of staff from UClan will attend the SSLC meeting for your programme.

2.2.3. Students Advisory Council

The Students Advisory Council is a student-led, democratic council and exists to make your student experience better for you while studying at the College. Students shall elect a group among them at the beginning of the academic year. The student group shall elect a chair and a vice-chair among its members. The SAC shall perform the following:

1. Identify the needs of students and pinpoint student issues.
2. Voice the views of those represented.
3. Take up issues with College staff and report outcomes back to students.
4. Be familiar with relevant College policies, rules and regulations.
5. Propose activities during academic year with the budget required.

2.2.4. Feedback through Personal Tutors/ Academic Advisor and Module Tutors

Your Module Tutor and Personal Tutor/ Academic Advisor will listen to your problem and then advise you as best as they can on how to resolve it. As they are academic experts, they might not be able to assist you with all your personal matters but will definitely assist you in setting up an appointment with someone else who is better equipped to help you, such as Student Support Services officers, Student Counsellor etc.

For any module related queries, students can discuss directly with module tutors. This can ensure immediate attention to students' concerns and actions can be taken where necessary.

2.2.5. Student Feedback

You can play an important part in the process of improving the quality of this programme through the feedback you give. Module Evaluation Questionnaires and the Student Satisfaction Survey are tools for gathering feedback. We would encourage you to do so, it is only with your assistance that we can 'improve the margins' and improve student life.

2.2.6. Student Conduct

You will be expected to abide by the Code of Conduct for Students in the College. The College expects you to behave in a respectful manner demonstrated by using appropriate language in class and switching mobile phones / other devices off prior to attending classes.

You must show respect for the College site and College property. You must behave in a way that will not cause damage to the College site or to college property and you should help to keep the College clean and tidy at all times. If you see any problems concerning the site or College property, you should report these to a member of the College staff. If your behaviour is considered unacceptable, any member of the academic staff is able to issue an informal oral warning and the College will support staff by invoking formal procedures where necessary. You can read more about college expectations in the regulations for the Conduct of Students.

2.3. Students' Violation

The following cases are considered as student violations that require disciplinary measures against their violators:

1. cheating in exams or attempting to cheat or breach the order of the exam and compromising the scientific faith.
2. disorder during the lectures and practical lessons
3. try to disrupt extra- curricular activities and events of the College.
4. assaulting any member of the College community or threatening him or showing disrespect towards him.
5. give incorrect information or statements in the official papers, or falsification of official documents relating to the College, or obtaining it illegally.
6. The penalties start from forewarning up to the final disciplinary displacement from the College. (Refer to Student Handbook).

3. Programme Structure – B.Eng. Mechanical Engineering (Well Engineering)

3.1. Course Information

Year 1 (full time) is referred to as Level 4.

Year 2 (full time) is referred to as Level 5.

Year 3 (full time) is referred to as Level 5 & 6.

Year 4 (full time) is referred to as Level 6.

To get a degree with Honours you must pass the equivalent of 24 standard modules. Full time students normally study 6 modules per year - some modules may last all year, whilst other modules may only last for one semester.

Each module is a self-contained block of learning with defined aims, learning outcomes and assessment. A standard module is worth 20 credits. It equates to the learning activity expected from one sixth of a full-time undergraduate year. The module code and title can be seen in the table below and the Module Information Package (MIP) for these modules can be found on Blackboard.

Year 1 (ICEM)	Year 2 (ICEM)
OM1040: Industrial Experience (Optional) OM1041: Fundamentals of Drilling Equipment OM1042: Fundamentals of Drilling Operations OM1043: Engineering Science OM1044: Computer Aided Drafting and Design OM1053: Mathematics A OM1055: Personal and Professional Development1	OM2046: Well Engineering Operations OM2047: Well Engineering Management OM2048: Mechanics of Solids and Fluids OM2049: Metallurgy and Manufacturing Science OM2053: Mathematics B OM2094: Professional Development and Entrepreneurship
Year 3 (ICEM)	Year 4 (ICEM & UCLAN)
OM2043: Engineering Design and CAD/CAM OM2045: Applies Mathematics for Engineers OM2055: Personal and Professional Development 2 OM3047: Design and Analysis of Engineering Systems OM3043: Drilling Technology OM3044: Advanced Drilling Technology	OM3000: Industrial Placement OM3045: Well Design Technology OM3046: Well Testing and Enhanced Oil Recovery MP2721: Operations Management A MP3713: Mechanics and Materials MP3705: Manufacturing Technologies and Sustainable Engineering MP3995: Project

3.2. Module Aims and Assessment Strategy

1. *Industrial Placement (OM 1040)*

Aim: To provide a short period of practical experience and exposure to a work environment with all its social and cultural implications as well as academic and skill requirements. It will give the student an opportunity to consolidate and apply the knowledge and skills learnt and acquired during the early period of the course. It will offer a situation in which the student can make a positive contribution to a host employer. It will also facilitate the personal and professional development of the student.

Assessment strategy: 60% Report, 40% Placement Evaluation by the employer

2. *Fundamentals of Drilling Equipment (OM 1041)*

Aim: To develop students' knowledge in drilling equipment by investigating the areas of power systems, hoisting systems, rotating systems and circulating systems.

Assessment strategy: 50% Coursework, 50% Class Test

3. *Fundamentals of Drilling Operations (OM 1042)*

Aim: To develop student's knowledge in drilling operations by investigating the areas of well control, making holes, securing the well and safety on rig issues.

Assessment strategy: 40% Coursework, 60% Final Examination

4. *Engineering Science (OM 1043)*

Aim: To introduce students to the basic concepts of electrical and mechanical engineering science

Assessment strategy: 40% Coursework, 60% Final Examination

5. *Computer Aided Drafting and Design (OM 1044)*

Aim: To demonstrate to students about engineering drawing and the use of two-dimensional computer aided design tools.

Assessment strategy: 50% Coursework, 50% Coursework

6. *Mathematics A (OM 1053)*

Aim: To develop mathematical skills so that students are able to apply mathematical methods & principals in solving problem from engineering fields.

Assessment strategy: 40% Coursework, 60% Final Examination

7. Personal and Professional Development 1 (OM 1055)

Aim: To enrich the students' learning potential by enhancing their skills, language competence and academic aptitude at the higher education level. Throughout the semester, the students will work on activities that could enhance their study skills, time management, eLearning skills, oral and written communication and secondary research skills.

Assessment strategy: 60% Coursework, 40% Coursework

8. Well Engineering Operations (OM 2046)

Aim: To enable students to develop an overview and understanding of the major aspects of Well Engineering Operations.

Assessment strategy: 40% Coursework, 60% Final Examination

9. Well Engineering Management (OM 2047)

Aim: To introduce the students to the aspects of Managing Drilling Operations, Project Management and HSE Management.

Assessment strategy: 50% Coursework, 50% Final Examination

10. Mechanics of Solids and Fluids (OM 2048)

Aim: To introduce the engineering concepts and principles which will support the requirements of mechanical / well engineering students.

Assessment strategy: 40% Coursework, 60% Final Examination

11. Metallurgy and Manufacturing Science (OM 2049)

Aim: To introduce students to the principles of materials and manufacturing science.

Assessment strategy: 50% Coursework, 50% Final Examination

12. Mathematics B (OM 2053)

Aim: To develop mathematical skills so that students are able to apply mathematical methods & principals in solving problems from engineering fields.

Assessment strategy: 40% Coursework, 60% Final Examination

13. Professional Development and Entrepreneurship (OM 2094)

Aim: To the concepts of entrepreneurship and innovation through conceptualizing business ideas and to gauge them to the world of employment by developing a CV and understanding the recruitment process. This module also aims to build on the students' communication

skills to the level that is appropriate for the standard of the European Framework of Languages.

Assessment strategy: 40% Coursework, 60% Coursework

14. Engineering Design and CAD/CAM (OM 2043)

Aim: To develop an awareness on students to apply the concepts of stress analysis, theories of failure and material science to analyze, design and/or select commonly used machine components

Assessment strategy: 50% Coursework, 50% Coursework

15. Applied Mathematics for Engineers (OM 2045)

Aim: To provide students with the ability to confidently recognize and handle the essential core of mathematical methods for complementary and further study of engineering.

Assessment strategy: 40% Coursework, 60% Final Examination

16. Personal and Professional Development 2 (OM 2055)

Aim: To further strengthen the students' skills in advanced communication, secondary research, leadership and project management. The students will be equipped with essential experience that could enhance their ability to express themselves with clarity and confidence, demonstrate leadership potential and management qualities.

Assessment strategy: 60% Coursework, 40% Examination

17. Design and Analysis of Engineering Systems (OM 3047)

Aim: The application of a systems approach and appropriate mathematical modelling to solve realistic engineering problems in the fields of materials failure, dynamics, fluid mechanics, and control engineering.

Assessment strategy: 40% Coursework, 60% Final Examination

18. Drilling Technology (OM 3043)

Aim: To enable students to develop their knowledge and applications of Drilling Technology

Assessment strategy: 40% Coursework, 60% Final Examination

19. Advanced Drilling Technology (OM 3044)

Aim: To enable students to develop their knowledge and applications of Drilling Technology

Assessment strategy: 40% Coursework, 60% Final Examination

20. Well Design Technology (OM 3045)

Aim: To enable students to develop their knowledge and applications of well-designed techniques.

Assessment strategy: 40% Coursework, 60% Final Examination

21. Well Testing and Enhanced Oil Recovery (OM 3046)

Aim: To enable students to develop their knowledge and applications of well test analysis and enhanced oil recovery techniques.

Assessment strategy: 40% Coursework, 60% Final Examination

22. Operations Management A (MP 2721)

Aim: To enable the student to establish the skills and knowledge required to participate in an operations management team

Assessment strategy: 50% Coursework, 50% Coursework

23. Manufacturing technologies and Sustainable Manufacturing (MP 3705)

Aim: To introduce students to modern manufacturing with four areas of emphasis: manufacturing processes, equipment/control, systems, and design for manufacturing. The course exposes you to integration of engineering and management disciplines for determining manufacturing rate, cost, quality and flexibility.

Pollution prevention initiatives by the government and consumer awareness of "green" products has placed increased pressure on industry to study and evaluate the disposability of their products and manufacturing waste streams. Particularly impacted are machine tool builders and their customers who often generate large quantities of process waste. More attention is turning to such issues as machine-tool energy efficiency, effective use of lubricant and coolant flows, and methods of process waste disposal. Increased emphasis on the environment is causing these issues to assume a more important role in determining competitive position. This module will investigate the environmental consciousness of machine tool systems, and will address three fundamental areas:

1. The development of life cycle analysis techniques that support the development of green products and processes.
2. The design of environmentally conscious machine tool products.
The design of environmentally conscious manufacturing processes.

Assessment strategy: 40% Coursework, 60% Final examination

24. Mechanics and Materials (MP 3713)

Aim: To enable the student to develop enhanced skills and knowledge in Mechanics and Materials

Assessment strategy: 50% Coursework, 50% Final Examination

25. Project (MP 3995)

Aims: To specify, plan, carry out and report a programme of work (project) leading to the investigation/design of a product/system/service incorporating some of the following activities:

investigation, analysis, design, evaluation, test, manufacture, with some aspects involving the study of current research or development (academic, industrial or educational) leading to the development of new knowledge, methods or applications.

To identify the key skills development including employability.

Assessment strategy: 20% Coursework, 80% Report

26. Industrial Placement (OM 3000)

Aim: This module will be based upon a minimum of 48 weeks in work experience in industry. The module will provide experiential learning for students, enabling them to place their academic programme of work in an industrial context. This module will feature the completion of a portfolio of evidence and reflective analysis of the work placement.

Assessment strategy: 100% Coursework

3.3. Learning and teaching methods

All staff involved with the programme are here to help you. All the lectures, tutorials, workshop classes and course works have been designed to help you develop necessary skills and knowledge. Different teaching methods have been included in your programme specification. Each module will adopt a range of learning and teaching strategies that aim to meet the needs of students with diverse practice and educational experiences.

- Key lectures to introduce themes and concepts.
- Classroom based tutorials to enable students to undertake practical exercises and share ideas.
- Laboratory experimentation and testing of materials.
- Student seminar – individual and group
- Group work activity e.g., problem solving exercises, case studies and presentations.
- Use of the Blackboard to provide supplemental reading/activity, module information and a student discussion board.

3.3.1. Approach to Teaching and Learning

Face to face teaching approach is implemented for AY2023-2024. Each module will have weekly face-to-face teaching sessions.

A complete set of teaching material is prepared and uploaded on Module Boxes and Blackboard including the teaching handouts/notes, reading materials, PPT presentations, video materials recorded by staff, and other learning videos such as YouTube videos. Recorded lectures are made available to students on Blackboard.

3.3.2. Learning Resources

As a learner it is expected that you will progress from being a dependent learner when you arrive to an independent learner by the time you graduate. Lecturers will often suggest background reading or exercises, which you should tackle. You should undertake all necessary pre-reading, accessing materials from the Blackboard site prior to (or after) sessions.

In addition to the physical book stock available at ICEM Library, UCLan e-Library provides access to a huge range of electronic resources, databases, e- books and journals. These resources are licensed for educational use only and they are available for ICEM students at UCLan Student Portal. Students can access UCLan e-Library using UCLan username and password.

3.3.3. Personal Development Planning

The College encourages and supports students to achieve personal development plans in a variety of ways – directly through the course material and associated experiences. This is supported by the course team, your module tutors and the Personal Tutor/Academic Advisor.

3.3.4. Preparing for your Career: Career Guidance Department

Your future is important to us, so to make sure that you achieve your full potential whilst at the College and beyond, your programme has been designed with employability learning integrated into it at every level. This is not extra to your degree, but an important part of it which will help you to show future employers just how valuable your degree is. These “Employability Essentials” take you on a journey of development that will help you to write your own personal story of your time at the College:

- To begin with, you will explore your identity, your likes and dislikes, the things that are important to you and what you want to get out of life.
- Later, you will investigate a range of options including jobs and work experience, postgraduate study and self-employment,
- You will then be ready to learn how to successfully tackle the recruitment process.

It's your future: take charge of it!

3.4. Assessment

3.4.1. Assessment Strategy

The purpose of assessment is to provide the opportunity for students to demonstrate that they have fulfilled the learning outcomes of the programme and achieved the standard required for the award they seek.

The overall assessment strategy used during the programme includes the use of formative and summative assessment weighting applied to exams, coursework or practical assessments and is set out in each of the modules. To pass the module you must achieve an aggregate mark of 40%, aggregated across all assessments.

3.4.2. Notification of assignments and examination arrangements

Students will be notified of the requirements for individual assessments and their respective deadlines for submission / examination arrangements during a timetabled session, within module information packs or through Blackboard. Students should submit their assignments in accordance with the requirements detailed in the Assessment Submission criteria of their assignment. The timetable of the final exams will be displayed on the department noticeboards and a copy of the timetable will be emailed to students. The classroom allocations will be displayed on the notice boards and sent by email at least one day before the exam.

3.4.3. Late Submissions

If you submit work late, a penalty will be applied in relation to unauthorised late submission of work.

- If you submit work within 5 working days after the published submission date, you will obtain the minimum pass mark (40%) for that element of assessment.
- Work submitted later than 5 working days after the published submission date will be awarded a mark of 0%.
- Unauthorised late submission at resubmission will automatically be awarded a mark of 0%.

3.4.4. Extensions and extenuating circumstances

For extensions and extenuating circumstances to be considered, they should be unforeseeable or unpreventable and may have had a significant adverse effect on the academic performance of a student. Possible extenuating circumstances include:

- significant illness or injury.
- the death or critical/significant illness of a close family member/dependent.
- family crises or major financial problems leading to acute stress.
- absence for jury service or maternity, paternity or adoption leave.
- a criminal act where you have been a victim.

It is the sole responsibility of the student to submit a request for consideration of extenuating circumstances to the Student Support Services Department according to the published procedures and deadlines. Students may submit a request for extension of deadline before the submission date to the concerned Module Tutor along with relevant evidences/documents. The

student must submit claims for extenuating circumstances within 5 working days of the assessment deadline along with corroborating evidence. Requests for extenuating circumstances submitted outside the deadline date will not be considered without a credible and compelling explanation as to why the circumstances were not known or could not have been declared beforehand.

3.4.5. Feedback Following Assessments

The College is committed to providing you clear, legible and informative feedback for all your assessments. You are expected to review and reflect on your feedback and learn from each experience to improve your performance as you progress through the course.

- For all assignments, students will be provided with feedback within 15 working days of the scheduled submission. Feedback may be provided in oral, written, audio or digital format as appropriate, and individual feedback will be posted on Blackboard.
- For Final Examinations, students will not be provided with individual feedback. Students may request generic feedback if needed. Generic feedback may include an outline of the expected answers.

Please note that all assignments and exam scripts are externally moderated by UCLan Course Leaders and by the External Examiners prior to Module/Assessment Boards. All marks awarded are provisional subject to confirmation by the Module/Assessment Boards of the University of Central Lancashire, UK.

3.4.6. Academic Misconduct (Which Includes Cheating, Plagiarism, Collusion or Re-Presentation)

- Cheating is any deliberate attempt to deceive and covers a range of offences described in the Academic Handbook.
- Plagiarism describes copying from the works of another person without suitably attributing the published or unpublished works of others.
- Collusion is an attempt to deceive the examiners by disguising the true authorship of an assignment by copying, or imitating in close detail another student's work - this includes with the other student's consent and also when 2 or more students divide the elements of an assignment amongst themselves and copy one another's answers.
- Re-presentation is an attempt to gain credit twice for the same piece of work.

You are required to sign a declaration indicating that individual work submitted for an assessment is your own. If an allegation is found to be proven, then the appropriate penalty will be implemented:

1. For the first time: the penalty will be 0% for the element of assessment, the plagiarized element of assessment must be resubmitted to the required standard and the mark for the module following resubmission will be restricted to the minimum pass mark (i.e. 40%).
2. In the event of a repeat offence of cheating, plagiarism, collusion or re-presentation on the same or any other module within the course; the appropriate penalty will be 0% for the module with no opportunity for reassessment and you will have to retake the module in a subsequent year.

The College uses an online Assessment Tool called Turnitin. Students are required to self-submit their own assignment on Turnitin via Blackboard and will be given access to the Originality Reports arising from each submission. In operating Turnitin, all summative assessments will be marked anonymously where possible. Turnitin may also be used to assist with plagiarism detection and collusion, where there is suspicion about individual piece(s) of work.

The accepted similarity percentage for an assessment is about 10%. However, the case may still be reported for investigation if the similarity percentage is below 10% subject to the Module Tutor's academic judgment. Similar percentages above 10 % will be reported to the Unfair Means to Enhance Performance Committee for further discussion with the Module Tutor/justification from the Module Tutor. The case may or may not be formally investigated.

3.4.7. Guidance for students on the use of Artificial Intelligence in Assessment

As per UCLan Guidance for students on the use of Artificial Intelligence in assessment, using AI under the tutor's guidance will be acceptable in certain situations but students need to ensure that they comply with University regulations on Academic Integrity.

Below are the principles to be followed by students to avoid breaching academic misconduct regulations through using AI:

- Ensure the use of the AI tool is in line with the assessment brief and any further advice from the tutor setting the assignment.
- Do not rely solely on AI tools to complete assignments. Use AI tools to enhance your work, not as a replacement for it.
- Acknowledge the extent to which AI has been used as part of referencing their sources,

clarifying the contribution of AI to make clear what is their own work. Students have to cite AI tools they used (such as ChatGPT) and describe how they used it.

- Avoid assuming that AI responses are always accurate. AI-generated information may sometimes be inaccurate or misleading.
- Keep drafts to evidence the thinking and development of the work if requested.
- Students may be asked to respond to questions to test their knowledge of their assessed work.
- Failure to follow this advice may lead to allegations of academic misconduct and will impact students' ability to defend themselves.

3.4.8. Reassessment

The decision to offer reassessment to you is at the discretion of the Assessment Board. The reassessment shall be offered to a student who does not achieve an aggregate mark of 40%, aggregated across all assessments in the module. Reassessment takes place before the start of the following academic year. The best mark that may be awarded for a reassessment in a module is 40%.

3.4.9. In-Module reassessment

In order to help students make progress with their study, where a student has failed a component and is required to be reassessed in that component, in-module reassessment is permitted subject to the agreement with Module Leader. The maximum mark which may be awarded for in-module reassessed component will be the minimum pass mark. As part of Academic Regulation, a module, or a component within it, may be reassessed only once.

3.5. Retaking of Modules

You shall not be permitted to retake a module which has been passed. You shall retake the modules which you have not passed. The best mark that may be awarded for a retaken module is 40%.

3.6. Appeals against Assessment Board Decisions

If you consider that you have reason to appeal against an assessment board decision, please bear in mind that your reasons must fall within the grounds specified as below. *You cannot appeal simply because you disagree with the mark given.* The specified grounds for appeal are:

- ✓ that an Assessment Board has given insufficient weight to extenuating circumstances.
- ✓ that there has been a material administrative error at a stage of the examining process, or that some material irregularities have occurred.
- ✓ that the assessment procedure and/or examinations have not been conducted in accordance with the approved regulations.

If you want to appeal, then you must do so within 7 days of your results being published. The onus is on you to find out your results and submit your appeal on time. Contact the Student Affairs Office for support and advice.

3.7. Academic Probation Status

A student is placed under Academic Probation if he/she:

- Failed at least two modules and did not progress to the next academic year.
- Absent from classes for more than 25% of the total lecture hours.

Appendices:

Appendix 1: Programme Specifications

UNIVERSITY OF CENTRAL LANCASHIRE

Programme Specification BEng (Honours) Mechanical Engineering (Well Engineering)

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided.

Sources of information on the programme can be found in Section 17

1. Awarding Institution / Body	University of Central Lancashire
2. Teaching Institution	Year 1-3: International College of Engineering and Management, Oman Year 4: ICEM and UCLan
3. University Department/Centre	School of Engineering
4. External Accreditation	None
5. Title of Final Award	BEng (Honours) Mechanical Engineering (Well Engineering)
6. Modes of Attendance offered	Full Time-4 years, Full Time with Sandwich year- 5 years Part Time – 6 years
7. UCAS Code	N/A
7b. JACS/HECOS Code	H850/100178
8. Relevant Subject Benchmarking Group(s)	Engineering
9. Other external influences	Petroleum Development Oman (PDO). Other drilling and service companies (e.g. Schlumberger, Nabors, Dalma)
10. Date of production/revision of this form	April 2022
11. Aims of the Programme	
<ul style="list-style-type: none"> • Provides a range of skills and experience relevant to modern industry. • Develops a range of competencies relevant to Well Engineering. • Enables graduates evaluate engineering principles to realistic situations related to field problems. 	

12. Learning Outcomes, Teaching, Learning and Assessment Methods
A. Knowledge and Understanding
<p>A1. Demonstrate knowledge of the main concepts and principles that underpin Well Engineering and Technology such as to enable a career in either drilling operations or the drilling service industry;</p> <p>A2. Understand the fundamental concepts of engineering to enable alternative methods to solve engineering problems;</p> <p>A3. Demonstrate the capability for independent and lifelong learning in a professional career</p>
Teaching and Learning Methods
<p>Each module will adopt a range of learning and teaching strategies that aim to meet the needs of students with diverse practice and educational experiences.</p> <ul style="list-style-type: none"> • Traditional lectures introduce themes and concepts often followed by directed self-study. • Class room based tutorials; • Laboratory activities; • Student seminar – individual and group; • Industrial visits and lectures from practising industrialists; • Directed project and investigative work both individually and in groups; • Group discussions, case studies and presentations. • Use of Blackboard/Ms Teams to provide supplemental reading, module information and a student discussion board.
Assessment methods
<p>A variety of methods of assessment appropriate to the learning outcomes of the individual modules are utilised. The range of assessments experienced by the students will include:</p> <ul style="list-style-type: none"> • Written Examinations; • Assignments; • Portfolios; • Student presentations; • Technical Reports; • Integrated assignments; • Case study analysis; • Essays; • Continuous assessment; • Directed project and investigative work both individually and in groups, • Scenario based analysis, • Mini projects.
B. Subject-specific skills

- B1. Apply practical skills and techniques appropriate to working as a professional in well engineering (mechanical engineering).
- B2. Prepare reports relating to specific practical mechanical and well engineering problems
- B3. Apply design methodology that integrates mechanical engineering within a well engineering situation.**
- B4. Engineer solutions to problems in drilling operations which demonstrate appropriate analytical skills
- B5. Use information and communication technology in application to mechanical (well) engineering including the use of computer aided design and simulation softwares.

Teaching and Learning Methods

Traditional lectures often followed by directed self-study; Classroom based tutorials; Laboratory activities; Student seminar – individual and group; Industrial visits and lectures from practising industrialists; Directed project and investigative work both individually and in groups; Group discussions, case studies and presentations; Use of Blackboard/Ms Teams to provide supplemental reading, module information and a student discussion board.

Assessment methods

Written Examinations; Assignments; Portfolios; Student presentations; Technical Reports; Integrated assignments; Case study analysis; Essays; Continuous assessment; Directed project and investigative work both individually and in groups, Scenario based analysis, Mini projects, Laboratory investigations.

C. Thinking Skills

- C1. Select, collate, interpret and evaluate information from a range of sources
- C2. Interpret and analyse qualitative and quantitative data relating to complex mechanical and well engineering problems
- C3. Conduct and present individual research projects
- C4. Formulate and produce creative and innovative technical solutions to problems by applying engineering principles to real situations
- C5. Show originality in the development of design solutions, and to have flexibility in progression through the design process
- C6. Communicate in an appropriate form (e.g. oral, written, drawing) the results of research and investigation

Teaching and Learning Methods

Directed self-study; Seminars/tutorials; Laboratory activities; Industrial visits and lectures from practising industrialists; Project and investigative work both individually and in groups; Group discussions.

Assessment methods

Reports; Presentations (individual and group); Assignments; Integrated assignments; Case studies; Examinations.

D. Other skills relevant to employability and personal development

D1. Research and evaluate a wide range of sources of information from textbooks, journals, the media, CD-ROM, newspapers, internet, technical indexes, catalogues, Standards

D2. Complete reports in a succinct and coherent format

D3. Communicate ideas.

D4. Demonstrate Presentation skills, IT skills, high level analytical skills, written and oral English language skills.

D5. Work independently and within a team

D6. Manage time to meet deadlines over both short and long time periods

Teaching and Learning Methods

Traditional Lectures often followed by directed self-study; Seminars/tutorials; Directed project and investigative work both individually and in groups; Group discussions; Use of Blackboard/Ms Teams to provide supplemental reading, module information and a student discussion board.

Assessment methods

Reports, Presentations, Working in teams, Integrated assignments, Mini projects.

13. Programme Structures*				14. Awards and Credits*
Level	Module Code	Module Title	Credit rating	
Level 6	MP3995	Project*	20	BEng (Honours) Mechanical Engineering (Well Engineering) Requires 480 credits with 360 credits at Stage 2, including a minimum of 480 credits at level 4 or above, 360 credits at level 5 or above and 160 credits at level 6 or above. Students who successfully complete OM3000 will receive the award with Industrial Placement.
	MP3713	Mechanics and Materials *	20	
	MP3705	Manufacturing Technologies and Sustainable Manufacturing*	20	
		<u>3 options:</u>		
		EITHER		
	MP3701	Mechanical Systems Reliability		
		OR		
	OM3045	Well Design Technology*	20	
	EITHER			
	MP3672	Engineering Simulations		
		OR		
	OM3046	Well Testing and Enhanced Oil Recovery*	20	

	MP3703	EITHER Project Management	20	
	MP2721	OR Operations Management A*		
		<i>*Modules offered at Oman</i>		
	OM3000	Industrial Placement	120 notional credit	
Level 5/6	OM3043	Drilling Technology	20	Advanced Diploma in Well Engineering Requires 360 credits with 240 credits at stage 2, including a minimum of 360 credits at level 4 or above, 240 credits at level 5 or above and 60 credits at level 6 or above. Students who successfully complete OM1040 will receive the award with Industrial Experience
	OM3044	Advanced Drilling Technology	20	
	OM2045	Applied Mathematics for Engineers	20	
	OM2055	Personal and Professional Development 2	20	
	OM2043	Engineering Design and CAD/CAM	20	
	OM3047	Design and Analysis of Engineering Systems	20	

Level 5	OM2046	Well Engineering Operations	20	Diploma of Higher Education in Well Engineering Requires 240 credits with 120 credits at stage 2, including a minimum of 240 credits at Level 4 or above and 120 credits at Level 5 or above. Students who successfully complete OM1040 will receive the award with Industrial Experience
	OM2047	Well Engineering Management	20	
	OM2049	Metallurgy and Manufacturing Science	20	
	OM2048	Mechanics of Solids and Fluids	20	
	OM2053	Mathematics B	20	
	OM2094	Professional Development and Entrepreneurship	20	
Level 4	OM1041	Fundamentals of Drilling Equipment	20	Certificate of Higher Education Requires 120 credits at Level 4.
	OM1042	Fundamentals of Drilling Operations	20	
	OM1053	Mathematics A	20	
	OM1043	Engineering Science	20	
	OM1044	Computer Aided Drafting and Design	20	
	OM1055	Personal and Professional Development 1	20	

	OM1040	Industrial Experience (Optional)	20 notional credits	
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15. Personal Development Planning

The modules at each level provide students with the opportunity to engage with their own personal development planning and to recognise that learning is a lifelong process.

Following appropriate introduction and induction, the Course Team will support students in reflecting on their learning, performance and achievement, and in their planning for personal, educational, and career development.

Skills in PDP such as self-reflection, recording, target setting, action planning and monitoring will be highlighted as key lead indicators of success in securing and successfully completing the Industrial Placement Period and in securing employment in the industry on graduation.

Over the duration of the course, and including reference to extra-curricular student activities, Module Tutors for Communications and Personal Tutors will take formal responsibility for supporting students through their personal development in the following areas:

- Self-Awareness
- Study Skills
- Reviewing Progress
- Career Plans
- Making Applications

For students who undertake the Industrial Placement module, the tutors for this module will also focus their attention on PDP.

Web based resource materials to be used include:

Personal Development Planning www.uclan.ac.uk/ldu/resources/pdp/intro1.htm

Skills Learning Resources www.uclan.ac.uk/lskills/TLTP3/entersite.html

The work in PDP will not be assessed.

16. Admissions criteria

Programme Specifications include minimum entry requirements, including academic qualifications, together with appropriate experience and skills required for entry to study. These criteria may be expressed as a range rather than a specific grade. Amendments to entry requirements may have been made after these documents were published and you should consult the University's website for the most up to date information.

Students will be informed of their personal minimum entry criteria in their offer letter.

1. Applicants will normally have completed 12 years of secondary schooling and having followed Pure Mathematics stream, or the equivalent, with a grade of D or higher in Mathematics, Physics, Chemistry and English for Omani General Diploma Certificate. In addition, all applicants will be interviewed and complete a diagnostic entry test in English Language, Mathematics and Science to assess their ability to complete the programme. Applicants will be required to have a minimum average level of proficiency in English Language equivalent to IELTS band 5.0 with no band in any of the four skills (reading, listening, speaking writing) lower than 4.5. The programme includes structured provision for further development of English language skills.

OR

2. Students who have successfully completed a Foundation year at the International College of Engineering & Management in Oman will have undertaken final assessments in English Language (equivalent to IELTS band 5.0 with no band in any of the four skills - reading, listening, speaking writing, lower than 4.5) and will have demonstrated the level of proficiency in all areas required for admission onto the programme (Mathematics and Science).

APL will be assessed through standard University procedures.

17. Key sources of information about the programme

- ICEM Marketing Brochure
- ICEM Website at www.icem.edu.om
- School web site at www.uclan.ac.uk/schools/engineering/index.php
- University courses information at www.uclan.ac.uk/courses/index.php

18. Curriculum Skills Map

Please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed

Level	Module Code	Module Title	Core (C), Compulsory (COMP) or Option (O)	Programme Learning Outcomes																			
				Knowledge and understanding			Subject-specific Skills					Thinking Skills						Other skills relevant to employability and personal development					
				A1	A2	A3	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	C6	D1	D2	D3	D4	D5	D6
LEVEL 5/6	MP3995	Project*	Comp		√	√	√	√			√	√	√	√	√	√	√	√	√	√	√	√	√
	MP3705	Manufacturing Technologies and Sustainable Manufacturing*	Comp		√			√							√								
	OM3045	Well Design Technology*	O		√			√	√		√		√		√	√							
	MP3672	Engineering Simulations	O		√	√			√		√		√		√								
	MP3701	Mechanical Systems Reliability	O	√	√		√		√		√		√				√						
	MP3713	Mechanics and Materials*	Comp		√			√	√		√					√							
	MP3703	Project Management	O	√	√		√		√								√		√		√		

	OM3046	Well Testing and Enhanced Oil Recovery*	O		√			√	√				√			√						
	MP2721	Operations Management A*	O				√						√								√	
LEVEL 5/6	OM3044	Advanced drilling Technology	Comp	√					√	√												
	OM3047	Design and Analysis of Engineering Systems	Comp	√	√			√	√				√									
	OM3043	Drilling Technology	Comp	√					√	√												
	OM2043	Engineering Design and CAD/CAM	Comp		√				√	√					√	√						
	OM2055	Personal and Professional Development 2	Comp					√				√									√	
	OM2045	Applied Mathematics For Engineers	Comp		√					√	√			√								
Level 5	OM2094	Professional Development and Entrepreneurship	Comp			√	√												√	√		
	OM2046	Well Engineering Operations	Comp	√			√	√		√											√	√
	OM2047	Well Engineering Management	Comp	√			√	√		√											√	√

	OM2048	Mechanics of Solids and Fluids	Comp	√	√				√		√									
	OM2049	Metallurgy and Manufacturing Science	Comp	√	√				√		√									
	OM2053	Mathematics B	Comp						√	√	√									
LEVEL 4	OM1041	Fundamentals of Drilling Equipment	Comp					√												
	OM1042	Fundamentals of Drilling Operations	Comp					√												
	OM1043	Engineering Science	Comp	√																
	OM1044	Computer Aided Drafting and Design	Comp		√		√				√							√		
	OM1053	Mathematics A	Comp		√						√									
	OM1055	Personal and Professional Development 1	Comp								√									

**Modules offered at Oman*

LEARNING OUTCOMES FOR EXIT AWARDS:

Learning outcomes for the award of Certificate of Higher Education (120 Credits)

- A1. Demonstrate knowledge of the main concepts and principles that underpin Well Engineering and Technology such as to enable a career in either drilling operations or the drilling service industry;
- A2. Understand the fundamental concepts of engineering to enable alternative methods to solve engineering problems;
- B1. Apply practical skills and techniques appropriate to working as a professional in well engineering (mechanical engineering).
- B2. Prepare reports relating to specific practical mechanical and well engineering problems
- C1. Select, collate, interpret and evaluate information from a range of sources
- C2. Interpret and analyse qualitative and quantitative data relating to complex mechanical and well engineering problems
- D3. Communicate ideas

Learning outcomes for the award of: Dip HE in Mechanical Engineering (Well Engineering) (240 credits)

- A1. Demonstrate knowledge of the main concepts and principles that underpin Well Engineering and Technology such as to enable a career in either drilling operations or the drilling service industry;
- A2. Understand the fundamental concepts of engineering to enable alternative methods to solve engineering problems;
- B1. Apply practical skills and techniques appropriate to working as a professional in well engineering (mechanical engineering).
- B2. Prepare reports relating to specific practical mechanical and well engineering problems
- B3. Apply design methodology that integrates mechanical engineering within a well engineering situation.

- B4. Engineer solutions to problems in drilling operations which demonstrate appropriate analytical skills
- B5. Use information and communication technology in application to mechanical (well) engineering including the use of computer aided design and simulation softwares
- C1. Select, collate, interpret and evaluate information from a range of sources
- C2. Interpret and analyse qualitative and quantitative data relating to complex mechanical and well engineering problems
- D3. Communicate ideas
- D4. Demonstrate Presentation skills, IT skills, high level analytical skills, written and oral English language skills
- D5. Work independently and within a team
- D6. Manage time to meet deadlines over both short and long time periods

Learning outcomes for the award of: Advanced Dip HE in Mechanical Engineering (Well Engineering) (360 credits)

- A1. Demonstrate knowledge of the main concepts and principles that underpin Well Engineering and Technology such as to enable a career in either drilling operations or the drilling service industry;
- A2. Understand the fundamental concepts of engineering to enable alternative methods to solve engineering problems;
- A3. Demonstrate the capability for independent and lifelong learning in a professional career
- B1. Apply practical skills and techniques appropriate to working as a professional in well engineering (mechanical engineering).
- B2. Prepare reports relating to specific practical mechanical and well engineering problems
- B3. Apply design methodology that integrates mechanical engineering within a well engineering situation.

- B4. Engineer solutions to problems in drilling operations which demonstrate appropriate analytical skills
- B5. Use information and communication technology in application to mechanical (well) engineering including the use of computer aided design and simulation softwares
- C1. Select, collate, interpret and evaluate information from a range of sources
- C2. Interpret and analyse qualitative and quantitative data relating to complex mechanical and well engineering problems
- C5. Show originality in the development of design solutions, and to have flexibility in progression through the design process
- D1. Research and evaluate a wide range of sources of information from text books, journals, the media, CD-ROM, newspapers, internet, technical indexes, catalogues, Standards
- D3. Communicate ideas
- D4. Demonstrate Presentation skills, IT skills, high level analytical skills, written and oral English language skills
- D5. Work independently and within a team
- D6. Manage time to meet deadlines over both short and long time periods

Graduate Attributes– Programme Learning Outcomes Map

ICEM Graduate Attributes	Programme Learning Outcomes																			
	Knowledge and understanding			Subject-Specific Skills					Thinking Skills						Employability and personal development skills					
	A1	A2	A3	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	C6	D1	D2	D3	D4	D5	D6
1. Knowledge of engineering and management disciplines (K)	√	√																		
2. Critical, Analytical and Creative thinking (S)						√	√√			√										
3. Leadership and teamwork (S and V)											√						√			
4. Communication skills (S)					√				√									√		
5. Ethics and Professionalism (V)													√		√					
6. Lifelong Learning, Research and Innovation (K)			√									√								
7. Global competitiveness (K and S)								√												√
8. Technological Literacy (K and S)				√										√		√				

Appendix 2: Grading System

The Cumulative Grade Point Average (CGPA) is computed as per Table below.

Average Percentage Mark (APM)	UK degree classification		CGPA
70+	First class Honours	Excellent	4.0
65-69	Upper-second class Honours	Very Good	3.7
60-64			3.3
55-59	Lower-second class Honours	Good	3.0
50-54			2.7
45-49	Third class Honours	Fair	2.3
40-44			2.0
35-39	Ordinary/Unclassified	Fail	1.0
Below 35			0.0

Appendix 3: Academic Calendar 2023-2024

Below is a guide highlighting particularly important information on this calendar.

Date	Activities /Notes
03-07 September 2023	Placement Tests Foundation
10-21 September 2023	Placement Test Foundation + Registration
17-21 September 2023	Induction Week HE and Foundation
24 September 2023	First day of study - HE and Foundation
27 September 2023	Prophet Muhammad's Birthday
05 October 2023	Last date for accepting APL Applications
05 October 2023	Election of Student Advisory Council
12 October 2023	Close of Admissions 2023-2024
12 October 2023	Deadline for Sending student lists to UCLan for enrollment
18 November 2023	National Day Holiday
31 Dec 2023 -7 January 2024	Semester 1 HE Final Examinations
10 January 2024	Deadline for submission of Extenuating Circumstances Sem 1
14-25 January 2024	Semester Break HE
28 January 2024	Start of Semester 2 (First day of study – HE)
08 February 2024	Isra'a Wal Mi'raj (Ascention)
27-29 February 2024	Semester 1 HE Reassessment Examination
09 - 11 April 2024	Eid Al-Fitr Holiday
30 April 2024	Submission of Final Year Project-Dissertation
19-23 May 2024	Sem2 Final Examinations - HE
26-30 May 2024	Dissertation presentation/interview
28 May 2024	Deadline for submission of Extenuating Circumstances Sem 2
16-20 June 2024	Eid al-Adha Holiday
07 July 2024	Hijri New Year
14 July 2024	Start of Admission for new Students for Academic Year 2024-25
18 July 2024	Deadline for Appeals (final day of receiving appeals by Student Support Services)
23-25 July 2024	Semester 2 HE Reassessment Examination
23 July 2024	Renaissance Day
17 August 2024	Deadline for Appeals (final day of receiving appeals by Student Support Services)
16-19 September 2024	Induction Week in Sem 1 AY 2024-25
22 September 2024	First day of study - HE and Foundation