AIN SHAMS UNIVERSITY – FACULTY OF ENGINEERING (ASU – FoE)

IN COLLABORATION WITH

SCHOOL OF ARCHITECTURE, COMPUTING AND ENGINEERING

BEng (Hons) Building Engineering

Programme Handbook

Academic Year 2018-2019

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1 WELCOME AND INTRODUCTION

Congratulations on your enrolment into the BEng (Hons) Building Engineering programme – a programme that has been validated by the University of East London (UEL), our collaborative partner in the UK. UEL is an internationally renowned university which just like Ain Shams University (ASU) strives to achieve the highest possible standard of academic excellence. Apart from being one of the UK's most diverse and fastest growing universities, UEL is a global learning community with internationally recognised research. We are most confident that our collaboration with UEL will yield significant academic benefits both for ASU as an institution, and for the students who will enrol the BEng (Hons) Building Engineering programme.

Our vision at ASU is to provide our students with a holistic education to develop them into well-rounded individuals who excel both academically and professionally in areas such as leadership, entrepreneurship, social and personal development and growth. The programme is thus aligned closely with the tenets of the National Authority for Quality Assurance and Accreditation of Education (NAQAAE). The framework for NAQAAE was established in 2006 by a presidential decree to enhance the quality of education in Egypt with a mandate to ensure the development of basic reference standards for education - National Academic Reference Standards (NARS).

According to the NARS, quality education that is based on well-defined standards is one of the most important determinants of national sustainable development in Egypt. Therefore, the requirements of the NARS form the basis for the development of the Building Engineering programme at ASU. Thus, the programme is designed to inspire students to be innovative and creative by using appropriate teaching and learning technologies and pursuing independent and life-long learning. Graduates of the programme are expected to be able to apply knowledge of mathematics and natural sciences to develop ways to economically utilize the materials and forces of nature for the benefit of society.

Our graduates are expected to have productive and very rewarding careers in a variety of capacities. Graduates of the programme may work as planners, designers, construction supervisors, construction managers and consultant for private and governmental firms in multiple disciplines involving structures of all types, building materials, geotechnics and foundations, environmental and sustainable building engineering.

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We are confident that you have made the right choice to continue your lifelong learning journey with ASU. We promise to make your time here with us a most enriching educational experience for you.

Assoc.Prof. Dr. Osama M. EL-Nesr
Programme Leader

2 INTRODUCTION TO THE PROGRAMME

Programme Philosophy

The BSc in Building program, introduced at Ain Shams University's Faculty of Engineering in 2007, aims to prepare civil engineers who are capable of generating effective solutions by using engineering approaches in the field of Building Engineering. The graduates of the program will be well versed in technology, social, and environmental issues. The program aims to supply the students with the advanced concepts of structure design. Student will have basics of steel, concrete structure design and water tanks design, according to recent design codes versions. Also, Student will have basics of dynamics and earthquake engineering, using the most current design codes. Coverage of project resources management, risks and safety which are essential knowledge for the structural engineer are core to the programme. The graduates of this programme will have a variety of career opportunities as they will be qualified for positions at companies specializing in the design, analysis, operation, construction, and management of a wide range of residential, commercial, and industrial building projects.

The BEng (Hons) Building Engineering degree offers many career progression routes for civil engineers. First, the degree will give students an advantage in the employment market where the content of the programme provides a broader range of skills to the students with a specialisation of structural design and construction management. Furthermore, a validated degree via a UK HEI will provide the students with a richer competency and skills-set. Finally, the skills which the students will gain on the programme will enhance the civil engineering discipline in Egypt and build capacity for sustainable development of the built environment.

Programme duration and modes of study

The BEng (Hons) Building Engineering programme has a 4-year full-time plan - a foundation 2 yearsplus2 years of specialised modules. In their third year (Level 5), students choose one of three tracks of specialisation, a Structural Engineering field, a Construction Engineering Management field, or an Environmental and Sustainable Building Engineering field. They study the specific specialisation courses corresponding to the chosen field, and there are offered wide range of technical electives that students can chose from according to their field of interest, and their ambition in their future career.

The minimum allowed study duration is eight main semesters. The maximum allowed study duration is ten years, which does not include frozen semesters for reasons acceptable by the faculty, after which the student is expelled from the programmes.

Programme aims and objectives

This programme is designed to:

- enable students to apply knowledge of mathematics, science and engineering concepts to the solution of building engineering problems
- educate students to a level that will enable them to function effectively in industry
- provide knowledge and understanding of current theories and developments in civil engineering
- enhance understanding of the design and management processes relevant to civil engineering
- encourage critical awareness and understanding of other professionals in the construction industry
- contribute to the development of the Engineer as an important professional in society and the built environment
- allow progression in career and educational development giving opportunities to study for a postgraduate degrees
- enable graduates to act professionally in design and supervision of civil engineering discipline
- Work effectively within multi-disciplinary teams.
- Communicate effectively.
- Consider the impacts of engineering solutions on society & environment.
- Display professional and ethical responsibilities; and contextual understanding
- Engage in self- and life- long learning.

Programme Intended learning outcomes (ILO's)

The graduates of the BEng (Hons) Building Engineering program should be able to demonstrate the knowledge and understanding of:
Knowledge

- Concepts and theories of mathematics, sciences, engineering projection and their application within the field of building engineering.
- Quality assurance, codes of practice and standards, health and safety requirements and environmental issues associated with building engineering projects.
- Characteristics of engineering materials used in buildings.
- Principles of design of steel and concrete buildings.
- Current engineering technologies related to building systems.
- Professional ethics, law and impacts of building engineering projects on the society and the environment.

Thinking skills

- Select appropriate mathematical and computer-based methods to model and analyze building engineering problems.
- Select appropriate solutions for building engineering problems based on analytical thinking.
- Combine, exchange, and assess various types of information, views, and data from a range of different sources.
- Think in a creative and innovative way in problem solving and design.
- Assess and evaluate the characteristics and performance of building

components, and systems.

Subject-Based Practical skills

- Professionally merge the engineering knowledge, understanding, and feedback to improve design of buildings.
- Re-design a building, or system, and carry out specialized building engineering designs.
- Use a wide range of analytical tools, techniques, equipment, and software packages developed for building engineering projects.
- Apply numerical modeling methods to building engineering problems.
- Demonstrate basic organizational and project management skills.

Skills for life and work (general skills)

- Collaborate effectively within multidisciplinary teams.
- Work in stressful environment and within constraints.
- Share ideas and communicate them with others effectively.
- Demonstrate efficient IT capabilities.
- Effectively manage tasks, time, and resources.
- Search for information and engage in life- long self-learning discipline.

Programme Structure & Content

The BEng (Hons) Building Engineering degree is a four-year UEL/ASU dual award programme, i.e. levels 3–6. The programme conforms to UEL's Academic Framework structure. Essentially, this means that 30-credit modules will be delivered across two semesters (September – May). The modules have been repackaged from ASU existing programme(s) and /or modules, in order to comply with criteria UEL's Academic Framework.
All modules will be taught/delivered and assessed in English. Each module will have a named Module Leader from ASU. The Programme Leader, who has overall responsibility for the day-to-day running of the programme is Assoc. Prof. Dr. Osama M. EL-Nesr. Students will pay all tuition/study/workshop/course field trip fees directly to ASU. Details of the programme structure can be seen in below.

Intermediate Awards

If students are unable to complete their studies, the following awards can be made:
In order to gain a BSc. unclassified degree (ordinary degree) students will need to obtain a minimum of 300 credits including:

- A minimum of 120 credits at level four or higher
- A minimum of 120 credits at level five or higher
- A minimum of 60 credits at level six or higher

In order to gain a Diploma of Higher Education students will need to obtain at least 240 credits including a minimum of 120 credits at level four or higher and 120 credits at level five or higher.

In order to gain a Certificate of Higher Education students will need to obtain 120 credits at level four or higher.

In order to gain an Undergraduate Certificate students will need to obtain 40 credits at level three or higher.

In order to gain an Undergraduate Associate Certificate students will need to obtain 20 credits at level 0 or higher.

Design of the Programme

The design and content of the Building Design undergraduate programme has been determined by a number of considerations including:

- to meet the national Benchmark Standards for Architecture and Civil engineering and the requirements of the National Framework for Higher Education Qualifications (see www.qaa.ac.uk for details).

- To meet the UEL Academic Framework Modular Regulations and other university policies (www.uel.ac.uk/academicframework).

- To reflect the research and professional interests of the staff. The options on offer are taught by staff who is specialists in those areas. In this way, you will be exposed to up to date research and also gain awareness of professional practice.

- To build up your knowledge and extend your skills as you go through the years. Each Year/Level of the programme draws on and expands material presented at earlier stages. You will be expected to tackle more specialist topics and in more breadth and depth, to develop more critical evaluation and analysis of material, to begin to integrate material across modules, to rely less on basic text books and to read more original material, and to work more independently, with less guidance.

- To offer opportunities for you to develop career and work related skills. Certain modules are specifically designed to help you with this but all modules offer opportunities for practice and development.

Details of the programme structure:

UEL Level	ASU Level	UEL module code	ASU module code	Module title	credit	Core/ Pathway Related
Structural Engineering, Construction Engineering & Environmental Engineering tracks						
3	1	EG3002	EG3311	Applied Mathematics for Engineering Problems	30	Core
3	1	EG3003	EG3312	Building Engineering Systems and Thermal Sciences	30	Core
3	1	EG3004	EG3313	Introduction to Structural Analysis and Material Properties	30	Core
3	1	EG3005	EG3314	Fluid mechanics, building engineering materials and professional practice	30	Core
Structural Engineering, Construction Engineering & Environmental Engineering tracks						
4	2	EG4002	EG3421	Engineering Surveying and Numerical Methods	30	Core
4	2	EG4003	EG3422	Concrete Technology and Structures Design	30	Core
4	2	EG4004	EG3423	Acoustics, lighting, thermodynamics and Building Systems Optimization	30	Core
4	2	EG4005	EG3424	Structural Analysis, Steel Design and Engineering Economy	30	Core
Structural Engineering, Construction Engineering & Environmental Engineering tracks						
5	3	EG5000	EG3531	Thermal Analysis of Building and Engineering Management	30	Core
5	3	EG5001	EG3532	Concrete structures design and construction engineering management	30	Core
5	3	EG5002	EG3533	Soil mechanics, foundation design and engineering law	30	Core
5	3	EG5003	EG4534	Computer Aided Structural and Concrete Design	30	Option
5	3	EG5004	EG5534	Computer Aided Structural and Planning & Scheduling	30	Option
5	3	EG5005	EG6534	Computer Aided Structural and Indoor Air Quality	30	Option
Structural Engineering						
6	4	EG6000	EG3641	Structural Dynamics and Construction Engineering	30	Core
6	4	EG6001	EG3642	Graduation Project and Senior Seminar	30	Core
6	4	EG6002	EG3643	Modern Building Materials and Building Envelope	30	Core
6	4	EG6003	EG6644	Structural Technical Studies (Concrete, masonry and steel structures design)	30	Core
Construction Engineering						
6	4	EG6000	EG3641	Structural Dynamics and Construction Engineering	30	Core
6	4	EG6001	EG3642	Graduation Project and Senior Seminar	30	Core
6	4	EG6002	EG3643	Modern Building Materials and Building Envelope	30	Core

6	4	EG6004	EG5644	Construction Technical Studies (Management of Resources, Risk & Safety Cost and Legal Issues in Construction)	30	Core
Environmental Engineering						
6	4	EG6000	EG3641	Structural Dynamics and Construction Engineering	30	Core
6	4	EG6001	EG3642	Graduation Project and Senior Seminar	30	Core
6	4	EG6002	EG3643	Modern Building Materials and Building Envelope	30	Core
6	4	EG6005	EG4644	Environmental Technical Studies (Acoustics, Illumination, Energy Conservation and Control Systems in Buildings)	30	Core

Please note: Optional modules might not run every year, the programme team will decide on an annual basis which options will be running, based on student demand and academic factors, in order to create the best learning experience.

Additional details about the programme module structure:
A core module for a programme is a module which a student must have passed (i.e. been awarded credit) in order to achieve the relevant named award. An optional module for a programme is a module selected from a range of modules available on the programme.

The following Table shows the content of each module of the BLDG programme courses, percentage weighting and the assessment method:

UEL Module Code	ASU Module Code	Module Name	Bylaw 2013		Bylaw 2018		Assessment Method
			Component of Assessment	% wt.	Component of Assessment	% wt.	
Building Eng. Program (UEL)Foundation (3) - ASU Level (1)							
EG3002	**EG3311 30 Cr.**	Applied Mathematics for Engineering Problems	**PHM 113** Calculus for Engineers (3) - (3 Credits)	30%	**PHM111** Probability and Statistics - (2 Credits)	30%	Portfolio of students' work includes a compilation of coursework of the 3 modules; each module includes samples of the following: Activities/Assignments 2 Quizzes 1 Midterm Exam Final Exam
			PHM 115 Differential Equations and Partial Differential Equations - (3 Credits)	35%	**PHM112** Differential Equations and Numerical Analysis - (4 Credits)	40%	
			PHM 114 Statistics and Probability for Engineering -(3 Credits)	35%	**CES171** Engineering Economics and Finance - (2 Credits)	30%	
EG3003	**EG3312 30 Cr.**	Building Engineering Systems and Thermal Sciences	**ARC 114** Building Engineering Drawing - (3Credits)	35%	**ARC143** Building Engineering Drawing - (3Credits)	50%	Portfolio of students' work includes a compilation of coursework of the 3 modules; each module

			CES 121 Building Engineering Systems -(3 Credits)	35%	**ARC161** Introduction to Lighting Systems -(2 Credits)	50%	includes samples of the following: Activities/Assignments Lab data sheets (1st Module) 2 Quizzes 1 Midterm Exam Final Exam
			MEP 113 Building Thermal Sciences -(3 Credits)	30%			
EG3004	**EG3313 30 Cr.**	Introduction to Structural Analysis and Material Properties	**CES 115** Structural Analysis (1)-(3 Credits)	35%	**CES151** Structures & Properties of Construction Materials -(2 Credits)	30%	Portfolio of students' work includes a compilation of coursework of the 3 modules; each module includes samples of the following: Activities/Assignments Lab data sheets (2nd Module) 2 Quizzes 1 Midterm Exam Final Exam
			MDP 132 Structures and Properties of Materials -(3 Credits)	30%	**CES 113** Structural Mechanics -(3 Credits)	35%	
			CES 116 Strength of Materials (3 Credits)	35%	**CES 114** Strength of Materials (3 Credits)	35%	
EG3005	**EG3314 30 Cr.**	Fluid mechanics, building engineering materials and professional practice	**CEI 122** Fluid Mechanics -(3 Credits)	35%	**CEI113** Fluid Mechanics for Civil Engineers - (3 Credits)	40%	Portfolio of students' work includes a compilation of coursework of the 3 modules; each module includes samples of the following: Activities/Assignments Lab data sheets (1st Module) 2 Quizzes 1 Midterm Exam Final Exam
			CES 143 Building Engineering Materials - (3Credits)	35%	**CES152** Properties and Testing of Materials - (2Credits)	30%	
			HUM 014 Engineering Profession, Practice, and Responsibilities - (3 Credits)	30%	**CES161** Geology -(2 Credits)	30%	
Building Eng. Program (UEL) Level (4) – (ASU) Level (2)							
EG4002	**EG3421 30 Cr.**	Engineering Surveying and Numerical Methods	**CEP 212** Surveying (1) -(4 Credits)	35%	**CEP213** Surveying (1) -(4 Credits)	35%	Portfolio of students' work includes a compilation of coursework of the 3 modules; each module includes samples of the following: Activities/Assignments Lab data sheets (1st& 2nd Modules) 2 Quizzes 1 Midterm Exam Final Exam
			CEP 213 Surveying (2) -(4 Credits)	35%	**CEP 214** Surveying (2) -(4 Credits)	35%	
			CES 214 Numerical Methods in Building Engineering -(3 Credits)	30%	**CEP221** Introduction to Transportation and Traffic Engineering -(3 Credits)	30%	
EG4003	**EG3422 30 Cr.**	Concrete Technology and Structures Design	**CES 223** Concrete Structures Design (1) - (3Credits)	40%	**CES224** Concrete Structures Design (1) -(3Credits)	40%	Portfolio of students' work includes a compilation of coursework of the 3 modules; each module includes samples of the following: Activities/Assignments 2 Quizzes 1 Midterm Exam Final Exam
			CES 242 Concrete Technology (1) - (3 Credits)	30%	**CES251** Concrete Technology (1) - (3 Credits)	30%	
			CES 243 Concrete Technology (2) - (3 Credits)	30%	**CES252** Concrete Technology (2) - (3 Credits)	30%	

EG4004	**EG3423 30 Cr.**	Acoustics, lighting, thermodynamics and Building Systems Optimization	**EPM 213** Acoustics & Lighting -(4 Credits)	40%	**ARC263** Fundamentals of Building Acoustics -(2 Credits)	30%	Portfolio of students' work includes a compilation of coursework of the 3 modules; each module includes samples of the following: Activities/Assignments Lab data sheets (1st
			MEP 112 Thermodynamics -(3 Credits)	30%	**MEP213** Thermal Analysis of Buildings -(3 Credits)	35%	
			CES 224 Building Systems Optimization - (3 Credits)	30%	**CES271** Project Management Essentials - (2 Credits)	35%	Module) 2 Quizzes 1 Midterm Exam Final Exam
EG4005	**EG3424 30 Cr.**	Structural Analysis, Steel Design and Engineering Economy	**CES 213** Structural Analysis (2) - (3 Credits)	35%	**CES213** Structural Analysis - (3 Credits)	30%	Portfolio of students' work includes a compilation of coursework of the 3 modules; each module includes samples of the following: Activities/Assignments 2 Quizzes 1 Midterm Exam Final Exam
			CES 231 Steel Structures Design (1) -(3 Credits)	40%	**CES241** Steel Structures Design (1) -(3 Credits)	35%	
			HUM 111 Engineering Economy - (3 Credits)	25%	**CES263** Soil Mechanics (1) - (4 Credits)	35%	
Building Eng. Program (UEL) Level (5) – (ASU) Level (3)							
EG5000	**EG3531 30 Cr.**	Thermal Analysis of Building and Engineering Management	**MEP 311** Thermal Analysis of Buildings -(3 Credits)	35%	**MEP342** HVAC System Design - (2 Credits)	50%	Portfolio of students' work includes a compilation of coursework of the 3 modules; each module includes samples of the following: Activities/Assignments 2 Quizzes 1 Midterm Exam Final Exam
			MEP 312 HVAC System Design - (3 Credits)	35%	**CES325** Construction Engineering -(3 Credits)	50%	
			HUM 311 Engineering Management -(3 Credits)	30%			
EG5001	**EG3532 30 Cr.**	Concrete structures design and construction engineering management	**CES 323** Concrete Structures Design (2) -(3 Credits)	40%	**CES324** Concrete Structures Design (2) -(3 Credits)	35%	Portfolio of students' work includes a compilation of coursework of the 3 modules; each module includes samples of the following: Activities/Assignments 2 Quizzes 1 Midterm Exam Final Exam
			CES 324 Construction Engineering (1) - (3 Credits)	30%	**CES344** Steel Structures Design (2) -(3 Credits)	35%	
			CES 361 Engineering Management Principles - (3Credits)	30%	**CES372** Construction Planning and Scheduling - (3Credits)	30%	
EG5002	**EG3533 30 Cr.**	Soil mechanics, foundation design and engineering law	**CES 352** Soil Mechanics - (3 Credits)	35%	**CES364** Soil Mechanics (2) - (3 Credits)	50%	Portfolio of students' work includes a compilation of coursework of the 3 modules; each module includes samples of the following: Activities/Assignments 2 Quizzes 1 Midterm Exam Final Exam
			CES 353 Foundation Design - (3Credits)	35%	**CES365** Foundation Design (1) - (3Credits)	50%	
			HUM 313 Engineering Law -(3 Credits)	30%			
EG5003	**EG4534 30 Cr.** (Str.	Computer Aided Structural and Concrete Design	**CES 313** Computer Aided Structural Design - (3Credits)	50%	**CES315** Introduction to Structural Dynamics - (3Credits)	50%	Portfolio of students' work includes a compilation of coursework of the 2 modules; each module

	Eng.)***		**CES 3xx** Technical Elective (1) - (3Credits) **CES 325** Concrete Structures Design (3)	50%	CES3xx **Technical** Elective (1) - (3Credits) **CES314** Computer Applications in Structural Design	50%	includes samples of the following: Activities/Assignments 2 Quizzes 1 Midterm Exam Final Exam
EG5004	**EG5534 30 Cr.** (Const. Eng.)***	Computer Aided Structural and Planning & Scheduling	**CES 313** Computer Aided Structural Design - (3Credits)	50%	**CES315** Introduction to Structural Dynamics - (3Credits)	50%	Portfolio of students' work includes a compilation of coursework of the 2 modules; each module includes samples of the following: Activities/Assignments 2 Quizzes 1 Midterm Exam Final Exam
			CES 3xx Technical Elective (1) - (3Credits) CES 362 Planning & Scheduling	50%	CES3xx Technical Elective (1) -(3Credits) **CES373** Construction Cost Management	50%	
EG5005	**EG6534 30 Cr.** (Env. Eng.)***	Computer Aided Structural and Indoor Air Quality	**CES 313** Computer Aided Structural Design - (3Credits)	50%	**CES315** Introduction to Structural Dynamics - (3Credits)	50%	Portfolio of students' work includes a compilation of coursework of the 2 modules; each module includes samples of the following: Activities/Assignments 2 Quizzes 1 Midterm Exam Final Exam
			ARC 3xx Technical Elective (1) - (3Credits) **ARC362** Indoor Air Quality	50%	ARC3xx Technical Elective (1) -(3Credits) **ARC367** Indoor Air Quality	50%	
Building Eng. Program (UEL) Level (6) – (ASU) Level (4)							
EG6000	**EG3641 30 Cr.**	Structural Dynamics and Construction Engineering	**CES 418** Structural Dynamics - (3Credits)	35%	**CES427** Concrete Structures Design (3) -(3Credits)	50%	Portfolio of students' work includes a compilation of coursework of the 3 modules; each module includes samples of the following: Activities/Assignments 2 Quizzes 1 Midterm Exam Final Exam
			CES 423 Construction Engineering (2) - (3Credits)	30%	**CES467)** Foundation Design (2) - (3Credits)	50%	
			CES 463 Project Management for Construction - (3Credits)	35%			
EG6001	**EG3642 30 Cr.**	Graduation Project and Senior Seminar	**CES 497** Graduation Project (1)- (3Credits)	35%	**CES493** Building Engineering Graduation Project (1) - (3Credits)	35%	Design portfolio, which is a compilation of students' coursework in the 3 modules. The first and second modules include samples of the students' report progress, report presentation, posters of the report and the project, and capstone project progress (construction and Environmental Eng. tracks) and output of the Architecture and Structure drawings for structure Engineering Division. The third module include Thesis of 5000-5500 word with topic selected by a student according to his/her area of interest upon advisors'
			CES 498 Graduation Project (2) - (3 Credits)	35%	**CES494** Senior Seminar - (2 Credits)	25%	
			CES 419 Senior Seminar -(2 Credits)	30%	**CES495** Building Engineering Graduation Project (2) -(3 Credits)	40%	

							approval
EG6002	**EG3643 30 Cr.**	Modern Building Materials and Building Envelop	**CES 442** Modern Building Materials - (3 Credits)	50%	**CES454** Modern Building Materials - (3 Credits)	50%	Portfolio of students' work includes a compilation of coursework of the 2 modules; each module includes samples of the following: Activities/Assignments 2 Quizzes 1 Midterm Exam Final Exam
			ARC414 Building Envelope Design - (3 Credits)	50%	**ARC466** Building Envelope Design - (2 Credits)	50%	
EG6003	**EG6644 30 Cr.** (Str. Eng.)***	Structural Technical Studies (Concrete, masonry and steel structures design)	CES 4xx Technical Elective (2) - (3Credits) **CES439** Steel Structures Design (2)	25%	CES 4xx Technical Elective (2) -(3Credits) **CES445** Steel Structures Design (3)	25%	Portfolio of students' work includes a compilation of coursework of the 4 modules; each module includes samples of the following: Activities/Assignments 2 Quizzes 1 Midterm Exam Final Exam
			CES 4xx Technical Elective (3) - (3Credits) **CES424** Concrete Structures Design (4)	25%	CES4xx Technical Elective (3) -(3Credits) **CES421** Design of Prestressed Concrete and Bridges	25%	
			CES 4xx Technical Elective (4) - (3Credits) **CES422** Design of Concrete and Steel Bridges	25%	CES 4xx Technical Elective (4) -(3Credits) **CES429** Advanced Design of Reinforced Concrete Structures	25%	
			CES 4xx Technical Elective (5) - (3Credits) **CES443** Masonry	25%	CES 4xx Technical Elective (5) -(3Credits) **CES428** Masonry	25%	
EG6004	**EG5644 30 Cr.** (Const. Eng.)***	Construction Technical Studies (Management of Resources risk & safety cost and legal issues in construction)	CES 4xx Technical Elective (2) - (3Credits) **CES464** Resources Management	25%	CES 4xx Technical Elective (2) -(3Credits) **CES474** Resources Management	25%	Portfolio of students' work includes a compilation of coursework of the 4 modules; each module includes samples of the following: Activities/Assignments 2 Quizzes 1 Midterm Exam Final Exam
			CES 4xx Technical Elective (3) - (3Credits) **CES465** Risk and Safety Management	25%	CES 4xx Technical Elective (3) -(3Credits) **CES475** Project Risk and Safety Management	25%	
			CES 4xx Technical Elective (4) - (3Credits) **CES466** Legal Issues in Construction	25%	CES 4xx Technical Elective (4) -(3Credits) **CES476** Legal Issues in Construction	25%	
			CES 4xx Technical Elective (5) - (3Credits) **CES467** Cost Management	25%	CES 4xx Technical Elective (5) -(3Credits) **CES477** Computer Applications in Construction Management	25%	

EG6005	**EG4644 30Cr.** (Env. Eng.)***	Environmental Technical Studies (Acoustics, Illumination, Energy Conservation and Control Systems in Buildings)	XXX 4xx Technical Elective (2) -(3Credits) **EPM 411** Building Illumination and Day Lighting	25%	XXX 4xx Technical Elective (2) -(3Credits) **ARC443** Computer Applications in Environmental Engineering	25%	Portfolio of students' work includes a compilation of coursework of the 4 modules; each module includes samples of the following: Activities/Assignments 2 Quizzes 1 Midterm Exam Final Exam
			XXX 4xx Technical Elective (3) -(3Credits) **MDP 445** Building Acoustics	25%	XXX 4xx Technical Elective (3) -(3Credits) **ARC467** Building Energy Conservation Technologies	25%	
			XXX 4xx Technical Elective (4) -(3Credits) **ARC453** Control Systems in Buildings	25%	XXX 4xx Technical Elective (2) -(3Credits) **CES455** Materials and Technologies for Sustainable Construction	25%	
			XXX 4xx Technical Elective (5) -(3Credits) **ARC462** Building Energy Conservation Technologies	25%	XXX 4xx Technical Elective (5) -(3Credits) **CES480** Environmental Risk Management	25%	

Notes:
*** = Elective (optional) module. Students to take one optional module

3 KEY STAFF AND CONTACT DETAILS

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Programme Organisation

The organisation and administration of the programme will be carried out through the following:

The Dean of Faculty of Engineering

Prof. M. Ayman Ashour is the Dean of Faculty of Engineering at ASU. He has overall responsibility for maintaining the high standards of quality and innovation in all our teaching and research activities.

The Programme Leader

Assoc.Prof Osama Mohamed EL-Nesr is the programme leader for the BEng (Hons) Building Engineering programme. The programme leader represents the academic interests of the programme, coordinates the day-to-day business of programme, and has overall responsibility for students on the programme. The role of the programme leader is to guide each student registered on the programme through the duration of the programme and is the first port of contact when programme level issues occur. The programme leader, in conjunction with the academic support team, is responsible with the day-to-day running of the programme. The programme leader is there to resolve any issues that may arise at the programme level and will mediate between module leaders & the academic support team to resolve any programme level issues. If you have a problem with a particular module, and have not been able to resolve it by talking to the Module Leader, you should bring the matter to the Programme Leader. Programme Leaders are also responsible for liaison with Programme Representatives for the year. They also have other duties, which vary from year-to-year and are often connected with quality improvement projects.

The Programme Management Team

The Programme Management Team consists of the Programme Leader, Module Leaders, School Administrators and the Student Representatives, are collectively responsible for day-to-day running of the programme. We have Programme Committees and Meetings to discuss any issues that arise throughout the academic teaching and/or other subjects and these happen at least one per term.

The Module Leaders

Your Module Leaders are responsible for delivery and academic management of the module, including all module assessment tasks. The module leader is responsible for the delivery of an individual module and is tasked with providing the students with the necessary lecture and tutorial material and assessing the work submitted. They will take all of the lectures for their module. As far as possible any problems or questions concerning individual modules should be addressed to the Module Leader. In most cases this can be done within seminars, workshops or practical sessions. General academic advice can also be obtained from them.

External Examiners

External Examiners are responsible for providing an independent check that proper standards are being maintained and are allocated to modules by Subject Area. They review each piece of assessment before it is available to students, review samples of work each semester, and review student feedback and results.

Circumstances in which student can access UEL directly

You will find that for most issues that arise during the course of your studies academic and administrative staff at your location of study will be able to help, and further details are provided in this handbook. If however you have concerns that lie outside the remit of these staff you can contact the UEL link person [see further details below] in the first instance who will be able to re-direct your enquiry as appropriate.

The UEL Academic Link Tutor is appointed to manage the relationship between the Programme Leader at ASU- FoE and UEL. Students may meet the UEL Link Person at Programme Committee Meetings.

Please contact your local Student Support/Administrative Office if you have any queries, in the first instance. If you have been advised by your local office to contact UEL then please send an e-mail to the contact UEL then please send an e-mail to the UEL Academic Partnerships Office at ***apo@uel.ac.uk***.

4 PROGRAMME OPERATION AND STUDENT REGISTRATION

Admission and Enrolment Requirements

The target student group for the recruitment to the BEng (Hons) Building Engineering programme will typically the following qualifications:

- General Certificate of Secondary Education (Thanaweya Amma) - mathematics section, or equivalent
- International General Certificate of Secondary Education (IGCSE)
- American Diploma
- Or equivalent certificates from national and international students with appropriate entry requirements.

Due to the differences in the academic landscape, provisions and framework between UEL and ASU, the following principles will guide and govern the dual award collaboration between the University of East London and Ain Shams University.

All students will be required to have gained an overall IELTS score of 6.0 and meet the required Speaking, Listening, Reading and Writing grades (not less than 5.5) before being enrolled or registered on the UEL/ASU dual award programme.

A student can gain advanced entry on the dual award programme, if they have successfully completed a previous lower level on the associated ASU programme, including having met the aforementioned IELTScriteria.UEL will request a sample of all pre-entry qualifications form ASU for students enrolled on the programme.

ASU will inform UEL of students enrolled/registered on the programme within three(3) weeks of enrolment/registration.

There will be one intake point per year, which will be in September.

Students will apply directly to ASU to gain admittance on the programme and ASU will determine the suitability of students to admit on to the programme. ASU will comply to/with all local rules, laws and regulations with respect to the admission of students on the programme.

Study Timings and Registration

The academic year will comprise of two main semesters:
First main semester (Fall): Begins early September and lasts for 15 weeks.
Second main semester (Spring): Begins early February and lasts for 15 weeks.

- New students' enrolment in the programme starts two weeks before the starting of the Fall semester, after fulfilling all the programmes requirements and paying the enrolment fees, as recommend by the Programs Administration Council and set by the Council of the Faculty of Engineering.
- Registration for any semester takes place within two weeks before the starting day of the semester. Registration is not final until the full tuition fees of the semester are paid.
- Registration in the Summer semester is optional.

- The student must register 60 credits per semester, after consulting the academic advisor, at the time of registration and according to the yearly rules issued by the Faculty and published in the student's guide. Registration is not final until the student pays the educational service fees for the semester.
- Late registration is not final unless there is a vacancy in the courses, and the student should pay late registration fees besides the prescribed academic service fees, in accordance with the recommendations of the Programmes Administration Council and approval of the Council of the Faculty of Engineering regarding this issue.
- The student may not register in any module without fulfilling all its prerequisites.

- The programme academic regulations are available at ***https://eng.asu.edu.eg/BylawsAndRegulations***
- The Local Attendance and Engagement policy is available at ***https://eng.asu.edu.eg/uploads/uploadcenter/asu_594_file.pdf***
- UEL University's academic regulations are available at: Academic Framework Regulations (see Manual of General Regulations, Part 3)
- ***https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies/Manual-of-General-Regulations***

It is essential that you log in to UEL direct and enrol with UEL using the UEL student number that you have be given prior to attending any lectures.

Once you have gained admission to the programme you must login to the UEL direct page using your student username which will be your UEL ID number and password and complete the on-line enrolment. ASU-FoE will assist and ensure that you complete your online enrolment task promptly.UEL Direct is available at ***https://www.uel.ac.uk/students***

For general enquiries concerning enrolment, you must contact your local Student Support/Administrative Office for guidance in the first instance and then if you are advised to contact UEL, please send an e-mail to the UEL Academic Partnerships Office at***apo@uel.ac.uk***.

5 TEACHING, LEARNING AND ASSESSMENT

Learning and Teaching

ASU strives to create an enabling environment conducive to meaningful learning in which students from all backgrounds are supported by committed and qualified staff. The FoE promotes an ethos of reciprocity, service and tolerance and is supportive of academically underprepared students, women, minorities, international students, disabled students, mature or working students and other underrepresented groups. The administration, communication, support services and curricula reflect and value diversity and staff capacity and administrative infrastructure are sufficient to cater for the number of enrolled students so as not to compromise the student's support and developmental needs.

Students have sufficient access to technology to make it possible for them to successfully complete the programme. Information concerning student support services is made accessible to all students. This is mostly facilitated through fully fledged IT laboratories, and free Wi-Fi facilities. Services such as Learning support, additional tutorial support etc are made available at all phases of a students' journey: on first entering the institution; and to ease the transition from Higher Education into the world of work. Teaching and Learning support to all the learners are provided using all the physical resources available at ASU and also provided by UEL such as online access to journals and databases.

The following summarizes the Learning and Teaching Policy at ASU which will govern this dual award collaboration:

- Student evaluation and assessment is based on final exams, midterm exams, quizzes, coursework assignments, course projects, presentations, papers, essays, in/out of class participation, portfolios and many other innovative activities.
- Course instructors in the programme are carefully selected from the distinct full-time world-class faculty members of the Faculty of Engineering at Ain Shams University.
- With the majority of modules being delivered over the whole year there is excellent scope for formative Assessment to stretch and extend the students. Thus, a key feature of the courses is the emphasis on formative feedback and guidance to enable students to develop full understanding of the topics of study, prior to assessment taking place.
- Assessment for these programmes takes the form of examinations, course works, presentations and time constrained assessments.
- Each course syllabus contain: course objectives, textbook, outline, material, assessments, grading policy and outcome. Outline should contain sections covered every week with reference to chapters/sections in the textbook. The instructor will give the course syllabus to the students in the first class. The syllabus serves as a contract between the instructor and the students.

The following are note compulsory for the dual award programmes but will be encouraged:

- The student should pass the ASU's requirements, which consist of humanities, social sciences, general culture courses. These courses represent 18 credit hours at ASU selected from a list of courses.
- The student must pass the ASU's College requirements, which consist of basic sciences and engineering courses. These courses must be studied by all students and they represent 46 credit hours.
- The student must perform summer training for 12 weeks during their study duration, and should be conducted during 3 summers. Training must be performed in an industrial/service facility related to the student's program or inside the faculty where it is delivered by staff members. The training must be under the full supervision of the faculty. The student submits their training portfolio to their Academic Advisor, who in turn assesses the outcomes and evaluates it.

ASU Attendance Policy

Across the faculty, consistent attendance of at least 75% and participation in program activities is part of the learning process. To meet all learning outcomes, FoE ASU expects full attendance in all lectures and insufficient attendance may result in an 'Incomplete' status for the course. The school should be notified of absences. In case of illness a recognized medical certificate should be supplied. Students are encouraged to communicate with their lecturer or course coordinator if they have any queries pertaining to their**.**

Assessment

The module specifications provide a detailed breakdown of the weighting and volume of assessment: these can be found in the Table above. For a formal description of the assessment process students should refer to the Academic Regulations on the UEL website or refer to details in the guide for students. FoE - ASU has a broad experience in providing formative and summative assessment, thus migrating to the UEL Framework will not be a major issue.

Assessment Arrangements

Each module assessment will be designed and set in accordance with the module specification. This will state the number of components to be assessed as well as the weighting of each component. Each assessment will be moderated/verified internally at ASU before it is sent to UEL for approval. All module or component assessments must be formally approved before they are issued to students. All assessments will be approved via the normal and established UEL procedure(s). A marking criteria will be published to students using either a rubric or more detailed written explanation and will be provided to students at the same time as the assessment specification/task. This will form part of the assessment brief which will be agreed with the external examiner.

Marking of assessments will use the full scope of marks, that is 0 – 100. A sample of 10% or 10 scripts (whichever is greater) must be second marked by ASU and this must cover the full range of marks. In the case of the research project (or similar

work), the work of the entire cohort will be blind double-marked. The samples (including both second marked and non-second marked) will be sent to UEL for forwarding to the External Examiner for review.

UEL will determine what documents/information is needed for an Assessment Board and this will be communicated to ASU in a timely manner.

All summative assignments will be marked anonymously where possible and subject to second marking.ASU will conduct a pre-board where all modules and profiles of students will be considered and this will be fed back to UEL who will consider these at the relevant UEL Assessment Board. The results will be considered at assessment boards, which will be held at UEL. Feedback will be given to all students especially on summative assessment tasks. Normally the module leader will choose how this is given, but generally it will be given individually (within 20 days).

UEL operates a minimum of 30% threshold in each component of assessment on a module. However, to pass the module students will need to achieve a weighted average of at least 40%.Progression to the next higher level (year) will only be permitted if the student has gained at least 90 credits during the academic year.

On the UEL/ASU dual programme, students will not be permitted to study any level six (6) modules, if there are outstanding level four (4) modules. The Assessment Board at UEL (with representation by the Academic Link Tutor) will determine the progression decision of all students.

ASU Assessments vs UEL/ASU Dual Assessment Arrangements

On the UEL/ASU dual award programme, students must pass the agreed UEL module in conformity with all established rules and procedures as determined by UEL. If a student has failed a module or component of a module on the UEL/ASU dual award programme, the student will be entitled to a resit opportunity. This will normally be in the early summer (July/August).

Students will be asked and expected to retake a module with attendance if a resit opportunity was not successfully passed, however this depends on the individual profile of the student – taking into consideration UEL policy/rules on retakes.

UEL's "capping" regulations will apply for any resit or retake modules or components of modules. Passing an ASU module or component of a module does not automatically mean that the UEL/ASU dual award module has been passed. There will be no averaging (mean) of module marks on ASU modules to determine UEL/ASU dual award module marks. The marks of a module will be as specified on the module specification.

If a student fails a module on the ASU variant of the programme but passes the UEL/ASU dual award module: This student would have been deemed to pass the module and would be given the credits for such module.

An agreed equivalence chart/table will be used to compare ASU marking/grading scheme to that of the UEL/ASU dual programme. However, in all cases, on the UEL/ASU dual award programme the full spectrum of marks (0-100) will be used.

Students will be entitled to UEL's "compensated pass" regulations on the dual award programme. Summer training/placements/work is not a formal part of the UEL/ASU dual programme, but will be encouraged.

Moderation of Assessment

Examinations and other assessments undergo a rigorous quality assurance process of moderation as follows:

Preparing the assessment brief / examination paper

- Module lecturers design/ write the questions / briefs and produce answers with marking schemes.
- Another lecturer checks the assessment questions, solutions and marking scheme.
- Copies of the assessment questions, answers and marking scheme are sent to UEL for checking and approval.
- UEL sends the assessments to external examiners for approval.

Marking of assessments

- Students' assessments are marked by the FoE- ASU teaching staff.
- A sample of 10% or 10 scripts, whichever is the higher, are double marked by another lecturer within FoE-ASU
- In the case of exam scripts the papers of the entire cohort is blind double-marked
- The double marked sample is sent to UEL for forwarding to the External Examiner
- The results are considered at assessment boards.

All summative assignments are marked anonymously where possible and subject to second marking. If they can't be marked anonymously, the assignments will be double-marked. The ASU examination board will conduct a pre-board where all modules and profiles of students will be considered. This will be fed back to UEL who will consider these at the relevant UEL Assessment Board.

Assessment Criteria

Marking criteria will be published to students using either a rubric or more detailed written explanation and will be provided to students at the same time as the assessment specification/task. This forms part of the assessment brief which is agreed with the external examiner. The programme handbook specifies the assessment criteria for each programme.

Use of formative assessment

Each module will provide students with an opportunity for formative assessment. This will serve three purposes. First, it helps students understand what is required of them in summative assessments that follow. Second, it provides a diagnostic about how individuals and group of students are performing. Thirdly, it allows students to

develop and learn key concepts and achieve the learning outcomes. The exact nature of the formative feedback will vary from module to module. It may involve group as well as individual activities. For example students, with appropriate supervision might give feedback to each other as a method of peer learning, as well as receiving feedback from academic staff.

Submission of Coursework
ASU has its own mechanisms and procedure for coursework submission and these will apply. Students will be informed of this procedure during induction. ASU is committed to facilitating Turnitin submission within 12-18 months and advise will be sought from the School of ACE at UEL as to how to implement this. The module handbook/guidelines will explicitly detail how coursework should be submitted and these will (using student number, word count, word-processed). Submission dates will be available in the Module Guides and on the VLE. Work which is submitted late, but within 24 hours of the deadline, will be assessed but subjected to a fixed penalty of 5% of the total marks available (as opposed to marks obtained).

Extenuating circumstances claims

Under certain circumstances, extenuation can be granted. Academic staff should direct students to FoE ASU support staff trained on UEL extenuation processes as outlined in UEL's extenuation policy as FoE – ASU will follow the process of UEL for the Extenuating circumstances:
https://www.uel.ac.uk/discover/governance/policies-regulations-corporate-documents/student-policies/extenuation-procedures
Normal UEL criteria will apply. A subcommittee will be set up at FoE - ASU under the guidance of the Academic Link Tutor. This committee will report its finding and determination to UEL (APO and ALT).

Breaches of Academic Misconduct Regulations

Assessment tasks are designed to reduce, as far as is practicable, the possibility of plagiarism and collusion and other instances of academic misconduct. Where an instance of academic misconduct is suspected, procedures detailed in Part 8 of Manual of General Regulations (Academic Misconduct Regulations of UEL) will be invoked. The cases will be identified through Turnitin facilities provided by UEL for the registered students and they will be dealt with the same procedures mentioned in the General Regulations manual. Students will be made aware of the Academic Integrity Policy to assist in the avoidance of plagiarism. As part of their induction, students will also be required to complete the academic integrity certificate on Moodle.

The following is a non-exhaustive list of examples of academic misconduct:

Plagiarism: representing another person's work or ideas as one's own, for example by failing to follow convention in acknowledging sources, use of quotation marks etc. This includes the unauthorised use of one student's work by another student and the commissioning, purchase and submission of a piece of work, in part or whole, as the student's own.

Collusion: cooperation in order to gain an unpermitted advantage. This may occur where students have consciously collaborated on a piece of work, in part or whole, and passed it off as their own individual efforts or where one student has authorised another to use their work, in part or whole, and to submit it as their own.

Misconduct in examinations (including in-class tests). Including, for example, when an examination candidate:

- copies from the examination script of another candidate;
- obtains or offers any other improper assistance from or to another candidate (or any other person unless an approved reader or scribe);
- has with them any unauthorised book (including mathematical tables), manuscript or loose papers of any kind, unauthorised electronic devices (including mobile telephones) or any source of unauthorised.
- allows himself/herself to be impersonated or when any person impersonates another examination candidate.

Fabrication or misrepresentation: the presentation of fabricated data, results, references, evidence or other material or misrepresentation of the same. Including, for example:

- claiming to have carried out experiments, observations, interviews or other forms of research which a student has not, in fact, carried out;
- claiming to have obtained results or other evidence which have not, in fact, been obtained;
- in the case of professional qualifications, falsely claiming to have completed hours in practice or to have achieved required competencies when this is not the case;

Failure to obtain ethical approval: where work is undertaken without obtaining ethical approval when there is a clear and unambiguous requirement to do so.
FoE ASU will use a range of mechanisms for determining academic misconduct including and not limited to, plagiarism software, internet searches, viva voce.

Feedback to Students

Feedback will be given to all students especially on summative assessment tasks. Normally the module leader will choose how this is given, but generally it is given individually. Assessment feedback is provided to students so that they can use the feedback to improve their future performance. The students are also provided with feedback on formative tasks – that is tasks that do not lead to a final mark or grade. The lecturer or the module leader will determine how this is given.
Feedback is central to learning and is provided to students to develop their knowledge, understanding, skills and to help promote learning and facilitate improvement.
All feedback will be:

- timely (provided within 20 working days)
- given in relation to the learning outcomes and assessment criteria
- provided on both coursework and examinations
- clear, relevant, motivating, and constructive

- developmental, enabling students to both consolidate learning and achievement
- word-processed where e-submission is not used (unless the nature of the work prevents this e.g. mathematical formula)
- offered in a range of formats appropriate to the module e.g. electronically via Turnitin Grade Mark or other e-Submission tools where used, Audio file, Video file, or Screen cast.

Assessment Boards

Assessment Boards control, consider and adjudicate upon all assessments undertaken by students. The Board comprises a Chair (usually a Head of Department), all those substantially involved such as lecturers/tutors/module leaders and the external examiner(s).

Threshold

UEL operates a minimum of 30% threshold in each component of assessment on a module. However, to pass the module students need to achieve a weighted average of at least 40%.

Mapping of assessment schedule to UEL Boards

Submission dates will be planned in collaboration with the UEL Academic Link Tutor to ensure that the marking process is complete and marks are entered in time for the appropriate board at UEL.

Articulation/Transfer Arrangements

Students on the ASU variant of the programme can transfer to the UEL/ASU dual award programme at ASU into level 5 or 6. The transfer agreement will be based on students having successfully completed the ASU variant of the programme at the lower level including having met the IELTS criterion mentioned above.

Students on the ASU variant of the programme can transfer to UEL (on campus, in London) into level 6. The choice of programme at UEL is as determined in the articulation mapping agreement. This transfer agreement will be based on students having completed three (3) years at ASU on the ASU variant programme, including having met the IELTS criterion mentioned above.

Students on the UEL/ASU dual award programme at ASU can transfer to UEL (on campus, in London). The choice of programme at UEL is as determined in the articulation mapping agreement. This transfer agreement will be based on students having completed at least one year at ASU and continuing at UEL (on campus, in London). Students who transfer, will not be entitled to an exit award for the portion of their study at ASU on the UEL/ASU dual award.

Use of Virtual Learning Environment (VLE) in the learning and assessment process;

Currently, the ASU uses a VLE where module content material such as lecture slides, tutorial and practical tasks are uploaded for the students to access.

External Examiners

The School of ACE will appoint a new external examiner(s) or reassign modules for each programme to existing external examiners. External Examiner will be enforcing the implementation of 100% compliance of agreed procedures and policies, especially in Assessments and Marking.

Equality and Diversity

The curriculum has been designed to meet the needs of all undergraduate students, with all ages, genders, or learning / physical disabilities. There is a strong emphasis on work-based learning. By using a full range of assessment techniques this enables students with different learning styles to be accommodated for. ASU has a policy of designing an inclusive curriculum where appropriate adjustments are made to the design, delivering and assessment process to cater for students with any learning difficulties. Teaching materials and module content has been designed to be inclusive addressing the needs of our diverse student body. Teaching methods include lectures, seminars, tutorials, discussions and workshops to address the needs of diverse learning needs.

Details of local assessment arrangements

a) Passing Modules

The student must achieve a minimum of 40% in a module in order to passa module.

b) Incomplete Modules

If a student does not pass the module, another set of assessments (resits) are conducted after the semester's final exams 9during the resit period).

The marks of the resit are capped at 40% unless extenuation is granted.

c) Modules opportunities

A module resit is considered a second opportunity. If a student fails at the second opportunity they will be given a maximum of two further opportunities (opportunity three and opportunity four).

The third opportunity requires full attendance of the module in the next academic year. The fourth opportunity will be a further resit. In each case the final mark is capped at 40% unless extenuation is granted.

d) Repeating a year

If a student fails to achieve 90 or more credits within an academic year they may, at the discretion of the Exam Board, be asked to either leave the course or repeat the

whole academic year (with mark uncapped). A student will only be allowed to repeat an academic year once at most during their studies.

Degree Classification

Where a student is eligible for an Honors degree by passing a valid combination of modules to comprise an award and has gained a minimum of 240 UEL credits at level 5 or level 6 on the current enrolment for the programme, including a minimum of 120 UEL credits at level 6, the award classification is determined by calculating:

The arithmetic mean of the best 90 credits at level 6	x	0.8	+	The arithmetic mean of the next best 90 credits at levels 5 and/or 6	x	0.2

and applying the mark obtained as a percentage, with all decimals points rounded up to the nearest whole number, to the following classification

70% - 100%	First Class Honours
60% - 69%	Second Class Honours, First Division
50% - 59%	Second Class Honours, Second Division
40% - 49%	Third Class Honours
0% - 39%	Not passed

For full details of the University degree classification refer to***http://www.uel.ac.uk/wwwmedia/internal/qa/committees/documents/Academic-Framework---Assessment-Regulations---with-changes-approved-for-Transition-Group.doc***

Grades of the BLDG Program modules

The points of each credit hour are computed as follows:

Ain Shams University			**University of East London**
Percentage of total mark at ASU	**Grade**	**Points for GPA**	**Percentage equivalent at UEL**
97% and higher	A+	4.0	95% and higher
93% to less than 97%	A	4.0	82% to less than 95%
89% to less than 93%	A-	3.7	70% to less than 82%
84% to less than 89%	B+	3.3	66% to less than 70%
80% to less than 84%	B	3.0	63% to less than 66%
76% to less than 80%	B-	2.7	60% to less than 63%
73% to less than 76%	C+	2.3	56% to less than 60%
70% to less than 73%	C	2.0	53% to less than 56%
67% to less than 70%	C-	1.7	50% to less than 53%
64% to less than 67%	D+	1.3	45% to less than 50%
60% to less than 64%	D	1.0	40% to less than 45%
Less than 60%	F	0.0	Less than 40%

The marks of each course are distributed as percentages of the total mark according to the following rules:

1. A final written exam will be held for each course at the end of the semester that weighs 40% of the total course marks, with the exception of the graduation project.

2. Semester-work represents 60% of the total course marks, which includes the mid-term exam in the sixth or seventh week of the semester that weighs 25% of the total course marks. The remaining 35% of the total course marks are distributed among research, reports, quizzes ... etc., practical/oral exams, participations ... etc.

The student must attend at least 75% of the course.

The minimum mark that must be earned in any component is 30% of the total mark, 40% overall, otherwise the student will fail the course irrespective of the total marks he earned in the course and he will get an F grade in this course.

The student fails the course if he obtains an F grade, or was prevented from attending the final examination because of exceeding the absence percentage or cheating … etc, or did not attend the final examination without submitting an excuse that is accepted by the Programmes Administration Council and approved by the Council of the Faculty of Engineering.

Certificates/Awards

For the UEL/ASU double award programme, students will be issued a UEL certificate and a UEL Diploma Supplement. In addition, ASU will also issue their own certificate to students who have completed the programme. The calculation of the class of degree will be in accordance with UEL's degree classification calculations.

For students who have transferred to UEL (on campus in London): a UEL certificate will is issued together with a UEL Diploma Supplement. The calculation of the degree classification will be based on the proportion of the programme studied at UEL as per UEL's existing rules and regulations. b)ASU will determine at its discretion if credits can be brought back to ASU where the calculation of the class of degree will be determined by ASU.

References to student policies

ASU-FoE available at:***https://eng.asu.edu.eg/uploads/uploadcenter/asu_594_file.pdf***
UEL available at:
https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies

Also detailed in Appendix B which provides full information on referencing and the avoidance of plagiarism.

The electronic version of “Cite Them Right: *the essential referencing guide”* 9th edition, can be accessed whilst on or off campus, via UEL Direct. The book can only be read online and no part of it can be printed nor downloaded.

Reference to Appendix E containing information on Academic Misconduct and Plagiarism. Assessment and Feedback Policy available at:

https://eng.asu.edu.eg/uploads/uploadcenter/asu_594_file.pdf

Assessment and feedback are fundamental parts of your learning experience. The UEL Assessment and Feedback Policy seeks to:

- actively promote student success and academic achievement;
- provide clear, accurate, accessible information and guidelines to all staff and students on assessment and feedback;
- maximise the potential for consistency and fairness in assessment;
- locate assessment and feedback as an integral part of learning and teaching processes.

Every component of assessment that contributes to an award, at all levels, is subject to internal and External Examiner moderation. This ensures the maintenance of standards both internally and in comparison, with similar programmes delivered at other higher education institutions. The UEL Assessment and Feedback Policy outlines the process for the various stages of the marking process and is available at***https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Assessment-and-Feedback-Policy***

The UEL Skills Curriculum has been designed to ensure that you are taught, have the opportunity to practice, and are assessed in three skillsets: Learning Skills, Professional Skills and Research Skills. These Skills are developed within your programme of study. Further information is available at:
https://www.uel.ac.uk/discover/governance/policies-regulations-corporate-documents/student-policies/skills-curriculum

The UEL Skills Portal has been designed to act as a single gateway to a whole range of skills support that will help you progress through your studies. From tips on academic writing, using IT, to guidance on time management and exam revision - all of the resources in the UEL Skills Portal have been designed to support your learning and achievement, refer to
https://uelac.sharepoint.com/LibraryandLearningServices/Pages/Skillzone.aspx

As a student you will be taught how to write correctly referenced essays using UEL's standard Harvard referencing system from Cite Them Right**.** Cite them Right is the standard Harvard referencing style at UEL for all Schools apart from the School of Psychology which uses the APA system. This book will teach you all you need to know about Harvard referencing, plagiarism and collusion. The electronic version of “Cite Them Right: *the essential referencing guide”* 9th edition, can be accessed whilst on or off campus, via UEL Direct. The book can only be read online and no part of it can be printed nor downloaded.

Further information is available at Appendix E and the weblinks below

Harvard referencing
https://uelac.sharepoint.com/LibraryandLearningServices/Pages/Harvard-Referencing-.aspx

Academic Integrity
https://uelac.sharepoint.com/LibraryandLearningServices/Pages/Academic-integrity.aspx

Assessment Criteria

A student's performance will be marked and graded according to pre-specified and clear assessment criteria. These will normally be presented in one document combining marking and grading criteria. Further details can be found in section of the Assessment and Feedback Policy and can be found at:
www.uel.ac.uk/qa/policies/assessmentpolicy/

As your degree progresses, you will be assessed in a number of different ways. In addition to examinations, you will have a range of coursework assessments such as reports or presentations, for which you will be given clear guidance by the module leader including how you will be assessed for that piece of work.
The section below gives you a general guideline of what we are looking for at different levels of the programme:

Level 3

- Recall factual information.
- With some help, you can analyse and evaluate the information.
- You can follow guidelines in creating solutions to straightforward problems.

Work of a better standard usually reflects an approach where

- You have required little additional guidance in producing your work.
- You have shown initiative where appropriate.
- You meet your obligations to others
- You have fully appreciated the complexity of a task and managed your time and resources accordingly.
- Your work is presented with care and forethought.

Level 4

- You can present factual information.
- With some help, you can analyse and evaluate the information presented and draw some conclusions.
- You can follow guidelines in creating solutions to straightforward problems.

Work of a better standard usually reflects an approach where

- You have required little additional guidance in producing your work.
- You have shown initiative where appropriate.

- You meet your obligations to others
- You have fully appreciated the complexity of a task and managed your time and resources accordingly.
- Your work is presented with care and forethought.

Level 5

- Your work displays a detailed knowledge of the topic. You are aware of other contexts that can be applied to this knowledge.
- With some guidance you can analyse data and situations in a range of different contexts.
- You can take information gathered or the ideas of others and re-format it to your own purpose.
- You can select appropriate evaluation techniques. You can use these to evaluate your own findings.

Work of a better standard usually reflects an approach where

- You have required minimal additional assistance
- You have been particularly creative in devising and implementing you chosen solution
- You have identified the key elements of problems and chosen the appropriate strategies to resolve them.
- You have communicated your work in a clear and concise manner.

Level 6

- Your work displays a comprehensive and detailed knowledge of the topic with areas of specialisation showing depth of understanding.
- You are aware of current developments.
- Without guidance you can analyse data and situations in a range of different contexts.
- You can develop creative and innovative solutions with little guidance.
- You can review evidence critically and use your findings to support conclusions and recommendations.

Work of a better standard usually reflects an approach where

- You have not required any additional assistance
- You have proved you can manage your own learning and make full use of a wide range of resources.
- You have been confident in your ability to solve problems.
- You have communicated your work in a thoroughly professional and coherent manner.

Research Integrity

The University of East London conducts high quality, innovative research and is guided by the principles and standards outlined in The Concordat to Support Research Integrity, 2012; the University's Code of Practice for Research; Code of

Practice for Research Ethics and Procedures for the Investigation of Misconduct in Research, for staff and students. The Concordat seeks to provide a national framework for good research governance and its conduct, and applies to all fields of research supporting a research environment that is underpinned by ethical values. The University adheres to its responsibility to support and promote the highest standards of rigour and integrity and embed a culture of honesty, transparency and care and respect for all participants and subjects of research. The University is committed to ensuring that research is conducted with integrity and good research practices are upheld.

Research Ethics

Research involving human participants, human material, personal or sensitive data or non-human animal should comply with all legal and ethical requirements and other applicable guidelines. The University has established various Research Ethics Committees' at University and School level to ensure appropriate ethical review of research projects involving human participation, human material or personal data. A proposed research study may require ethical approval from the main University Research Ethics Committee (UREC), one of the School Research Ethics Committees' (SRECs) or where applicable, Collaborative Partner Research Ethics Committees' (SRECs and CRECs consider applications for ethical approval from taught Masters and undergraduate students.

Research involving human participation or human material will require formal approval from UREC, SREC or CREC before the research commences. Students should submit research projects involving human participants, human material, personal or sensitive data or non-human animal for ethical review, to one of the University's Research Ethics Committees' listed above, and abide by the outcome of the review. The Research Ethics Committees' ensure that appropriate procedures for obtaining informed consent are observed, having particular regard to the needs and capacity of the subjects involved. The dignity, rights, safety and well-being of participants must be the primary consideration in any research study. Appropriate care must be taken when research projects involve: vulnerable groups, such as elderly people, children, people with mental ill-health and covert studies or other forms of research which do not involve full disclosure of the research to participants. The University's Research Ethics Committees' also ensure that research projects of this nature have been submitted for approval to all applicable external bodies; ethical, regulatory or otherwise.
https://uelac.sharepoint.com/ResearchInnovationandEnterprise/Pages/Ethics.aspx

Students should understand their responsibilities to conduct research to high ethical standards and be aware of policies and procedures on good research practice. The University has established guidelines to preserve the confidentiality and security of personal data, relating to human participants and human material involved in research projects. Students must comply with the regulations of appropriate regulatory or statutory bodies and any legal obligations when conducting or collaborating in research in other countries. The legal and ethical requirements existing in the UK and in the countries where the research will take place should also

be observed. Students should ensure that they have fully prepared for their planned research, allowing enough time to submit an application for ethical approval and obtain appropriate consent. It is advisable that students seek guidance from supervisors on proposed research projects.

No data collection or recruitment of human participants for the research study may commence until ethical approval from UREC; SREC; CREC; or a NHS or Social Care Research Ethics Committee is confirmed. Students may only use data where ethical approval has been obtained and in accordance with the conditions specified in the approval letter, throughout the length of the study. Amendments to an approved research study must be submitted to the relevant Research Ethics Committee for review and ethical approval obtained before any changes to the project may be implemented. Ethical approval for research projects cannot be granted retrospectively. Research conducted with human participants or human material, without ethical approval from the appropriate Research Ethics Committee, is considered misconduct in research and as such students may be subject to formal investigation, which may result in the termination of the research project.
https://uelac.sharepoint.com/ResearchInnovationandEnterprise/Pages/Ethics.aspx

Risk Assessment

The University has a duty of care to its researchers and a responsibility to safeguard the welfare of research participants. Risk management should be considered at the same time as planning a research project. A comprehensive risk assessment helps to identify and evaluate potential hazards associated with the research project. Students in consultation with their supervisors should put control measures in place to minimise the likelihood of an event occurring that will cause harm. A risk assessment must be completed for research taking place within and outside of the University, fieldwork and research conducted overseas, before the project commences. The risk assessment should be completed by the student in collaboration with the supervisor and authorised by the Dean of the School or Associate/Acting Dean. If students consider that human participants in their, or others,' research are subject to unreasonable risk or harm, they must report the concerns to their supervisor and, where necessary, to the appropriate regulatory authority. Similarly, concerns relating to the improper and/or unlicensed use or storage of human material or non-human animal or the improper use or storage of personal data, should also be reported.

Further guidance on risk assessments can be found in the University's Health & Safety Handbook:
https://uelac.sharepoint.com/HealthandSafetyUnit/Pages/H%26S-Handbook.aspx

6 MODULE SPECIFICATIONS

Module Specification

Module Title: Applied Mathematics for Engineering Problems	**Module Code:** **EG3002/EG3311** **Level:** 3 **Credit:** 30 **ECTS credit:** 15	**Module Leader**: Assoc.Prof. Osama EL-Nesr & Assoc.Prof. Haytham Zohny
Pre-requisite: None	**Pre-cursor:** None	
Co-requisite:EG3312, EG3313, EG3314	**Excluded combinations :**None	
Location of delivery: ASU, Egypt		

Main aim(s) of the module:

The main aim of this module is to provide students with the opportunity to develop an understanding of trigonometric functions and the skills needed to apply advanced mathematical techniques such as algebra, calculus and statistics, to solve complex engineering problems. Additional techniques, including matrices and numerical methods, are introduced to enable students to solve linear and non-linear algebraic equations, partial differentiation, and differential equations.

Main topics of study:

Vectors, Lines and Planes: Cartesian coordinates of space, vectors, lines, planes, dot and cross product. Vector-valued Functions: vector-valued functions, tangents, normals, curvature. Partial Derivatives: quadric surfaces, partial derivatives, chain rule, directional derivatives, gradients, extreme values, Lagrange multipliers. Multiple Integrals: double and triple integrals, change of variable, volume, surface area, moments and centres of gravity. Calculus of Vector Fields: line and surface integrals, Green's theorem, Stokes' theorem, Divergence theorem.

Introduction to and classification of differential equations. First Order Equations: linear, separable and exact equations, existence and uniqueness of solutions, properties of nonlinear vs. linear equations, qualitative methods for autonomous equations. Second Order Equations: theory of linear equations, homogeneous linear equations with constant coefficients, reduction of order, methods of undetermined coefficients and variation of parameters for non-homogeneous equations, mechanical and electrical vibrations. Laplace Transforms: definition and calculation of transforms, applications to differential equations with discontinuous forcing functions. Systems of First Order Linear Equations: general theory, Eigen value-eigenvector method for systems with constant coefficients.

Descriptive and inferential statistics, variables and types of data, data collection and sampling techniques. Probability and counting rule: Sample spaces and probability, the addition rules for probability, multiplication rules, counting rules, permutations, combinations, conditional probability, Bays theorem, random variables, mathematical expectation. Frequency distributions and graphs: Organizing data, frequency tables, histograms, frequency polygons, and ogives. Data description: Measures of central tendency, measures of dispersion, measures of position, detecting outliers. Discrete probability distributions: binomial, Poisson, and hypergeometric distributions. Continuous probability distributions: Normal distribution, standard normal distribution, the central limit theorem, the normal approximation to the binomial distribution, normal probability plots.

Learning Outcomes for the module

At the end of this module, students will be able to:

1. Define three-dimensional coordinate systems, Functions of several variables, Green's theorems and Stokes' Theorem
2. Define Basic concepts of Probability.
3. Define descriptive and inferential statistics.
4. Evaluate line and surface integrals.

5. Calculate Laplace, inverse Laplace transforms, and Calculate Fourier coefficient for odd and even functions.
6. Solve partial differential equations.
7. Recognize the mathematical expectation, variance, covariance and correlation coefficient.
8. Study discrete probability distributions: binomial, Poisson, and hypergeometric distributions.
9. Know continuous probability distributions: Normal distribution, standard normal distribution and exponential distribution
10. Use the knowledge of mathematics to solve engineering problems.

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:

Lectures are the key method for introducing new material. They are presented to the whole group and are formal in delivery.

Tutorial sessions allow students to meet with their peers in small groups and focus on the practical application of their studies through problem-based classes and project work.

Practical and laboratory work will usually be on a one to small group basis which provides the opportunity for discussion and contextualising of study issues in a flexible manner.

Formative feedback will be provided for all activities. This may take the form of question and answer sessions within lectures; through worked examples, design exercises and discussion groupsin small group tutorials; through submitting tutorial questions and formative reports for feedback; comments on the tutorial/practical work during the session, response to emails, the use of the Forum facility on the VLE (for generic feedback) and Turnitin Gradebook for the assessments.
Learning will be supported through information on the VLE and an accompanying core textbook. The information on the VLE adds extra content, and integrates additional resources (such as journal articles and case studies) to support those topics not covered by the core textbook. The VLE encourages deep learning through the use of activities, self-assessment questions and other formative assessments.

Assessment methods which enable students to demonstrate the learning outcomes for the module:	**Weighting:**	**Learning Outcomes demonstrated:**
Portfolio Portfolio of students' work includes a compilation of coursework of the 3 modules; each module includes samples of the following: Activities/Assignments, 2Quizzes, 1 Midterm Exam, Final Exam	100%	1-10

Reading and resources for the module:
Core
Stroud, K.A. & Booth, D.J. (2007) Engineering Mathematics, Palgrave Macmillan. ISBN: 978-0-230-57907-1

Recommended
Hobson, A.J (2002) Just the Maths. Available at http://www.e-booksdirectory.com/details.php?ebook=5095 [free e-book].

Indicative learning and teaching time (10 hrs per credit):	**Activity**
1. Student/tutor interaction: 135 hours 67.5 hours 0 hours	 Lectures Tutorials Laboratories/Practicals
2. Student learning time:	

97.5 hours	(including assessment)
Total hours (1 and 2):	300 hours

Module Specification

Module Title:	**Module Code:** **EG3003/EG3312**	**Module Leader**:
Building Engineering Systems and Thermal Sciences	**Level:** 3 **Credit:** 30 **ECTS credit:** 15	Assoc.Prof. Osama EL-Nesr & Assoc.Prof. Haytham Zohny
Pre-requisite: None	**Pre-cursor:** None	
Co-requisite:EG3311, EG3313, EG3314	**Excluded combinations :**None	
Location of delivery: ASU, Egypt		

Main aim(s) of the module:

The module focuses on three main areas: introduction to the thermal environment and sustainable development issues; building engineering systems and building engineering drawing. It also provides students with an opportunity to develop the skills needed to select and design suitable ventilation and air conditioning systems for industrial and commercial buildings.

A minimum proficiency level of 50% at producing a Manual preliminary architectural drawing set, plan (s), elevation (s), section (s), isometric and axonometric of a simple architectural building. A minimum proficiency level of 80% at producing a Digital architectural working drawing plans of a simple architectural building.
A minimum proficiency level of 80% at reading the basic sub-systems drawings; electrical installations and pluming. Compare the different factors influencing the energy consumption in buildings to choose from their alternatives. Analysis of different energy conservation applications and their benefits. Innovate new methods to apply energy conservation in buildings.

The student will know the different building systems, understand basic concepts and analysis techniques of building systems and be able to select the most applicable building materials and systems.

The student will able to analyse systems involving basic heat and mass transfer, perform basic calculations heat and mass transfer and evaluate indoor conditions including sound, level, humidity, temperature.

Main topics of study:

Heat, temperature, one-dimensional steady-state processes. Convection: natural and forced. Radiation. Combined radiative and convective surface transfer. Psychrometrics. Thermal comfort. Air quality. Condensation: surface and interstitial.

Fundamentals of technical drawings: multi view & single view projections. Architectural drawings terms. Architectural and building engineering drawing stages: schematic, design development and tender drawings. Computer Aided Architectural Drafting (CAAD). CAD standards and uniform drawing system. Building sub-systems and related graphics standards and terms. Project: representation of a building and its sub-systems.

Concepts and design methodologies, Architectural plans, layout and elevations, Selection of building materials, Structural systems including skeleton frames and load bearing wall systems, Mechanical systems including heating and air-conditioning, air and ventilation system piping systems (water supply, drainage and fire-fighting) and vertical transportation system, Building electrical systems, Enclosure systems, Smart buildings and Green and sustainable buildings.

Learning Outcomes for the module

At the end of this module, students will be able to:
1. Define concepts and design methodologies and Categorize building materials and systems.
2. State the basic requirements in an insulating material.
3. Explain the difference between natural and forced convection
4. Name different methods of internal shading and their effect on cooling load

5. Explain the different factors affecting comfort
6. Deduce elevations and sections from 3D drawings and vice versa.
7. Illustrate Smart buildings, Green and sustainable building.
8. Evaluate the direct, diffuse, and reflected radiation for surfaces with any orientation.
9. Apply drawing techniques and tools to draw geometrical and architectural drawings accurately, and apply AutoCAD program to draft simple schematic architectural drawings
10. Construct model of a structure.

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:

Lectures are the key method for introducing new material. They are presented to the whole group and are formal in delivery.

Tutorial sessions allow students to meet with their peers in small groups and focus on the practical application of their studies through problem-based classes and project work.

Practical and laboratory work will usually be on a one to small group basis which provides the opportunity for discussion and contextualising of study issues in a flexible manner.

Formative feedback will be provided for all activities. This may take the form of question and answer sessions within lectures; through worked examples, design exercises and discussion groupsin small group tutorials; through submitting tutorial questions and formative reports for feedback; comments on the tutorial/practical work during the session, response to emails, the use of the Forum facility on the VLE (for generic feedback) and Turnitin Gradebook for the assessments.

Learning will be supported through information on the VLE and an accompanying core textbook. The information on the VLE adds extra content, and integrates additional resources (such as journal articles and case studies) to support those topics not covered by the core textbook. The VLE encourages deep learning through the use of activities, self-assessment questions and other formative assessments.

Assessment methods which enable students to demonstrate the learning outcomes for the module:	**Weighting:**	**Learning Outcomes demonstrated:**
Portfolio Portfolio of students' work includes a compilation of coursework of the 3 modules; each module includes samples of the following: Activities/Assignments, Lab data sheets (1st Module), 2 Quizzes, 1 Midterm Exam Final Exam.	100%	1-10

Reading and resources for the module:

Core

Randall, Thomas, Environmental Design, an introduction for architects and engineers, Spon Press, London 2000.
Jefferies, Alan & Madsen, David A., Architectural Drafting and Design, 5th Ed.
S. Wang Handbook of air conditioning and refrigeration 2nd ed,
Cengel and Boles Introduction to heat transfer: a practical approach

Recommended

D.K. Ching, Francis, Building Construction Illustrated, Wiley, London, 2008.
Yardword, A. (2004) Introduction to AutoCAD 2004. Oxford: Butterworth-Heinemann
Porter, Tom and Goodman, sue; Manual of Graphic Techniques 4, 1998
Ching, Francis D.K., Design Drawing John Willey & Sons, Inc 1998.
James Ambrose & Patrick Tripeny, "Simplified Engineering for Architects and Builders," Tenth Edition.
Stein & Reynolds, "Mechanical and Electrical Equipment for Buildings MEEB," Ninth Edition.
Frederick S. Merritt, "Building Design and Construction Handbook," Sixth. Edition,McGraw Hill, New York, 2001.
Introduction to heat transfer by Incropera and Dewitt

Faye McQuiston et al. Heating, Ventilating and Air Conditioning Analysis and Design	
Indicative learning and teaching time (10 hrs per credit):	**Activity**
1. Student/tutor interaction: 120 hours 75 hours 30 hours	 Lectures Tutorials Laboratories/Practicals
2. Student learning time: 75 hours	 (including assessment)
Total hours (1 and 2):	300 hours

Module Specification

Module Title:	**Module Code:** **EG3004/EG3313**	**Module Leader**:
Introduction to Structural Analysis and Material Properties	**Level:** 3 **Credit:** 30 **ECTS credit:** 15	Assoc.Prof. Osama EL-Nesr & Assoc.Prof. BahaaTork
Pre-requisite: None	**Pre-cursor:** None	
Co-requisite:EG3311, EG3312, EG3314	**Excluded combinations :**None	
Location of delivery: ASU, Egypt		

Main aim(s) of the module:

The module provides students with the skills to analyse and design statically determinate structures in compliance with current codes of practice and standards. The module will also enable students to distinguish between different classes of materials; describe the intimate link between material structure, and properties; predict some properties that are related to the structure; solve simple calculations to determine crystal parameters; outline the origin of mechanical, electrical, thermal, optical and magnetic properties and explain how they are related to their structure; and categorise practically different materials & different polymers.

Students will be able to develop the skills to formulate and analyse a problem in a simple and logical manner and acquaint them with analytical and empirical solutions; understand the concepts of force-deformation and stress-strain relationships; master the evaluation of the straining actions and their effects in terms of stresses and strains on rigid bodies; analyse simple structural members and understand the idea of ultimate and allowable capacities of these members.

Main topics of study:

Analysis of statically determinate structures: introduction, reactions, internal forces for beams, inclined beams, frames, arches and trusses, and Influence lines diagrams. Engineering materials: metals, polymers, ceramics, and composites. The internal structure of material: atomic structure, atomic arrangement, microstructure, and macrostructure. Good exploitation of the material requirements for a set of properties suitable for this use. Material properties: physical, chemical, mechanical, electrical, thermal, and optical properties. Relationship between material properties and its internal structure, method of synthesizing, manufacturing, processing. Analysis of structural elements subjected to axial, flexural, shearing and torsional loadings. Normal and shearing stresses. Shear flow. Riveted (bolted) and welded connections. Combined stresses and principal stresses.

Learning Outcomes for the module

At the end of this module, students will be able to:

1. Recognize type of loads and supports.
2. Distinguish between different classes of materials
3. Recognize the origin of mechanical, electrical, thermal, optical and magnetic properties
4. Analyse statically determinate structures.
5. Explain the basic concepts of influence lines diagrams and its application for the determination of internal forces.
6. Predict some properties that are related to the structure;
7. Calculate stresses in homogenous sections for different straining actions.
8. Analyse combined stresses in homogenous sections analytically and graphically
9. Develop some experiments to examine microstructure morphology.
10. Share ideas with others effectively.

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:

Lectures are the key method for introducing new material. They are presented to the whole group and are formal in delivery.

Tutorial sessions allow students to meet with their peers in small groups and focus on the practical application of their studies through problem-based classes and project work.

Practical and laboratory work will usually be on a one to small group basis which provides the opportunity for discussion and contextualising of study issues in a flexible manner.

Formative feedback will be provided for all activities. This may take the form of question and answer sessions within lectures; through worked examples, design exercises and discussion groupsin small group tutorials; through submitting tutorial questions and formative reports for feedback; comments on the tutorial/practical work during the session, response to emails, the use of the Forum facility on the VLE (for generic feedback) and Turnitin Gradebook for the assessments.

Learning will be supported through information on the VLE and an accompanying core textbook. The information on the VLE adds extra content, and integrates additional resources (such as journal articles and case studies) to support those topics not covered by the core textbook. The VLE encourages deep learning through the use of activities, self-assessment questions and other formative assessments.

Assessment methods which enable students to demonstrate the learning outcomes for the module:	**Weighting:**	**Learning Outcomes demonstrated:**
Portfolio Portfolio of students' work includes a compilation of coursework of the 3 modules; each module includes samples of the following: Activities/Assignments, Lab data sheets (2nd Module), 2 Quizzes, 1 Midterm Exam Final Exam.	100%	1-10

Reading and resources for the module:

Core

Hibbeler, R. C. Structural Analysis, Sixth ed. Prentice Hall, Upper Saddle River, New Jersey07458, 2007, ISBN: 0-13-0181309-5..

Recommended

Beer, F. P., Russell, J.Jr., DeWolf, J.T. Mechanics of Materials, 4th edition, McGraw Hill, NY, 2006. ISBN-13: 9780073107950..

Indicative learning and teaching time (10 hrs per credit):	**Activity**
1. Student/tutor interaction: 120 hours 75 hours 22.5 hours	 Lectures Tutorials Laboratories/Practicals
2. Student learning time: 82.5 hours	 (including assessment)
Total hours (1 and 2):	300 hours

Module Specification

Module Title:	**Module Code:** **EG3005/EG3314**	**Module Leader**:
Fluid mechanics, building engineering materials and professional practice	**Level:** 3 **Credit:** 30 **ECTS credit:** 15	Assoc.Prof. Osama EL-Nesr & Prof. Nagy Ali Ali

Pre-requisite: None	**Pre-cursor:** None
Co-requisite:EG3311, EG3312, EG3313	**Excluded combinations :**None

Location of delivery: ASU, Egypt

Main aim(s) of the module:

The module will provide fundamentals of fluid statics and dynamics for the solution of practical Civil Engineering problems. The module will also explore the fundamental principles of fluid mechanics through experimentation and experimental data analysis.
The module covers fundamental properties of building materials; standard specifications & codes of practice; behaviour of metals under static tension, compression, bending, shear & torsion.

Another focus of the module is to familiarize the student with the meaning, history and different aspects of engineering; help the student explore future career opportunities; introduce professional practice, responsibilities, health and safety and engineering ethics in academia and in the workplace; and provide students with career enhancing skills.

Main topics of study:

Manometry, Forces on plane and curved surfaces, Buoyancy, Fluid masses subjected to acceleration (forced vortex). Kinematics of fluid motion: Fluid flow, Types of flow, Classification of flow, Continuity equation. Flow of Incompressible fluid: One-dimensional flow, Euler's Equation in three dimensions, Bernoulli's, Energy equation, Applications of Bernoulli's equation (flow through free and submerged orifices, flow over notches and weirs flow measuring devices, time of filling and emptying tanks under variable and constant heads, free vortex). Pipe flow: Laminar and turbulent flow, Reynolds number, Shear stress distribution, Velocity distribution, Main losses, Secondary losses, Single pipe, Pipe connections (parallel and series), Pipe branching, Three tank problems. The Impulse-Momentum principle: Development of the principle, Pipe bends, Enlargements and contractions, Hydraulic structures in open channels.

Specifications of engineering materials and products. Main properties of engineering materials (physical chemical, mechanical, etc.). Non-metallic building materials and units. Properties and testing of building stones, lime, gypsum, timber, bricks, Tiles. Isolation materials, moisture heat and sound. Metallic building materials and units: structural steel, welding and welded splices. Behaviour of metals under static loads: tension, compression, flexure, shear, surface hardness of metals. Behaviour of metals under dynamic loads (Impact) and repeated loads (fatigue), Creep.

Introduction to engineering profession, study skills, review of the legal framework particularly the Professional Code and the Engineers Act, as well as professional ethics. Health and safety issues for engineering projects: legislations, safe work practices, general Lab safety common to all engineering disciplines, and specific Lab safety pertaining to particular engineering disciplines. Environmental concerns, career exploration, engineering reasoning and critical thinking

Learning Outcomes for the module

At the end of this module, students will be able to:

1. Identify the fluid properties.
2. Describe the stability condition of floating bodies.
3. Explain the fundamentals of fluid flow and Euler’s equation.
4. Describe how to draw the total energy line and Hydraulic Gradient Line of flow.
5. Estimate the force exerted by moving fluids that helps in analyzing and designing many hydraulic

devices and hydraulic structures.
6. Explain the concept of pipe flow that helps in the design of pipe networks
7. Identify the Engineering Profession and Effective Studying.
8. Define and adopt Engineering Ethics and Health and Safety Issues for Engineering Projects.
9. Analyse experimental data, critical thinking in engineering problems.
10. Prepare technical effective studying reports.

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:

Lectures are the key method for introducing new material. They are presented to the whole group and are formal in delivery.

Tutorial sessions allow students to meet with their peers in small groups and focus on the practical application of their studies through problem-based classes and project work.

Practical and laboratory work will usually be on a one to small group basis which provides the opportunity for discussion and contextualising of study issues in a flexible manner.

Formative feedback will be provided for all activities. This may take the form of question and answer sessions within lectures; through worked examples, design exercises and discussion groups in small group tutorials; through submitting tutorial questions and formative reports for feedback; comments on the tutorial/practical work during the session, response to emails, the use of the Forum facility on the VLE (for generic feedback) and Turnitin Gradebook for the assessments.

Learning will be supported through information on the VLE and an accompanying core textbook. The information on the VLE adds extra content, and integrates additional resources (such as journal articles and case studies) to support those topics not covered by the core textbook. The VLE encourages deep learning through the use of activities, self-assessment questions and other formative assessments.

Assessment methods which enable students to demonstrate the learning outcomes for the module:	**Weighting:**	**Learning Outcomes demonstrated:**
Portfolio Portfolio of students' work includes a compilation of coursework of the 3 modules; each module includes samples of the following: Activities/Assignments, Lab data sheets (1st Module), 2 Quizzes, 1 Midterm Exam Final Exam.	100%	1-10

Reading and resources for the module:

Core

Hamill, L. (2011) Understanding hydraulics. 3rd edn. Basingstoke: Palgrave Macmillan.
Stroud, K.A. & Booth, D.J. (2007) Engineering Mathematics, Palgrave Macmillan. ISBN: 978-0-230-57907-1.
Jackson, N. and Dhir, R. K. (1996) Civil engineering materials. 5th edn. Basingstoke: Macmillan

Recommended

Vennard,J.K., "Elementary Fluid Mechanics", John Willey and Suns Inc.
Olson, R.M., "Engineering Fluid Mechanics.
Chadwick, A., Morfett, J. and Borthwick, M. (2013) Hydraulics in civil and environmental engineering. 5th edn. CRCPress, taylor& Francis Group.
Marriott, M. (2009) Nalluri& Featherstone's civil engineering hydraulics. 5th edn. Oxford: Wiley-Blackwell.
Taylor, G.D. (2000) Materials in construction, an introduction. 3rd edn. Harlow: Longman
Neville, A. M. (1995) Properties of concrete. 4th edn. Harlow: Longman
Rogers, M. (2008) Highway engineering, 2nd edn. Oxford: Wiley

Indicative learning and teaching time (10 hrs per credit):	**Activity**
1. Student/tutor interaction: 105 hours 82.5 hours 30 hours	 Lectures Tutorials Laboratories/Practicals
2. Student learning time: 82.5 hours	 (including assessment)
Total hours (1 and 2):	300 hours

Module Specification

Module Title:	**Module Code:** **EG4002/EG3421**	**Module Leader**:
Engineering Surveying and Numerical Methods	**Level:** 4 **Credit:** 30 **ECTS credit:** 15	Assoc.Prof. Osama EL-Nesr & Assoc.Prof. Haytham Zohny
Pre-requisite: None	**Pre-cursor:** None	
Co-requisite:EG3422, EG3423, EG3424	**Excluded combinations :**None	
Location of delivery: ASU, Egypt		

Main aim(s) of the module:

The module will provide students with the knowledge and the understanding of the historical background, definitions and branches of surveying science. The module will enable students to develop skills in representing the surveying maps, scales and measurements units; drawing field sketches, electronic methods of linear measurements, electronic measurements and their corrections kinds, of directions, azimuth, methods of observing angles and their associated errors. Students will study methods of calculating coordinates and setting out of angles; techniques for angle and distance measurements using EDM and Theodolite instruments; formulate the traverse observations and calculations, and two dimensional coordinate's transformation and develop knowledge and understanding of the theory of errors in plane surveying.

Students will recognize methods of calculating height differences, methods of extracting object coordinates using photogrammetry, main concept of generating contour lines, and the concept of earth works volume computations. The module also focuses on the use of numerical methods in civil engineering applications.

Main topics of study:

Introduction to surveying science: Historical background, definitions and branches of surveying science. Introduction to national and international mapping system, linear measurements, electronic distance measurements, angular measurements, computation of coordinates, traverse (measurements, calculations, adjustments and drawing), coordinate calculations, two dimensional coordinate transformation, area calculations (regular and irregular parcel shapes) by using analytical, mechanical and graphical methods, parcel division techniques, kinds and types of errors in surveying measurement, introduction to theory of errors.

Introduction to vertical control, different methods for height difference determination, ordinary levelling, survey level and survey staff, Calculation of ordinary levelling, Precise level, Calculations of precise levelling, Indirect methods for height difference determination, Tachometry, Trigonometric levelling, Earth curvature and refraction and their effects on height differences, applications of levelling, longitudinal levelling, cross section levelling, grid levelling, contour lines, topographic maps, volume computations and earth work.

Roots of equations: Bracketing methods, Open methods, Roots of polynomials, Linear algebraic equations: Gauss elimination, Matrix inversion, Curve fitting: Least square regression, Interpolation, Numerical differentiation and integration: Integration of equations, Numerical differentiation, Ordinary differential equations: Stiffness and multi-step method, Boundary value and Eigen value problems, Partial differential equations: Finite difference solution, Optimization: One dimensional and Multi-dimensional unconstrained optimization, Constrained optimization.

Learning Outcomes for the module

At the end of this module, students will be able to:

1. Describe the basic of theory of errors.

2. Define the main concept of vertical control and solve the height difference computation.
3. Describe the basics of earthworks volume computations and Suggest alternative solutions for land divisions.
4. Assess surveying equipment needed for height difference determination & coordinates setting out& and photogrammetry.
5. Solve linear systems of equations using Gauss Elimination, matrix inverse and Solve partial differential equations numerically by using finite difference method
6. Estimate best curve to represent data.
7. Identify proper data collection technique for mapping.
8. Deal with professional computer programs for coordinate computations.
9. Solve some engineering problems using manual techniques and apply the MS-Excel to solve different numerical problems.
10. Develop the skills which are related to creative thinking, problem solving, and teamwork in different fields.

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:

Lectures are the key method for introducing new material. They are presented to the whole group and are formal in delivery.

Tutorial sessions allow students to meet with their peers in small groups and focus on the practical application of their studies through problem-based classes and project work.

Practical and laboratory work will usually be on a one to small group basis which provides the opportunity for discussion and contextualising of study issues in a flexible manner.

Formative feedback will be provided for all activities. This may take the form of question and answer sessions within lectures; through worked examples, design exercises and discussion groups in small group tutorials; through submitting tutorial questions and formative reports for feedback; comments on the tutorial/practical work during the session, response to emails, the use of the Forum facility on the VLE (for generic feedback) and Turnitin Gradebook for the assessments.

Learning will be supported through information on the VLE and an accompanying core textbook. The information on the VLE adds extra content, and integrates additional resources (such as journal articles and case studies) to support those topics not covered by the core textbook. The VLE encourages deep learning through the use of activities, self-assessment questions and other formative assessments.

Assessment methods which enable students to demonstrate the learning outcomes for the module:	**Weighting:**	**Learning Outcomes demonstrated:**
Portfolio Portfolio of students' work includes a compilation of coursework of the 3 modules; each module includes samples of the following: Activities/Assignments, Lab data sheets (1st& 2nd Modules), 2 Quizzes, 1 Midterm Exam, Final Exam.	100%	1-10

Reading and resources for the module:

Core

Wolf, P.R. and Brinker, R.C. "Elementary Surveying" Harper Collins, New York, 1994.
William Irvine, F. "Surveying for Construction" The McGraw-Hill Companies, 1995.
Numerical Methods for Engineers by: Steven C. Chapra, Raymond P. Canal.
McGraw-Hill, Fifth edition, 2006, ISBN 007-124429-8.

Recommended

Wolf, P.R. and Brinker, R.C. "Elementary Surveying" Harper Collins, New York, 1994.
William Irvine, F. "Surveying for Construction" The McGraw-Hill Companies, 1995.

Numerical Recipes in C; The Art of Scientific Computing by: William H. Press, Brian P. Flannery, Saul A. Teukolsky and William T. Vetterling, Cambridge University Press Publications	
Indicative learning and teaching time (10 hrs per credit):	**Activity**
1. Student/tutor interaction: 135 hours 82.5 hours 60 hours	 Lectures Tutorials Laboratories/Practicals
2. Student learning time: 22.5 hours	 (including assessment)
Total hours (1 and 2):	300 hours

Module Specification

Module Title: Concrete Technology and Structures Design	**Module Code:** **EG4003/EG3422** **Level:** 4 **Credit:** 30 **ECTS credit:** 15	**Module Leader**: Assoc.Prof. Osama EL-Nesr & Assoc.Prof. M. Abdel Moaty
Pre-requisite: None	**Pre-cursor:** None	
Co-requisite::EG3421, EG3423, EG3424	**Excluded combinations :**None	
Location of delivery: ASU, Egypt		

Main aim(s) of the module:

The module is focused on helping students to assess the effect of vertical static loads acting on the structure and distribute them on beams; to accomplish the flexural and shear design for reinforced concrete beams at the sectional level and provide full detailing at the element level; teach the students the basic principles of design of reinforced concrete structures, both using first principles and charts; to accomplish full design and detailing for reinforced concrete frames at both sectional and element and to check the deflection and cracking serviceability limit states for flexural members (beams and frames).
The module will ensure that students have a clear understanding of concrete constituents, can differentiate between the different types of each constituent, identify the properties, and be aware of testing methods of each constituent; and comprehend the properties and testing methods of concrete in the fresh and hardened stages.
The module will ensure students have a clear understanding of concrete manufacturing processes; can differentiate between the different types of volumetric changes of concrete; can comprehend the non-destructive testing methods of concrete; can judge the concrete quality through statistical methods; have a clear understanding of concrete durability; and a clear understanding of temperature problems in concreting.

Main topics of study:

Design methodologies, structural safety, calculation of demand, load determination and distribution. Behavior and limit states design of reinforced concrete linear elements in pure and eccentric flexure, bond, shear and axial force. Serviceability limits states.

Concrete materials: cement, aggregate, mixing water, admixtures and reinforcing steel. Properties of fresh concrete: Consistency, Workability, Cohesion, Segregation, Bleeding. Mix design: engineered methods, empirical methods. Properties of hardened concrete: compressive strength, tensile strength, flexural strength, bond strength and modulus of elasticity.

Concrete manufacturing: storage, mixing, transportation, pouring, compacting, curing, construction joints, shrinkage and movement joints. Properties of hardened concrete: volumetric changes, elasticity and creep, durability of concrete. Non-destructive testing: rebound hammer, ultrasonic, pulse velocity, core, steel detection, pull-off, pull-out. Statistical analysis: to judge the concrete quality. Introduction on special concrete: polymer, fiber and lightweight concretes. Repair and strengthening of R.C. structures: Assessment methods, repair materials, overview for different techniques.

Learning Outcomes for the module

At the end of this module, students will be able to:

At the end of this module, students will be able to:

1. Explain the nature of vertical loads acting on reinforced concrete structures
2. Explain the serviceability limit state of deflection and cracking for all flexural reinforced concrete elements.
3. Express properties of fresh and hardened concrete
4. Express practical manufacturing processes of concrete and code provisions adopting quality control procedure and evaluation.
5. Comprehend the design charts of reinforced concrete linear elements, through the knowledge of their derivation sources by first principles.
6. Identify different types of concrete materials, resources, different properties, different phases of concrete through its age
7. Conduct different concrete mix design methods and Select the appropriate materials and properties for specific job.
8. Identify different types of concrete dimensional change, different aggressive environments and acceptance criteria of concrete, different types of concrete and concrete floors
9. Interpret the current Egyptian code for design of reinforced concrete structures.
10. Conduct tests on concrete and concrete materials and Prepare appraisal reports for evaluating concrete properties.

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:

Lectures are the key method for introducing new material. They are presented to the whole group and are formal in delivery.

Tutorial sessions allow students to meet with their peers in small groups and focus on the practical application of their studies through problem-based classes and project work.

Practical and laboratory work will usually be on a one to small group basis which provides the opportunity for discussion and contextualising of study issues in a flexible manner.

Formative feedback will be provided for all activities. This may take the form of question and answer sessions within lectures; through worked examples, design exercises and discussion groups in small group tutorials; through submitting tutorial questions and formative reports for feedback; comments on the tutorial/practical work during the session, response to emails, the use of the Forum facility on the VLE (for generic feedback) and Turnitin Gradebook for the assessments.

Learning will be supported through information on the VLE and an accompanying core textbook. The information on the VLE adds extra content, and integrates additional resources (such as journal articles and case studies) to support those topics not covered by the core textbook. The VLE encourages deep learning through the use of activities, self-assessment questions and other formative assessments.

Assessment methods which enable students to demonstrate the learning outcomes for the module:	**Weighting:**	**Learning Outcomes demonstrated:**
Portfolio Portfolio of students' work includes a compilation of coursework of the 3 modules; each module includes samples of the following: Activities/Assignments, 2 Quizzes, 1 Midterm Exam, Final Exam.	100%	1-10

Reading and resources for the module:

Core

Egyptian Code of Practice for the Design and Construction of Reinforced Concrete Structures.

Hillal, M., 1984, "Design of RC Halls".

Egyptian Code of Practice.
Concrete Technology, A.M.Neville and J.J.Brooks
Concrete Microstructure, Properties and Materials, P.K. Mehta and Pauli J.M. Monteiro

Recommended
James Mac Gregor & James K. Wight, "Reinforced Concrete: Mechanics and design," 5th Ed., Prentice Hall, July 2008.
James Mac Gregor & F. Michael Bartlett, "Reinforced Concrete: Mechanics and Design" First Canadian Edition, prentice Hall October 1999.
Design and Control of Concrete Mixtures, Steven H. Kosmatka, Beatrix Kerkhoff, and William C. Panarese.

Indicative learning and teaching time (10 hrs per credit):	**Activity**
1. Student/tutor interaction: 135 hours 67.5 hours 60 hours	 Lectures Tutorials Laboratories/Practicals
2. Student learning time: 97.5 hours	 (including assessment)
Total hours (1 and 2):	300 hours

Module Specification

Module Title:	**Module Code:** **EG4004/EG3423**	**Module Leader**:
Acoustics, lighting, thermodynamics and Building Systems Optimization	**Level:** 4 **Credit:** 30 **ECTS credit:** 15	Assoc.Prof. Osama EL-Nesr & Assoc.Prof. Haytham Zohny
Pre-requisite: None	**Pre-cursor:** None	
Co-requisite:EG3421, EG3422, EG3424	**Excluded combinations :**None	
Location of delivery: ASU, Egypt		

Main aim(s) of the module:

The module will enable students to understand what light means to peoples; recognize and analyse the main sources of light; analyse and understand essential concept of light control. Students will also gain a clear understanding of physical element affect acoustics; evaluate the reverberation time; select the best material for good reverberation time; of the role of geometric shape on reverberation time.

The module will introduce the concept and definition of different thermodynamic properties; build the student ability and analysis thermodynamic systems; determine the values of different properties of ideal gases and pure substances.
The will provide students with the knowledge to formulate models of civil engineering systems; discuss the methods of finding optimal solution of such models; discuss optimization by Calculus with applications; discuss approaches for treating building engineering problems including optimization by calculus, linear.

Main topics of study:

General introduction to the aural and visual environment. Psychological impact of environment. Subjective and objective scales of measurement. Introduction to vibration. The hearing mechanism. Transmission of sound, passive control of noise in buildings, transmission loss, absorption and reverberation time. Room acoustic assessment. Active control of the aural environment. Visual perception. Photometry, brightness, luminance, and illumination. Concept of natural lighting in building. Artificial lighting, light sources, luminaries. Calorimetry. Calculation methods for artificial lighting.

Basic concepts and definitions, System and control volume, Property and state, Processes and cycles, Work definition, Definition of heat transfer, Ideal gases, State equation, Specific heat at constant pressure and volume, Pure substances and phase equilibrium, Tables of thermodynamic properties, First law of thermodynamics, Internal energy and enthalpy. First law for closed cycle, closed and open systems, Thermodynamic activity in solid and liquid systems, Gibbs free energy of solutions, entropy and enthalpy, binary phase diagrams, equilibrium constant, reaction equilibrium in gases, heats of reactions, stoichometric phases, Ellingham diagrams.

Introduction to systematic solution of building engineering problems. Techniques treated include linear programming, network analysis, nonlinear programming. Introduction to decision analysis and simulation. Application of optimization methods for solution of design problems in building science, building environment, building structures, and construction management, taking into account sustainability issues.

Learning Outcomes for the module

At the end of this module, students will be able to:

1. Identify the major items affecting acoustics and specify the requirements for a good acoustic building
2. Classify Basic concepts and definitions of Thermodynamics.
3. Evaluate the performance of the traction system.
4. Design the appropriate lighting system for specific application.
5. Assign exact procedure for good acoustics design
6. Formulate models of civil engineering systems and determine the optimum solution of mathematical

models.
7. Solve linear programming models using Graphical solution and Simplex method.
8. Estimate value engineering for some models of civil engineering systems
9. Design of lighting systems and Present electrical wiring diagrams for the distribution of lamps.
10. Analyse thermodynamic systems.

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:

Lectures are the key method for introducing new material. They are presented to the whole group and are formal in delivery.

Tutorial sessions allow students to meet with their peers in small groups and focus on the practical application of their studies through problem-based classes and project work.

Practical and laboratory work will usually be on a one to small group basis which provides the opportunity for discussion and contextualising of study issues in a flexible manner.

Formative feedback will be provided for all activities. This may take the form of question and answer sessions within lectures; through worked examples, design exercises and discussion groupsin small group tutorials; through submitting tutorial questions and formative reports for feedback; comments on the tutorial/practical work during the session, response to emails, the use of the Forum facility on the VLE (for generic feedback) and Turnitin Gradebook for the assessments.

Learning will be supported through information on the VLE and an accompanying core textbook. The information on the VLE adds extra content,and integrates additional resources (such as journal articles and case studies) to support those topics not covered by the core textbook. The VLE encourages deep learning through the use of activities, self-assessment questions and other formative assessments.

Assessment methods which enable students to demonstrate the learning outcomes for the module:	**Weighting:**	**Learning Outcomes demonstrated:**
Portfolio Portfolio of students' work includes a compilation of coursework of the 3 modules; each module includes samples of the following: Activities/Assignments, Lab data sheets (1st Module), 2 Quizzes, 1 Midterm Exam Final Exam.	100%	1-10

Reading and resources for the module:

Core

Hancock, N. N., "Electric Power utilization", Pitman Publishers, 1999
Laithwaite E.R, and Freris,L.L, "Electric Energy : its Transmission Generation an use",McGraw Hill Co 1984
Wood, A.J and Woolenberg, B.F, "Power Generation, Operation and control", John Wiley., 1984
Smith A.? Hinton E. and Lewis R., Civil Engineering Systems Analysis and Design, John Wiley and Sons, N.J., 1983 ISBN 0-47 1-90060-5.

Recommended

ISO /DIS 3382-1: Acoustics - Measurement of room acoustics parameters - Part 1: Performance rooms.
Acoustical Designing in Architecture, John Wiley and Sons, 1950
Gade, A.C., Rumakustiskmåleteknik, særtryk 14 tilkursus 5142. Department of Acoustic Technology, Technical University of Denmark, Lyngby, 1990
L. L. Beranek, Acoustics, McGraw-Hill, New York, 1954, p. 425.
L. L. Beranek, Music, Acoustics and Architecture, Wiley, New York, 1962, pp. 488-489.
J. S. Bradley, "Uniform Derivation of Optimum Conditions for Speech in Rooms,"
Building Research Note No. 239, National Research Council of Canada, November 1985.
L. Cremer and H.A. Muller, Principles and Applications of Room Acoustics, vol. 1, Applied Science

Publishers, Barking, England, 1978, pp. 610-627.
V. O. Knudsen and C. M. Harris, Acoustical Designing in Architecture, Wiley, New York, 1950, pp. 375 and 394.
Bork, Ingolf. A Comparison of Room Simulation Software --- The 2nd Round Robin on Room Acoustical Computer Simulation, Acta Acoustica, Vol. 86 (2000), p. 943-956.
Bradley J. S., Predictors of speech intelligibility in rooms, J. Acoust. Soc. Am., Vol 80, No. 3, pp 837-845 (1986).
Revelle C., Whitlatch E. and Wright J., Civil and Environmental Systems Engineering, Prentice Hall, 2003. ISBN- 13: 978-0-1 304-7822- 1.
http://www.noisemeters.com/apps/db-calculator.asp
http://www.engineeringtoolbox.com/density-solids-d_1265.html
http://online.unitconverterpro.com/unit-conversion/convert-alpha/density.html
http://www.noisemeters.com/apps/db-calculator.asp

Indicative learning and teaching time (10 hrs per credit):	**Activity**
1. Student/tutor interaction: 135 hours 52.5 hours 52.5 hours	 Lectures Tutorials Laboratories/Practicals
2. Student learning time: 60 hours	 (including assessment)
Total hours (1 and 2):	300 hours

Module Specification

Module Title:	**Module Code:** EG4005/EG3424	**Module Leader**:
Structural Analysis, Steel Design and Engineering Economy	**Level:** 4 **Credit:** 30 **ECTS credit:** 15	Assoc.Prof. Osama EL-Nesr & Assoc.Prof. Sherif M. Ibrahim

Pre-requisite: None	**Pre-cursor:** None
Co-requisite:EG3421, EG3422, EG3423	**Excluded combinations :**None

Location of delivery: ASU, Egypt

Main aim(s) of the module:

The module will enable students to analyse statically indeterminate structures using a variety of methods including the force methods and the displacement method and the method of virtual work. Students will be introduced to matrix methods. The module will enable students to identify main concepts of steel structures; recognize and calculate loads affecting different types of steel structures; and recognize and design different elements of steel structures.
The module also aims to make engineering students familiar with the basics and concepts of engineering economy; to introduce engineering students different types of project in practical application; to teach students how to model real life problems as engineering economy problem; to learn students how to solve engineering economy problem; to supplement engineering students' technical training with the knowledge and capability to perform financial analysis especially in the area of capital investment.

Main topics of study:

Deflection using virtual work method. Analysis of statically indeterminate structures: the methods of consistent deformations, equation of three moments and moment distribution. Introduction to matrix methods; stiffness method.

Loads on steel structures, analysis and design concepts, structural systems and general layout, Tension members, axially loaded compression members, flexural members, local buckling of beams, lateral torsion-flexure buckling, floor beams, purlins, crane track girders, design of beam-column joints, bolted connections, welded connections, plate girders, wind bracing systems and design of steel bases. Corrosion protection of steel structures. Cost estimate of steel structures.

Engineering criteria for decision-making. Money flow. Financial ventures. Personal financing. Total project investment. Production and operations costs. Economic analysis. Financial attractiveness.

Learning Outcomes for the module

At the end of this module, students will be able to:

1. Identify the behaviour of statically indeterminate structures.
2. Explain the internal forces in different types of statically indeterminate structures.
3. Describe the basics of problem solving of time value of money in case of uniform series.
4. Analyse statically indeterminate structures with force methods and with displacement methods.
5. Develop the basic concepts of the stiffness method and its method of use in the development of computer software packages
6. Apply suitable solutions for different structural requirements.
7. Analyse different steel structures and identify each component.
8. Apply a systematic process to making economic decisions.
9. Design complete structural steel systemusing Egyptian code (ECP).
10. Differentiate between different structural systems and select the optimum one
11. Acquire presentation skills during discussion of assignments submission.

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:

Lectures are the key method for introducing new material. They are presented to the whole group and are formal in delivery.

Tutorial sessions allow students to meet with their peers in small groups and focus on the practical application of their studies through problem-based classes and project work.

Practical and laboratory work will usually be on a one to small group basis which provides the opportunity for discussion and contextualising of study issues in a flexible manner.

Formative feedback will be provided for all activities. This may take the form of question and answer sessions within lectures; through worked examples, design exercises and discussion groups in small group tutorials; through submitting tutorial questions and formative reports for feedback; comments on the tutorial/practical work during the session, response to emails, the use of the Forum facility on the VLE (for generic feedback) and Turnitin Gradebook for the assessments.

Learning will be supported through information on the VLE and an accompanying core textbook. The information on the VLE adds extra content, and integrates additional resources (such as journal articles and case studies) to support those topics not covered by the core textbook. The VLE encourages deep learning through the use of activities, self-assessment questions and other formative assessments.

Assessment methods which enable students to demonstrate the learning outcomes for the module:	**Weighting:**	**Learning Outcomes demonstrated:**
Portfolio Portfolio of students' work includes a compilation of coursework of the 3 modules; each module includes samples of the following: Activities/Assignments, 2 Quizzes, 1 Midterm Exam, Final Exam	100%	1-11

Reading and resources for the module:

Core

"Structural Analysis" Louis C. Tartaglione- McGraw Hill International Editors.
"Egyptian Code of Practice for Steel Construction and Bridges", Allowable Stress Design, Code No.205 Ministerial Decree No, 279-2001, Housing and Building Research Center
Blank and Tarquin, "Engineering Economy", Sixth Edition, McGraw-Hill, 2005.J

Recommended

Beer, F. P., Russell, J. Jr, DeWolf, J.T. Mechanics of Materials, 4th edition, McGraw Hill, NY, 2006. ISBN-13: 9780073107950
Leonard S. and George F.L. "Applied Structural Steel design" 3rd edition, 1997. ISBN: 0-13-381583-8
Galambos, T.V. "Guide Stability Design Criteria for Metal Structures", 4th Ed., John Wiley and Sons Inc.
Leland T. Blank, Anthony J. Tarquin "Engineering Economy", 6th edition, McGraw-Hill International Edition, 2005.
Leland T. Blank, Anthony J. Tarquin " Basics of Engineering Economy" , 1st edition, McGraw-Hill International Edition, 2008

Indicative learning and teaching time (10 hrs per credit):	**Activity**
1. Student/tutor interaction: 120 hours 75 hours 0 hours	 Lectures Tutorials Laboratories/Practicals
2. Student learning time:	

105 hours	(including assessment)
Total hours (1 and 2):	300 hours

Module Specification

Module Title: Thermal Analysis of Building and Engineering Management	**Module Code:** **EG5000/EG3531** **Level: 5** **Credit: 30** **ECTS credit:**15	**Module Leader**: Assoc.Prof. Osama EL-Nesr & Assoc.Prof. Haytham Zohny

Pre-requisite: None	**Pre-cursor: None**
Co-requisite:EG3532, EG3533	**Excluded combinations:** None

Location of delivery:

ASU, Egypt

Main aim(s) of the module:

The module will provide students with knowledge and skills to apply the basic principles of the heat transfer, thermodynamics and fluid mechanics to analysis of heating and cooling systems in building. The module also focusses on project management principles including project life cycle analysis, productivity and quality management.

Main topics of study:

Two and three-dimensional steady-state and transient conductive heat transfer together with convection and radiation as applied to building materials and geometries. Heating and cooling load analysis, including building shapes, construction type, solar radiation, infiltration, occupancy effects, and daily load variations. Computer applications for thermal load analysis. Introduction to heat exchangers.

Principles of HVAC system design and analysis, sustainable design issues and impact on environment, component and system selection criteria including room air distribution, fans and air circulation, humidifying and dehumidifying processes, piping and ducting design. Air quality standards. Control systems and techniques, operational economics, computer applications.

Definitions used in project management, The project life cycle, project stages, relationships and responsibilities of the different project parties, execution phase responsibilities, productivity, quality management.

Learning Outcomes for the module

At the end of this module, students will be able to:

1. Understand the environmental impact of energy utilisation in buildings.
2. Understand the sustainability of alternative energy sources and water supplies for buildings.
3. Appraise the energy efficiency of building services installations.
4. Undertake energy audits for buildings and building services installations
5. Understand heat recovery and energy minimization methods.
6. Identify data and design realistic thermal systems, and problems occurring in operation with their chain action.
7. Define the project participants, the time management.
8. Describe and Prepare project life cycle.
9. Schedule or Modify the project network.
10. Collaborate effectively within multidisciplinary team.

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:

Lectures are the key method for introducing new material. They are presented to the whole group and are formal in delivery.

Tutorial sessions allow students to meet with their peers in small groups and focus on the practical application of

their studies through problem-based classes and project work.

Practical and laboratory work will usually be on a one to small group basis which provides the opportunity for discussion and contextualising of study issues in a flexible manner.

Formative feedback will be provided for all activities. This may take the form of question and answer sessions within lectures; through worked examples, design exercises and discussion groups in small group tutorials; through submitting tutorial questions and formative reports for feedback; comments on the tutorial/practical work during the session, response to emails, the use of the Forum facility on the VLE (for generic feedback) and Turnitin Gradebook for the assessments.

Learning will be supported through information on the VLE and an accompanying core textbook. The information on the VLE adds extra content, and integrates additional resources (such as journal articles and case studies) to support those topics not covered by the core textbook. The VLE encourages deep learning through the use of activities, self-assessment questions and other formative assessments.

Assessment methods which enable students to demonstrate the learning outcomes for the module:	**Weighting:**	**Learning Outcomes demonstrated:**
Portfolio Portfolio of students' work includes a compilation of coursework of the 3 modules; each module includes samples of the following: Activities/Assignments, 2 Quizzes, 1 Midterm Exam, Final Exam	100%	1-10

Reading and resources for the module:
Core

Bergman, T. L., Incropera, F. P., DeWitt, D. P., & Lavine, A. S. (2011). Fundamentals of heat and mass transfer. John Wiley & Sons.
McQuiston, F.C., and J.D. Parker. Heating, Ventilating, and Air Conditioning: Analysis and Design. United States: John Wiley and Sons., Inc.,New York, NY, 1982. Print.
Bartol, K, Martin, D, Tein, M & Matthews, G 2011, Management: a pacific RIM focus, 6th edn, McGraw-Hill, North Ryde, NSW.
Beder, S 1998, The new engineer, MacMillan Education Australia, South Yarra, VIC.
Davidson, P, Simon, A, Woods, P & Griffin, R 2009, Management, 4th Australasian edn, John Wiley & Sons, Milton, QLD.
Edward Pita,Air Conditioning Principles and Systems. Ohio, 2012

Recommended
Johnston, Gostelow& Jones 1999, Engineering and society: an Australian perspective, 2nd edn, Longman, South Melbourne, VIC.

Indicative learning and teaching time (10 hrs per credit):	**Activity**
1. Student/tutor interaction: 120 hours 75 hours 0 hours	 Lectures Tutorials Laboratories/Practicals
2. Student learning time: 105 hours	 (including assessment)

Total hours (1 and 2):	300 hours

Module Specification

Module Title: Concrete structures design and construction engineering management	**Module Code:** **EG5001/EG3532** **Level: 5** **Credit: 30** **ECTS credit:**15	**Module Leader**: Assoc.Prof. Osama EL-Nesr & Assoc.Prof. Haytham Zohny
Pre-requisite: None	**Pre-cursor: None**	
Co-requisite:EG3531, EG3533	**Excluded combinations:** None	

Location of delivery:

ASU, Egypt

Main aim(s) of the module:

To provide students with the knowledge and analytical skills that will enable them to analyse and design reinforced concrete structures and structural systems.
To provide students with the knowledge and analytical skills that will enable them to understand the nature of construction and the environment in which the industry works, organizational structures for project delivery, construction contracts and documents and the construction processes.
To provide students with the knowledge and analytical skills that will enable them to gain basic knowledge about project management and the project life cycle.

Main topics of study:

Design of reinforced concrete slabs: solid slabs, hollow blocks, panelled beams and flat slab. Selection and design of reinforced concrete systems: beams, frames, polygons, sheds, arch slabs, arch girders, trusses, vierendeel girders. Types and details of joints in RC structures.

The nature of construction and the environment in which the industry works, organizational structures for project delivery, construction contracts and documents, introduction to construction processes: excavation and site works, foundation layout, concrete form design, concrete, steel, and masonry construction, project planning, scheduling, and control, construction safety.

Introduction to project delivery systems. Principles of project management, role and activity of a manager, enterprise organizational charts, cost estimating, planning and control. Company finances, interest and time value of money, discounted cash flow, evaluation of projects in private and public sectors, depreciation methods, business tax regulations, decision tree, sensitivity analysis.

Learning Outcomes for the module

At the end of this module, students will be able to:

1. Explain the factors affecting the efficiency and advantages/disadvantages of various types of concrete supporting elements including frames, arches, trusses and polygons.
2. Choose the most convenient structural system for any given shape of land using a specified columns' layout and a required lightening system.
3. Conduct the full design and detailing of reinforced concrete columns, beams and frames subjected to various types of straining actions (pure bending, eccentric bending, shear, axial compression as well as axial tension).
4. Accomplish full structural drawings for reinforced concrete linear elements (beams, frames and columns).
5. Describe Interpretation of the current Egyptian code of practice for Construction Project Management.
6. Solve the different excavation problems.
7. Design of concrete form.
8. Outline Planning, Scheduling and controlling different type ofconstructions.
9. Estimate the total project duration and the total productivity.
10. Search for information and engage in life – long self-learning discipline.

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:

Lectures are the key method for introducing new material. They are presented to the whole group and are formal in delivery.

Tutorial sessions allow students to meet with their peers in small groups and focus on the practical application of their studies through problem-based classes and project work.

Practical and laboratory work will usually be on a one to small group basis which provides the opportunity for discussion and contextualising of study issues in a flexible manner.

Formative feedback will be provided for all activities. This may take the form of question and answer sessions within lectures; through worked examples, design exercises and discussion groups in small group tutorials; through submitting tutorial questions and formative reports for feedback; comments on the tutorial/practical work during the session, response to emails, the use of the Forum facility on the VLE (for generic feedback) and Turnitin Gradebook for the assessments.

Learning will be supported through information on the VLE and an accompanying core textbook. The information on the VLE adds extra content, and integrates additional resources (such as journal articles and case studies) to support those topics not covered by the core textbook. The VLE encourages deep learning through the use of activities, self-assessment questions and other formative assessments.

Assessment methods which enable students to demonstrate the learning outcomes for the module:	**Weighting:**	**Learning Outcomes demonstrated:**
Portfolio Portfolio of students' work includes a compilation of coursework of the 3 modules; each module includes samples of the following: Activities/Assignments, 2 Quizzes, 1 Midterm Exam, Final Exam	100%	1-10

Reading and resources for the module:

Core

Egyptian Code of Practice for the Design and Construction of Concrete Structures (ECP 2003-2007).
Hillal, M., 1984, "Design of RC Halls".
"Egyptian Code of Practice for Construction Project Management (ECP 311- 2009

Recommended

Mashour Ghoneim & Mahmoud EL-Mihilmy, "Design of Reinforced Concrete Structures", 2nd Ed., volume 1,2 & 3, 2008
James Mac Gregor & James K. Wight, "Reinforced Concrete: Mechanics and design," 5th Ed., Prentice Hall, July 2008.
James Mac Gregor & F. Michael Bartlett, "Reinforced Concrete: Mechanics and Design" First Canadian Edition, prentice Hall October 1999.
Chris Hendrickson, "project Management for Construction," Department of Civil and Environmental Engineering Carnegir Mellon University, Pittsburgh, 1998.
Awad S. Hanna, "Concrete Formwork Systems, "University of Wisconsin-Madison Wisconsin 1999.
Frederick S Merritt & Jonathan T. rickets, "Building design and Construction Handbook, " 6th Ed., McGraw-Hill, 2001.
Construction Methods and Management S.W.MunnallyPrentic-Hall, INC.,Englewood.
Bartol, K, Martin, D, Tein, M & Matthews, G 2011, Management: a pacific RIM focus, 6th edn, McGraw-Hill, North Ryde, NSW.
Beder, S 1998, The new engineer, MacMillan Education Australia, South Yarra, VIC. Davidson, P, Simon, A, Woods, P & Griffin, R 2009, Management, 4th Australasian edn, John Wiley & Sons, Milton, QLD.
Johnston, Gostelow& Jones 1999, Engineering and society: an Australian perspective, 2nd edn, Longman, South Melbourne, VIC. "A guide to the project management body of knowledge", PMBOK @Guide – Fifth Edition..

Indicative learning and teaching time (10 hrs per credit):	**Activity**
1. Student/tutor interaction: 120 hours 75 hours 0 hours	 Lectures Tutorials Laboratories/Practicals
2. Student learning time: 105 hours	 (including assessment)
Total hours (1 and 2):	300 hours

Module Specification

Module Title: Soil mechanics, foundation design and engineering law	**Module Code:** **EG5002/EG3533** **Level: 5** **Credit: 30** **ECTS credit:** 15	**Module Leader**: Assoc.Prof. Osama EL-Nesr & Dr. Tamer Serour
Pre-requisite: None	**Pre-cursor: None**	
Co-requisite:EG3531, EG3532	**Excluded combinations:** None	

Location of delivery:

ASU, Egypt

Main aim(s) of the module:

To enable students acquire the knowledge and analytical skills that will enable them to address problems in geotechnical engineering.
To enable students acquire the knowledge and analytical skills to deal with local and international contracts and become acquainted with the laws and Legalisation concerning engineering works of related fields.

Main topics of study:

Introduction to geotechnical engineering, earth crust, soil and rock, minerals, soil formation, Index properties and classification of soils. Weight-volume relationships. Soil structures. Moisture-density relationships. Permeability. Principle of total and effective stresses. Steady state seepage through isotropic soil media. Stress distribution due to external loads, and analysis of total settlements. Outline of theory of consolidation. Shear strength of soil, soil compaction and site investigation.

Loads, bearing capacity and settlement. Lateral pressures. Foundation drainage and water-proofing. Spread footings. Strip footings. Pile foundations. Caissons. Retaining walls. Sheet-piling walls. Braced cofferdams. Cellular cofferdams. Anchors.

This course aims to give the student an overview of his liabilities and rights according to the valid laws and regulations governing the engineering works in all its specializations. It reviews and explains theoretically and practically, such laws and makes references known to him. It concentrates on the laws and regulations concerning engineering syndicate, contractors union and environment protection. It concentrates as well on the relationship between the parties of local and international (e.g., FIDIC) contracts in civil and administrative laws. Claims and/or disputes during or after execution of the works.

Learning Outcomes for the module

At the end of this module, students will be able to:

1. Explain geotechnical investigations.
2. Characterise soil and rock types.
3. describe the procedures of testing of soil, as well as, the analysis of foundations, including shallow, deep foundations and retaining structures.
4. Analyse basic geotechnical problems.
5. Compute the lateral earth pressure to analyse the stability of retaining structures.
6. Compare different safe solution alternatives for the foundation engineering problems.
7. Prepare foundation engineering drawings and describe foundation construction works.
8. Define the role of engineer in all legal activities as well as contracts, claims and disputes during execution.
9. Appraise legal reports, contracts, and arbitration file in accordance with the local and international laws

and regulations.
10. Shares ideas and communicates with others effectively.

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:

Lectures are the key method for introducing new material. They are presented to the whole group and are formal in delivery.

Tutorial sessions allow students to meet with their peers in small groups and focus on the practical application of their studies through problem-based classes and project work.

Practical and laboratory work will usually be on a one to small group basis which provides the opportunity for discussion and contextualising of study issues in a flexible manner.

Formative feedback will be provided for all activities. This may take the form of question and answer sessions within lectures; through worked examples, design exercises and discussion groups in small group tutorials; through submitting tutorial questions and formative reports for feedback; comments on the tutorial/practical work during the session, response to emails, the use of the Forum facility on the VLE (for generic feedback) and Turnitin Gradebook for the assessments.

1. Learning will be supported through information on the VLE and an accompanying core textbook. The information on the VLE adds extra content, and integrates additional resources (such as journal articles and case studies) to support those topics not covered by the core textbook. The VLE encourages deep learning through the use of activities, self-assessment questions and other formative assessments.

Assessment methods which enable students to demonstrate the learning outcomes for the module:	**Weighting:**	**Learning Outcomes demonstrated:**
Portfolio Portfolio of students' work includes a compilation of coursework of the 3 modules; each module includes samples of the following: Activities/Assignments, 2 Quizzes, 1 Midterm Exam, Final Exam	100%	1-10

Reading and resources for the module:

Core

Geotechnical Engineering: Principles and practices, Donald P. Coduto, Prentice Hall, ISBN: 0-13-5763800

Egyptian Code of Practice for Soil Mechanics, design and Construction of Foundations, 6th Ed., Housing and Building Research Center, Cairo, 2001.

Das, B.M., Principles of Foundation Engineering, 7th Ed., PWS Publishing Co., 2007.

Recommended

Budhu, M.., "Soil Mechanics and Foundations", John Wiley and Sons Inc., 2000.

Das, B. M., "Principles of Geotechnical Engineering", 5th Ed., PWS Publishing Co., 2002.

Soil properties: Testing, Measurement, and Evaluation, Cheng Liu and Evett, Prentice Hall, ISBN: 0-13-0930059 (2003)

Bowles, J.E., foundation Analysis and Design, 5th Ed., McGraw Hill Book Co., 1997.

Gharaf, A., Principles of Business law, Cairo, 1995.

Hochuli, U., Role of the Engineer under FIDIC standard contracts, International Business Lawyer, December 1991

Indicative learning and teaching time (10 hrs per credit):	**Activity**
1. Student/tutor interaction: 120 hours 75 hours 0 hours	 Lectures Tutorials Laboratories/Practicals

2. Student learning time: 105 hours	(including assessment)
Total hours (1 and 2):	300 hours

Module Specification

Module Title: Computer-aided structural and concrete design (Structural Engineering track)	**Module Code:** **EG5003/EG4534** **Level: 5** **Credit: 30** **ECTS credit:**15	**Module Leader**: Assoc.Prof. Osama EL-Nesr & Assoc.Prof. Haytham Zohny

Pre-requisite: None	**Pre-cursor: None**
Co-requisite: None	**Excluded combinations:** None

Location of delivery:

ASU, Egypt

Main aim(s) of the module:

To enable students develop a better understanding of the building engineering design process and critical issues affecting design practice.
To enable students acquire the knowledge and analytical skills to apply reinforced concrete design principles to dimension un-cracked sections and related applications in water tanks, analyse membrane forces and related applications in reinforced concrete surfaces of revolution, short cantilevers and deep beams.

Main topics of study:

Introduction Building engineering design process: methodology, identification of objectives, building codes, formulation of design problems. Preliminary building design: synthesis and design of structures using computer-aided design tools. Performance evaluation using modelling, sensitivity analysis and cost estimation. A design project is an integral part of this course.

Design of saw-tooth slab and girder types. Water tanks: design of sections, elevated, ground and underground tanks, circular and rectangular tanks, calculation of internal forces. Design and reinforcement details of corbels and deep beams. Introduction to strut and tie design method.

Learning Outcomes for the module

At the end of this module, students will be able to:

1. Define a methodology tosolve integrated design problems.
2. Predict the dimensions, the applied loads and the internal straining actions calculation on different types of saw-tooth systems, slab and girder systems and water tanks.
3. Use current commercial software for building design.
4. Assess the obtained results accuracy.
5. Choose of optimum structural system for any given shape of land to obtain indirect lighting.
6. Compare alternative solutions for the main structural elements to enhance the overall structural behaviour.
7. Interpret of the current Egyptian code of practice for design of reinforced concrete structures.
8. Design of un-cracked sections subjected to bending, combined bending and axial load
9. Draw complete reinforcement details for construction of reinforced concrete water tanks, surfaces of revolution structures, short cantilevers and deep beams.
10. Search for information and engage in life- long self-learning discipline.

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:

Lectures are the key method for introducing new material. They are presented to the whole group and are formal in delivery.

Tutorial sessions allow students to meet with their peers in small groups and focus on the practical application of

their studies through problem-based classes and project work.

Practical and laboratory work will usually be on a one to small group basis which provides the opportunity for discussion and contextualising of study issues in a flexible manner.

Formative feedback will be provided for all activities. This may take the form of question and answer sessions within lectures; through worked examples, design exercises and discussion groups in small group tutorials; through submitting tutorial questions and formative reports for feedback; comments on the tutorial/practical work during the session, response to emails, the use of the Forum facility on the VLE (for generic feedback) and Turnitin Gradebook for the assessments.

Learning will be supported through information on the VLE and an accompanying core textbook. The information on the VLE adds extra content, and integrates additional resources (such as journal articles and case studies) to support those topics not covered by the core textbook. The VLE encourages deep learning through the use of activities, self-assessment questions and other formative assessments.

Assessment methods which enable students to demonstrate the learning outcomes for the module:	**Weighting:**	**Learning Outcomes demonstrated:**
Portfolio Portfolio of students' work includes a compilation of coursework of the 2 modules; each module includes samples of the following: Activities/Assignments, 2 Quizzes, 1 Midterm Exam, Final Exam	100%	1-10

Reading and resources for the module:

Core

Hibbeler, R. C. Structural Analysis, 6th ed. Prentice Hall, Upper Saddle River, New Jersey07458, 2007, ISBN: 0-13-0181309-5.

Egyptian Code of Practice for the Design and Construction of Reinforced Concrete Structures

Recommended

Beer, F. P., Russell, J.Jr., DeWolf, J.T. Mechanics of Materials, 4th edition, McGraw Hill, NY, 2006. ISBN-13: 9780073107950

Hilal, M., "Design of Reinforced Concrete Halls," Published by Marcou J. & Co., 1984, 376pp.

Hilal, M., "Theory and Design of Reinforced Concrete Tanks," Third Edition, Published by Marcou J. & Co., 1976.

Mashour Ghoneim & Mahmoud EL-Mihilmy, "Design of Reinforced Concrete Structures", 2nd Ed., volume 1,2 & 3, 2008

Indicative learning and teaching time (10 hrs per credit):	**Activity**
1. Student/tutor interaction: 90 hours 45 hours 0 hours	 Lectures Tutorials Laboratories/Practicals
2. Student learning time: 165 hours	(including assessment)
Total hours (1 and 2):	300 hours

Module Specification

Module Title: Computer Aided Structural and Planning & Scheduling (Construction Engineering track)	**Module Code:** **EG5004/EG5534** **Level: 5** **Credit: 30** **ECTS credit:**15	**Module Leader**: Assoc.Prof. Osama EL-Nesr & Assoc.Prof. Haytham Zohny

Pre-requisite: None	**Pre-cursor: None**
Co-requisite: None	**Excluded combinations:** None

Location of delivery:

ASU, Egypt

Main aim(s) of the module:

To enable students develop a better understanding of the building engineering design process and critical issues affecting design practice.

To enable students appreciate of the importance of planning and scheduling in construction projects; construct a network for any construction project, and evaluate the progress of a project

Main topics of study:

Introduction Building engineering design process: methodology, identification of objectives, building codes, formulation of design problems. Preliminary building design: synthesis and design of structures using computer-aided design tools. Performance evaluation using modelling, sensitivity analysis and cost estimation. A design project is an integral part of this course.

Planning in the different project stages, planning using Bar-charts, network techniques (CPM & PERT), LOB, progress monitoring, progress curves, resources allocation and levelling. Project cost and time integrated control systems.

Learning Outcomes for the module

At the end of this module, students will be able to:

Knowledge

1. Define a methodology to solve integrated design problems.
2. Define the project stages.
3. Estimate the total project duration.
4. Use current commercial software for building design.
5. Assess the obtained results accuracy.
6. Describe the project life cycle.
7. Produce a construction project network.
8. Produce the line of balance.
9. Demonstrate the progress of the project.
10. Arrange the project network.
11. Search for information and engage in life- long self-learning discipline.

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:

Lectures are the key method for introducing new material. They are presented to the whole group and are formal in delivery.

Tutorial sessions allow students to meet with their peers in small groups and focus on the practical application of

their studies through problem-based classes and project work.

Practical and laboratory work will usually be on a one to small group basis which provides the opportunity for discussion and contextualising of study issues in a flexible manner.

Formative feedback will be provided for all activities. This may take the form of question and answer sessions within lectures; through worked examples, design exercises and discussion groups in small group tutorials; through submitting tutorial questions and formative reports for feedback; comments on the tutorial/practical work during the session, response to emails, the use of the Forum facility on the VLE (for generic feedback) and Turnitin Gradebook for the assessments.

Learning will be supported through information on the VLE and an accompanying core textbook. The information on the VLE adds extra content, and integrates additional resources (such as journal articles and case studies) to support those topics not covered by the core textbook. The VLE encourages deep learning through the use of activities, self-assessment questions and other formative assessments.

Assessment methods which enable students to demonstrate the learning outcomes for the module:	**Weighting:**	**Learning Outcomes demonstrated:**
Portfolio Portfolio of students' work includes a compilation of coursework of the 2 modules; each module includes samples of the following: Activities/Assignments, 2 Quizzes, 1 Midterm Exam, Final Exam	100%	1-11

Reading and resources for the module:

Core

"A guide to the project management body of knowledge", PMBOK @Guide – Fifth Edition.
Bartol, K, Martin, D, Tein, M & Matthews, G 2011, Management: a pacific RIM focus, 6th edn, McGraw-Hill, North Ryde, NSW.
Beder, S 1998, The new engineer, MacMillan Education Australia, South Yarra, VIC.
Davidson, P, Simon, A, Woods, P & Griffin, R 2009, Management, 4th Australasian edn, John Wiley & Sons, Milton, QLD.
Primavera P6 TM administrator's Guid – oracle, https://docs.oracle.com/cd/E17784_01/Product_Manuals/adminguide.pdf

Recommended

H. N. Ahuja, Project Management Techniques in Planning.
Construction Methods and Management S. W.Munnally Prentic-Hall, INC.,Englewood.
Johnston, Gostelow& Jones 1999, Engineering and society: an Australian perspective, 2nd edn, Longman, South Melbourne, VIC.
Samson, D 2003, Management for engineers, 3rd edn, Prentice Hall/Pearson Education, French's Forest, NSW

Indicative learning and teaching time (10 hrs per credit):	**Activity**
1. Student/tutor interaction: 90 hours 45 hours 0 hours	 Lectures Tutorials Laboratories/Practicals
2. Student learning time: 165 hours	(including assessment)
Total hours (1 and 2):	300 hours

Module Specification

Module Title: Computer Aided Structural and Indoor Air Quality (Environmental Engineering track)	**Module Code:** **EG5005/EG6534** **Level: 5** **Credit: 30** **ECTS credit:**15	**Module Leader**: Assoc.Prof. Osama EL-Nesr
Pre-requisite: None	**Pre-cursor: None**	
Co-requisite: None	**Excluded combinations:** None	

Location of delivery:

ASU, Egypt

Main aim(s) of the module:

To enable students develop a better understanding of the building engineering design process and critical issues affecting design practice.

To enable students understand of the important features of indoor air quality, physical/chemical characteristics of contaminants, health effects, and standard requirements and the effect of outdoor air pollution on indoor air quality.

Main topics of study:

Introduction Building engineering design process: methodology, identification of objectives, building codes, formulation of design problems. Preliminary building design: synthesis and design of structures using computer-aided design tools. Performance evaluation using modelling, sensitivity analysis and cost estimation. A design project is an integral part of this course.

Factors affecting the quality of indoor environment, physical/ chemical characteristics of air contaminants, health effects, building systems and factors affect indoor air quality, design of outdoor air delivery system, air pollutants source control, indoor air quality monitoring and testing, design standards and building codes related to indoor air quality, improving indoor air quality through design, construction, operation and maintenance.

Learning Outcomes for the module

At the end of this module, students will be able to:

1. Define a methodology to solve integrated design problems.
2. List the basic concepts of indoor air quality.
3. List the basic concepts physical, chemical characteristics of contaminants, and health effects.
4. Describe different effect of outdoor air pollution on indoor air quality.
5. Use current commercial software for building design.
6. Assess the obtained results accuracy.
7. Demonstrate the ventilation systems for pollutant control.
8. Predict the infiltration air required for building.
9. Summarize the characteristics of indoor air quality
10. Search for information and engage in life- long self-learning discipline.
11. Write a report technical report about pollutant control

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:

Lectures are the key method for introducing new material. They are presented to the whole group and are formal in delivery.

Tutorial sessions allow students to meet with their peers in small groups and focus on the practical application of

their studies through problem-based classes and project work.

Practical and laboratory work will usually be on a one to small group basis which provides the opportunity for discussion and contextualising of study issues in a flexible manner.

Formative feedback will be provided for all activities. This may take the form of question and answer sessions within lectures; through worked examples, design exercises and discussion groups in small group tutorials; through submitting tutorial questions and formative reports for feedback; comments on the tutorial/practical work during the session, response to emails, the use of the Forum facility on the VLE (for generic feedback) and Turnitin Gradebook for the assessments.

Learning will be supported through information on the VLE and an accompanying core textbook. The information on the VLE adds extra content, and integrates additional resources (such as journal articles and case studies) to support those topics not covered by the core textbook. The VLE encourages deep learning through the use of activities, self-assessment questions and other formative assessments.

Assessment methods which enable students to demonstrate the learning outcomes for the module:	**Weighting:**	**Learning Outcomes demonstrated:**
Portfolio Portfolio of students' work includes a compilation of coursework of the 2 modules; each module includes samples of the following: Activities/Assignments, 2 Quizzes, 1 Midterm Exam, Final Exam	100%	1-11

Reading and resources for the module:

Core

"A guide to the project management body of knowledge", PMBOK @Guide – Fifth Edition.
Bartol, K, Martin, D, Tein, M & Matthews, G 2011, Management: a pacific RIM focus, 6th edn, McGraw-Hill, North Ryde, NSW.
Indoor Air Quality Handbook (A Practical Guide to Indoor Air Quality Investigations)-2011 by TSI Incorporated

Recommended

Ashrae Standard 62-1999 - Ventilation For Acceptable Indoor Air Quality.
ASHRAE GRP 158 — Cooling and Heating Load Calculation Manual, 1979.
Text book, title, author, and year: (Handbook of Air Conditioning and Refrigeration, Shan K. Wang, 2nd edition 2001), with other references to support different topics

Indicative learning and teaching time (10 hrs per credit):	**Activity**
1. Student/tutor interaction: 90 hours 45 hours 0 hours	 Lectures Tutorials Laboratories/Practicals
2. Student learning time: 165 hours	(including assessment)
Total hours (1 and 2):	300 hours

Module Specification

Module Title: Structural Dynamics and Construction Engineering	**Module Code:** **EG6000/EG3641** **Level: 6** **Credit: 30** **ECTS credit:**15	**Module Leader**: Assoc.Prof. Osama EL-Nesr & Assoc.Prof. BahaaTork
Pre-requisite: None	**Pre-cursor: None**	
Co-requisite:EG3643, EG3642	**Excluded combinations:** None	

Location of delivery:

ASU, Egypt

Main aim(s) of the module:

To enable students develop an understanding of the fundamental concepts of structural dynamics, the nature of dynamic loads, structural design against dynamic actions, and application of commercial software package to structural dynamics.

To enable students acquire the knowledge and analytical skills project construction including site preparation and earthwork and to understand current field practice and safety considerations.

To enable students to understand the key principles of construction project management including how to plan, schedule, monitor & control and deliver a construction project.

Main topics of study:

Theory of vibration. Dynamic response of simple structural systems. Effects of blast, wind, traffic, and machinery vibrations. Basic concepts in earthquake resistant design. Computer applications.

A study of current construction methods and techniques. The subjects include site preparation and earth-work, wood framing, masonry, concrete forming, slip forming, precast construction, industrialized building, deep excavation shoring and underpinning. Design, erection, and removal of temporary construction work. Current field practice and safety considerations. Site visits.

Introduction to project management techniques in construction, including project delivery methods, construction contracts, cost estimating and bidding planning and scheduling, cash flow analysis, project tracking and control, computer applications.

Learning Outcomes for the module

At the end of this module, students will be able to:

1. Identify Mass and stiffness of structures and Define Structure period.
2. Analyse SDF, GSDF and MDF structures with harmonic and general loading.
3. Develop a deep insight into the numerical methods generally used in software packagesdealing with dynamic analysis.
4. Identify basic construction techniques of ordinary building.
5. Discuss safety and quality control as it relates to construction management.
6. Demonstrate professional construction management services during different project phases.
7. Prepare project schedules including time, cost & resources.
8. Evaluate Project cash flow using cash out chart.
9. Write tender documents, contract documents, contracts types.
10. Search for information and engage in life- long self-learning discipline
11. Collaborate effectively within multidisciplinary team.

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:

Lectures are the key method for introducing new material. They are presented to the whole group and are formal in delivery.

Tutorial sessions allow students to meet with their peers in small groups and focus on the practical application of their studies through problem-based classes and project work.

Practical and laboratory work will usually be on a one to small group basis which provides the opportunity for discussion and contextualising of study issues in a flexible manner.

Formative feedback will be provided for all activities. This may take the form of question and answer sessions within lectures; through worked examples, design exercises and discussion groups in small group tutorials; through submitting tutorial questions and formative reports for feedback; comments on the tutorial/practical work during the session, response to emails, the use of the Forum facility on the VLE (for generic feedback) and Turnitin Gradebook for the assessments.

Learning will be supported through information on the VLE and an accompanying core textbook. The information on the VLE adds extra content and integrates additional resources (such as journal articles and case studies) to support those topics not covered by the core textbook. The VLE encourages deep learning through the use of activities, self-assessment questions and other formative assessments.

Assessment methods which enable students to demonstrate the learning outcomes for the module:	**Weighting:**	**Learning Outcomes demonstrated:**
Portfolio Portfolio of students' work includes a compilation of coursework of the 3 modules; each module includes samples of the following: Activities/Assignments, 2 Quizzes, 1 Midterm Exam, Final Exam	100%	1-11

Reading and resources for the module:

Core

Dynamics of Structures: Theory and Applications to Earthquake Engineering, A. Chopra (Prentice Hall, 2012) – 4th Edition

"Construction Planning, Equipment, and Methods" R.L.Peurifoy McGraw - Hill.

Chris Hendrickson, Project Management for Construction. Prentice Hall, 2000. (Version 2.2 prepared Summer, 2008)

Recommended

Dynamics of Structures, R. W. Clough and J. Penzien 3rd Edition 2003

Abimbola Windapo, Fundamentals of Construction Management, 2013

Project Management Body of Knowledge. Project Management Institute, 3rd edition. 2004

Engineering Management Principles and Economics. Nail M, Fraser and Elizabeth M. Jewkes 2013

An Introduction to the Management Principles of Scheduling. Hildreth, J.C. and Munoz, B. P. 2005.

Indicative learning and teaching time (10 hrs per credit):	**Activity**
1. Student/tutor interaction: 135 hours 67.5 hours 0 hours	 Lectures Tutorials Laboratories/Practicals
2. Student learning time: 97.5 hours	 (including assessment)

Total hours (1 and 2):	300 hours

Module Specification

Module Title: Graduation Project and Senior Seminar	**Module Code:** **EG6001/EG3642** **Level: 6** **Credit: 30** **ECTS credit:**15	**Module Leader**: Assoc.Prof. Osama EL-Nesr
Pre-requisite: None	**Pre-cursor: None**	
Co-requisite:EG3641, EG3643	**Excluded combinations:** None	
Location of delivery: ASU, Egypt		

Main aim(s) of the module:

To enable students define the problem statement and the motivation behind the project; plan and manage various aspect of computer engineering and software systems projects, and present the final product of the project and promote it.

Main topics of study:

The project will encompass the integrated design of at least three sub-systems of a new or retrofitted building to achieve high performance and efficiency at a reasonable cost, sustainable design issues and environmental impact will be addressed in all projects. In the process, students will learn, through brain storming sessions, the information gathering and decision/design process, problem-resolution as well as aspects related to management, teamwork and communication.

The student selects a topic of his/her choice, perform literature search, read and critique technical papers, write a technical report and make a presentation.

Learning Outcomes for the module

At the end of this module, students will be able to:

1. Explain the problem statement and motivation of the graduation project
2. Explain the problem domain and its current state of the art
3. Illustrate the project different design methodologies.
4. Follow sound design methodology throughout the project.
5. Master the tools needed for the project design and implementation.
6. Manage all relevant aspects of an engineering project
7. Design and build systems to solve some engineering problems
8. Test and verify the implemented system
9. Refer to relevant literature search for information and engage in life-long self-learning discipline.
10. Develop problem solving, develop team work and communication skills
11. Develop technical writing and presentation skills

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:

Lectures are the key method for introducing new material. They are presented to the whole group and are formal in delivery.

Tutorial sessions allow students to meet with their peers in small groups and focus on the practical application of their studies through problem-based classes and project work.

Practical and laboratory work will usually be on a one to small group basis which provides the opportunity for discussion and contextualising of study issues in a flexible manner.

Formative feedback will be provided for all activities. This may take the form of question and answer sessions within lectures; through worked examples, design exercises and discussion groups in small group tutorials; through submitting tutorial questions and formative reports for feedback; comments on the tutorial/practical work during the session, response to emails, the use of the Forum facility on the VLE (for generic feedback) and Turnitin Gradebook for the assessments.

Learning will be supported through information on the VLE and an accompanying core textbook. The information on the VLE adds extra content, and integrates additional resources (such as journal articles and case studies) to support those topics not covered by the core textbook. The VLE encourages deep learning through the use of activities, self-assessment questions and other formative assessments.

Assessment methods which enable students to demonstrate the learning outcomes for the module:	**Weighting:**	**Learning Outcomes demonstrated:**
Portfolio Design portfolio, which is a compilation of students' coursework in the 3 modules. The first and second modules include samples of the students' report progress, report presentation, posters of the report and the project, and capstone project progress (construction and Environmental Eng. tracks) and output of the Architecture and Structure drawings for structure Engineering Division. The third module include Thesis of 5000-5500 word with topic selected by a student according to his/her area of interest upon advisors' approval	100%	1-11

Reading and resources for the module:

Core

Egyptian Code of Practise for the design and of construction, concrete

Recommended

James MacGregor & James K Wight, 2008. "Reinforced Concrete: Mechanics and Design" 5th Edition,

Indicative learning and teaching time (10 hrs per credit):	**Activity**
1. Student/tutor interaction: 90 hours 0 hours 90 hours	 Lectures Tutorials Laboratories/Practicals
2. Student learning time: 97.5 hours	(including assessment)
Total hours (1 and 2):	300 hours

Module Specification

Module Title: Modern Building Materials and Building Envelop	**Module Code:** **EG6002/EG3643** **Level: 6** **Credit: 30** **ECTS credit:**15	**Module Leader**: Assoc.Prof. Osama EL-Nesr & Assoc.Prof. M. Abdel Moaty

Pre-requisite: None	**Pre-cursor: None**
Co-requisite:EG3641, EG3642	**Excluded combinations:** None

Location of delivery:

ASU, Egypt

Main aim(s) of the module:

To enable students to develop a better understanding of basic properties of advanced construction materials, their applications, fabrication techniques and usage

To enable students to gain the fundamental knowledge of building envelope design and principles of designing an environmental responsive building envelope.

Main topics of study:

Introduction, different types of new construction materials, advanced composite materials, constituent materials of the new construction materials, properties (physical, chemical, mechanical), fabrication technology, and comparison with conventional construction materials, structural applications, testing, and economical point of view.

Technical influences in the design of building envelope, including the control of heat flow, air and moisture penetration, building movements, and deterioration. Application of air/vapor barrier and rain-screen systems. Performance assessment and building codes through case studies and design projects. Sustainable design principles. Design of walls, roofs, joints and assemblies. Cause of deterioration and preventive measures, on-site investigation. Relevant building codes and standards.

Learning Outcomes for the module

At the end of this module, students will be able to:

1. Demonstrate Physical, Chemical & Mechanical properties of Advanced Construction Materials
2. Point out different construction material and way of use.
3. Point out behaviour of fibers and polymers under different types of stresses.
4. Judge the most appropriate Construction Materials for repair or strengthening of concrete element.
5. Describe Fabrication Techniques of Advanced Construction Materials.
6. Explain the basics of conventional building envelope design.
7. Demonstrate ability to Sustainable design and using codes of building envelope.
8. Design an environmental responsive building envelope.
9. Assess of moisture flow and heat flow through building envelope.
10. Share ideas and communicate with others.

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:

Lectures are the key method for introducing new material. They are presented to the whole group and are formal in delivery.

Tutorial sessions allow students to meet with their peers in small groups and focus on the practical application of their studies through problem-based classes and project work.

Practical and laboratory work will usually be on a one to small group basis which provides the opportunity for discussion and contextualising of study issues in a flexible manner.

Formative feedback will be provided for all activities. This may take the form of question and answer sessions within lectures; through worked examples, design exercises and discussion groups in small group tutorials; through submitting tutorial questions and formative reports for feedback; comments on the tutorial/practical work during the session, response to emails, the use of the Forum facility on the VLE (for generic feedback) and Turnitin Gradebook for the assessments.

Learning will be supported through information on the VLE and an accompanying core textbook. The information on the VLE adds extra content, and integrates additional resources (such as journal articles and case studies) to support those topics not covered by the core textbook. The VLE encourages deep learning through the use of activities, self-assessment questions and other formative assessments.

Assessment methods which enable students to demonstrate the learning outcomes for the module:	**Weighting:**	**Learning Outcomes demonstrated:**
Portfolio Portfolio of students' work includes a compilation of coursework of the 2 modules; each module includes samples of the following: Activities/Assignments, 2 Quizzes, 1 Midterm Exam, Final Exam	100%	1-10

Reading and resources for the module:

Core
Egyptian Code of practice for FRP "Code 208 – 2006"

Recommended
"Mechanics of Advanced Composite Materials", Gibson, 1998
Kubal, Michael T. 1993. Waterproofing the building envelope. New York: McGraw-Hill.
Brookes, Alan, and Chris Grech. 1990. The building envelope: applications of new technology cladding. London: Butterworth Architecture.

Indicative learning and teaching time (10 hrs per credit):	**Activity**
1. Student/tutor interaction: 90 hours 45 hours 0 hours	 Lectures Tutorials Laboratories/Practicals
2. Student learning time: 165 hours	 (including assessment)
Total hours (1 and 2):	300 hours

Module Specification

Module Title: Structural Technical Studies: Concrete, masonry and steel structures design **(Structural Engineering track)**	**Module Code:** **EG6003/EG6644** **Level: 6** **Credit: 30** **ECTS credit:**15	**Module Leader**: Assoc.Prof. Osama EL-Nesr
Pre-requisite:EG6543	**Pre-cursor: None**	
Co-requisite:EG3641, EG3642, EG3643	**Excluded combinations:** None	

Location of delivery:

ASU, Egypt

Main aim(s) of the module:

To provide students with the knowledge and analytical skills that will enable them to design slender sections, design of rectangular hollow sections, and specialised structures such as water tanks, bridges masonry and prestressed structures.

Main topics of study:

Orthotropic structures: orthotropic systems, orthotropic floors and decks, behavior and design, construction details. Steel box girders: members design, connections design, details of connections. Steel hollow section structures: different applications in trusses, arches and vierendeels, connection design, details of connections. Storage structures: Tanks, types of tanks, analysis and design, and construction details, Silos, types of silos, analysis and design, and construction details.

Types of prestressing and applications, concepts, losses, flexure design of beams, shear design of beams, bond and anchorage, deflection, construction details. Design of surface of revolution. Lateral resistance of buildings: earthquake and wind.

The course includes the conceptual design of bridges. Different structural systems will be introduced (e.g., girder type bridges), Box girder bridges and Arch bridges. Analysis and design of different structural elements, Decks, Bearings, Piers and Footings are involved. The influences of the construction techniques and construction details on the design are included.

Introduction to masonry structures, Masonry materials, Behaviour of masonry assemblages, Design of reinforced beams and lintels, Design of unreinforced and reinforced flexural walls, and Design of unreinforced and reinforced load bearing walls under axial load and out-of-plane bending.

Learning Outcomes for the module

At the end of this module, students will be able to:

Knowledge

1. Identify loads affecting different types of steel bridges and define suitable structural system for each bridge.
2. Draw complete Steel details for different steel bridges.
3. Evaluate the efficiency and advantages/disadvantages of pre-stressed concrete.
4. Design of concrete slabs, beams, frames of pre-stressed concrete structures.
5. Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.
6. Identify loads affecting different types of bridges and define suitable structural system for each bridge.
7. Draw complete details for different bridges.

8. Distinguish the difference between the behaviour of unreinforced and reinforced masonry walls under different loads.
9. Design the different masonry elements under different loads.
10. prepare the structural masonry drawings.
11. Search for information and refer to relevant literatures.
12. share ideas and communicate effectively.

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:

Lectures are the key method for introducing new material. They are presented to the whole group and are formal in delivery.

Tutorial sessions allow students to meet with their peers in small groups and focus on the practical application of their studies through problem-based classes and project work.

Practical and laboratory work will usually be on a one to small group basis which provides the opportunity for discussion and contextualising of study issues in a flexible manner.

Formative feedback will be provided for all activities. This may take the form of question and answer sessions within lectures; through worked examples, design exercises and discussion groups in small group tutorials; through submitting tutorial questions and formative reports for feedback; comments on the tutorial/practical work during the session, response to emails, the use of the Forum facility on the VLE (for generic feedback) and Turnitin Gradebook for the assessments.

Learning will be supported through information on the VLE and an accompanying core textbook. The information on the VLE adds extra content, and integrates additional resources (such as journal articles and case studies) to support those topics not covered by the core textbook. The VLE encourages deep learning through the use of activities, self-assessment questions and other formative assessments.

Assessment methods which enable students to demonstrate the learning outcomes for the module:	**Weighting:**	**Learning Outcomes demonstrated:**
Portfolio Portfolio of students' work includes a compilation of coursework of the 4 modules; each module includes samples of the following: Activities/Assignments,2 Quizzes, 1 Midterm Exam, Final Exam	100%	1-12

Reading and resources for the module:

Core

"Egyptian Code of Practice for Steel Construction and Bridges", Allowable Stress Design, Code No. 205, Ministerial Decree No 279-2001. Housing and Building Research Centre.

Drysdale, R., Hamid, A. A., and Baker, L., (1999), "Masonry Structures: Behavior and Design," The Masonry Society.

Richard E. Klingner, (2010), "Masonry Structure Design," McGraw-Hill Companies.

Recommended

Salmon C.G., Johnson I.E., and Malhas F.A. Steel Structures: Design and Behaviour, Printice Hall, 5th ed. 2009

"Structural Steel Design", Merritt, Frederick S, 1980

"Applied Structural Steel Design", Leonard Spiegel and George F. Limbrunner, 1997

James MacGregor & James K. Wight, "Reinforced Concrete: Mechanics and Design," fifth Edition, Prentice Hall, July 2008.

James MacGregor & F. Michael Bartlett, "Reinforced Concrete: Mechanics and Design," First Canadian Edition, Prentice Hall, October 1999.

Amlan K. Sengupta & Devdas Menon, "Prestressed Concrete Structure", fifth Edition, Prentice Hall, Jan. 2009.

Indicative learning and teaching time (10 hrs per credit):	**Activity**

1. Student/tutor interaction: 180 hours 90 hours 0 hours	 Lectures Tutorials Laboratories/Practicals
2. Student learning time: 30 hours	 (including assessment)
Total hours (1 and 2):	300 hours

Module Specification

Module Title: Construction Technical Studies: Management of Resources risk & safety cost and legal issues in construction **(Construction Engineering track)**	**Module Code:** **EG6004/EG5644** **Level:** 6 **Credit:** 30 **ECTS credit:** 15	**Module Leader**: Assoc.Prof. Osama EL-Nesr

Pre-requisite:EG5534	**Pre-cursor:** None
Co-requisite:EG3641, EG3642, EG3643	**Excluded combinations:** None

Location of delivery: ASU, Egypt

Main aim(s) of the module:

This module provides students with the opportunity to develop an understanding of basic concept of construction resources management, construction cost management and construction risk management.

Main topics of study:

Introduction to advanced concept of construction resources management, including planning, productivity, utilization, and costing. Resources management during construction project life, material management, labour management, and equipment management.

Introduction to advanced concept of the systematic process of identifying, analysing, and responding to risk and safety management of construction projects. Risk management during construction project life, risk analysis, risk evaluation, risk assessment, risk prevention in construction projects, safety and health considerations on construction project, safety regulations and safety management.

Legal concepts and processes applicable to the development of constructed facilities and to the operation of the construction firm. Emphasis on Egyptian law and institutions.
Introduction to cost management, Fundamentals of estimating and Project budgets, Project cost estimate (types of estimates and estimating methods), Price analysis (materials, labour, equipment, contingency, overhead & mark-up), Least cost scheduling, Project cost control, Project cost analysis and cash flow, Project life cycle cost (Analysis of project profitability), Priced BOQ, Unbalanced items in construction, Quantity take-off, Quantity take-off, Specifications interpretation, Accounting for the construction industry and Depreciation, Basic accounting terminology accounting cycle and process, Financial statements, Balance sheet, Income statement & Financial ratios.

Learning Outcomes for the module

At the end of this module, students will be able to:

1. Illustrate the design of combination of resources, through the knowledge of their productivity.
2. Choose the most suitable resources to minimize the project cost.
3. Outline risk management processes and construct a project risk management map.
4. Locate different risks in construction projects and Explain the appropriate means to respond to risks if it occurs.
5. Apply construction law and its legal issues and Prepare Contract Documents.
6. Analyse and estimate project cost & unit price of construction work items.
7. Assess alternatives using life cycle cost method.
8. Use cost control tools to control project budget.
9. Prepare a priced bill of quantities and evaluate bids.
10. Effectively manage tasks, time, Cost and resources
11. Search for information and refer to relevant literatures.

12. Collaborate effectively within multidisciplinary team

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:

Lectures are the key method for introducing new material. They are presented to the whole group and are formal in delivery.

Tutorial sessions allow students to meet with their peers in small groups and focus on the practical application of their studies through problem-based classes and project work.

Practical and laboratory work will usually be on a one to small group basis which provides the opportunity for discussion and contextualising of study issues in a flexible manner.

Formative feedback will be provided for all activities. This may take the form of question and answer sessions within lectures; through worked examples, design exercises and discussion groups in small group tutorials; through submitting tutorial questions and formative reports for feedback; comments on the tutorial/practical work during the session, response to emails, the use of the Forum facility on the VLE (for generic feedback) and Turnitin Gradebook for the assessments.

Learning will be supported through information on the VLE and an accompanying core textbook. The information on the VLE adds extra content, and integrates additional resources (such as journal articles and case studies) to support those topics not covered by the core textbook. The VLE encourages deep learning through the use of activities, self-assessment questions and other formative assessments.

Assessment methods which enable students to demonstrate the learning outcomes for the module:	**Weighting:**	**Learning Outcomes demonstrated:**
Portfolio Portfolio of students' work includes a compilation of coursework of the 4 modules; each module includes samples of the following: Activities/Assignments, 2 Quizzes, 1 Midterm Exam, Final Exam	100%	1-12

Reading and resources for the module:

Core

Nunnally, S. W. "Managing Construction equipment", 2nd Ed., Prentice Hall, 2000
Cretu O., Stewart R., and Berends T., "RISK MANAGEMENTFOR DESIGN AND CONSTRUCTION", ISBN 978-0-470-63538-4, John Wiley & Sons, Inc., Hoboken, New Jersey.
B. M. Jervis and P. Levin Construction Law Principles and Practice, McGraw-Hill, Inc. New York, ISBN: 0-07-037442-2 347.3037869.
Chris Hendrickson, Project Management for Construction. Prentice Hall, 2000. (Version 2.2 prepared Summer, 2008)
Nail M, Fraser and Elizabeth M., Engineering Management Principles and Economics. Jewkes 2013.
T. Mearig, N. Coffee and M. Morgan, Life cycle cost analysis handbook. 1999

Recommended

Peurifoy, Report L., "Construction planning, equipment and methods", 8th Ed. McGraw-Hill, 2 011.
Oberlender G., "Project Management for Engineering and Construction", Third Edition, Edition - ISBN-13: 978-0071822312 - Publisher: McGraw-Hill Education.
Egyptian Civil Law, Egyptian Building Codes, FIDIC and NEC
W.F. CHEN and J.Y. Richard Liew, The Civil Engineering Handbook. second edition, 2003
S. K. Sears, G. A. Sears and R. H. Clough. Construction Project Management. 5th Edition. John Wiley & Sons, Inc. Hoboken, New Jersey, 2008
Project Management Body of Knowledge. Project Management Institute, 3rd edition. 2004.

Indicative learning and teaching time	**Activity**

(10 hrs per credit):	
1. Student/tutor interaction: 180 hours 90 hours 0 hours	 Lectures Tutorials Laboratories/Practicals
2. Student learning time: 30 hours	 (including assessment)
Total hours (1 and 2):	300 hours

Module Specification

Module Title: Environmental Technical Studies: Acoustics, Illumination, Energy Conservation and Control Systems in Buildings **(Environmental Engineering track)**	**Module Code:** **EG6005/EG4644** **Level:** 6 **Credit:** 30 **ECTS credit:** 15	**Module Leader**: Assoc.Prof. Osama EL-Nesr

Pre-requisite:EG4534	**Pre-cursor:** None
Co-requisite:EG3641, EG3642, EG3643	**Excluded combinations :**None

Location of delivery: ASU, Egypt

Main aim(s) of the module:

This module provides students with the opportunity to develop an understanding of illumination and day lighting of buildings, demonstrate a clear understanding of physical element affecting noise emissions and propagation in the air and noise control technology. The module will provide students with the knowledge and skills to choose a proper building control system to achieve one or more of the human needs and to Innovate new methods to apply energy conservation in buildings.

Main topics of study:

Production, measurement and control of light. Photometric quantities, visual perception and colour theory. Daylight and artificial illumination systems. Radiative transfer, fixture and lamp characteristics, control devices and energy conservation techniques. Design of lighting systems. Solar energy utilization and day-lighting. Integration of lighting systems with mechanical systems for energy conservation and sustainable development.

Needs for acoustic regulation, review of existing regulation of noise control criteria around the world, noise control criteria and regulation limits, Instrumentation and testing requirements, types of noise sources in building, outdoor noise, room acoustics review requirements, wall, barriers and enclosure use to get better quality, types of acoustic material and structure to minimize noise effects, vibration and noise control for building, HVAC noise problems and solution. Review of existing computer codes for building acoustics.

Introduction to automatic control systems. Control issues related to energy conservation, indoor air quality and thermal comfort in buildings. Control system hardware: selection and sizing of sensors, actuators and controllers. Designing and tuning of controllers. Building automation systems. Case studies.

Energy consumption: trends in energy consumption, evaluation of energy performance of existing buildings, standards of energy efficiency in buildings, measurements, total energy consumption. Building thermal environment: external and internal heat sources, methods of heat transfer, evaluating heat transfer, internal thermal environment, building design strategies save energy needed to reach thermal comfort inside building; skin parameters and passive strategies for saving energy, evaluating needs of heating and cooling. Renewable energy sources: passive or active solar systems, wind power geothermal systems. Optimum selection of energy sources. Impact of emerging technologies. Case studies. Computer simulation: self designed or available computer model for numerical evaluation.

Learning Outcomes for the module

At the end of this module, students will be able to:

1. Choose appropriate daylighting and outdoor lighting techniques.
2. Draw lighting plan for indoor and outdoor lighting design.
3. State the requirements for a good building acoustics and Identify the significant effect of materials on building acoustics.
4. Choose the best materials for a building for noise control.
5. Choose different control systems in building according to the aimed objectives.
6. Point out building control analysis to proper design with respect of human requirements.
7. Compare different control systems concepts and sort them in terms of priorities to achieve environmental goals.
8. Illustrate different ways and factors to achieve energy conservation in buildings.
9. Suggest alternatives to the building's elements related to energy consumption in buildings.
10. Revise and criticize energy consumption in existing projects.
11. Search for information and refer to relevant literatures.
12. share ideas and communicate effectively.

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:

Lectures are the key method for introducing new material. They are presented to the whole group and are formal in delivery.

Tutorial sessions allow students to meet with their peers in small groups and focus on the practical application of their studies through problem-based classes and project work.

Practical and laboratory work will usually be on a one to small group basis which provides the opportunity for discussion and contextualising of study issues in a flexible manner.

Formative feedback will be provided for all activities. This may take the form of question and answer sessions within lectures; through worked examples, design exercises and discussion groups in small group tutorials; through submitting tutorial questions and formative reports for feedback; comments on the tutorial/practical work during the session, response to emails, the use of the Forum facility on the VLE (for generic feedback) and Turnitin Gradebook for the assessments.

Learning will be supported through information on the VLE and an accompanying core textbook. The information on the VLE adds extra content, and integrates additional resources (such as journal articles and case studies) to support those topics not covered by the core textbook. The VLE encourages deep learning through the use of activities, self-assessment questions and other formative assessments.

Assessment methods which enable students to demonstrate the learning outcomes for the module:	**Weighting:**	**Learning Outcomes demonstrated:**
Portfolio Portfolio of students' work includes a compilation of coursework of the 4 modules; each module includes samples of the following: Activities/Assignments, 2 Quizzes, 1 Midterm Exam, Final Exam	100%	1-12

Reading and resources for the module:

Core

Rea, M.; "The IESNA Lighting Handbook: Reference and Application", 9th Edition, Publication Department, the Illuminating Engineering Society of North America (IESNA), New York, 2000

The Institution of Lighting Engineers; "The Outdoor Lighting Guide", Taylor and Francis Group, London, 2005

CIBSE, The Society of Light and Lighting, " The SLL Handbook", Stones the printers LTD, London 2009

Recommended

Bean, R.; "Lighting: Interior and Exterior", Architectural Press, Elsevier, Oxford, 2004.

ISO /DIS 3382-1: Acoustics - Measurement of room acoustics parameters - Part 1: Performance rooms.

Acoustical Designing in Architecture, John Wiley and Sons, 1950

Gade, A.C., Rumakustiskmåleteknik, særtryk 14 tilkursus 5142. Department of Acoustic Technology, Technical University of Denmark, Lyngby, 1990

L. L. Beranek, Acoustics, McGraw-Hill, New York, 1954, p. 425.
L. L. Beranek, Music, Acoustics and Architecture, Wiley, New York, 1962, pp. 488-489.
J. S. Bradley, "Uniform Derivation of Optimum Conditions for Speech in Rooms,"
Building Research Note No. 239, National Research Council of Canada, November 1985.
L. Cremer and H.A. Muller, Principles and Applications of Room Acoustics, vol. 1, Applied Science Publishers, Barking, England, 1978, pp. 610-627.
V. O. Knudsen and C. M. Harris, Acoustical Designing in Architecture, Wiley, New York, 1950, pp. 375 and 394.
Bork, Ingolf. A Comparison of Room Simulation Software --- The 2nd Round Robin on Room Acoustical Computer Simulation, Acta Acoustica, Vol. 86 (2000), p. 943-956.
Bradley J. S., Predictors of speech intelligibility in rooms, J. Acoust. Soc. Am., Vol 80, No. 3, pp 837-845 (1986).
http://www.noisemeters.com/apps/db-calculator.asp
http://www.engineeringtoolbox.com/density-solids-d_1265.html
http://online.unitconverterpro.com/unit-conversion/convert-alpha/density.html
http://www.noisemeters.com/apps/db-calculator.asp
Kwok and Grondzik, "The Green Studio Handbook - Sun, Wind & Light", Brown and DeKay, 2nd edition, HOBO datalogger, 2007
Vaughn Bradshaw, P.E., "The Building Environment: Active and Passive Control Systems", third edition, John Wiley & Sons, Inc., Hoboken, New Jersey, 2006.
Alison G. Kwok - Walter T. Grondzik, "The Green Studio Handbook", second edition, Architectural press, Elsever Inc., 2011.
Bess Krietemeyer, Brandon Andow and Anna Dyson, "A Computational Design Framework Supporting Human Interaction with Environmentally- Responsive Building Envelopes", international journal of architectural computing, issue 1, volume 13.
The Chartered Institution of Building Services Engineers (CIBSE), "Building Control Systems: CIBSE Gide H", CIBSE, London, 2009.
M.R. Brambley - D. Hansen - P. Haves - D.R. Holmberg - McDonald - K.W. Roth - P. Torcellini, Advanced Sensors and Controls for Building Applications: Market Assessment and Potential R&D Pathways, Pacific Northwest National Laboratory Richland, Washington 99352, 2005.
Department of Environment, Climate Change, and Water of New South Wales, "NABERS Energy Guide to Building Energy Estimation- Building Rating". Australia: NABERS, 2011.
Greg Winkler, "Recycling Construction, and Demolition Waste A LEED-Based Toolkit". USA: International Code Council (ICC), 2010
Nobert Lechner, "Heating, Cooling, Lighting, Design Methods for Architects". New York: John Wiley & Sons. Inc., 2008
D. Turrent, "Sustainable Architecture. London: RIBA Publishing, 2007.
P.E. Vaughn Bradshaw, "The Building Environment: Active and Passive Control Systems", third edition, New Jersey: John Wiley & Sons, Inc., 2006.
Ursula Eicker, "Solar Technologies for Buildings", Stuttgart: John Wiley & Sons Ltd, 2003..

Indicative learning and teaching time (10 hrs per credit):	**Activity**
1. Student/tutor interaction: 180 hours 90 hours 0 hours	 Lectures Tutorials Laboratories/Practicals
2. Student learning time: 30 hours	 (including assessment)
Total hours (1 and 2):	300 hours

7 PLACEMENT REQUIREMENTS

Although there is no compulsory placement system we encourage all students to seek work experience during their during the summer vacations. Training could be performed in an industrial/service facility related to the student's program, and must be under the full supervision of the faculty according to the requirements stipulated in Article (37) of the ASU Credit-hour Educational Programmes bylaws. The training is mandatory for the normal ASU degree.

Scholarships

The student who achieves an accumulative GPA of 3.6 or higher after any semester and did not fail any course throughout his course of study is included in the Dean's List and receives partial exemption from charges on the next semester. This exemption is dependent on the student's GPA as recommended by the Programmes Administration Council in this regard and after approval of the Council of the Faculty of Engineering. The student who keeps an accumulative GPA of 3.3 or higher in every semester all through his course of study and does not fail any course, graduates with an Honor Degree, which is documented in his graduation certificate. Additionally, the top 30 students in Thanaweya Amma, mathematics section, who enrolled in the credit hours programmes, are fully exempted from paying any tuition fees in their first semester. To maintain this exemption in the following semesters, the student should maintain an accumulative GPA of 3.6 or higher in every semester. This exemption is declined once the student fails to achieve this accumulative GPA in any semester. The faculty sets a system for encouraging distinguished students through reducing their tuition fees in accordance with their accumulative GPAs. At the beginning of each semester, the distinguished students' list is announced together with the associated tuition fees reductions.

8 PROGRAMME MANAGEMENT

Students' support and guidance are provided through a range of resources. A welcome and induction process is starting in their first week, where all students are guided to their programme studies.

The programme pays special attention to the learning management system that helps students and staff members to intercommunicate effectively in terms of course material, assignment, term-work marks … etc.

The programme's learning management system is setup to have a page for each course studied during the semester. The student can access his courses from the main programme web-page.

All electronic services provided to the students requires the use of university e-mail, hence, it is created automatically for the programme's student when he is first enrolled to the programme, and he retains this e-mail until he graduates.

The Student Information System (SIS) is the place where students can access all your academic records. It can be reached on the main programme web-page, which also provides brief information about the mission and vision of the programme, and the important dates related to student academic activities.

Every student is assigned an Academic Advisor who is one of the faculty members and may continue with the student for the whole study duration. The Academic Advisor should follow-up with the student, assist him in selecting courses each semester, and request to place the student under probation for one semester.

For each hour (lectures or tutorials) the instructor should have an office hour. It could be twice a week for 1.5 hours each. Office hours will be determined in the first class and will be posted on the Instructor's office door.

Students will be given a student handbook at the start of their programme of study.

Programme Committees provide a formal structure for student participation and feedback on their programme of study. Programme committees provide a forum in which students can express their views about the management of the programme, and the content, delivery and assessment of modules, in order to identify appropriate actions to be taken. Terms of reference are provided in Appendix D.

Students Involvement

There are different facilities that ensure students involvement that include:

a) Students' Affairs Administration

The students' affairs administration is chaired by the Vice-Dean for education and students' affairs and is located in the main building. This administration has representatives at the programmes' administration offices (Ground Floor of the New Educational Building). The secretariat of each programme (at the programmes

secretariat office – Ground Floor of the New Educational Building) also collaborates with the previous representatives in accomplishing the following tasks:

- Archiving of the students' files.
- Issuing the students' identity cards.
- Electronic recording of the students' course registration, add/drop, and withdraw.
- Processing the students' course evaluation at the end of each semester.
- Issuing the students' records at the end of each semester.
- Issuing the students' graduation certificates.
- Processing the students' appeals and requests.

b) Students' Union

The students' union is also under the general supervision of the Vice-Dean for education and students' affairs. As part of the Faculty of Engineering, the programmes' students are members in the union and have similar rights and benefits as the mainstream students, including entering the union's yearly elections.

c) Financial Affairs Administration

The programmes' financial affairs administration, located at the Ground Floor of the New Educational building, is responsible for issuing the payment orders for the students' tuition fees at the beginning of each semester. The administration is also responsible for collecting the copies of the students' payment receipts, which should be presented by the students after making their payment at the Faculty treasury. Programmes' students who fail to present copies of the payment to the programmes' financial administration risk having no payment records at the programmes.

d) Library

The Faculty library provides a service specially designed to fulfil the requirements of all academic programmes. It is open for all Faculty members for reference use and borrowing. The main library has a shelf space for over 46,000 books on all subjects forming part of the Faculty curriculum. It has 353 technical periodicals (the Faculty receives 23 periodicals yearly on a regular basis). Additionally, it has more than 3,340 Ph.D. and M.Sc. theses resulting from all Faculty departments' activities. The students' library has multiple copies of textbooks, amounting to over 13,000, available for short-term borrowing to students. According to the Engineering Faculties libraries development project, annexed to the Ministry of Higher Education, the library is interconnected through the Internet with all the libraries of engineering faculties nationwide. VTLS library software system has been installed which contains all the modules to provide library services to the Faculty community.

e) ASU-FoE Information Systems

ASU-FoE have a solid understanding of the importance of information systems in each aspect in the CHEP academic environment. Hence, a comprehensive web portal has been created for CHEP that has all information and services needed for the student, parents, and staff members. Learning Management System (LMS) is

one of the available services at the ASU-FoE portal for all students mainly to have their course materials posted regularly on it with a dedicated protected access to the courses he enrolled in them. More importantly, a comprehensive Student Information System (SIS) is another service that is available on the portal to all parties involved in the system. The student can use SIS to access his academic records, undertake module registration, request to open module that are not offered, or even request advising appointment with his academic advisor.

9 STUDENT SUPPORT

9.1 Local arrangements for academic and pastoral care for students

Induction

Students' support and guidance are provided through a range of resources. A welcome and induction process starts in their first week, where all students are guided to their programme studies. Student induction and orientation takes place on the first day of each academic year. The purpose of induction is to introduce new students to their peers, the academic and support staff, to familiarize them with the access to and use and of facilities and to outline the relevant Policies, Procedures, Rules and Regulations. Information on the programme, student support services and the teaching and learning philosophy adopted by the College is communicated verbally and in writing.

Currently, at the beginning of the each programme, the faculty meets and greets the new cohort and addresses the following topics in an induction programme:

(1) Programme Structure (how and when modules are assessed)
(2) Programme Content
(3) Assessment Grading
(4) Attendance
(5) Responsibilities they have in learning process – the importance of meeting assessment deadlines
(6) Importance of presenting authentic work and being clear on what constitutes plagiarism rules
(7) Appeals procedures
(8) Allocation of Personal Tutors
(9) Access to UEL electronic learning resources
(10) Access to UEL Library and Learning Services
(11) UEL Academic Framework
(12) Assessment regulations
(13) Extenuation

At the start of the programme each student will be given either a hard copy of the programme handbook or access to the VLE where this will be published.

English language Support

For those who require additional support in English language additional sessions are scheduled by ELTU (English Language Teaching Unit).

Student mentorship

The Academic staff must provide each and every student with the support required to perform academically, and encourage active engagement from the students through:

- Establishing a supportive relationship with all students
- Adopting a creative approach to teaching and learning
- Providing regular constructive assessment feedback
- Mentoring and coaching

Students may make an appointment to meet with any tutor or the programme leader to discuss their progress and request additional assistance with managing their workload or to ask for additional tutoring in an area that she/he may be struggling with.

Academic Advisor

All students enrol on the programme will be assigned an Academic Advisor (AA).
This Academic Advisor will:

- Assist students with the process of induction and orientation into academic life and the University/College community and respond promptly to any communication from him/her;
- Work with students to build personal academic relationships;
- Retain an interest in their students' personal and general academic and professional development throughout their academic careers while at the University/College, providing information and guidance on academic choice;
- Monitor both academic performance and student engagement in a proactive manner and advise on constructive strategies to enable improvement, for example through the use of a personal portfolio or personal development plan;
- Listen and offer students help and advice about pastoral/non-academic matters and to signpost students to other student services for further assistance if necessary;
- Ensure that a note is kept of discussions at each meeting (with the student) and any follow-up actions agreed with the student;
- Provide references to students in their quest for employment of further study.

Academic Support Systems

AT ASU, students have full access to all required facilities and receive the best preparation for their undergraduate studies. These are including Library, Lab Room, ICT Room, Photocopying Facilities, etc. In addition, all students are assigned an Academic Advisor. Students participate in class activities that help develop their presentation and language skills, leadership skills, critical thinking skills and social skills, giving them greater confidence for their future academic challenges.

Teaching

At the FoE, teaching follows university practice with lectures, tutorials, assignments, projects and in college tests designed by an experienced teaching team. The programme’s learning management system is setup to have a page for each course studied during the semester. The student can access their courses from the main programme web-page. All electronic services provided to the students requires the use of university e-mail, hence, it is created automatically for the programme’s student when they are first enrolled to the programme, and they retain this e-mail until they graduate.

Student Affairs

At ASU there are Student Affairs Officers who offer friendly and caring support and mentorship to students, not just for academic matters but also for personal problems. Throughout the programme, the Students' Affairs Officer organizes weekly meetings, business trips and outings to places of interest in and around Cairo, as well as international trips during the summer holiday.
Safe Environment: FoE ASU provides a safe, caring and nurturing learning environment with friendly, supportive mentors and teachers who have many years of experience in teaching and mentoring.

Technical support for learners and staff

ASU employs a team of technical IT support and professional services staff to help staff and students with their teaching and assessment activities. The centre employs a dedicated IT Manager to provide the learners and staff with the necessary advice about the technical needs of the mode of study throughout the length of the programme. The students and staff have the full access to the ICT room, photocopiers, printers and e-library throughout the course of the term. The IT team provide learners and teaching staff with the necessary technical support in using 'Turnitin' software throughout the assignment submission and assessment process.

The team provides specialist technical support for teaching, learning and assessment activities to ensure they run smoothly. This can be anything from preparing resources, operating specialist laboratories and quantity surveying, to setting up classrooms.

Technical teams frequently have responsibility for related areas such as managing health and safety, contingency planning and capital planning, maintenance of both hardware and software.

Information on how the entitlements of disabled students have been addressed within curriculum design:

As a UEL validated programme, the curriculum has been designed to adequately address needs and requirements of disabled students. From a local perspective the programme team will ensure that if there are disabled students on the programme the following will apply:

- Step free access to laboratories/classes
- Larger fonts sizes for presentation materials
- The use of scribes
- Voice recorders will be allowed (with the permission of the presenting lecturer)
- Extra time for examinations
- Use of word processor (PC) without Internet access for examinations.
- Separate room for special needs students (if requested)

Access to UEL Academic Link Tutor (ALT)

All ASU students on the proposed programmes (being submitted for approval) will have access to the respective Academic Link Tutor generally via email. Students are encouraged to discuss any issue or concerns with their in-house tutors at the first instance before contacting the Academic Link Tutor.

UEL Resources

As UEL registered students, FoE - ASU students will also have access the following UEL resources:

- UEL Library including e-resources, databases and e-journals (subject to licence allowances)
    - Study skills Plus – an online diagnostic and assessment tool which can help students develop their core English and maths skills.
- UEL Direct
- Information and communications technology (ICT) resources such as Office365

The role of the UEL Academic Partnership Office (APO)

The APO will work in liaison with the ALT, however principally the role of the APO is administrative support for the ALT and the Partner. The APO will be the first point of contact for the partner and will channel concerns, issues, queries to all UEL Central Services such as Registry, Assessment Unit, The Hub, Courses and Systems, UEL Library and so on.

Student Feedback Mechanisms

Student representatives will be either elected or nominated for each programme. These representatives are the means of formal communication to the various committees at FoE - ASU Campus and UEL. There will be two formal meetings per year with the student representatives, module leaders and the programme coordinator at FoE - ASU Campus. The External Examiner report will also be made available for students to access. The issues raised at these meetings will be communicated to the Academic Link Tutor or APO at UEL. Actions resulting from these issues will be monitored and taken in the next committee meeting, where the representative will get an update, if not solved then and there.
We ask that student representatives discuss all matters informally with their Module Tutor at FoE - ASU before raising them at committee level. It should be possible to solve most problems by an informal approach. The earlier the programme team are made aware of any problems, the earlier FoE - ASU will attempt to correct problems.
Student support is appreciated and acknowledged consistently in the student End-of-Module Evaluation Questionnaires and verbal feedback. The information collected from the Questionnaires is delivered to the Senior Management of FoE - ASU for analysis and taking any remedial actions.

Academic Progress

Students on the dual degree programme will be able to access their records/profile via UEL Direct. ASU also has its own The Student Information System (SIS) platform where students can access all their academic records. It can be reached on the main programme web-page, which also provides brief information about the mission and vision of the programme, and the important dates related to student academic activities. Students receive an Academic report on a quarterly basis to assist them to monitor their progress and to identify any areas of concern. Students also meet with the Academic Head and the relevant facilitators to discuss their progress. Recommendations for improvement are made and the feedback is minuted

.

Students with learning challenges

Students with learning challenges are accommodated as far as possible, taking the current College resources into consideration. The Academic Board is responsible for approving any recommendations made by the Student Counselor to accommodate a student with any of the following learning challenges:

- A cognitive disadvantage which affects their ability to learn at the same rate as their peers.
- A specific learning difficulty which may or may not be linked to a cognitive disability
- A speech and language impairment affecting their ability to comprehend
- A physical disability and sensory impairment
- An emotional disability which can affect their ability to learn
- An extended period of absence which could occur for a variety of reasons
- A behavioral impairment affecting their ability to concentrate and therefore learn effectively
- Students who speak a different language at home than the one they speak at College

Online information and support:

As previously mentioned, the programme team will use their own VLE. A bespoke section will be created for

- Induction information
- Academic support for students available both at FoE - ASU and UEL
- FoE - ASU Student Enquiries Desk opening hours
- FoE - ASU Library opening hours
- Link to UEL Library online resources
- Copy of Programme Handbook

Please refer to Appendix F for Student Entitlements, for support available at UEL.

10 RESOURCES

a) Local library and IT resources

ASU - FoE central library serves students and researchers in various fields besides the Digital Library to provide an online service for users. There is (1) central library with (3) halls according to the following:

- The student library hall contains (16,461) books.
- The teaching staff hall contains (29,607) books.
- Digital Library Hall

The Digital Library serves to provide an online Service for users. It gives online access to the contents of the library, including books and theses. The digital library website: ***http://srv2.eulc.edu.eg/eulc_v5/libraries/start.aspx***

Other learning resources are the Egyptian Bank of Knowledge (EBK) through the website: ***http://www.ekb.eg/*** "Egyptian Knowledge Bank", is one of the largest national projects that is concerned with education in Egypt, it aims to provide huge and diversified sources for knowledge and culture for free. It comes after contracting with several international publishing houses to publish their contents in all scientific and cultural disciplines, to have the system for the new Egyptian Cultural Revolution completed. Generally, 25 global publishing house and specialised companies, the Egyptian Knowledge Bank managed to contract with to provide their contents & technologies. E-Mail Services involved a developed Cooperation of the University with Microsoft Corporation to Serve Undergraduate and Postgraduate Students offering new features for the official e-mail users.

b) Other local resources relevant to supporting the programme

The faculty offers students Training Support through **Global Training Technology Centre**. It aims to be a centre for innovation in technology and entrepreneurship, as to form a link between academic study and labour market. The centre offers training programmes to serve students and graduates at the same time, these training programmes aim to develop the creative sense of the trainees in order to integrate them into creative and innovative works that would serve the industrial field and the community. Depends on the overlap between the different disciplines in various fields and at various levels. The centre is nearly 1000 m² area, it works as the headquarters for the students to practice their activities in the future, and the college is preparing the headquarters of the centre to accommodate the necessary training activities.

Employability and Career Development Centre (ECDC) is a Centre constructed through the collaboration between Ain Shams University and the American University, it has a permanent headquarter in Faculty of Engineering and another headquarter in Ain Shams University. It provides special training programmes for students in order to develop their capabilities in the professional and employment fields. The centre aims to guide the trainee to his excellence and weaknesses points, and how to raise points of excellence and overcome weaknesses.

The number of computers available to students is about 600 modern machines. A suitable number of computers are available for faculty members in their respective laboratories and offices in different sections. The number of computers available to employees is 250 devices. Computer labs are run centrally for students. The method of using these labs has been adopted by setting a nominal fee of not less than two pounds per hour to use the central labs which are open to access the network, while the student does not bear any burdens to enter the laboratories associated with the ministry while the Income is suitable for the maintenance and modernization of computers in college. The databases and information systems of faculty staff members, their assistants, students, graduate students, expatriates, administrators and libraries have been developed and updated. The databases are continuously updated.

The Faculty of Engineering has a website through the main website of Ain Shams University. The website is: ***https://eng.asu.edu.eg/***. The website provides various services for students and faculty members by presenting the internal regulations of the bachelor's degree course as well as higher education. The site is being developed and data recorded within it are consistently updated. The contents of the various educational materials are displayed. The course schedules and exam results are announced at the end of the semester. The site is available in Arabic and English so that the user can choose the appropriate language. This site is regularly updated by site administrators and college administration. E-mail access is also available to the faculty members and the assistant staff and the students on the website of the College.

In order to update the educational services to the international standards, an online portal was developed in order to open the access to students and staff members to perform efficiently online. Students can view their courses, submit coursework and view their grades. Staff members can upload their lectures, view the online submissions and grade online. An information technology unit was set up for the electronic portal of the college to be the main focus of interaction between students and faculty.

11 INFORMATION ABOUT QUALITY AND STANDARDS

Assuring the quality and standards of the award

You are enrolled on a programme of study leading to the award of a degree of the University of East London (UEL). As such, you are regarded as a student of the University of East London as well as ASU- FoE and both institutions work together to ensure the quality and standards of the programme on which you are registered. The final responsibility for all quality assurance, validation and standards' matters rests with UEL.

Some of the ways in which we ensure the quality and standards of the programme include:

Approval of the programme and institution at which you are studying

Before the programme started, our University, through an approval process, checked that:

- there would be enough qualified staff to teach the programme;
- adequate resources would be in place;
- the overall aims and objectives were appropriate;
- the content of the programme met national benchmark requirements, where applicable
- the programme met any professional/statutory body requirements if applicable;
- the proposal met other internal quality criteria covering a range of issues such as admissions policy, teaching, learning and assessment strategy and student support mechanisms.

Appointment of external examiners

- The standard of this programme is monitored by at least one external examiner external to UEL, appointed by UEL. External examiners have two primary responsibilities:
- To ensure the standard of the programme;
- To ensure that justice is done to all students.
- External examiners fulfill these responsibilities in a variety of ways including:
- Approving exam papers/assignments;
- Attending assessment boards;
- Reviewing samples of student work and moderating standards;
- Ensuring that regulations are followed;
- Providing feedback to the University through an annual report that enables us to make improvements for the future.

Review and Enhancement Process

- This annual review includes the evaluation of and the development of an action plan based on:
- external examiner reports and accreditation reports (considering quality and standards);

- statistical information (considering issues such as the pass rate);
- student feedback obtained via programme committee and module evaluation questionnaires.
- Periodic reviews of the partnership and programme
- This is undertaken by a panel that includes at least two external subject specialists. The panel considers documents, looks at student work, speaks to students and speaks to staff before drawing its conclusions.

Award certificates

Issuing transcripts of results to students, and award certificates to successful students on programmers.
The student who achieves an accumulative GPA of 3.6 or higher after any semester and did not fail any course throughout his course of study is included in the Dean's List and receives partial exemption from charges on the next semester. This exemption is dependent on the student's GPA as recommended by the Programme Administration Council in this regard and after approval of the Council of the Faculty of Engineering.

Students who complete 480 credits, graduate with an Honours Degree, which is documented in their graduation certificate. The faculty sets a system for encouraging distinguished students through reducing their tuition fees in accordance with their academic performance. At the beginning of each semester, the distinguished students' list is announced together with the associated tuition fees reductions.
Students who manage to fulfil all graduation requirements will be awarded a dual Honours degree from ASU and UEL in Building Engineering.

Equality and Diversity

ASU Equality and Diversity Strategy

- ASU commits to ensuring equality and diversity in its campus. Equality is ensured for everyone regardless any grounds of discrimination such as gender, age, color, disability and religion.
- The university supports a safe environment for both working and studying. The university environment must be free of bullying, harassment, and any form of discrimination. Any act of the aforementioned will not be tolerated and any complaints will be taken seriously. Anyone who feels being subjected to these acts is encouraged to raise complaints.
- All academic staff members, students and employees are supposed to treat each other with mutual respect and fairness. Everyone should respect the presence of individual differences, diversity in culture, personal opinions and beliefs.
- Equal opportunities and access to facilities are allowed for all staff and students. Each staff member or student is given full support to develop their skills and talents. Selection for employment, promotion, training, or any other benefits will be based on aptitude and ability.

UEL Equality and Diversity Strategy

https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies(for all general policies)

12 ACADEMIC APPEALS

12.1 Students who wish to appeal against decisions of an Assessment Board, should notify the Credit Hours Engineering programs at Ain Shams University in writing, via official appeal forms downloadable via
https://eng.asu.edu.eg/uploads/uploadcenter/asu_337_file.pdf

12.2 Students who wish to appeal against a decision of an Assessment Board may appeal in accordance with the procedure for *Appeals against Assessment Board decisions* (Manual of General Regulations, Part 7).

12.3 An appeal may only be made on the following grounds:

(a) The assessment was not conducted in accordance with the current regulations for the programme, or there has been a material administrative error or some other material irregularity relevant to the assessments has occurred.

(b) For a student with a disability or additional need, the initial needs assessment was not correctly carried out, or the support identified was not provided, or the agreed assessment procedures for that student were not implemented.

12.4 Appeals **will not be accepted** on the grounds of disagreement with the academic judgement of an assessment board. These remain the exclusive prerogative of the Assessment Board.

Any student who wishes to appeal against the decision of an Assessment Board must:

1. Notify the Institutional Compliance Office (***appeals@uel.ac.uk***) **within ten working days of the publication of results**.

2. Complete all sections of the notification of appeal form (please contact Institutional Compliance Office if you require the form in a different format).

3. Attend a conciliation meeting with the Chair of the Assessment Board to attempt to resolve your appeal (the meeting should be convened within 10 working days of lodging the appeal).

12.4 If you are dissatisfied with the outcome of the conciliation meeting you should submit the completed notification of appeal form to the Institutional Compliance Office **within five working days of the conciliation decision** and Institutional Compliance will formally investigate your appeal.

12.5 Further information about the UEL appeals process, including copies of the formal Notification of Appeal Form, is available for view at

https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies/Student-Appeals

12.6 To help you decide whether your query would be an Appeal or Complaint, please refer to ***https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies***

12.7 If you would like to lodge a formal appeal or have any queries, please email the Institutional Compliance Office at ***appeals@uel.ac.uk***

13 COMPLAINTS

If you feel that you have not received the standard of service which it would be reasonable to expect, you may be entitled to lodge a complaint, in accordance with section 14 of the *Manual of General Regulations*. The Complaints Procedure should be used for serious matters, and not for minor things such as occasional lapses of good manners or disputes of a private nature between staff and students. A complaint may be submitted collectively by a group of students who should nominate a spokesperson who will be the channel of communication for the group, however, a complaint may not be lodged by a third party on behalf of the complainant. The complaints procedure is an internal process.

Separate procedures exist for the following, which therefore cannot form the substance of a complaint:

- appeals against the decisions of Assessment Boards (see Part 7 of the Manual of General Regulations);
- appeals against annual monitoring reviews, transfer of research degree registration or oral examination decision for postgraduate research students (see Part 9 of the Manual of General Regulations);
- appeals against the decisions of the Extenuation Panel (see Part 6 of the Manual of General Regulations);
- complaints against the Students' Union (see the Complaints Procedure in the Students' Union constitution);
- appeals against decisions taken under disciplinary proceedings (see Part 12 of the Manual of General Regulations);
- complaints about businesses operating on University premises, but not owned by our university (contact the Deputy Vice-Chancellor and Chief Operating Officer);
- complaints about the behaviour of other students (see Part 12 of the Manual of General Regulations this Manual);
- appeals against the decisions of Academic Misconduct Panels (see Part 8 of the Manual of General Regulations)
- appeals against the decisions of Attendance Appeal Panels (see the University's Attendance Policy).

ASU- FoE has a complaints process which adheres to the four stages of the University of East London complaints process. The three possible stages of the complaint process are:

STAGE 1: Local Resolution
STAGE 2: Formal Complaint
STAGE 3: Review

Stages 1 and 2 will be administered by ASU- FOE and the University of East London will administer Stage 3, including the issuing of a Completion of Proceedings letter in response to each Stage 3 complaint. ASU – FoE is responsible for keeping the University of East London informed of all complaints received.

Complainants are strongly advised to make every reasonable effort to resolve their complaint informally through meeting with the *member of ASU - FoE staff* most directly

concerned with the matter, such as the Programme or Module Leader, before proceeding to Stage 2 and submitting a formal complaint.

Complaints must normally be lodged within set time limits (please see Complaints Procedure for further details). This ensures that the people involved still remember the case, and the facts can be established.

Further information about our University's complaints procedure, including copies of the formal Complaints Form, is available for view at
https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies/Student-Complaint-Procedure

If you would like to lodge a formal complaint or have any queries, please email the Institutional Compliance Office at ***complaints@uel.ac.uk***

14 EXTENUATION

General Information about extenuation can be found at
https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies/Extenuation-Procedures

Module Improvement and Resit
Within the Ain Shams regulations the student can repeat a module for improvement if their grade satisfies the minimum passing requirement, according to the following rules: The student gets the grade of the module after improvement, and this grade is the one that will be accounted for in the accumulative GPA, on condition that the improvement should be shown in the student's transcript. The student can improve up to five modules during his study duration, except for improving courses with the purpose of getting out of the academic warning or satisfying the graduation requirements. The student should pay the fees for the failed module.

If the student fails a course (less than 40%) after resit, he should repeat the course (full attendance and performing all activities including examinations), according to the following rules: The maximum mark of the repeated course is 40%. The student gets the grade of the module after repetition, and this grade is the one that will be accounted for in the accumulative GPA, on condition that the repetition should be shown in the student's transcript. The student should pay the fees for the failed module.

Ain Shams University will only report the original mark to UEL.

Seeking Advice: Academic Advisor

Every student is assigned an Academic Advisor who is one of the faculty members and may continue with the student for the whole study duration.

The Academic Advisor may ask the student to repeat courses which he already passed or ask him to register in additional courses to raise his accumulative GPA to that required for graduation.

Extenuation procedures (Manual of General Regulations) for ASU – FoE is available at: ***https://eng.asu.edu.eg/uploads/uploadcenter/asu_1768_file.pdf***

The University of East London has agreed, through Academic Board, procedures governing extenuation for students concerning the assessment process.

The BEng Building Engineering programme will be subject to equivalent procedures, with the process being administered by, and the panel being held within Ain Shams University – Faculty of Engineering

If granted by the panel, **Extenuation can**

(i) Allow students to hand in coursework up to 7 days late.

or

(ii) Allow students to proceed to their next attempt uncapped.

Extenuation doesn't

(i) Give students more attempts to pass a module
(ii) Reschedule exams
(iii) Uncap a capped module
(iv) Give students a higher mark.
(v) Allow students to hand in work over 7 days late.

The basic principle is that extenuation should put you in the same position that you would have been in had you not missed the exam or handed in the assessment late – it does not confer any advantages.

UEL decided that its procedures would be

- Evidentially based
- Handled centrally by an panel of senior staff (not devolved to various parts of the organisation)
- Retain student anonymity where possible

The extenuation procedures are intended to be used rarely by students not as a matter of course.

The procedures govern circumstances which

- Impair the performance of a student in assessment or reassessment
- Prevent a student from attending for assessment or reassessment
- Prevent a student from submitting assessed or reassessed work by the scheduled date

Such circumstances would normally be

- Unforeseeable - in that the student could have no prior knowledge of the event concerned
- Unpreventable - in that the student could do nothing reasonably in their power to prevent such an event
- Expected to have a serious impact

Examples of circumstances which would normally be regarded as serious are:

- *A serious personal illness* (which is not a permanent medical condition – this is governed by disability procedures)
- *The death of a close relative immediately prior to the date of assessment*

Examples of circumstances which would *not* normally be regarded as extenuating circumstances are:

- Failure of computer equipment / USB stick
- Transport problems, traffic jams, train delays
- Misreading the exam timetables / assessment dates
- Minor illnesses

The judgement as to whether extenuation is granted is made by a panel of senior persons in the organisation who make this judgement on the basis of the evidence the student provides (not on their knowledge of the student) – where possible the identity of the student is not made available to the panel. The judgement is made on

the basis that the circumstances could reasonably be thought to be the sort of circumstances which would impair the performance of the student etc. The actual performance of the student is not considered and is not available to the panel.

It is the responsibility of the student to notify the panel, with independent evidential documentary support, of their claim for extenuation.

More information and student guidance notes can be found at:
https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies/Extenuation-Procedures

Appendix A

Academic Calendar 2019/2020

Semester	Activity	From	To
First Semester Fall 2019	Course Registration	07/09/2019	19/09/2019
	Classes	21/09/2019	02/01/2020
	Adding Courses	21/09/2019	26/09/2019
	Dropping Courses	21/09/2019	03/10/2019
	Midterm Exams	08/11/2019	15/11/2019
	Withdraw Courses	19/10/2019	28/11/2019
	Final Exams	04/01/2020	24/01/2020
	Break	25/01/2020	06/02/2020
Second Semester Spring 2020	Course Registration	01/02/2020	06/02/2020
	Classes	08/02/2020	21/05/2020
	Adding Courses	08/02/2020	13/02/2020
	Dropping Courses	08/02/2020	20/02/2020
	Midterm Exams	27/03/2020	03/04/2020
	Withdraw Courses	07/03/2020	16/04/2020
	Final Exams	27/05/2020	19/06/2020
	Break	20/06/2020	09/07/2020
Summer 2020 Semester	Course Registration	27/06/2020	02/07/2020
	Classes	04/07/2020	20/08/2020
	Adding Courses	04/07/2020	06/07/2020
	Dropping Courses	04/07/2020	09/07/2020
	Withdraw Courses	08/08/2020	13/08/2020
	Final Exams	21/08/2020	28/08/2020
	Break	29/08/2020	17/09/2020
Start of Academic Year 2020/2021		19/09/2020	

USEFUL WEB PAGES APPENDIX B

Academic Appeals
https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies/Student-Appeals

Academic Integrity Policy
https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies

Accreditation of Experiential Learning
https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies/Manual-of-General-Regulations
(Manual of General Regulations – Part 2 – Admission of Students)

Assessment and Feedback Policy
https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Assessment-and-Feedback-Policy

Civic Engagement
https://www.uel.ac.uk/Connect/Civic-Engagement

Complaints procedure
https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies/Student-Complaint-Procedure

Equality and Diversity Strategy
https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies
(for all general policies)

Extenuating Procedures
https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies/Extenuation-Procedures

Library and Learning Services
https://www.uel.ac.uk/lls/

Manual of General Regulations
https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies/Manual-of-General-Regulations

Referencing guidelines
https://uelac.sharepoint.com/LibraryandLearningServices/Pages/Harvard-Referencing-.aspx

Skills Curriculum
https://www.uel.ac.uk/discover/governance/policies-regulations-corporate-documents/student-policies/skills-curriculum

Skills Portal
https://uelac.sharepoint.com/LibraryandLearningServices/Pages/Skillzone.aspx

Suitability Procedures
https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies/Manual-of-General-Regulations
(Manual of General Regulations – Part 13 – Suitability Procedure)

Write it Right***http://writeitright.uelconnect.org.uk/***

UEL Intranet (UEL ID required to login) ***https://www.uel.ac.uk/students***

APPENDIX C

Student Attendance and Engagement Policy – Guidance for Students

Teaching Policy

Language: English language should be used for lectures, discussions, exams, and all verbal and electronic communications.

Module Guide: Each module guide should contain: module objectives, core and recommended textbooks, outline, material, assessments, grading policy and outcome. Outline should contain sections covered every week with reference to chapters/sections in the textbook. The instructor/module leader should give the module guide to the students during the first class. The module guide serves as a contract between the instructor and the students.

Textbook: The instructor is free to select/recommend a textbook but it should be international and available. The textbook information should be provided to the administration office or the unit head before the first class of the course.

Attendance: Attendance is taken in lecture and tutorial classes. It is assigned a percentage based on the grading policy. Students should not be allowed to enter the class after 5 minutes from the scheduled time. No eating, drinking, or mobile use in the class. If the student wants to leave the class for any reason, he will not be allowed to come back to the class. The student's attendance should not be less than 75% during the course. Otherwise, the student should not be allowed to attend the final exam.

Assignments: Assignments are given every week (detailed are spelled out in the module), preferably from the textbook. Assignments should constitute 20% of the total grade. Instructors are allowed to drop the least assignment from the grade. The assignment is collected at the end of the tutorial period of the next week. Instructors may grade only selected problems from the assignment. The graded assignment should be returned and discussed with the class.

Quizzes: Unannounced quizzes are given in the tutorials to force the students to study and be ready all time. These quizzes should constitute 10% of the total grade. The quiz is given at the end of the session for 15 minutes max. Up to 6 quizzes can be given and the least one can be dropped from the grade. The graded quiz and the model answer should be returned the following tutorial and discussed with the class.

Exams: One midterm exam should be given. Time should be indicated in the module guide. This exam will be held during lectures/tutorials based on course progress and will constitute 25% of the grade. The instructor can arrange for a bigger or more suitable room for the midterm exam. The final exam constitutes 40% of the grade. It should be a comprehensive exam covering all material. The student fails the course if he gets less than 30% of the final exam total grade. Instructors may select to have all exams open-book or closed-book.

APPENDIX D
UNIVERSITY OF EAST LONDON

TITLE: PROGRAMME COMMITTEE (COLLABORATIVE)

TERMS OF REFERENCE

To be responsible for assuring and enhancing the quality of the student experience at programme level by:

- Providing a forum in which students can express their views about the management of the programme, and the content, delivery and assessment of modules, or equivalent, in order to identify appropriate actions to be taken in response to the issues raised and to ensure that the implementation of these actions is tracked.

- Providing formal yearly student feedback on the programme as input into the preparation of the Programme REP.

- Reviewing programme questionnaire results and making recommendations and changes arising from these.

- Receiving, considering and approving the Programme REP and identifying responsibilities for action to be taken before it is considered by School Learning and Teaching Quality Committee.

- Reviewing progress on REP action plans at each meeting.

- Reviewing the relevant documentation and other evidence prepared for Academic and collaborative Institutional Review and other external review processes.

- Reviewing proposals for modification of the programme structure (validated programmes only) and noting implementation arrangements for modifications.

- Advising the Programme Leader on mechanisms by which University policy statements, which have an impact on programme design and delivery, are implemented.

MEMBERSHIP

Programme Leader (Chair)
Administrator/Servicing Officer (ex-officio)
Programme staff making a significant teaching contribution to the programme
Learning Support Services representative
Technician representative (for laboratory based programmes)
Dean of School/department or equivalent (ex officio)
UEL Dean of School/Associate Dean of School, or equivalent (ex officio)

UEL link person (ex officio)
Two student representatives for each level and at least one part-time student (where appropriate)

The meeting will be held once per semester/term and will be quorate if 40% of the members are present.

APPENDIX E

ACADEMIC MISCONDUCT

For the purposes of university's regulations, academic misconduct is defined as any type of cheating in an assessment for the purposes of achieving personal gain. Examples of such misconduct are given below: the list is **not** exhaustive and the use of any form of unfair or dishonest practice in assessment can be considered potential misconduct.

Coursework Submitted for Assessment

For coursework submissions, academic misconduct means:

(a) The presentation of another person's work as one's own with or without obtaining permission to use it.

(b) The inclusion within one's own work of material (written, visual or oral), originally produced by another person, without suitable acknowledgment.

(c) The submission, as if it were one's own work, of anything which has been offered to you for your use, but which is actually not your own work.

(d) The inclusion within one's work of concepts paraphrased from elsewhere without citing your source.

(e) The inclusion in submitted work of sections of text, whether from electronic or hard copy sources, without appropriate acknowledgement of the source.

(f) The submission of work that the student, as the author, has previously submitted, without suitable acknowledgement of the source of their previous work; this should not normally be more than a short quotation as the same work cannot be submitted for different assignments.

(g) Including or quoting the work of other students in one's work, with the exception of published work, or outputs held in the library as a learning resource, which should be cited and acknowledged appropriately.

(h) Being party to any arrangement whereby the work of one candidate is represented as that of another.

(i) The submission, as your own work, of any work that has been purchased, or otherwise obtained from others, whether this is from other students, online services, "cheat sites", or other agents or sources that sell or provide assignments.

(j) Practices such as 'cutting and pasting' segments of text into your work, without citing the source of each.

(k) For work not intended to be submitted as a collaborative assignment: producing work with one or more other students, using study practices that mean the submitted work is nearly identical, overall or in part, to that of other students.

(l) Offering an inducement to staff and/or other persons connected with assessment.

Examinations

For examinations, academic misconduct means:

(a) Importation into an examination room of materials or devices other than those which are specifically permitted under the regulations applying to the examination in question.

(b) Reference to such materials (whether written or electronically recorded) during the period of the examination, whether or not such reference is made within the examination room.

(c) Refusing, when asked, to surrender any materials requested by an invigilator.

(d) The application of an electronic device, unless this has been expressly permitted for that examination.

(e) Copying the work of another candidate.

(f) Disruptive behaviour during examination or assessment.

(g) Obtaining or seeking to obtain access to unseen examination questions prior to the examination.

(h) Failure to observe the instructions of a person invigilating an examination, or seeking to intimidate such a person.

(i) Offering an inducement to invigilators and/or staff and/or other persons connected with assessment.

Where academic misconduct is suspected, the matter will be dealt with under the *Procedure to be followed in the event of a suspected case of academic misconduct, Part 8, paragraph 4 (or, for postgraduate research students, Appendix I)* of the Manual of General Regulations (available for view at ***https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies/Manual-of-General-Regulations***). If it is determined that academic misconduct has taken place, a range of penalties may be prescribed which includes expulsion from the programme.

PLAGIARISM - A GUIDANCE NOTE FOR STUDENTS

1. Definition of Plagiarism

Our University defines plagiarism and other academic misconduct in Part 8 of the UEL Manual of General Regulations (to which all students are referred upon joining UEL), which is reprinted in "The Essential Guide to the University of East London". In this document, the following example of an assessment offence is given:

The submission of material (written, visual or oral), originally produced by another person or persons or oneself, without due acknowledgement*, so that the work could be assumed to be the student's own. For the purposes of these Regulations, this includes incorporation of significant extracts or elements taken from the work of (an)other(s) or oneself, without acknowledgement or reference*, and the submission of work produced in collaboration for an assignment based on the assessment of individual work. (Such misconduct is typically described as plagiarism and collusion.)

The following note is attached:
*(Note: To avoid potential misunderstanding, any phrase that is not the student's own or is submitted by the student for a different assessment should normally be in quotation marks or highlighted in some other way. It should also be noted that the incorporation of *significant* elements of (an) other(s) work or of one's own work submitted for a different assessment, even with acknowledgement or reference, is unacceptable academic practice and will normally result in failure of that item or stage of assessment.)

2. Plagiarism in Greater Detail

Work that students submit for assessment will inevitably build upon ideas that they have read about or have learnt about in lectures. That is perfectly acceptable, provided that sources are appropriately acknowledged. It should be noted, however, that the wholesale reproduction of the ideas and words of others, however well referenced, is likely to lead to failure at assessment (see section 6 below)

The submission of work that borrows ideas, words, diagrams, or anything else from another source (or sources), without appropriate acknowledgement, constitutes plagiarism. Plagiarism is not limited to unattributed cutting-and-pasting; it includes the reproduction, without acknowledgement, of someone else's work, taken from a published (or unpublished) article, a book, a website, a friend's (or anybody else's) assignment, or any other source.

When an assignment or report uses information from other sources, the student must carefully acknowledge exactly what, where and how s/he has used them. If someone else's words are used, they must be within quotation marks and a reference must follow the quotation. (See section 6 for further guidance on referencing.)

Where a concept or argument in another source is paraphrased (rather than directly quoted), quotations marks should not be used, but it will still be necessary to acknowledge the source. Remember, however, that the making of simple changes to the wording of a source, while retaining the broad structure, organisation, content and/or phraseology of the source, is unacceptable academic practice and will probably be regarded as plagiarism. (For helpful tips on how to avoid plagiarism, see "The Study Skills Handbook" by Dr Stella Cottrell, pages 122-125.)

3. Collusion

Collusion is the term used to describe any form of joint effort intended to deceive an assessor as to who was actually responsible for producing the material submitted for assessment. Clearly, students are encouraged to discuss assignments with their peers, but each student must always ensure that, where an individual assignment is specified, the report/essay submitted is entirely the student's own. Students should, therefore, never lend work (in hard or electronic copy) to friends. If that work is subsequently plagiarised by a "friend", an act of friendship might lead to a charge of collusion.

4. When to Reference

Our regulations do not distinguish between deliberate and accidental plagiarism, but you will not be accused of plagiarism, provided that you properly reference everything in your work that was said, written, drawn, or otherwise created by somebody else.

You need to provide a reference:

- when you are using or referring to somebody else's words or ideas from an article, book, newspaper, TV programme, film, web page, letter or any other medium;

- when you use information gained from an exchange of correspondence or emails with another person or through an interview or in conversation;

- when you copy the exact words or a unique phrase from somewhere;

- when you reprint any diagrams, illustrations, or photographs.

You do not <u>need</u> to reference:

- when you are writing of your own experience, your own observations, your own thoughts or insights or offering your own conclusions on a subject;

- when you are using what is judged to be common knowledge (common sense observations, shared information within your subject area, generally accepted facts etc.) As a test of this, material is probably common knowledge if
  - you find the same information undocumented in other sources;
  - it is information you expect your readers to be familiar with;
  - the information could be easily found in general reference sources.

5. <u>How to Reference</u>

Our University has agreed on a single version of the Harvard referencing system (the School of Psychology uses the American Psychological Association (APA) referencing style) and this (along with APA) can be found in Cite Them Right:

Pears, R. and Shields, G (2013) *Cite Them Right.* Newcastle: Pear Tree Press
Cite Them Right is available on line and hard copies can be found in our libraries and bookshops

6. <u>Plagiarism, or Unacceptable Academic Practice</u>?

If work that you submit for assessment includes substantial and significant elements of other sources and all of those sources are appropriately acknowledged, you will not have plagiarised, but you will be culpable of unacceptable academic practice, because there will be too little of your "own voice" to allow your knowledge to be assessed. Work that you submit for assessment must:

- use your own words;
- provide a critical commentary on existing literature;
- aim for novelty and originality;
- demonstrate your understanding of the subject area by paraphrasing.
  Work that does not meet those criteria will fail.

APPENDIX F

COLLABORATIVE STUDENT ENTITLEMENTS AT UEL

[Please append the student entitlement letter provided by UEL]

APPENDIX G

HEALTH AND SAFETY

- One of the principle roles of Ain Shams University administration is controlling dangers and risks. The University is aware that failures in health and safety administration can possibly prompt loss of life, injury, and damage to the University properties.
- According to the University, a fundamental standard of the Health and Safety policy is that it is in the hands of the individuals who cause the dangers and risks to manage and control them.
- The University appoints persons “capable to advice” to help with identifying, recognizing and controlling health and security dangers and risks. They may work in any sector of the University.
- Each College of the University holds a responsibility regarding the management and use of its own health and security policies and strategies. Despite that, the University and Colleges are still obliged to coordinate on the mutual matters of health and security which affect the more extensive University community.
- Heads of the different Departments must set out their own organizational courses of action for the safety measures. In addition, they abide by the general University Health and Safety Policies and are responsible for their implementation and management in their own departments and domains of responsibility.
- Each Head of Department might set up a Departmental Safety Policy, which works hand in hand with this University Health and Safety Policy to satisfy the prerequisite Health and Safety at Work measures.
- Each Head of Department must guarantee that everybody who might be influenced by the activities of the Department, knows about the health and security policies and arrangements, and has sufficient knowledge, information, time, preparation and supervision authority to allow for the identification, recognition and control of the dangers and risks to health and security.
- The supervisor of any departmental activity (field trip, practical work, office work or teaching activities) must have a comprehensive understanding of the related dangers and risks and conduct the risk assessment suitable for the circumstances of the activity. This is to fulfil the requirements of the Health and Safety at Work Regulations and different measures which state that no work might be attempted unless reasonable and adequate risk assessment has been done to define a safe and secure system of work.
- All University staff members are expected to be fully aware of both the University and Department policies and know that they hold the responsibility of this aspect for all those under their supervision or management. This implies ensuring and promoting good working practices and environment. It also includes ensuring that practical and office work is

done in safe spaces, equipment being maintained and checked in safe procedures, that the policies and strategies are being implemented and disseminated and that immediate reporting of any accidents or dangers takes place in order to take the necessary measures.

- The health and safety policy is also abiding to any private body or entity working inside the University premises. They must coordinate with the University on all matters related to health and safety management.