



**Ministry of Higher Educations
Mansoura Higher Institute for Engineering
and Technology**

**Civil Engineering B.Sc.
Program Specification**

Civil Engineering

B.Sc. Program Specification

1. Introduction

1.1 Basic Information

Program Title: **Civil Engineering**

Program Type: **Joint Program**

Academic Standard: **NARS**

Department: **Civil Engineering**

Program Manager: **Dr. Shaaban Selim**

Program Coordinator:

1. **Prof. Emad Elbeltagi**
2. **Dr. Emad Morsi**
3. **Eng. Mohammed Ragab El-shahawy**
4. **Eng. Mahmoud kamal radwan**
5. **Eng. Abd al- Rahman yassin**

Dates of Program Specification Approval: 16-05-2016

1.2 STAFF MEMBERS:

The civil Engineering Program is taught by highly qualified staff members. **Attachment-1** shows the staff members' names, resume and the subjects taught by each of them.

1.3 INTERNAL/EXTERNAL EVALUATORS:

1.3.1 INTERNAL EVALUATORS

The program was evaluated by committee of six internal members. Their evaluation showed that the program specification agrees with the National Academic Reference Standards,.

2. PROFESSIONAL DATA

2.1 PREAMBLE

Engineers solve real-life problems. They find the best solutions through the application of their knowledge, experience and skills. Engineers help to define and refine the way of life by providing innovative, higher-performance, safer, cleaner or more comfortable day-use facilities for human beings. They seek improvement through the processes of invention, design, manufacturing and construction. The engineer's problem-solving complexity grows as the world's social and technological problems become more closely related. The engineering study provides the students with the advanced, effective, technology-based education justifying the expectations of the future of science and technology. It should also provide the technical understanding and problem-solving skills which allow coping with the challenges of tomorrow.

Civil Engineers should be curious about how things are made and work. They have a desire to solve problems, conceive, plan, design and construct facilities that role our life.

A B.Sc. degree in Civil Engineering is designed for students who seek careers as engineers in industry, army, consulting firms and private and governmental agencies. This degree is also appropriate for students who plan to be researchers or who intend to pursue an advanced degree in engineering. A typical program curriculum incorporates analytical tools, creative thought and diversity of skills as well as the state of art of the profession.

2.2 PROGRAM VISION AND MISSION

2.2.1 PROGRAM VISION

To produce engineers having professional and leadership qualities with capacity to take up professional and research assignments in Civil Engineering and allied fields with focus on inter-disciplinary and innovative approach and to compete at the global level.

2.2.2 PROGRAM MISSION

To impart quality and real time education to contribute to the field of Civil Engineering. To impart soft skills, leadership qualities and professional ethics among the graduates to handle projects independently. To develop graduates to compete at the global level. To deal with the contemporary issues and to cater to the societal needs.

2.2.3 PROGRAM AIMS

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1. To impart quality education and knowledge in contemporary science and technology to meet the challenges in the field of Civil Engineering and to serve the society.
 2. To impart the knowledge of analysis and design using the codes of practice and software packages.
 3. To inculcate the sense of ethics, morality, creativity, leadership, professionalism, self-confidence and independent thinking.
 4. To motivate the students to take up higher studies and innovative research projects.

2.2.4 PROGRAM ATTRIBUTES

The Civil Engineering program aims to provide future engineers with appropriate theoretical knowledge and technical skills to respond to professional market demand. The following are the graduate attributes:

- a. Apply knowledge of mathematics, science and engineering concepts to the solution of engineering problems.
 - a.1 Apply knowledge of mathematics to the solution of engineering problems.
 - a.2 Apply knowledge of science to the solution of engineering problems.
 - a.3 Apply knowledge of engineering concepts to the solution of engineering problems.
- b. Design a system; component and process to meet the required needs within realistic constraints.
- c. Design and conduct experiments as well as analyze and interpret data.
- d. Identify, formulate and solve fundamental engineering problems.
- e. Use the techniques, skills, and appropriate engineering tools, necessary for engineering practice and project management.
 - e.1 Use the techniques, skills, and appropriate engineering tools necessary for engineering practice.
 - e.2 Use the techniques, skills, and appropriate engineering tools necessary for project management.
- f. Work effectively within multi-disciplinary teams.
- g. Communicate effectively.
- h. Consider the impacts of engineering solutions on society and environment.
- i. Demonstrate knowledge of contemporary engineering issues.
- j. Display professional and ethical responsibilities; and contextual understanding.
- k. Engage in self- and life- long learning.
- l. Act professionally in design and supervision of civil engineering disciplines.
- m. Use the codes of practice of all civil engineering disciplines effectively and professionally.
- n. Design, construct and protect all types of excavations and tunneling systems for different purposes.
- o. Manage construction site.
- p. Select appropriate building materials from the perspective of strength, durability, suitability of use of location, temperature, weather conditions and impacts of seawater and environment.

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- q. Select and design adequate water control structures, irrigation and water networks, sewerage systems and pumping stations.
 - q.1 Select and design adequate water control structures.
 - q.2 Select and design irrigation and water networks.
 - q.3 Select and design sewerage systems and pumping stations.
 - r. Define and preserve properties (lands, real estate) of individuals, communities and institutions, through different surveying and GIS tools.
 - s. Design and construct structures for protection against dangers of unexpected natural events such as floods and storms.
 - t. Lead and supervise a group of designers and site or lab technicians.

2.3 Intended Learning Outcomes (ILO's)

2.3.1 Knowledge and Understanding

The graduates of the civil engineering program should be able to demonstrate the following knowledge and understanding skills:

- A1. Concepts and theories of Mathematics and sciences, appropriate to the discipline.
 - A1.1 Concepts and theories of Mathematics, appropriate to the discipline.
 - A1.2 Concepts and theories of Sciences, appropriate to the discipline.
- A2. Basics of information and communication technology (ICT).
- A3. Characteristics of engineering materials related to the discipline.
- A4. Principles of design including elements design, process and/or a system related to specific disciplines.
- A5. Methodologies of solving engineering problems, data collection and interpretation.
- A6. Quality assurance systems, codes of practice and standards, health and safety requirements and environmental issues.
 - A6.1 Quality assurance systems.
 - A6.2 Codes of practice and standards.
 - A6.3 Health and safety requirements and environmental issues.
- A7. Business and management principles relevant to engineering.
- A8. Current engineering technologies as related to disciplines.
- A9. Topics related to humanitarian interests and moral issues.
- A10. Technical language and report writing.
 - A10.1 Technical language.
 - A10.2 Technical report writing.
- A11. Professional ethics and impacts of engineering solutions on society and environment.
- A12. Contemporary engineering topics.
- A13. Engineering principles in the fields of reinforced concrete and metallic structures analysis and design, geo-techniques and foundations, hydraulics, water resources, environmental and sanitary engineering, roadways and traffic systems, surveying and photogrammetry.
 - A13.1 Engineering principles in the fields of reinforced concrete and metallic structures analysis and design.
 - A13.2 Engineering principles in the fields of geo-techniques and foundations.

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- A13.3 Engineering principles in the fields of hydraulics, water resources.
 - A13.4 Engineering principles in the fields of environmental and sanitary engineering.
 - A13.5 Engineering principles in the fields of roadways and traffic systems.
 - A13.6 Engineering principles in the fields of surveying and photogrammetry.
 - A14. Properties, behavior and fabrication of building materials.
 - A15. Projects and construction management including Planning, finance, bidding and contracts.

2.3.2 Intellectual Skills

The graduates of the Civil Engineering program should be able to demonstrate the following intellectual skills

- B1. Select appropriate mathematical and computer-based methods for modeling and analyzing problems.
 - B1.1 Select appropriate mathematical methods for modeling and analyzing problems.
 - B1.2 Select appropriate computer-based methods for modeling and analyzing problems.
- B2. Select appropriate solutions for engineering problems based on analytical thinking.
- B3. Think in a creative and innovative way in problem solving and design.
- B4. Combine, exchange, and assess different ideas, views, and knowledge from a range of sources.
- B5. Assess and evaluate the characteristics and performance of components, systems and processes.
- B6. Investigate the failure of components, systems, and processes.
- B7. Solve engineering problems, often on the basis of limited and possibly contradicting information.
- B8. Select and appraise appropriate ICT tools to a variety of engineering problems.
- B9. Judge engineering decisions considering balanced costs, benefits, safety, quality, reliability, and environmental impact.
- B10. Incorporate economic, societal, environmental dimensions and risk management in design.
- B11. Analyze results of numerical models and assess their limitations.
- B12. Create systematic and methodical approaches when dealing with new and advancing technology.
- B13. Select appropriate building materials from the perspective of strength, durability, suitability of use to location, temperature, weather conditions and impacts of seawater and environment.
- B14. Select and design adequate water control structures, irrigation and water networks, sewerage systems and pumping stations
 - B14.1 Select and design adequate water control structures.
 - B14.2 Select and design irrigation and water networks.
 - B14.3 Select and design sewerage systems and pumping stations.

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- B15. Analyze and select codes of practices in designing reinforced engineering concrete and metallic structures of all types determine the levels, types, and design systems of building foundations, tunnels and excavation.
 - B15.1 Analyze and select codes of practices in designing reinforced engineering concrete and metallic structures of all types.
 - B15.2 Determine the levels, types, and design systems of building foundations, tunnels and excavation.
 - B16. Define, plan, conduct and report management techniques.
 - B17. Assess and evaluate different techniques and strategies for solving engineering problems.

2.3.3 Professional and Practical Skills

On successful completion of the program, the graduates of the Civil Engineering program should be able to demonstrate the following skills:

- C1. Apply knowledge of mathematics, science, information technology, design, business context and engineering practice integrally to solve engineering problems.
- C2. Professionally merge the engineering knowledge, understanding, and feedback to improve design, products and/or services.
- C3. Create and/or re-design a process, component or system, and carry out specialized engineering designs.
- C4. Practice the neatness and aesthetics in design and approach.
- C5. Use computational facilities and techniques, measuring instruments, workshops and laboratory equipment to design experiments, collect, analyze and interpret results.
 - C5.1 Use computational facilities and techniques to design experiments, collect, analyze and interpret results.
 - C5.2 Use computational workshops, workshops and laboratory equipment to design experiments, collect, analyze and interpret results.
- C6. Use a wide range of analytical tools, techniques, equipment, and software packages pertaining to the discipline and develop required computer programs.
- C7. Apply numerical modeling methods to engineering problems.
- C8. Apply safe systems at work and observe the appropriate steps to manage risks.
- C9. Demonstrate basic organizational and project management skills.
- C10. Apply quality assurance procedures and follow codes and standards.
- C11. Exchange knowledge and skills with engineering community and industry.
- C12. Prepare and present technical reports.
- C13. Use laboratory and field equipment competently and safely.
- C14. Observe, record and analyze data in laboratory and in the field.
 - C14.1 Observe, record and analyze data in laboratory.
 - C14.2 Observe, record and analyze data in field.
- C15. Practice professionally construction management skills prepare technical drafts and detailed drawings both manually and using CAD.
 - C15.1 Practice professionally construction management skills.
 - C15.2 Prepare technical detailed drawings both manually and using CAD.
- C16. Carry out maintenance of all types of roadways and traffic systems.

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- C16.1 Carry out maintenance of all types of roadways.
 - C16.2 Carry out maintenance of all traffic systems.
 - C17. Prepare quantity surveying reports.
 - C18. Plan, design, construct, operate, control and carry out maintenance of all types of roadways and traffic systems.
 - C18.1 Plan, design, construct, operate, control and carryout maintenance of all types of roadways.
 - C18.2 Plan, design, construct, operate, control and carryout maintenance of all types of traffic systems.

2.3.4 General and Transferrable Skills

The graduates of the Civil Engineering program should be able to demonstrate the following general skills:

- D1.Collaborate effectively within multidisciplinary team.
- D2.Work in stressful environment and within constraints.
- D3.Communicate effectively.
- D4.Demonstrate efficient IT capabilities.
- D5.Lead and motivate individuals.
- D6.Effectively manage tasks, time, and resources.
- D7.Search for information and engage in life-long self-learning discipline.
- D8.Acquire entrepreneurial skills.
- D9.Refer to relevant literatures.

2.4 CURRICULUM STRUCTURE AND CONTENTS

2.4.1 STUDYING PROGRAM:

The studying program has been designed so that there will be chances for diversity and achieving excellence, the following tables describe the graduation requirements with a total of 165 credit hours at least, then pointing out the requirements on the basis of; General Cultural requirements, Engineering and Technology Institute requirements, Department requirements, and Specialty requirements. The requirements tables will define both the required compulsory and elective credit hours.

- General Knowledge Requirements: 23 credit hours (13 hours compulsory +10 hours elective), it represents 14% of the degree requirements. Humanities, social science and general knowledge courses are required for improving the student's personality and abilities.
- Engineering and Technology Institute Requirements: 47 credit hours (39 hours compulsory+8 hours elective), it represents 27% of the degree requirements and covers the minimum of the mutual engineering sciences that all the graduates have to study.

- Specialty Requirements: not less than 64 credit hours (compulsory and elective that are changeable according to the specialty), it represents 39% of the degree requirements and represents the minimum of the mutual courses in all other engineering departments.
- Department Requirements: not more than 33 credit hours (compulsory and elective according to the department), it represents 20% of the degree requirements and covers the courses that would help the student to choose a specific department belongs to the main specialty.

Table 1: Table of Scientific Departments and Specialties codes that are required for teaching courses

| Department / Specialty | Dept. Code |
|------------------------------------------|-------------------|
| Basic Sciences | BAS |
| Structure Engineering | CIS |
| Public Works | CIW |
| Architectural Engineering | ARC |
| Electrical Power Engineering | ELP |
| Electronics & Communications Engineering | ELE |
| Computers & Systems Engineering | ELC |
| Design & Manufacturing Engineering | MED |
| Mechanical Power Engineering | MEP |
| Mechatronics | MET |
| Industrial Engineering | IEN |
| Chemical Engineering | CHE |
| Humanities & Social Sciences | HUM |

The department code consists of three letters on the far left; the scientific department code (according to the previous table) and three numbers on the far right. The first number represents (on the left) the proper level for the course (from 0 to 4), and the middle number

represents the specific specialty (from 1 to 9), and the third number represents the serial number of the course of every department (from 1 to 9).

2.4.2 GENERAL CULTURAL REQUIREMENTS FOR ALL THE STUDENTS OF THE INSTITUTES:

List of abbreviations

| | |
|--------|---------------|
| Cr.Hrs | Credit hours. |
| Lec | Lecture. |
| Ex | Exercise. |
| Lab | Laboratory. |
| Hrs | Hours |

➤ All Institute Students

A. General Requirements (Compulsory)

| Code | Course Title | Cr.Hrs | Lec | Ex | Lab | Prerequisite |
|---------|-------------------------------------|--------|-----|----|-----|--------------|
| HUM 011 | Arabic Language | 2 | 2 | | | |
| HUM 012 | English Language 1 | 2 | 1 | 2 | | |
| HUM 013 | English Language 2 | 2 | 1 | 2 | | HUM 012 |
| HUM 352 | Human Rights | 1 | 1 | | | |
| HUM 081 | Computer Skills | | 1 | | 4 | |
| HUM 181 | Communication & Presentation Skills | 2 | 1 | 2 | | |
| HUM 182 | Analysis & Research Skills | 2 | 1 | 2 | | |
| HUM 381 | Principles of Negotiation | 2 | 2 | | | |
| | Total Credit Hrs. | 13 | 10 | 8 | 4 | |

B. General Requirements (Elective A)

Select 8 Credit Hrs

| Code | Course Title | Cr.Hrs | Lec | Ex | Lab | Prerequisite |
|-------------|----------------------------------------------|---------------|------------|-----------|------------|---------------------|
| HUM x62 | Music Appreciation | 2 | 2 | | | |
| HUM x71 | Introduction to the History of Civilizations | 2 | 2 | | | |
| HUM x72 | Trends in Contemporary Arts | 2 | 2 | | | |
| HUM x73 | Recent Egypt's History | 2 | 2 | | | |
| HUM x74 | Heritage of Egyptian Literature | 2 | 2 | | | |
| HUM x75 | Arabic & Islamic Civilization | 2 | 2 | | | |
| HUM x76 | Literary Appreciation | 2 | 2 | | | |
| | Select 8 Credit Hrs. | | | | | |

C. General Requirements (Elective B)

Select 2 Credit Hrs.

| Code | Course Title | Cr.Hrs | Lec | Ex | Lab | Prerequisite |
|-------------|-----------------------------|---------------|------------|-----------|------------|---------------------|
| HUM 121 | Introduction to Accounting | 2 | 2 | | | |
| HUM 221 | Business Administration | 2 | 2 | | | |
| | Select 2 Credit Hrs. | | | | | |

➤ All Institute of Engineering & Technology Students

D. Institute Requirements (Compulsory)

| Code | Course title | Cr.Hrs | Lec | Ex | Lab | Prerequisite |
|---------|-----------------------------------------|--------|-----|----|-----|--------------|
| 291 | Field Training 1 | 1 | | | 6 | |
| 391 | Field Training 2 | 1 | | | 6 | |
| BAS 011 | Mathematics 1 | 3 | 2 | 2 | | |
| BAS 012 | Mathematics 2 | 3 | 2 | 2 | | BAS 011 |
| BAS 212 | Statics & Probability Theory | 3 | 2 | 2 | | |
| BAS 021 | Physics 1 | 3 | 2 | 1 | 2 | |
| BAS 022 | Physics 2 | 3 | 2 | 1 | 2 | BAS 021 |
| BAS 031 | Mechanics | 4 | 3 | 2 | | |
| BAS 041 | Engineering Chemistry | 3 | 2 | 1 | 2 | |
| CIW 331 | Environmental Impact of Projects | 1 | 1 | | | |
| MED 011 | Engineering Drawing & Projection | 3 | 1 | 3 | 3 | |
| MED 021 | History of Engineering & Technology | 1 | 1 | | | |
| MED 022 | Principles of Manufacturing Engineering | 2 | 2 | 1 | 1 | |
| IEN 314 | Project Management | 2 | 2 | 1 | | |
| IEN 131 | Monitoring & Quality Control Systems | 1 | 1 | | | |
| IEN 351 | Engineering Economics | 2 | 2 | 1 | | |
| HUM 111 | Technical Report Writing | 2 | 1 | 2 | | HUM 013 |
| HUM 351 | Professional Ethics | 1 | 1 | | | |
| | Total Credit Hrs | 39 | | | | |

E. Institute Requirements (Elective A)

Select 6 Credit Hrs.

| Code | Course title | Cr.Hrs | Lec | Ex | Lab | Prerequisite |
|---------|---------------------------------------------------|--------|-----|----|-----|--------------|
| CIS 111 | Principles of Construction & Building Engineering | 2 | 2 | 1 | | |
| ARC 111 | Arts & Architecture | 2 | 2 | 1 | | |
| ELP 111 | Principles of Electrical Engineering | 2 | 2 | 1 | | BAS 022 |
| ELE 121 | Principles of Electronic Engineering | 2 | 2 | 1 | | |
| MED 111 | Principles of Design & Manufacturing Engineering | 2 | 2 | 1 | | |
| MEP 111 | Principles of Mechanical Power Engineering | 2 | 2 | 1 | | BAS 022, 031 |
| | Select 6 Credit Hrs. | | | | | |

➤ Requirements for all the students of Civil Engineering Specialty:**F. General Civil Major Requirements (Compulsory)**

| Code | Course title | Cr.Hrs | Lec | Ex | Lab | Prerequisite |
|---------|---------------------------------|--------|-----|----|-----|--------------|
| BAS 111 | Mathematics 3 | 3 | 2 | 2 | | BAS 012 |
| BAS 211 | Mathematics 4 | 3 | 2 | 2 | | BAS 111 |
| CIS 112 | Structural Analysis 1 | 3 | 2 | 2 | | |
| CIS 113 | Solid Mechanics | 3 | 2 | 2 | | |
| CIS 211 | Structural Analysis 2 | 3 | 2 | 2 | | CIS 112 |
| CIS 311 | Structural Analysis 3 | 3 | 2 | 2 | | CIS 211 |
| CIS 221 | Design of Concrete Structures 1 | 3 | 2 | 2 | | CIS 112 |
| CIS 321 | Design of Concrete Structures 2 | 3 | 2 | 2 | | CIS 211, 221 |
| CIS 231 | Design of Steel Structures 1 | 3 | 2 | 2 | | CIS 112 |
| CIS 331 | Design of Steel Structures 2 | 3 | 2 | 2 | | CIS 231 |
| CIS 141 | Behavior of Materials | 3 | 2 | 1 | 2 | |
| CIS 241 | Concrete Technology | 3 | 2 | 1 | 1 | CIS 141 |
| CIS 151 | Geology | 2 | 2 | 1 | | |
| CIS 251 | Soil Mechanics | 3 | 2 | 1 | 1 | CIS 151 |

| | | | | | | |
|---------|---------------------------|-----------|-----------|-----------|----------|--------------|
| CIS 351 | Foundations Engineering 1 | 3 | 2 | 2 | | CIS 251, 221 |
| CIS 361 | Construction Management | 3 | 2 | 2 | | |
| CIW 111 | Civil Drawing | 3 | 1 | 4 | | |
| CIW 112 | Hydraulics | 3 | 2 | 1 | 1 | |
| CIW 113 | Hydrology | 2 | 1 | 2 | | |
| CIW 121 | Engineering Surveying | 3 | 2 | 1 | 1 | |
| ARC 131 | Building Construction 1 | 3 | 1 | 4 | | |
| | Total Credit Hrs | 61 | 39 | 40 | 6 | |

G. General Civil Minor Requirements (Compulsory)

| Code | Course title | Cr.Hrs | Lec | Ex | Lab | Prerequisite |
|---------|--------------------------------|----------|----------|----------|-----|-------------------------|
| CIW 211 | Irrigation Network Engineering | 3 | 2 | 2 | | CIW 112, 113 CIS 221 |
| CIW 231 | Environmental Engineering | 3 | 2 | 2 | | |
| CIW 341 | Highway Engineering | 3 | 2 | 2 | | |
| | Total Credit Hrs | 9 | 6 | 6 | | |

H. General Civil Minor Requirements (Elective A)

Select 21 Credit Hrs

| Code | Course title | Cr.Hrs | Lec | Ex | Lab | Prerequisite |
|---------|--------------------------------------|--------|-----|----|-----|----------------------|
| CIS 411 | Structural Dynamics | 3 | 2 | 2 | | CIS 311 |
| CIS 322 | Design of Wall Bearing Structures | 3 | 2 | 2 | | CIS 211 |
| CIS 421 | Design of Concrete Structures 3 | 3 | 2 | 2 | | CIS 321 |
| CIS 431 | Design of Bridges | 3 | 2 | 2 | | CIS 331 |
| CIS 432 | High Rise Buildings | 3 | 2 | 2 | | CIS 211, 221, 231 |
| CIS 341 | Repair & Strengthening of Structures | 3 | 2 | 2 | | CIS 241, 221 |
| CIS 451 | Foundations Engineering 2 | 3 | 2 | 2 | | CIS 351 |
| CIS 461 | Construction Engineering | 3 | 2 | 2 | | |
| CIW 311 | Design of Irrigation Structures | 3 | 2 | 2 | | |
| CIW 321 | Maps, GIS & Remote Sensing | 3 | 2 | 1 | 1 | CIW 121 |

| | | | | | | |
|---------|------------------------------|-----------|-----------|-----------|----------|---------|
| CIW 332 | Sanitary Engineering | 3 | 2 | 2 | | |
| CIW 441 | Transportation Engineering | 3 | 2 | 2 | | |
| CIW 451 | Harbor Engineering | 3 | 2 | 2 | | CIS 351 |
| | Select 21 Credit Hrs. | 21 | 14 | 14 | 1 | |

I. General Civil Minor Requirements (Elective B)

Select 6 Credits Hrs

| Code | Course title | Cr.Hrs | Lec | Ex | Lab | Prerequisite |
|-------------|-----------------------------|---------------|------------|-----------|------------|---------------------|
| CIS 491 | Project | 6 | 1 | 10 | | |
| CIW 491 | Project | 6 | 1 | 10 | | |
| | Select 6 Credit Hrs. | 6 | 1 | 10 | | |

2.4.1 PROGRAM CONTENTS:

The program duration ranges from 4.5 to 5 years (9-10 main semesters). The followings are the subjects taught during this program.

Table 1: Level 000

| Code | Course Name | Teaching Hours | | | | Wr. Exam Dur. | Marking | | | | | Subject Area | | | | | | |
|--------------|----------------------------------|----------------|-----------|-----------|-------------|---------------|------------|------------|------------|------------|-------------|-----------------|----------------|-------------|------------------|------------------|------------------|---------------|
| | | Lectures | Exercises | Practical | Total Hours | | Year Work | Midterm | Exp./ Oral | Final Exam | Total | Hum. & Soc. Sc. | Math. & B. Sc. | B. Eng. Sc. | App. Eng. & Des. | Comp. App. & ICT | Proj. & Practice | Discretionary |
| BAS 011 | Mathematics-1 | 2 | 2 | 0 | 3 | 2 | 20 | 20 | 0 | 60 | 100 | 0 | 3.0 | 0 | 0 | 0 | 0 | 0 |
| BAS 021 | Physics-1 | 2 | 1 | 2 | 3 | 2 | 15 | 20 | 15 | 50 | 100 | 0 | 2.0 | 1.0 | 0 | 0 | 0 | 0 |
| BAS 013 | Mechanics | 3 | 2 | 0 | 4 | 2 | 20 | 20 | 0 | 60 | 100 | 0 | 3.0 | 1.0 | 0 | 0 | 0 | 0 |
| MED 022 | Principles of manufacturing Eng. | 2 | 1 | 1 | 2 | 2 | 20 | 20 | 10 | 50 | 100 | 0.5 | 0 | 1.5 | 0 | 0 | 0 | 0 |
| BAS 016 | English-1 | 1 | 2 | 0 | 2 | 2 | 20 | 20 | 0 | 60 | 100 | 2.0 | 0 | 0 | 0 | 0 | 0 | 0 |
| HUM 011 | Arabic | 2 | 0 | 0 | 2 | 2 | 20 | 20 | 0 | 60 | 100 | 2.0 | 0 | 0 | 0 | 0 | 0 | 0 |
| HUM 081 | Computer skills | 1 | 0 | 4 | 0 | 0 | 20 | 20 | 10 | 60 | 100 | 0 | 1.0 | 0 | 0 | 2.0 | 0 | 0 |
| MED 021 | History of Eng. and technology | 1 | 0 | 0 | 1 | 1 | 20 | 20 | 0 | 60 | 100 | 0.5 | 0 | 0.5 | 0 | 0 | 0 | 0 |
| BAS 021 | Mathematics-2 | 2 | 2 | 0 | 3 | 2 | 20 | 20 | 0 | 60 | 100 | 0 | 3.0 | 0 | 0 | 0 | 0 | 0 |
| BAS 022 | Physics-2 | 2 | 1 | 2 | 3 | 2 | 15 | 20 | 15 | 50 | 100 | 0 | 2.0 | 1.0 | 0 | 0 | 0 | 0 |
| BAS 041 | Engineering Chemistry | 2 | 1 | 2 | 3 | 2 | 15 | 20 | 15 | 50 | 100 | 0 | 2.0 | 1.0 | 0 | 0 | 0 | 0 |
| HUM 013 | English-2 | 1 | 2 | 0 | 2 | 2 | 20 | 20 | 0 | 60 | 100 | 1.5 | 0 | 0.5 | 0 | 0 | 0 | 0 |
| HUM x72 | Trends in Contemporary Arts | 2 | 0 | 0 | 2 | 2 | 20 | 20 | 0 | 60 | 100 | 0.5 | 0 | 1.0 | 0.5 | 0 | 0 | 0 |
| HUM x74 | Heritage of Egyptian Literature | 2 | 0 | 0 | 2 | 2 | 20 | 20 | 0 | 60 | 100 | 2.0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MED 011 | Engineering drawing & projection | 1 | 3 | 3 | 3 | 2 | 30 | 20 | 0 | 50 | 100 | 0 | 0 | 0.5 | 0.5 | 2.0 | 0 | 0 |
| Total | | 26 | 17 | 14 | 35 | 27 | 295 | 300 | 65 | 850 | 1500 | 9.0 | 16 | 8.0 | 1.0 | 4.0 | 0 | 0 |

▪ **Level 100 - First Semester:**

| Code | Course Name | Teaching Hours | | | | Wr. Exam Dur. | Marking | | | | Subject Area | | | | | | |
|--------------|----------------------------------------|----------------|-----------|-----------|-------------|---------------|-----------|----------------|--------------|-------|-----------------|----------------|-------------|------------------|------------------|------------------|---------------|
| | | Lectures | Exercises | Practical | Total Hours | | Term Work | Practical Exam | Written Exam | Total | Hum. & Soc. Sc. | Math. & B. Sc. | B. Eng. Sc. | App. Eng. & Des. | Comp. App. & ICT | Proj. & Practice | Discretionary |
| ELP 111 | Principles of Electrical Engineering * | 2 | 1 | - | 2 | 2 | 40 | 0 | 60 | 100 | 0 | 0.5 | 0.5 | 1.0 | 0 | 0 | 0 |
| ARC 131 | Building Construction 1 | 1 | 4 | - | 3 | 2 | 50 | 0 | 50 | 100 | 0 | 0 | 1.5 | 1.0 | 0 | 0.5 | 0 |
| CIS 112 | Structural Analysis 1 | 2 | 2 | - | 3 | 2 | 40 | 0 | 60 | 100 | 0 | .8 | .4 | .6 | .6 | 0 | .6 |
| CIW 121 | Engineering Surveying | 2 | 1 | 1 | 3 | 2 | 40 | 10 | 50 | 100 | 0 | .6 | .6 | .6 | .6 | .4 | .2 |
| CIS 151 | Geology | 2 | 1 | - | 2 | 2 | 40 | 0 | 60 | 100 | 0 | .6 | .8 | .6 | 0 | 0 | 0 |
| CIW 111 | Civil Drawings | 1 | 4 | - | 3 | 2 | 40 | 0 | 60 | 100 | 0 | .8 | .4 | .8 | 0 | 0 | 1 |
| HUM x73 | Recent Egyptian History | 2 | - | - | 2 | 2 | 0 | 0 | 100 | 100 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | | 18 | 13 | 1 | 18 | 14 | 250 | 10 | 440 | 700 | 2 | 3.3 | 4.2 | 4.6 | 1.2 | 0.9 | 1.8 |

▪ **Level 100 -Second Semester:**

| Code | Course Name | Teaching Hours | | | | Wr. Exam Dur. | Marking | | | | Subject Area | | | | | | |
|---------|----------------------------|----------------|-----------|-----------|-------------|---------------|-----------|----------------|--------------|-------|-----------------|----------------|-------------|------------------|------------------|------------------|---------------|
| | | Lectures | Exercises | Practical | Total Hours | | Year Work | Practical Exam | Written Exam | Total | Hum. & Soc. Sc. | Math. & B. Sc. | B. Eng. Sc. | App. Eng. & Des. | Comp. App. & ICT | Proj. & Practice | Discretionary |
| HUM 111 | Technical Report Writing | 2 | 1 | - | 2 | 2 | 40 | 0 | 60 | 100 | 0.5 | 0 | 0 | 0.5 | 0.5 | 0.5 | 0 |
| HUM 121 | Introduction to Accounting | 2 | - | - | 2 | 2 | 40 | 0 | 60 | 100 | 0 | 1.0 | 0 | 0 | 1.0 | 0 | 0 |
| ARC 111 | Arts & Architecture * | 2 | 1 | - | 2 | 2 | 40 | 0 | 60 | 100 | 0 | 0 | 1.5 | 1.0 | 0 | 0.5 | 0 |
| CIW 112 | Hydraulics | 2 | 1 | 1 | 3 | 2 | 40 | 10 | 50 | 100 | 0 | 0.8 | 0.9 | 0.9 | 0 | 0 | 0.4 |
| CIS 141 | Behavior of Materials | 2 | 1 | 2 | 3 | 2 | 40 | 10 | 50 | 100 | 0 | 0.4 | 0.6 | 1 | 0 | 1 | 0 |

| | | | | | | | | | | | | | | | | | |
|---------|-----------------|----|---|---|----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|---|-----|
| CIS 113 | Solid Mechanics | 2 | 2 | - | 3 | 2 | 40 | 0 | 60 | 100 | 0 | 0.8 | 0.8 | 0.8 | 0.8 | 0 | 0.6 |
| BAS 111 | Mathematics 3 | 2 | 2 | - | 3 | 2 | 40 | 0 | 60 | 100 | 0 | 3.0 | 0 | 0 | 0 | 0 | 0 |
| Total | | 14 | 8 | 3 | 18 | 14 | 280 | 20 | 400 | 700 | 0.5 | 6 | 3.8 | 4.2 | 2.3 | 2 | 1 |

▪ **Level 200 -First Semester:**

| Code | Course Name | Teaching Hours | | | | Wr. Exam Dur. | Marking | | | | Subject Area | | | | | | |
|---------|--------------------------------------|----------------|-----------|-----------|-------------|---------------|-----------|----------------|--------------|-------|--------------|----------------|-------------|------------------|------------------|------------------|---------------|
| | | Lectures | Exercises | Practical | Total Hours | | Year Work | Practical Exam | Written Exam | Total | Hum. & Soc. | Math. & B. Sc. | B. Eng. Sc. | App. Eng. & Des. | Comp. App. & ICT | Proj. & Practice | Discretionary |
| BAS 211 | Mathematics 4 | 2 | 2 | - | 3 | 2 | 40 | 0 | 60 | 100 | 0 | 3.0 | 0 | 0 | 0 | 0 | 0 |
| IEN 131 | Monitoring & Quality Control Systems | 1 | - | - | 1 | 2 | 40 | 0 | 60 | 100 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 |
| CIS 211 | Structural Analysis 2 | 2 | 2 | - | 3 | 2 | 40 | 0 | 60 | 100 | 0 | .8 | .4 | .6 | .6 | 0 | .6 |
| CIS 221 | Design of Concrete Structures 1 | 2 | 2 | - | 3 | 2 | 40 | 0 | 60 | 100 | 0 | .6 | .6 | .6 | .6 | 0 | .6 |
| CIS 241 | Concrete Technology | 2 | 1 | 1 | 3 | 2 | 40 | 10 | 50 | 100 | 2 | .6 | .6 | .8 | 0 | .8 | .2 |
| HUM x72 | Trends in Contemporary Arts | 2 | - | - | 2 | 2 | 40 | 0 | 60 | 100 | 0 | | | | | | |
| CIW 113 | Hydrology | 1 | 2 | - | 2 | 2 | 40 | 0 | 60 | 100 | 0 | .8 | .6 | .6 | 0 | 0 | 0 |
| HUM 325 | Human Rights | 1 | - | - | 1 | 1 | 40 | 0 | 60 | 100 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | | 13 | 9 | 1 | 18 | 15 | 320 | 10 | 470 | 800 | 1.2 | 5.8 | 2.7 | 2.6 | 1.2 | 1.3 | 1.4 |

▪ **Level 200-Second Semester:**

| Code | Course Name | Teaching Hours | | | | Wr. Exam Dur. | Marking | | | | Subject Area | | | | | | |
|---------|--------------------------------|----------------|-----------|-----------|-------------|---------------|-----------|----------------|--------------|-------|-----------------|----------------|-------------|------------------|------------------|------------------|---------------|
| | | Lectures | Exercises | Practical | Total Hours | | Year Work | Practical Exam | Written Exam | Total | Hum. & Soc. Sc. | Math. & B. Sc. | B. Eng. Sc. | App. Eng. & Des. | Comp. App. & ICT | Proj. & Practice | Discretionary |
| CIW 231 | Environmental Engineering | 2 | 2 | - | 3 | 2 | 40 | 0 | 60 | 100 | 0.8 | 0.5 | 0.7 | 1 | 0 | 0 | 0 |
| CIW 211 | Irrigation Network Engineering | 2 | 2 | - | 3 | 2 | 40 | 0 | 60 | 100 | 0.3 | 0.7 | 1.2 | 0.3 | 0 | 0 | 0.5 |

| | | | | | | | | | | | | | | | | | |
|--------------|------------------------------|-----------|-----------|----------|-----------|-----------|------------|-----------|------------|------------|------------|------------|------------|------------|----------|------------|------------|
| CIS 231 | Design of Steel Structures 1 | 2 | 2 | - | 3 | 2 | 40 | 0 | 60 | 100 | 0.2 | 0.4 | 1.4 | 0.5 | 0 | 0.3 | 0.2 |
| CIS 251 | Soil Mechanics | 2 | 1 | 1 | 3 | 2 | 40 | 10 | 50 | 100 | 0.3 | 0.7 | 1.0 | 0.5 | 0 | 0.2 | 0.3 |
| CIS 311 | Structural Analysis 3 | 2 | 2 | - | 3 | 2 | 40 | 0 | 60 | 100 | 0.1 | 1.2 | 1.0 | 0.5 | 0 | 0 | 0.2 |
| BAS 212 | Statics & Probability Theory | 2 | 2 | - | 3 | 2 | 40 | 0 | 60 | 100 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| Total | | 12 | 11 | 1 | 18 | 12 | 240 | 10 | 350 | 600 | 1.7 | 6.5 | 5.3 | 2.8 | 0 | 0.5 | 1.2 |

▪ **Summer Course:**

| Code | Course Name | Teaching Hours | | | | Wr. Exam Dur. | Marking | | | | Subject Area | | | | | | |
|--------------|----------------|----------------|-----------|-----------|-------------|---------------|-----------|----------------|--------------|------------|-----------------|----------------|-------------|------------------|------------------|------------------|---------------|
| | | Lectures | Exercises | Practical | Total Hours | | Year Work | Practical Exam | Written Exam | Total | Hum. & Soc. Sc. | Math. & B. Sc. | B. Eng. Sc. | App. Eng. & Des. | Comp. App. & ICT | Proj. & Practice | Discretionary |
| --- 291 | Field Training | - | - | - | 1 | | 50 | 50 | 0 | 100 | 0.2 | 0 | 0.2 | 0.5 | 0 | 0 | 0.1 |
| Total | | 0 | 0 | 0 | 1 | | 50 | 50 | 0 | 100 | 0.2 | 0 | 0.2 | 0.5 | 0 | 0 | 0.1 |

▪ **Level 300-First Semester:**

| Code | Course Name | Teaching Hours | | | | Wr. Exam Dur. | Marking | | | | Subject Area | | | | | | |
|---------|-------------------------------------|----------------|-----------|-----------|-------------|---------------|-----------|----------------|--------------|-------|-----------------|----------------|-------------|------------------|------------------|------------------|---------------|
| | | Lectures | Exercises | Practical | Total Hours | | Year Work | Practical Exam | Written Exam | Total | Hum. & Soc. Sc. | Math. & B. Sc. | B. Eng. Sc. | App. Eng. & Des. | Comp. App. & ICT | Proj. & Practice | Discretionary |
| IEN 351 | Engineering Economics | 2 | 1 | - | 2 | 2 | 40 | 0 | 60 | 100 | 0.5 | 0 | 0.5 | 0 | 0 | 0 | 0 |
| CIS 331 | Design of Steel Structures 2 | 2 | 2 | - | 3 | 2 | 40 | 0 | 60 | 100 | 0.2 | 0.4 | 1.4 | 0.5 | 0 | 0.3 | 0.2 |
| CIS 321 | Design of Concrete Structures 2 | 2 | 2 | - | 3 | 2 | 40 | 0 | 60 | 100 | 0.2 | 0.4 | 1.4 | 0.5 | 0 | 0.3 | 0.2 |
| CIW 332 | Sanitary Engineering | 3 | 3 | - | 3 | 2 | 40 | 0 | 60 | 100 | 0.2 | 0.3 | 1.4 | 0.6 | 0 | 0.3 | 0.2 |
| CIW 331 | Environmental Impact of Projects | 1 | - | - | 1 | 2 | 40 | 0 | 60 | 100 | 1.0 | 0 | 0.7 | 0.1 | 0 | 0 | 0.1 |
| HUM 351 | Professional Ethics | 1 | - | - | 1 | 2 | 40 | 0 | 60 | 100 | 0.5 | 0 | 0.5 | 0 | 0 | 0 | 0 |
| HUM 181 | Communication & Presentation Skills | 1 | 2 | - | 2 | 2 | 40 | 0 | 60 | 100 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |

| | | | | | | | | | | | | | | | | |
|--------------|-----------|-----------|----------|-----------|-----------|------------|----------|------------|------------|------------|------------|------------|------------|----------|------------|------------|
| Total | 12 | 10 | 0 | 15 | 14 | 280 | 0 | 420 | 700 | 2.6 | 1.3 | 5.9 | 1.7 | 1 | 1.9 | 0.7 |
|--------------|-----------|-----------|----------|-----------|-----------|------------|----------|------------|------------|------------|------------|------------|------------|----------|------------|------------|

▪ **Level 300 -second Semester:**

| Code | Course Name | Teaching Hours | | | | Wr. Exam Dur. | Marking | | | | Subject Area | | | | | | |
|--------------|-----------------------------------|----------------|-----------|-----------|-------------|---------------|------------|----------------|--------------|------------|-----------------|----------------|-------------|------------------|------------------|------------------|---------------|
| | | Lectures | Exercises | Practical | Total Hours | | Year Work | Practical Exam | Written Exam | Total | Hum. & Soc. Sc. | Math. & B. Sc. | B. Eng. Sc. | App. Eng. & Des. | Comp. App. & ICT | Proj. & Practice | Discretionary |
| HUM 381 | Principles of Negotiation | 2 | - | - | 2 | 2 | 40 | 0 | 60 | 100 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| IEN 314 | Project Management | 2 | 1 | - | 2 | 2 | 40 | 0 | 60 | 100 | 0 | 0 | 1 | 0.5 | 0 | 0.5 | 0 |
| CIS 351 | Foundation Engineering 1 | 2 | 2 | - | 3 | 2 | 40 | 0 | 60 | 100 | 0.2 | 0.4 | 1.4 | 0.5 | 0 | 0.3 | 0 |
| CIW 341 | Highway Engineering | 2 | 2 | - | 3 | 2 | 40 | 0 | 60 | 100 | 0.2 | 0.4 | 1.4 | 0.5 | 0 | 0.3 | 0 |
| CIS 341 | Repair & Strengthening Structures | 2 | 2 | - | 3 | 2 | 40 | 0 | 60 | 100 | 0.7 | 0.4 | 1.3 | 0.5 | 0 | 0.1 | 0 |
| CIW 311 | Design of Irrigation Structures | 2 | 2 | - | 3 | 2 | 40 | 0 | 60 | 100 | 0.2 | 0.4 | 1.4 | 0.5 | 0 | 0.3 | 0 |
| Total | | 12 | 9 | 0 | 16 | 12 | 240 | 0 | 360 | 600 | 2.3 | 1.6 | 6.5 | 2.5 | 1 | 1.5 | 0.6 |

▪ **Summer Course:**

| Code | Course Name | Teaching Hours | | | | Wr. Exam Dur. | Marking | | | | Subject Area | | | | | | |
|--------------|----------------|----------------|-----------|-----------|-------------|---------------|-----------|----------------|--------------|------------|-----------------|----------------|-------------|------------------|------------------|------------------|---------------|
| | | Lectures | Exercises | Practical | Total Hours | | Year Work | Practical Exam | Written Exam | Total | Hum. & Soc. Sc. | Math. & B. Sc. | B. Eng. Sc. | App. Eng. & Des. | Comp. App. & ICT | Proj. & Practice | Discretionary |
| --- 391 | Field Training | - | - | - | 1 | | 50 | 50 | 0 | 100 | 0.2 | 0 | 0.2 | 0.5 | 0 | 0 | 0.1 |
| Total | | 0 | 0 | 0 | 1 | | 50 | 50 | 0 | 100 | 0.2 | 0 | 0.2 | 0.5 | 0 | 0 | 0.1 |

▪ **Level 400 -First Semester:**

| Code | Course Name | Teaching Hours | | | | Wr. Exam Dur. | Marking | | | | Subject Area | | | | | | |
|--------------|---------------------------------|----------------|-----------|-----------|-------------|---------------|------------|----------------|--------------|------------|-----------------|----------------|-------------|------------------|------------------|------------------|---------------|
| | | Lectures | Exercises | Practical | Total Hours | | Year Work | Practical Exam | Written Exam | Total | Hum. & Soc. Sc. | Math. & B. Sc. | B. Eng. Sc. | App. Eng. & Des. | Comp. App. & ICT | Proj. & Practice | Discretionary |
| CIS 421 | Design of Concrete Structures 3 | 2 | 2 | - | 3 | 2 | 40 | 0 | 60 | 100 | 0.2 | 0.4 | 1.4 | 0.5 | 0 | 0.3 | 0.2 |
| CIS 451 | Foundation Engineering 2 | 2 | 2 | - | 3 | 2 | 40 | 0 | 60 | 100 | 0.2 | 0.4 | 1.4 | 0.5 | 0 | 0.3 | 0.2 |
| HUM 381 | Principles of Negation | 2 | - | - | 2 | 2 | 40 | 0 | 60 | 100 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| CIS 461 | Construction Engineering | 2 | 2 | - | 3 | 2 | 40 | 0 | 60 | 100 | 0.6 | 0.4 | 1 | 0.5 | 0 | 0.3 | 0.2 |
| HUM 182 | Analysis & Research Skills | 1 | 2 | - | 2 | 2 | 40 | 0 | 60 | 100 | 1 | 0 | 0.5 | 0.5 | 0 | 0 | 0 |
| Total | | 9 | 8 | - | 13 | 10 | 200 | 0 | 300 | 500 | 4 | 1.2 | 4.3 | 2 | 0 | 0.9 | 0.6 |

▪ **Level 400 -Second Semester:**

| Code | Course Name | Teaching Hours | | | | Wr. Exam Dur. | Marking | | | | Subject Area | | | | | | |
|--------------|--------------------|----------------|-----------|-----------|-------------|---------------|-----------|----------------|--------------|------------|-----------------|----------------|-------------|------------------|------------------|------------------|---------------|
| | | Lectures | Exercises | Practical | Total Hours | | Year Work | Practical Exam | Written Exam | Total | Hum. & Soc. Sc. | Math. & B. Sc. | B. Eng. Sc. | App. Eng. & Des. | Comp. App. & ICT | Proj. & Practice | Discretionary |
| CI- 491 | Project | 1 | 10 | - | 6 | 2 | 50 | 50 | 0 | 100 | 0.4 | 0.5 | 1.5 | 1.6 | 0.3 | 1.5 | 0.2 |
| CIW 451 | Harbor Engineering | 2 | 2 | - | 3 | 2 | 40 | 0 | 60 | 100 | 0 | 0.5 | 0.5 | 2 | 0 | 0 | 0 |
| Total | | 3 | 12 | - | 9 | 4 | 90 | 50 | 60 | 200 | 0.4 | 1 | 2 | 1.8 | 0.3 | 1.5 | 0.2 |

▪ **Total teaching hours and subject's distribution over the subject areas:**

| Semester | Teaching Hours | | | | Wr. Exam Dur. | Marking | | | | Subject Area | | | | | | |
|-------------------------------------|----------------|-----------|-----------|-------------|---------------|-------------|----------------|--------------|-------------|-----------------|----------------|--------------|------------------|------------------|------------------|---------------|
| | Lectures | Exercises | Practical | Total Hours | | Year Work | Practical Exam | Written Exam | Total | Hum. & Soc. Sc. | Math. & B. Sc. | B. Eng. Sc. | App. Eng. & Des. | Comp. App. & ICT | Proj. & Practice | Discretionary |
| Level 000 | 26 | 17 | 14 | 35 | 27 | 595 | 65 | 850 | 1500 | 9 | 16 | 8 | 1 | 4 | 9 | 16 |
| Level-100/1 st semester | 18 | 13 | 1 | 18 | 14 | 250 | 10 | 440 | 700 | 0.2 | 2.1 | 4.2 | 4.6 | 1.2 | 0.2 | 2.1 |
| Level-100/ 2 nd semester | 14 | 8 | 3 | 18 | 14 | 280 | 20 | 400 | 700 | 0.5 | 3.2 | 3.8 | 4.2 | 2.3 | 0.5 | 3.2 |
| Level-200/1 st semester | 13 | 9 | 1 | 18 | 15 | 320 | 10 | 470 | 800 | 1.2 | 2.5 | 2.7 | 2.4 | 1.2 | 1.2 | 2.5 |
| Level-200/ 2 nd semester | 12 | 11 | 1 | 18 | 12 | 240 | 10 | 350 | 600 | 1.7 | 1.6 | 5.1 | 5.1 | 0 | 1.7 | 1.6 |
| Summer course | 0 | 0 | 0 | 1 | 0 | 50 | 50 | 0 | 100 | 0.2 | 0.18 | 0.2 | 0.17 | 0 | 0.2 | 0.18 |
| Level-300/1 st semester | 12 | 10 | 0 | 15 | 14 | 280 | 0 | 420 | 700 | 1.4 | 2.82 | 1.2 | 5.1 | 1 | 1.4 | 2.82 |
| Level-300/ 2 nd semester | 12 | 9 | 0 | 16 | 12 | 240 | 0 | 360 | 600 | 2.3 | 1.8 | 6.5 | 3.95 | 1 | 2.3 | 1.8 |
| Summer Course | 0 | 0 | 0 | 1 | 0 | 50 | 50 | 0 | 100 | 0.2 | 0.18 | 0.2 | 0.17 | 3.5 | 0.2 | 0.18 |
| Level-400/1 st semester | 9 | 8 | 0 | 13 | 10 | 200 | 0 | 300 | 500 | 0.5 | 1.87 | 1.2 | 2.45 | 0.4 | 0.5 | 1.87 |
| Level-400/ 2 nd semester | 9 | 8 | 0 | 13 | 10 | 200 | 0 | 300 | 500 | 0.98 | 1.98 | 4.3 | 3.73 | 0.5 | 0.98 | 1.98 |
| Total of Five Years | 119 | 97 | 20 | 131 | 101 | 2110 | 150 | 3040 | 5300 | 18.18 | 34.23 | 37.4 | 32.87 | 10.1 | 18.18 | 34.23 |
| % of Five Years | | | | | | | | | | 11.3 | 21.4 | 22.6 | 21.3 | 9.7 | 9.9 | 7.2 |
| % NARS | | | | | | | | | | 9-12 | 20-26 | 20-23 | 20-22 | 9-11 | 8-10 | 6-8 |

The above tables show the agreement with the NARS requirements.

2.4.2 CURRICULUM MAPPING

Appendix-3 gives the contribution of the individual courses to the program Intended Learning Outcomes in a matrix form. This matrix was developed by the program coordinator, assistant coordinators and professional staff members. The mapping matrix shows that the program courses present balanced contribution to the program ILO's includes also two tables summarizing the program ILO's contributed by the individual courses and the courses contributing to the individual ILO's. [Appendix-4](#) shows the detailed list of program courses.

2.4.3 COURSES SPECIFICATIONS

The detailed program courses specifications are shown in the Curriculum mapping. These courses specifications were revised and approved on 2016. The contribution of each course to the program ILO's were considered during this revision.

3. PROGRAM ADMISSION REQUIREMENTS

- 1- Secondary School Certificate and Graduates of other countries are eligible to join this program if they met the minimum grades set by Admission Office of the Ministry of Higher Education.
- 2- The study begins with a preparatory year for all students before specialization in Civil Engineering. Students' departmental allocation is in accordance with the Institute Council regulations.

4. Regulations for Progression and Program Completion

4.1 Study:

Studying in the institute is following the Credit Hours system:

1. The fresher has the right to register in courses in both the first and the second semesters with total credit hours of 18 hours and not less than 15 credit hours.
2. The student can register in the summer course with a maximum of 6 credit hours, and the board of directors of the institute has the right to raise the maximum value if this leads to move the student to a higher level or to complete a number of the requirement, as the student can only register in three courses during the summer course.
3. After registration the student is able to add or delete a certain course according to the rules and the mechanism set by the institute's board of directors. In case of not completing the deleting procedures of any course, the student will fail to pass this course.

4. The student who got 3.00 or more of the GPA has the right to register in more than 18 credit hours with a maximum of 21 credit hours in the following main semester after getting this GPA, starting with level 100.
5. The student with a GPA not more than 1.00 is not allowed to register in more than 12 credit hours in the following main semester after getting this GPA.
6. The student is able to delete a course without any harm till the end of the third week of both the two semester, and till the second week of the summer course. Afterwards, he can withdraw from this course. This deleted course will not appear in the grades form, and after that date the student will get (W) grade (withdrawal) in that course.
7. If the student wants to withdraw from a certain course or from the semester due to an acceptable excuse approved by the institute's board of directors, he has to apply for students' affairs and get the approval of the board of directors, and then he can repeat the courses again.
8. The warned student by the academic supervision can register again in a certain course which he studied before and got (C-) or less than it. The grade will be counted with the grade (B) as a maximum. All the grades will be mentioned in the student's academic record and, when it comes to count the GPA, only the last grade will be counted.
9. When the student repeats a certain course which he failed to pass it and got (F), he has to repeat its studying period and its examination. The grade which he achieves will be counted with a maximum of (B). All the grades will be mentioned in the student's academic record and, when it comes to count the GPA, only the last grade will be counted.
10. The student will get (F) if he stopped attending his courses without deleting them.
11. The student will be put under academic observation if he got lesser than 1.70 of the GPA at the end of any semester.

Assessments grades:

Students are assessed according to the following table:

| Percentage | Points | Grade with the GPA system |
|----------------------|--------|---------------------------|
| 95% or more | 4.0 | A |
| 90% to less than 95% | 3.7 | A- |
| 85% to less than 90% | 3.3 | B+ |

| | | |
|----------------------|-----|----|
| 80% to less than 85% | 3.0 | B |
| 75% to less than 80% | 2.7 | B- |
| 70% to less than 75% | 2.3 | C+ |
| 65% to less than 70% | 2.0 | C |
| 60% to less than 65% | 1.7 | C- |
| 55% to less than 60% | 1.3 | D+ |
| 50% to less than 55% | 1.0 | D |
| Less than 50% | 0.0 | F |

STUDENT ASSESSMENT (METHODS AND RULES FOR STUDENT ASSESSMENT)

| Method (tool) | Assessed ILO's |
|-------------------------------------------------|----------------|
| 1- Written exam | A, B & C |
| 2- Quizzes and reports | A, B & C |
| 3- Oral exams | A, B & C |
| 4- Practical | A & C |
| 5- Project applied on a practical field problem | A, B, C & D |

6. PROGRAM EVALUATION

| Evaluator | Tool |
|----------------------------------------------------|---------------|
| 1- Senior students | questionnaire |
| 2- Alumni | questionnaire |
| 3- Stakeholders | questionnaire |
| 4- External Evaluator(s) (External Examiner (s)) | report |
| 5- Other societal parties | |

Appendix 1

Staff Members

**This appendix explains the agreement of staff members' qualifications with the courses
that they
Lecture or can lecture**

Staff Members in civil engineering department

| | Name | Scientific Degree | University | Department | Status | | |
|----|--------------------------------------------|---------------------|-------------|-------------------|--------|-----|-------------|
| | | | | | In | Out | Part - time |
| 1 | Dr. Shabaan Ibrahim Selim | PHD | EI-Mansoura | Civil Engineering | | √ | |
| 2 | Prof. Kassem Salah Abdelwahab Elalfy | Professor | EI-Mansoura | Civil Engineering | | √ | |
| 3 | Prof. Emad Elsaid Elbeltagi | Professor | EI-Mansoura | Civil Engineering | | √ | |
| 4 | Prof. Adel Elsayed Nasr Dif | Professor | EI-Mansoura | Civil Engineering | | | √ |
| 5 | Prof. Mahmoud Mohamed Elgamal | Professor | EI-Mansoura | Civil Engineering | | | √ |
| 6 | Assoc. Prof. Kamal Hassanen Radwan | Associate professor | EI-Mansoura | Civil Engineering | | √ | |
| 7 | Assoc. Prof. Elsaid Abdelsalam Moaty | Associate professor | EI-Mansoura | Civil Engineering | | √ | |
| 8 | Assoc. Prof. Ahmed Mohamed Elsayed Tahawya | Associate professor | EI-Mansoura | Civil Engineering | | | √ |
| 9 | Assoc. Prof. Fekry Abdou Mahmoud Salem | Associate professor | EI-Mansoura | Civil Engineering | | | √ |
| 10 | Assoc. Prof. Sherif Masoud Elbadawi | Associate professor | EI-Mansoura | Civil Engineering | | | √ |
| 11 | Dr. Nabil Saad Balat | PHD | EI-Mansoura | Civil Engineering | | √ | |
| 12 | Dr. Abdelmoneam Bakr Elsayed Orabi | PHD | EI-Mansoura | Civil Engineering | | | √ |

| | | | | | | | |
|----|-----------------------------------|-----|---------------------------|-------------------|---|--|--|
| 13 | Dr. Ahmed Mahmoud Mohamed Elgamal | PHD | Mansoura Higher Institute | Civil Engineering | √ | | |
| 14 | Dr. Akram Zakarya Ali | PHD | EI-Mansoura | Civil Engineering | √ | | |
| 15 | Dr. Emad Eldin Morsy Ismail | PHD | Mansoura Higher Institute | Civil Engineering | √ | | |
| 16 | Dr. Sameh Farouk Elbatal | PHD | Mansoura Higher Institute | Civil Engineering | √ | | |

Sub-Staff Members in civil engineering department

| | Name | University | Scientific Degree | Status | | |
|---|-----------------------------------|-----------------------------------------------------|-------------------|--------|-----|--------|
| | | | | In | Out | Permit |
| 1 | Eng. Ayman Adel Elmasry | EI-shorouk Academy | Ass. Lecturer | √ | | |
| 2 | Eng. Mohamed Fahmy Elbaz | Misr-Higher Institute of Engineering and technology | Demonstrator | √ | | |
| 3 | Eng. Mohamed Mohey-Eldin Elashram | EI-Mansoura | Demonstrator | √ | | |
| 4 | Eng. Mahmoud Kamal Radwan | EI-Mansoura | Demonstrator | √ | | |
| 5 | Eng. Ahmed AlaaEldin | EI-Mansoura | Demonstrator | √ | | |
| 6 | Eng. Mohamed Ragab Elshahawy | EI-Mansoura | Demonstrator | √ | | |
| 7 | Eng. Abdelrahman Ahmed Yassen | EI-Mansoura | Demonstrator | √ | | |
| | Eng. Abdelrahman Amen | EI-Mansoura | Demonstrator | √ | | √ |

| | | | | | | |
|----|----------------------------|-----------------------------------------------------|--------------|---|---|---|
| | Abdelmoneam | | | | | |
| 8 | Eng. Noha Kamal Farah | EI-Mansoura | Demonstrator | | √ | |
| 9 | Eng. Nada Ahmed Mansour | EI-Mansoura | Demonstrator | √ | | |
| 10 | Eng. Mona Mohamed Mokhtar | Misr-Higher Institute of Engineering and technology | Demonstrator | | √ | |
| 11 | Eng. Esraa Ragab Elshahawy | EI-Mansoura | Demonstrator | | √ | |
| 12 | Eng. Eman Farid Kassem | EI-Mansoura | Demonstrator | √ | | √ |
| 13 | Eng. Doaa Ahmed Awad | EI-Mansoura | Demonstrator | √ | | |