

Nile Higher Institute for Engineering and Technology
Communication and Electronics Engineering Department
General Knowledge and Elective Classes

Index	Code	Class Name
1	IEN 131	Monitoring & Quality Control Systems
2	HUM 182	Analysis & Research Skills
3	HUM 111	Technical Report Writing
4	HUM 381	Principles of Negotiation
5	HUM 181	Communication & Presentation Skills
6	IEN 351	Engineering Economics
7	CIW 331	Environmental Impact of Projects
8	IEN 314	Project Management
9	HUM 351	Professional Ethics
10	HUM 101	Human Rights
11	HUM X75	Arabic & Islamic Civilization
12	HUM X71	Introduction to the History of Civilizations
13	HUM X72	Trends in Contemporary Arts
14	HUM X73	Recent Egypt's History
15	HUM 221	Business Administration
16	CIS 111	Principles of Construction & Building Engineering
17	ARC 111	Arts & Architecture
18	ELP 111	Principles of Electrical Engineering
19	ELE 121	Principles of Electronic Engineering

1. Course Number and Name

IEN 131 – Monitoring & Quality Control Systems

2. Credits (Contact Hours/Week for Fall/Spring Semester)

1 (14) / FALL

3. Course Coordinator

Khashaba, Mohamed

4. Textbook and Supplemental Materials

- Monitoring systems, Quality control and quality assurance systems, Prof. Dr. Mohamed I. Khashaba, 2021, Oakland, J.S., total quality management, Butterworth
- Heinemann, Oxford, 2nd Ed., 2000, Pyzdek, T., & Keller, P. A. (2003). The six-sigma handbook. McGraw-Hill, General Electric. (2006). Six Sigma. Available at: <https://www.ge.com/sixsigma/>. Accessed March 7, 2006,
- Henning Kagermann, et. All, Internal Audit Handbook, Springer - Verlag Berlin Heidelberg, 2008.

5. Course Information

Catalog Description: In order to achieve and effectively apply the Monitoring Systems & Quality Control, it is very important to look for a set of techniques driven by quality-control methodology and has its main focus on identifying and eliminating errors. Its goals for six standard deviations between mean and it is nearest detailing limit. It is used for detection, control, and management of the variation.

Prerequisites: None.

Corequisites: None.

Pre or Corequisites: None.

Type of Course: SE.

6. Course Objectives and Outcomes

Students who successfully complete this course will be able to:

- Demonstrate and apply the concepts and objectives of control systems, quality systems, top management communicating.
- Apply and Analyze Hazard Analysis: high - quality recommendations, commitment monitoring, follow up Systems, the base line of hazard analysis critical point (HACCP).
- Create new concepts, tools for organization and analysis of data, tools for determining and solving problems.
- Identify International Standards Accreditation: Accreditation meaning, ISO requirements and recommendations, Audit program, Certification body.
- Analyze Process Capability: Process capability indices, process performance indices.

This course supports student outcomes by developing:

Student Outcomes	Selection
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.	
3. An ability to communicate effectively with a range of audiences.	√
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.	√
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	√
6. An ability to develop and conduct appropriate experimentation, analyse and interpret data, and use engineering judgment to draw conclusions.	
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	

7. List of Topics

The major topics covered in this course are:

- Introduction: Monitoring Systems & Quality Control.
- Quality control concepts.
- Control systems.
- Hazard analysis.
- Sampling and inspection.
- International standers accreditation.
- Analyzing process capability.
- Investigating the process of both DMAIC Process and Six Sigma
- Covering the 5 phases of 6-Sigma DMAIC and the tools that can be used in each stage. They can be used to identify problem areas in our organizational processes, generate practical solutions and implement them effectively.

1. Course Number and Name

HUM 182 – Analysis & Research Skills

2. Credits (Contact Hours/Week for Fall/Spring Semester)

2 (28) / SPRING

3. Course Coordinator

Al-Azaly, Ali (Senior) & Gebriel, Ahmed

4. Textbook and Supplemental Materials

Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, 4th Edition, by John W. Creswell

5. Course Information

Catalog Description: Introduction to analysis skills which illustrate analysis framework for engineering issues, taking into consideration the technical, economic, environmental and ethical aspects, and also how to use several research skills on WEB.

Prerequisites: None.

Corequisites: None.

Pre or Corequisites: None.

Type of Course: SE.

6. Course Objectives and Outcomes

Students who successfully complete this course will be able to:

- Identify methodologies of solving problems.
- Effectively manage tasks and resources.
- Write technical reports.

This course supports student outcomes by developing:

Student Outcomes	Selection
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.	
3. An ability to communicate effectively with a range of audiences.	✓
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.	
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	
6. An ability to develop and conduct appropriate experimentation, analyse and interpret data, and use engineering judgment to draw conclusions.	
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	✓

7. List of Topics

The major topics covered in this course are:

- Analysis Skills.
- Phases of problem solving.
- Role of creativity in the analysis.
- SWOT analysis for different alternatives.
- Importance of finding the relevant data, information, and knowledge.
- Search Skills.

1. Course Number and Name

HUM 111 – Technical Report Writing

2. Credits (Contact Hours/Week for Fall/Spring Semester)

2 (28) / FALL

3. Course Coordinator

Desouki, Mahmoud

4. Textbook and Supplemental Materials

- Riordan, D., 2013. Technical report writing today. Nelson Education.
- Hering, H., Hering, H. and Baumann, 2019. How to write technical reports. Springer Berlin Heidelberg.
- Handouts and World Wide Web.

5. Course Information

Catalog Description: The purpose of this course is to help students better understand reporting concepts from a different viewpoint required in working life. This course describes writing reports, the types of reports and their importance, and summarizes the different techniques.

Prerequisites: HUM 013.

Corequisites: None.

Pre or Corequisites: None.

Type of Course: SE.

6. Course Objectives and Outcomes

Students who successfully complete this course will be able to:

- Communicate effectively with the Work environment and external community.
- Recognize ethical and professional responsibilities in engineering situations.
- Make informed judgments, and lead engineering projects.
- Work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

This course supports student outcomes by developing:

Student Outcomes	Selection
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.	
3. An ability to communicate effectively with a range of audiences.	✓
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.	✓
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	✓
6. An ability to develop and conduct appropriate experimentation, analyse and interpret data, and use engineering judgment to draw conclusions.	
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	

7. List of Topics

The major topics covered in this course are:

- Essential elements of a technical report: Abstract - Summary - Contents - Objectives Details of the report including figures, images, video ...etc., - Conclusions - Recommendations - References using a standard format and the different electronic sources.
- Report Classification: Technical (Requirement specification, Analysis, Design, and Implementation).
- Administrative (Directed to different operational and management levels).
- Levels of confidentiality for the different reports. Report Composition: Logical presentation of the report and coordination between its components.
- Importance of using correct grammar and punctuation.
- Enhancing communication effectiveness by the use of different media.
- Report Implementation: Use of the appropriate software packages including any graphics or multimedia packages.

1. Course Number and Name

HUM 381 - Principles of Negotiation

2. Credits (Contact Hours/Week for Fall/Spring Semester)

2 (28) / SPRING

3. Course Coordinator

Gamal, Mohamed.

4. Textbook and Supplemental Materials

- Lewicki, J. R., Saunders, M. D., and Barry, B., Essentials of Negotiation, McGraw - Hill, 5th. Ed., 2011.

5. Course Information

Catalog Description: The objective of this course is to teach the Negotiation is a method by which people settle differences. It is a process by which compromise or agreement is reached while avoiding argument and dispute. In any disagreement, individuals understandably aim to achieve the best possible outcome for their position (or perhaps an organization they represent). However, the principles of fairness, seeking mutual benefit and maintaining a relationship are the keys to a successful outcome.

Prerequisites: None.

Corequisites: None.

Pre or Corequisites: None.

Type of Course: SE.

6. Course Objectives and Outcomes

Students who successfully complete this course will be able to:

- Use negotiation skills in a variety of situations
- Develop strategies to ensure positive outcomes
- Develop an Action Plan for use in the workplace
- Recognize the basic principles of negotiation and the need to negotiate in a sustainable way
- Analyze their negotiation style and develop confidence in win
- Recognize the various stages of effective negotiation
- Develop a coherent case and set clear objectives
- Recognize whether they are being cooperative or competitive
- Utilize effective interpersonal skills

This course supports student outcomes by developing:

Student Outcomes	Selection
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.	
3. An ability to communicate effectively with a range of audiences.	✓
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.	✓
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	
6. An ability to develop and conduct appropriate experimentation, analyse and interpret data, and use engineering judgment to draw conclusions.	
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	

7. List of Topics

The major topics covered in this course are:

- Negotiation concept, attributes, and principles.
- Dynamic nature of negotiation.
- Ethics of negotiation.
- Psychological and social aspects of negotiation.
- Cooperative and competitive negotiations.
- Strategies and tactics of negotiation.
- Best practices in negotiations (case studies).

1. Course Number and Name

HUM 181 – Communication & Presentation Skills

2. Credits (Contact Hours/Week for Fall/Spring Semester)

2 (28) / FALL

3. Course Coordinator

Gebril, Ahmed

4. Textbook and Supplemental Materials

- Gary Johns and Alan M.Saks, Organizational Behavior, Addison Wesley Longman, 2009.
- Scgermerhorn, Jr., R. J. and Osborn. N.R., organizational Behavior, John Wiley & sons, Inc., New york, 10th Ed., Ed., 2008.

5. Course Information

Catalog Description. Providing the student with the latest knowledge about the concepts characteristics, and types of managerial and interpersonal communications, as well as the concepts and requirement of good listening and presentation, and Developing the student's abilities and skills of effective communication, and good listening, as well as how to use the interpersonal and managerial communication methods and the presentation techniques in performance and dealing with others inside and outside the organization. Course Contents: Concept and nature of communication - communication model - Formal and informal communication - Interpersonal and managerial communication - Body language - written communications (Reports and memos) - Ten Commandments of effective communication - Good listing - Elements of effective presentation model - Preparation of good presentation - carrying out presentation - Discussion and dealing with objections - Evaluating presentation performance.

Prerequisites None.

Corequisites: None.

Pre or Corequisites: None.

Type of Course: SE.

6. Course Objectives and Outcomes

Students who successfully complete this course will be able to:

- Providing the student with the latest knowledge about the concepts characteristics.
 - Known types of managerial and interpersonal communications, as well as the concepts and requirement of good listening and presentation.
 - Developing the student's abilities and skills of effective communication, and good listening, as well as how to use the interpersonal and managerial communication methods and the presentation techniques in performance and dealing with others inside and outside the organization.
- **This course supports student outcomes by developing:**

Student Outcomes	Selection
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.	
3. An ability to communicate effectively with a range of audiences.	✓
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.	
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	✓
6. An ability to develop and conduct appropriate experimentation, analyse and interpret data, and use engineering judgment to draw conclusions.	
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	

7. List of Topics

The major topics covered in this course are:

- Concept and nature of communication
- Communication model.
- Formal and informal communication.
- Interpersonal and managerial communication.
- Body language.
- Written communications (Reports and memos).
- Ten Commandments of effective communication.
- Good listing.
- Elements of effective presentation.
- Preparation of good presentation.
- Carrying out presentation.
- Discussion and dealing with objections.
- Evaluating presentation performance.

1. Course Number and Name

IEN 351 - Engineering Economics

2. Credits (Contact Hours/Week for Fall/Spring Semester)

2 (28) / FALL

3. Course Coordinator

El-Boghdady, Amr

4. Textbook and Supplemental Materials

- Newnan, Donald G., J. P. Lavelle & Eschenbach, Ted G., Engineering Economic Analysis, Austin, TX: Engineering Press, 8th. Ed., 2000

5. Course Information

Catalog Description: the objective of this course is to teach the concepts of engineering economic analysis and its role in solving problems. It is designed to provide engineers with the tools needed for rigorous presentation of the effect of the time value of money on engineering decision making. The course isolates those problems that are commonly faced by engineers and develops the tools to properly grasp, analyses, and solve them. The tools introduced include present worth analysis, annual cash flow, rate of return, incremental analysis, future worth analysis, and payback period. The course also covers such topics as depreciation, after tax analysis, replacement analysis, inflation, and deflation.

Prerequisites: None.

Corequisites: None.

Pre or Corequisites: None.

Type of Course: SE.

6. Course Objectives and Outcomes

Students who successfully complete this course will be able to:

- Define, estimate and analyse engineering project costs
- Develop, evaluate, and compare engineering project cash flows
- Develop and apply mathematical models describing real life cash flows and time value of money
- Formulate and apply interest factors to real life engineering problems
- Evaluate engineering alternatives by economic analysis techniques and models
- Discuss and solve advanced economic engineering analysis problems including taxation and inflation

This course supports student outcomes by developing:

Student Outcomes	Selection
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	✓
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.	
3. An ability to communicate effectively with a range of audiences.	
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.	✓
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	
6. An ability to develop and conduct appropriate experimentation, analyse and interpret data, and use engineering judgment to draw conclusions.	
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	

7. List of Topics

The major topics covered in this course are:

- Introduction to Economy
- Introduction to Engineering Economy
- Time Value of Money
- Rate - Of Return ROR Computations
- Depreciation Models

1. Course Number and Name

CIW 331 – Environmental Impact of Projects

2. Credits (Contact Hours/Week for Fall/Spring Semester)

1 (14) / FALL

3. Course Coordinator

Al-Azaly, Ali

4. Textbook and Supplemental Materials

John Glasson, Riki Therivel and Andrew Ghawiek, Introduction to environmental impact assessment, Routledge, 2005.

5. Course Information**Catalog Description:** Introduction to study the environment and the availability of natural resources. Natural cycles for same basic elements (carbon, oxygen, Nitrogen...). Conflicts between developments, economics and environments.**Prerequisites:** None.**Corequisites:** None.**Pre or Corequisites:** None.**Type of Course:** SE.**6. Course Objectives and Outcomes**

Students who successfully complete this course will be able to:

- Describe the material properties and their Characteristics in engineering projects.
- Judge engineering decisions considering safety, quality, and environmental impact.

This course supports student outcomes by developing:

Student Outcomes	Selection
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.	
3. An ability to communicate effectively with a range of audiences.	✓
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.	✓
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	
6. An ability to develop and conduct appropriate experimentation, analyse and interpret data, and use engineering judgment to draw conclusions.	
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	

7. List of Topics

The major topics covered in this course are:

- Introduction: Availability of Natural Resources. Natural Cycles for Same Basic Elements.
- Conflicts between Developments, Economics and Environments.
- Defining Emissions Sources, Impacts, Standards and Precautions.
- Water, Air and Soil Pollution and Measurements.
- Historical Development for Recognizing the Need for Environmental Impact Assessment.
- Assessing the Impacts on Health, Social, Culture and Economic Activities.
- Procedures of the Environments Impact Assessment: Screening, Scoping.
- Defining Impacts, Comparing Alternatives.
- Plans for Mitigation and Alleviation, Environmental Auditing.

1. Course Number and Name

IEN 314 – Project Management

2. Credits (Contact Hours/Week for Fall/Spring Semester)

2 (28) / SPRING

3. Course Coordinator

Ibrahim, Hany

4. Textbook and Supplemental Materials

Frederick Gould and Nancy E. Joyce, **Construction Project Management**, Prentice Hall, 3rd Ed., 2008.

5. Course Information

Catalog Description: Providing an introduction to many facets of the project management. This course intent is to provide a practical demonstration of the basic management techniques commonly used or encountered on a construction project. Course Outlines: Project need determination and feasibility studies; Project Cost Evaluation and Estimating; Project Schedule development; Design/Construction Contract Development; - Project Engineering/Design; Engineering Procurement Specification development; Cost Accounting and Control; Labor availability Evaluation; Quality Assurance and Control; Safety; Project Closeout.

Prerequisites: None.

Corequisites: None.

Pre or Corequisites: None.

Type of Course: SE.

6. Course Objectives and Outcomes

Students who successfully complete this course will be able to:

- Develop problem solving skills and be open to innovation.
- Estimate a sharp cost and duration for the project
- Create an environment of teamwork and inspire willingness to help co-workers.
- Evaluate progress and deadlines as a routine basis and re-prioritize every-time something changes.
- Delegate tasks to those capable of completing them to assign a worker to oversee areas of a project

Student Outcomes	Selection
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	✓
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.	
3. An ability to communicate effectively with a range of audiences.	✓
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.	✓
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	
6. An ability to develop and conduct appropriate experimentation, analyse and interpret data, and use engineering judgment to draw conclusions.	
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	

7. List of Topics

The major topics covered in this course are:

- Introduction
- Procurement Management
- Human Resource Management
- Planning and Scheduling
- Stakeholder Management
- Cost estimation
- Risk Management

1. Course Number and Name

HUM 351 – Professional Ethics

2. Credits (Contact Hours/Week for Fall/Spring Semester)

1 (14) / SPRING

3. Course Coordinator

El-Boghdady, Amr.

4. Textbook and Supplemental Materials

- Ethics in Engineering Paperback – by Thomas Taro Lennerfors, 2019.
- Dr. Ayman Elzeiny, DataShow 127 "FIDIC", June 26, 2013.

5. Course Information

Catalog Description: Engage in self-and life-long learning and showing the importance of professional and ethical responsibilities; and contextual understanding.

Prerequisites None.

Corequisites: None.

Pre or Corequisites: None.

Type of Course: SE.

6. Course Objectives and Outcomes

Students who successfully complete this course will be able to:

- Discuss humanitarian topics of interest and moral issues.
- Identify professional ethics and impacts of engineering solutions on society and Environment.
- Combine, exchange different ideas, views, and knowledge from a range of sources to evaluate the characteristics and performance of components, systems and processes.
- Judge engineering decisions considering balanced costs, benefits, safety, quality, reliability, and environmental impact.
- Exchange knowledge and skills with engineering community and industry.
- Identify the law of syndicate of engineers, its objectives and services for its members.

This course supports student outcomes by developing:

Student Outcomes	Selection
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.	
3. An ability to communicate effectively with a range of audiences.	√
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.	√
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	
6. An ability to develop and conduct appropriate experimentation, analyse and interpret data, and use engineering judgment to draw conclusions.	
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	

7. List of Topics

The major topics covered in this course are:

- Global vision about Engineering Science & job of Engineer.
- Engineering Science is the indicator for any civilization.
- Being an Engineer is one of the finest and the highest job.
- Engineering job based on creativity, innovation and development from his own imagination.
- Serving the whole humanity and seeking for the quality in human life.
- Engineer's responsibility in the national and the international scale
- Vital role for the engineer according to the international engineering contracts (FIDIC)
- Responsibility of the engineers according to the Egyptian Laws.
- Job ethics and etiquette
- Global vision on the Engineers
- Syndicate law no. 66 for 1974.

1. Course Number and Name

HUM 352 – Human Rights.

2. Credits (Contact Hours/Week for Fall/Spring Semester)

1 (14) / FALL

3. Course Coordinator

Ali, Mohammed.

4. Textbook and Supplemental Materials

- Essam Muhammad Ahmad Zanati, Human Rights Law, Arab Renaissance House,
- Abdel Wahid Al-Far, Human Rights Law in Positive Thought and Islamic Sharia 2010. And the Arab Renaissance House, 1987

References

- Egyptian Journal of International Law.
- Publications of the National Council for Human Rights.

5. Course Information

Catalog Description: Human_Rights This course covers the importance of human rights and the historical formation of those rights and schools of jurisprudence to establish these rights and the provisions of special international agreements Human rights - and global and regional international organizations based on the protection of those rights - and the position of the Egyptian constitution on human rights - And legal protection for it at the national level and the international level - in addition to human rights in Islamic law. The philosophical historical origins of human rights - the global organs that are based on the protection of human rights (United Nations organs) - the national protection of human rights - human rights in Islamic law - a review of some human rights sects - a general review

Prerequisites None.

Corequisites: None.

Pre or Corequisites: None.

Type of Course: SE.

6. Course Objectives and Outcomes

Students who successfully complete this course will be able to:

- Apply knowledge of the importance of human rights and the historical formation of those rights and schools of jurisprudence to establish these rights and the provisions of special international agreements Human rights.
- Human Rights in (Islamic law global and regional international organizations The philosophical historical origins)

• This course supports student outcomes by developing:

Student Outcomes	Selection
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.	
3. An ability to communicate effectively with a range of audiences.	✓
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.	✓
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	
6. An ability to develop and conduct appropriate experimentation, analyse and interpret data, and use engineering judgment to draw conclusions.	
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	

7. List of Topics

The major topics covered in this course are:

- Familiarity With The Importance Of Human Rights And The Historical Formation Of Those Rights And Schools Of Jurisprudence To Establish These Rights And The Provisions Of Special International Agreements Human Rights.
- Global And Regional International Organizations Based On The Protection Of Those Rights
- The Position Of The Egyptian Constitution On Human Rights.
- Legal Protection For It At The National Level And The International Level
- Human Rights In Islamic Law.
- The Philosophical Historical Origins Of Human Rights.
- The Global Organs That Are Based On The Protection Of Human Rights (United Nations Organs).
- The National Protection Of Human Rights.
- Human Rights In Islamic Law.
- A Review Of Some Human Rights Sects A General Review.

1. Course Number and Name

HUM X75– Arabic & Islamic Civilization

2. Credits (Contact Hours/Week for Fall/Spring Semester)

2 (28) / FALL

3. Course Coordinator

Ali, Mohammed

4. Textbook and Supplemental Materials

- Ahmed Abdel Razek, Islamic Civilization in the Middle Ages, 2004.
- Fathia al-Nabrawi, History of Islamic Systems and Civilization, 1985.
- Abdel Moneim Majed, History of Islamic Civilization in the Middle Ages, 1978.

5. Course Information

Catalog Description: The foundations of Islamic civilization (the Qur'an and the Sunnah - the Arab nation - the language - the geographical framework - the open peoples - foreign influences) - the political system (the caliphate - the ministry - writing - the hijab) - the administrative system (local administrations - the burials of soldiers and al-Kharj, letters and mail etc.) - the financial system (the resources of the treasury - expenditures - the railroad) - the military systems (the army: its composition, weapons and methods - the fleet) - education and culture (legal sciences - theology and jurisprudence ... - mental sciences) - Arts, archeology and architecture - the judiciary and litigation - the Islamic community (elements and races - religious and sectarian sects - class construction: rulers and jurists), scholars, merchants, craftsmen and industries. Helping the student to understand complex structures and ambiguous methods, and enable the student to think precisely and delicate mental research

Prerequisites: None.

Corequisites: None.

Pre or Corequisites: None.

Type of Course: Elective.

6. Course Objectives and Outcomes

Students who successfully complete this course will be able to:

- Demonstrate knowledge of contemporary engineering issues.
- Discuss humanitarian topics of interest and moral issues.
- Discuss contemporary engineering topics in general.
- Combine, exchange different ideas, views, and knowledge from a range of sources.
- Exchange knowledge and skills with the engineering community and industry.
- Refer to relevant literature effectively.

This course supports student outcomes by developing:

Student outcomes	Selection
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.	
3. An ability to communicate effectively with a range of audiences.	✓
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.	
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	
6. An ability to develop and conduct appropriate experimentation, analyse and interpret data, and use engineering judgment to draw conclusions.	
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	

7. List of Topics

The major topics covered in this course are:

- Foundations of Islamic civilization (Quran and Sunnah - the Arab nation - language)
- The political system (succession - ministry - writing - hijab)
- Administrative system (local administrations - offices of soldiers, al-kharaj and letters)
- Financial System (Bayt Al-Mal Resources - Expenditures)
- Military systems
- Education and culture
- Arts, archeology and architecture
- Judiciary and litigation - the Islamic community

1. Course Number and Name

HUM X71– Introduction to the History of Civilizations

2. Credits (Contact Hours/Week for Fall/Spring Semester)

2 (28) / SPRING

3. Course Coordinator

Ali, Mohammed

4. Textbook and Supplemental Materials

Hussein Munis, Civilization, The World of Knowledge, Kuwait, 1978.

5. Course Information

Catalog Description: The concept of civilization , the origins of human civilization the first civilizations beginnings , the culture and civilization in the ancient east, and in the ancient west , civilization and culture in the Middle Ages , Advancement of Science , Philosophy and Literature And the arts.

Prerequisites: None. **Corequisites:** None. **Pre or Corequisites:** None. **Type of Course:** Elective.

6. Course Objectives and Outcomes

Students who successfully complete this course will be able to:

- Gain an understanding the concept of civilization .
- Gain an understanding the origins of human civilization the first civilizations beginnings.
- Gain and understanding civilization and culture in the Middle Ages.

This course supports student outcomes by developing:

Student Outcomes	Selection
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.	
3. An ability to communicate effectively with a range of audiences.	✓
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.	
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	
6. An ability to develop and conduct appropriate experimentation, analyse and interpret data, and use engineering judgment to draw conclusions.	
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	

7. List of Topics

The major topics covered in this course are:

- The concept of civilization .
- The origins of human civilization the first civilizations beginnings.
- The culture and civilization in the ancient east.
- Philosophy and Literature And the arts.
- Advancement of Science.

1. Course Number and Name

HUM X72 – Trends in Contemporary Arts

2. Credits (Contact Hours/Week for Fall/Spring Semester)

2 (28) / SPRING

3. Course Coordinator

Qormod, Abdulllah.

4. Textbook and Supplemental Materials

Stallabrass, Julian. *Contemporary art: A very short introduction*. Oxford University Press, USA, 2020.

5. Course Information

Catalog Description: The course aims to: Provide the student with the ability to gain artistic appreciation - Provide the student with the skill of reading artistic works - This is done by studying philosophies, trends, artistic movements, modern contemporary doctrines, etc. After modernity. The course includes the following topics: Introducing ancient arts as an introduction to philosophies, Classics - Introduction to Classical Arts and Greek Origins – Neoclassicism.

Prerequisites: None.

Corequisites: None.

Pre or Corequisites: None.

Type of Course: Elective.

6. Course Objectives and Outcomes

Students who successfully complete this course will be able to:

- Gain an understanding the skill of reading artistic works.
- Gain an understanding philosophies, trends, artistic movements, modern contemporary doctrines, etc.
- Gain and understanding Introducing ancient arts as an introduction to philosophies.

This course supports student outcomes by developing:

Student Outcomes	Selection
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.	
3. An ability to communicate effectively with a range of audiences.	
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.	
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	
6. An ability to develop and conduct appropriate experimentation, analyse and interpret data, and use engineering judgment to draw conclusions.	
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	✓

7. List of Topics

The major topics covered in this course are:

- Ability to gain artistic appreciation.
- The skill of reading artistic works.
- Philosophies, trends, artistic movements, modern contemporary doctrines, etc.
- Introduction to Classical Arts and Greek Origins

1. Course Number and Name

HUM X73– Recent Egypt's History.

2. Credits (Contact Hours/Week for Fall/Spring Semester)

2 (28) / FALL

3. Course Coordinator

Ali, Mohamed.

4. Textbook and Supplemental Materials

- M. Abir, "Modernisation, Reaction and Muhammad Ali's 'Empire'" *Middle Eastern Studies* 13#3 (1977), pp. 295-313 [online](#).
- Sanger, Patrick. "[The Administration of Sasanian Egypt: New Masters and Byzantine Continuity.](#)" *Greek, Roman, and Byzantine Studies* 51.4 (2011): 653-665.
- El-Daly, Okasha. *Egyptology: The Missing Millennium*. London: UCL Press.

5. Course Information

Catalog Description: This course covers the importance of knowing the historical formation of Egypt and the most famous era in the recent history. To establish a useful background about our history.

Prerequisites: None.

Corequisites: None.

Pre or Corequisites: None.

Type of Course: Elective.

6. Course Objectives and Outcomes

Students who successfully complete this course will be able to:

- Apply knowledge of the importance of Egypt History and the historical formation of Egypt in the recent history.
- Trying to take advantage of historical situations in engineering and construction science.

This course supports student outcomes by developing:

Student Outcomes	Selection
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.	
3. An ability to communicate effectively with a range of audiences.	
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.	✓
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	
6. An ability to develop and conduct appropriate experimentation, analyse and interpret data, and use engineering judgment to draw conclusions.	
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	

7. List of Topics

The major topics covered in this course are:

- Early Islamic Egypt
- Independent medieval states
- Ottoman Egypt
- Muhammed Ali Dynasty
- British Protectorate (1882–1952)
- Republican Egypt (since 1953)
- Nasser era
- Sadat era

1. Course Number and Name

HUM 221 – Business Administration

2. Credits (Contact Hours/Week for Fall/Spring Semester)

2 (28) / SPRING

3. Course Coordinator

Ali, Mohammed.

4. Textbook and Supplemental Materials

- J. Bryson, Strategic planning for public and nonprofit organization, San Francisco, Jossey-Bass.

5. Course Information

Catalog Description: The purpose of this courses to help students better understand the business administration concepts through an engineering point of view that are mostly needed nowadays. This course **describes** the properties and characteristics of business administration and its importance, **summarizes** the different methods of administration.

Prerequisites: None.

Corequisites: None.

Pre or Corequisites: None.

Type of Course: Elective.

6. Course Objectives and Outcomes

Students who successfully complete this course will be able to:

- Communicate effectively with the Work environment and external community.
- Recognize ethical and professional responsibilities in engineering situations.
- Make informed judgments, and lead engineering projects.
- Work on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

This course supports student outcomes by developing:

Student Outcomes	Selection
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.	
3. An ability to communicate effectively with a range of audiences.	✓
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.	✓
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	
6. An ability to develop and conduct appropriate experimentation, analyse and interpret data, and use engineering judgment to draw conclusions.	
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	

7. List of Topics

The major topics covered in this course are:

- Nature, scope, importance & characteristics of business administration.
- Functions of management.
- Organization concept & importance, characteristics of good & effective organization.
- Direction & supervision.
- Control: concept & importance of control.
- Decision Making.

1. Course Number and Name

CIS 111 – Principles of Construction & Building Engineering

2. Credits (Contact Hours/Week for Fall/Spring Semester)

2 (28) / SPRING

3. Course Coordinator

Ibrahim, Hany.

4. Textbook and Supplemental Materials

Madan Mehta, Walter Scarborough, Diane Armpriest, Building Construction: Principles, Materials, and Systems, Prentice Hall, 2009

5. Course Information

Catalog Description: handles properties, behavior, fabrication of building materials and Types of different loads. It also describes traditional and advanced building materials, bearing walls and structure systems. Structure analysis of different structural elements and properties of sections. Moreover, different types of foundation also discussed.

Prerequisites None.

Corequisites: None.

Pre or Corequisites: None.

Type of Course: Elective.

6. Course Objectives and Outcomes

Students who successfully complete this course will be able to:

- Understand properties, behavior and fabrication of building materials.
- Assess and evaluate the characteristics and performance of components, systems and processes.
- Judge engineering decisions considering balanced costs, benefits, safety, quality, reliability, and environmental impact.
- Apply safe systems at work and observe the appropriate steps to manage risks.

This course supports student outcomes by developing:

Student Outcomes	Selection
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	✓
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.	
3. An ability to communicate effectively with a range of audiences.	
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.	
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	
6. An ability to develop and conduct appropriate experimentation, analyse and interpret data, and use engineering judgment to draw conclusions.	
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	

7. List of Topics

The major topics covered in this course are:

- Introduction.
- Properties of building materials.
- Different types of building systems.
- Types of foundations.
- Simple design of reinforced concrete columns.
- Special types of concrete.

1. Course Number and Name

ARC 111– Arts & Architecture

2. Credits (Contact Hours/Week for Fall/Spring Semester)

2(28) / SPRING

3. Course Coordinator

Qormod, Abdullah

4. Textbook and Supplemental Materials

- "Islam Art And Architecture "2007,markus hattstien, CHINA, the American university

5. Course Information

Catalog Description: History of Arts, Fine Arts (Painting - Sculpture - Ornaments.... etc.), Artistic Movements in the twentieth century: Cubism, Expressionism, Futurism and Surrealism. Artist groups like de Still and Bauhaus and their new ideas about the interrelation of the arts, architecture, design, and art education. Trends of Art through historical eras and parallel trends of Architecture - Contemporary trends of Art and its influence on architecture. Values in art works (contrast, balance, proportion, color, rhythm, movement, Artistic values and design principles in architecture.

Prerequisites: None. **Corequisites:** None. **Pre or Corequisites:** None. **Type of Course:** Selective Elective.

6. Course Objectives and Outcomes

Students who successfully complete this course will be able to:

- Identify the architectural style in order to implement its characteristics through collective research.
- Identify the learn about ancient arts and art movements , and twentieth century (Cubism - Expressionism, Futurism, Surrealism).
- Analyze and discuss all art collections (De Stijl school - Bauhaus) in art, architecture and design through collective research.
- Identify and discuss exchange trends in arts and architecture.

This course supports student outcomes by developing:

Student Outcomes	Selection
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.	✓
3. An ability to communicate effectively with a range of audiences.	✓
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.	✓
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	
6. An ability to develop and conduct appropriate experimentation, analyse and interpret data, and use engineering judgment to draw conclusions.	
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	

7. List of Topics

The major topics covered in this course are:

- History of Arts, Fine Arts (Painting - Sculpture – Ornaments
- Artistic Movements in the twentieth century: Cubism, Expressionism, Futurism and Surrealism.
- Artist groups like de Still and Bauhaus and their new ideas about the interrelation of the arts, architecture, design, and art education.
- Trends of Art through historical eras and parallel trends of Architecture - Contemporary trends of Art and its influence on architecture.
- Values in art works (contrast, balance, proportion, color, rhythm, movement
- Artistic values and design principles in architecture.

1. Course Number and Name

ELP 111 – Principles of Electrical Engineering

2. Credits (Contact Hours/Week for Fall/Spring Semester)

2 (42) / FALL

3. Course Coordinator

Eid, Mohamed

4. Textbook and Supplemental Materials

- B.L. Theraja and A.K. Theraja, “Electrical Technology” Shanda & Company LTD, RamNagar New Delhi-110 055, Twenty Fourth Edition 2005; Multicolor Edition 2005, Reprint 2013.
- James W. Nilsson and Susan A. Riedel, “Electric Circuits”, Pearson Education, Inc., publishing as Prentice Hall, Street, Upper Saddle River, New Jersey, ninth edition, Copyright 2011.
- M.L.Soni, A Course in Electrical circuit analysis, Dhanpat Ral, New Delhi, 7th Ed., 2011
- N C Jagan, electrical circuit analysis, Aditya Offset, india, 1st Ed., 2012

5. Course Information

Catalog Description: DC Electric Circuit Analysis, AC Electric Circuit Analysis, Circuits under Transient Conditions, Single-phase transformers, Three-phase induction motors, Single- phase induction motors, Speed control of motors, Three-phase generators, Power systems elements, Electrical Installation, Transmission lines, Electrical cables, Measuring and protection devices.

Prerequisites: BAS 022.

Corequisites: None.

Pre or Corequisites: None.

Type of Course: Elective.

6. Course Objectives and Outcomes

Students who successfully complete this course will be able to:

- Analyze a mathematical and scientific of electrical circuits for both DC and AC current.
- Identify concepts and theories of mathematics and sciences of electrical machines.
- Define concepts and theories of protection and measuring devices of electric power system elements.
- Discuss the interior lighting electrical installations.

This course supports student outcomes by developing:

Student Outcomes	Selection
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	✓
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.	
3. An ability to communicate effectively with a range of audiences.	✓
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.	
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	
6. An ability to develop and conduct appropriate experimentation, analyse and interpret data, and use engineering judgment to draw conclusions.	
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	

7. List of Topics

The major topics covered in this course are:

- DC Electric Circuit Analysis
- AC Electric Circuit Analysis
- Circuits under Transient Conditions.
- Single- phase transformers.
- Three - phase induction motors.
- Single - phase induction motors.
- Speed control of motors.
- Three- phase generators.
- Power systems elements.
- Electrical installations.
- Transmission lines.
- Protection circuits and devices.
- Electrical cables, measuring devices and recorders.

1. Course Number and Name

ELE 121 – Principles of Electronic Engineering

2. Credits (Contact Hours/Week for Fall/Spring Semester)

2 (28) / SPRING

3. Course Coordinator

Mohammed, Warda

4. Textbook and Supplemental Materials

- Albert Paul Malvino, David J. Bates, Patrick E. Hoppe, Electronic Principles, 9th Edition, 2020
- Sedra, Adel S., and Kenneth C. Smith. Microelectronic circuits. New York Oxford: Oxford University Press, 2014.
- Boylestad, Robert L., Louis Nashelsky, and Franz Monssen. Electronic devices and circuit theory, Pearson Prentice Hall, 2006.

5. Course Information

Catalog Description: Introduction to Electronic Components: PN junction Diodes, Special Diodes, Bipolar junction transistor and provide an overview about op-amp and microprocessors. It also provides the usage of diodes for different applications and apply mathematical methods on circuit analysis.

Prerequisites: None.

Corequisites: None.

Pre or Corequisites: None.

Type of Course: Elective.

6. Course Objectives and Outcomes

Students who successfully complete this course will be able to:

- Introduce an overview about PN junction, BJT, and Op-amp
- **underline** diodes for different applications
- Use and apply diodes to perform OR and AND logic functions.
- **Design** appropriate specifications for required diode circuit.

Student Outcomes	Selection
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	✓
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.	✓
3. An ability to communicate effectively with a range of audiences.	
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.	
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	
6. An ability to develop and conduct appropriate experimentation, analyse and interpret data, and use engineering judgment to draw conclusions.	
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	

7. List of Topics

The major topics covered in this course are:

- Electronic components: PN junction Diodes, special diode
- Diode applications, Rectifiers, and Peak detectors
- Logic circuits
- Bipolar junction transistors
- Op- Amp