

**Faculty of Engineering & Technology**

**Environmental Impact of Projects**

**Information :**

**Course Code :** GEN 541

**Level :** Undergraduate

**Course Hours :** 2.00- Hours

**Department :** Specialization of Electrical Power Engineering

**Instructor Information :**

| Title              | Name                                    | Office hours |
|--------------------|---|--------------|
| Lecturer           | MARIAM AHMED SAMEH MOHAMAD AHMED ABBADI | 4            |
| Lecturer           | MARIAM AHMED SAMEH MOHAMAD AHMED ABBADI | 4            |
| Assistant Lecturer | Ahmed Moreab Hussien Mohamed            | 1            |
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**Area Of Study :**

This course aims to:

Define the environment and the different influencing factors. Human influences of projects: Upgrading, development, economic factors, social factors, cultural factors, aesthetic factors, hygienic and psychological factors, Types of projects: Urban planning projects (residential projects, tourism projects, commercial projects, public buildings etc.), Infrastructure projects (electricity plants, water supply and sewage networks, road networks, railroad networks, reservoirs, dams etc.). different Industrial projects (textile factories, steel Industries, cement factories, carpet factories, ceramic factories, food factories, electrical appliances, car industries etc.). Environmental impact of projects: Negative and positive impacts (direct and indirect). The assessment of projects both nationally and internationally in order to avoid the negative consequences of projects on the environment. The approved rates and criteria for the compatibility of projects with environmental topics.

**Description :**

Definition of the Environment and the different influencing factors. Human Influences of projects: Upgrading, development, economic factors, social factors, cultural factors, aesthetic factors, hygienic and psychological factors, Types of projects: Urban planning projects (residential projects, tourism projects, commercial projects, public buildings etc.), Infrastructure projects (electricity plants, water supply and sewage networks, road networks, railroad networks, reservoirs, dams etc.). different Industrial projects (textile factories, steel Industries, cement factories, carpet factories, ceramic factories, food factories, electrical appliances, car industries etc.). Environmental impact of projects: Negative and positive impacts (direct and indirect). The assessment of projects both nationally and internationally in order to avoid the negative consequences of projects on the environment. The approved rates and criteria for the compatibility of projects with environmental topics.

**Course outcomes :**

**a. Knowledge and Understanding :**

- 1 - Define national environmental policy, its quality regulations and laws.
- 2 - Describe the planning of impact studies.
- 3 - Identify impacts & its assessment methodology.
- 4 - Outline decision methods for the evaluation of alternatives.

**b. Intellectual Skills :**

- 1 - Evaluate all studies needed for impact prediction.
- 2 - Calculate, with necessary estimation, the quantity of gases and pollutants emitted from chemical reactions of specific projects.
- 3 - Identify alternative solutions for environment protection.

**c. Professional and Practical Skills: :**

|     |   |
|-----|---|
| 1 - | Plan a criterion enabling to identify data, include it in technical reports, and implementing of EIA methods.   |
| 2 - | Prepare technical reports including describe of engineering projects and evaluation of their gas's emission and other pollutant environmental outputs |

**d. General and Transferable Skills: :**

|     |  |
|-----|--|
| 1 - | Work effectively in a team.  |
| 2 - | Search for information and engage in life-long self-learning discipline. |

**Course Topic And Contents :**

| Topic   | No. of hours | Lecture | Tutorial / Practical |
|---|--------------|---------|----------------------|
| Types of projects studies   | 7            | 6       | 1                    |
| Environmental impact of projects  | 10           | 6       | 4                    |
| Nationally and internationally assessment of projects   | 9            | 6       | 3                    |
| Criteria for the compatibility of projects with environmental topics                                | 6            | 4       | 2                    |
| Case studies of existing projects in Egypt and related problems                                     | 9            | 6       | 3                    |
| Definition of the Environment , the different influencing factors, and Human Influences of projects | 4            | 2       | 2                    |

**Teaching And Learning Methodologies :**

Interactive Lecture  
 Small Groups Discussion  
 Public Group Discussion  
 Search for Data (Self-study)  
 Research Presentation

**Course Assessment :**

| Methods of assessment | Relative weight % | Week No | Assess What |
|-----------------------|-------------------|---------|-------------|
| Assignment& Report    | 5.00              |         |             |
| Final Exam            | 40.00             |         |             |
| Mid- Exam 1I          | 15.00             |         |             |
| Mid- Exam I           | 15.00             |         |             |
| Presentation          | 20.00             |         |             |
| Quizzes               | 5.00              |         |             |

**Recommended books :**

1. Angus Morrison-Saunders, " Advanced Introduction to Environmental Impact Assessment", Elgar Advanced Introductions series, 2018.
2. Dr. Suresh K. Dhameja, " Environmental Engineering and Management", S. K. Kataria & Sons Publishers, 5th edition, 2014.
3. Larry W. Canter, "Environmental Impact Assessment", McGraw Hill , 1996.

**Periodicals :**

- Principle of Environmental Impact Best Practice (pdf) [www.iaia.org/modx/files/principle%20IA\\_web.pdf](http://www.iaia.org/modx/files/principle%20IA_web.pdf)
- Strategic Environmental Assessment: A rapidly evolving approach [www.nssd/pdf/IIED02.pdf](http://www.nssd/pdf/IIED02.pdf)

**Web Sites :**