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College of Engineering and Technology
Construction and Building Engineering Department

الأكاديمية العربية للعلوم و التكنولوجيا و النقل البحري
كلية الهندسة و التكنولوجيا

قسم هندسة التشييد و البناء

مشروعات التخرج ٢٠١٤- ٢٠١٥

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Construction and Building Engineering Department

List of Projects

	Project		Project
1	Geotechnical and Foundations	9	Airport
2	Design of Metallic Structures	10	Design of Coastal Structures
3	Design of Reinforced Concrete Structures	11	Water Projects
4	Testing of Materials	12	Environmental Projects
5	Highway	13	Construction Management (1)
6	Railway	14	Construction Management (2)
7	Surveying	15	Construction Management (3)
8	Traffic		

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College of Engineering and Technology
Construction and Building Engineering Department

Project Submission Requirements

1- Calculation sheet for all project elements.
2- Layout of the whole project.
3- Illustrative detailed drawings of the project.
4- The final report is expected to include; quantity survey for construction materials and labor requirements with realistic cost estimate and planning for the project; a draft for construction contract and detailed schedule for all construction phases.
5- Design poster for the project
6- PowerPoint Presentation

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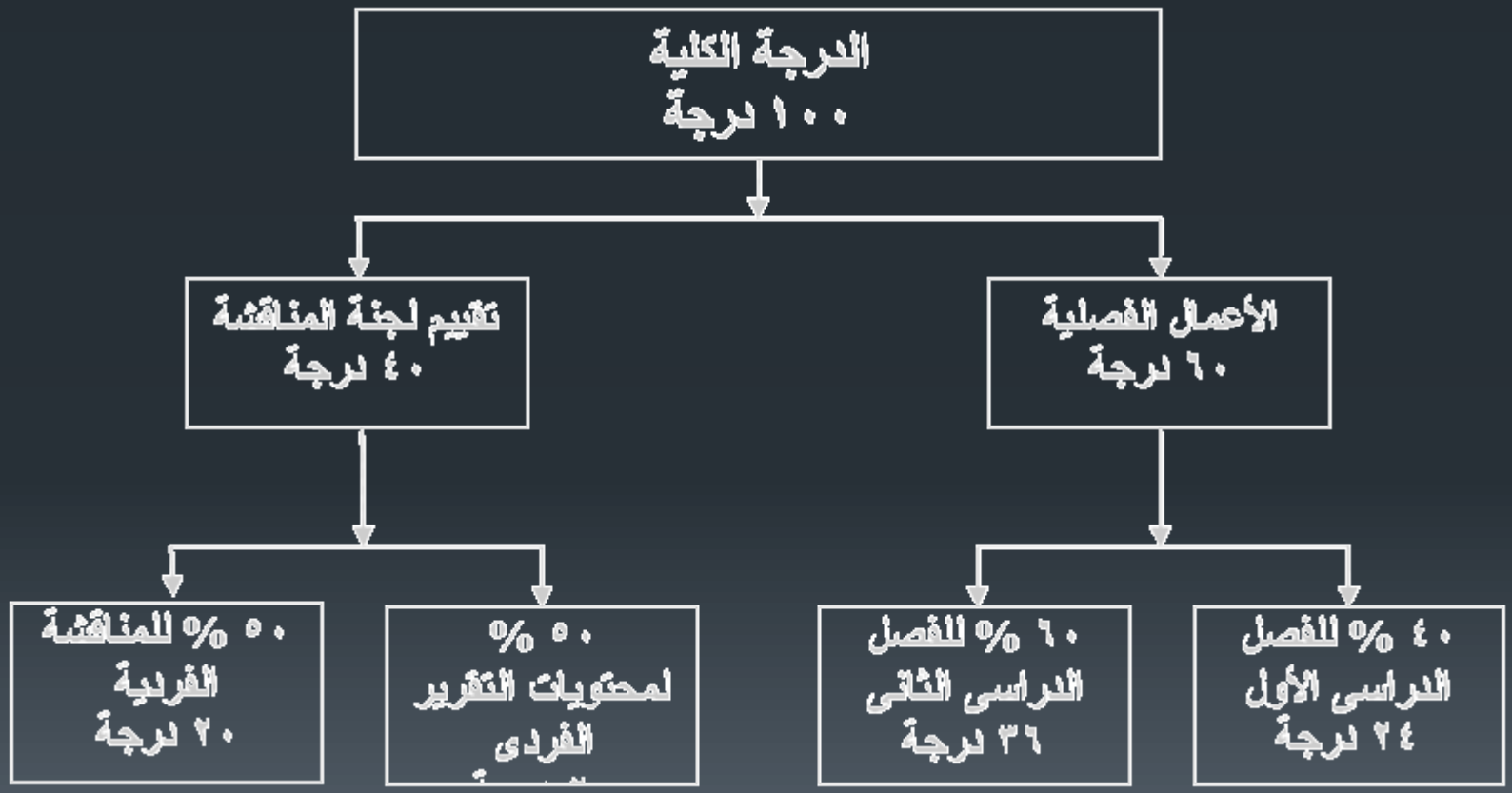
Construction and Building Engineering Department

Project Evaluation



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Basis of Project Evaluation

١- الاهتمام والتعاون:- أ-الحضور المنتظم للقاءات مع المشرف (٨٠% من عدد المرات على الاقل). ب-التعاون الايجابى مع المشرف والمجموعة.	**٢- عرض المشروع على المشرف:-** أ-المظهر الشخصى. ب-الاعداد الجيد للعرض. ج-التجاوب مع اسئلة المشرف. د-جودة العرض. ه-تطبيق النظريات العلمية لحل المشكلة تحت الدراسة. و-عرض وفهم الابعاد المختلفة المؤثرة فى المشكلة تحت الدراسة. ز-الحلول الجيدة للمشكلة تحت الدراسة
٣- تقرير المشروع:- أ-التنسيق وجودة وتسلسل عرض الافكار. ب-العرض الجيد للحالات الشبيهة التى سبق نشرها وعلاقة ذلك بموضوع المشروع. ج-ارتباط الانشطة المختلفة لتنفيذ المشروع مع نوعيته. د-موائمة الخلاصة والتوصيات مع نوعية المشروع. ه-توافر قائمة مراجع كافية ومناسبة لنوعية المشروع.	**٤- المناقشة النهائية:-** أ-المظهر العام والسلوك الشخصى. ب-طريقة عرض المشروع. ج-فهم وتقديم محتويات المشروع والمعلومات العامة المرتبطة به. د-الفهم الجيد للاسئلة والتفاعل معها. ه-التفهم الجيد للموضوع العام (الذى تقوم به المجموعة ككل) مع الاحاطة بالعلم الجيد للموضوعات التفصيلية التى يدرسها زملاؤه فى المجموعة.

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1- Geotechnical and Foundations

The design projects for geotechnical students are chosen to involve a significant current project in which geotechnical problems play a critical role in project delivery. Geotechnical students work closely with structural engineering students to develop an interdisciplinary approach and experience the atmosphere and professional interactions of a real design office.

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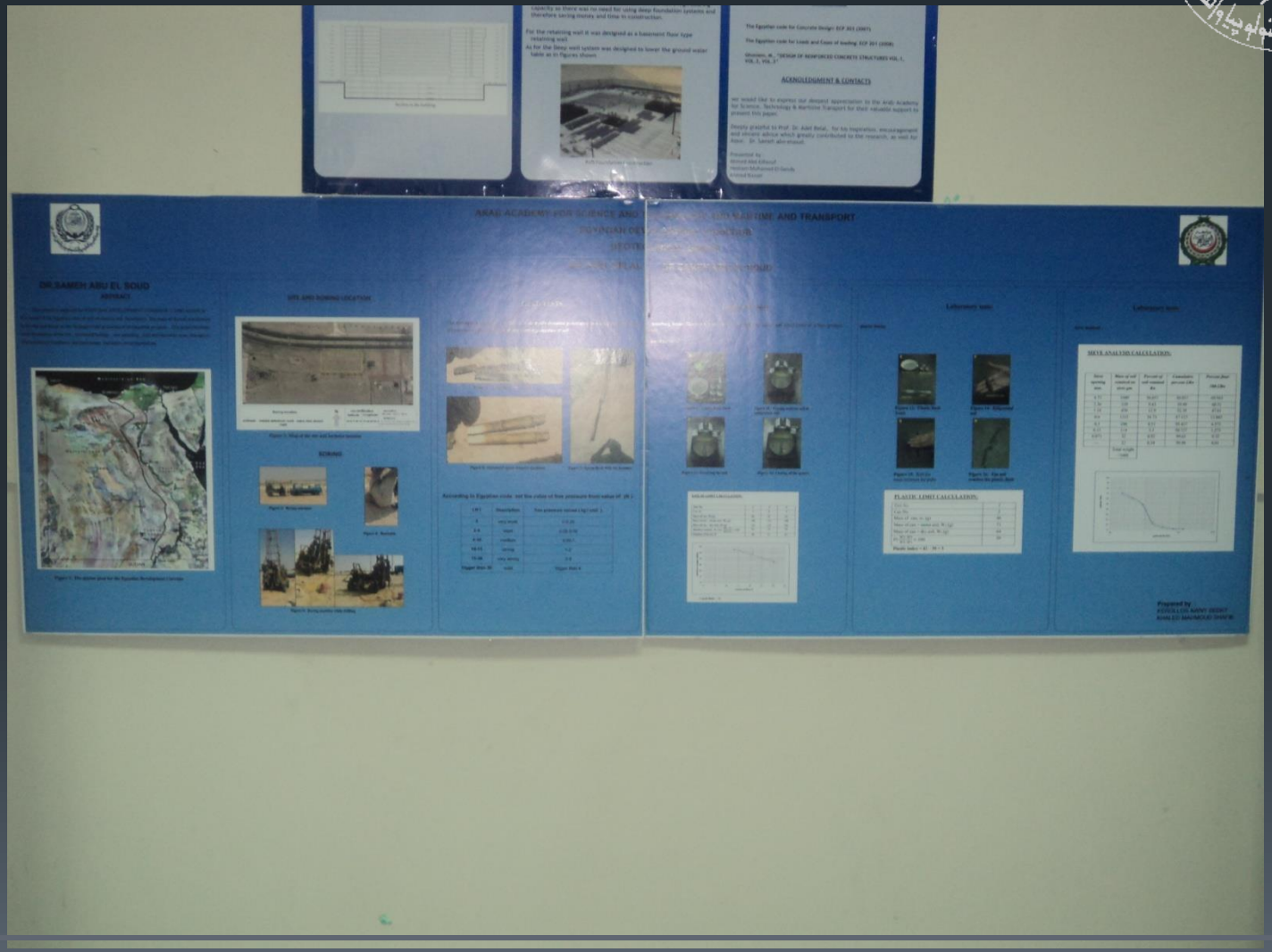

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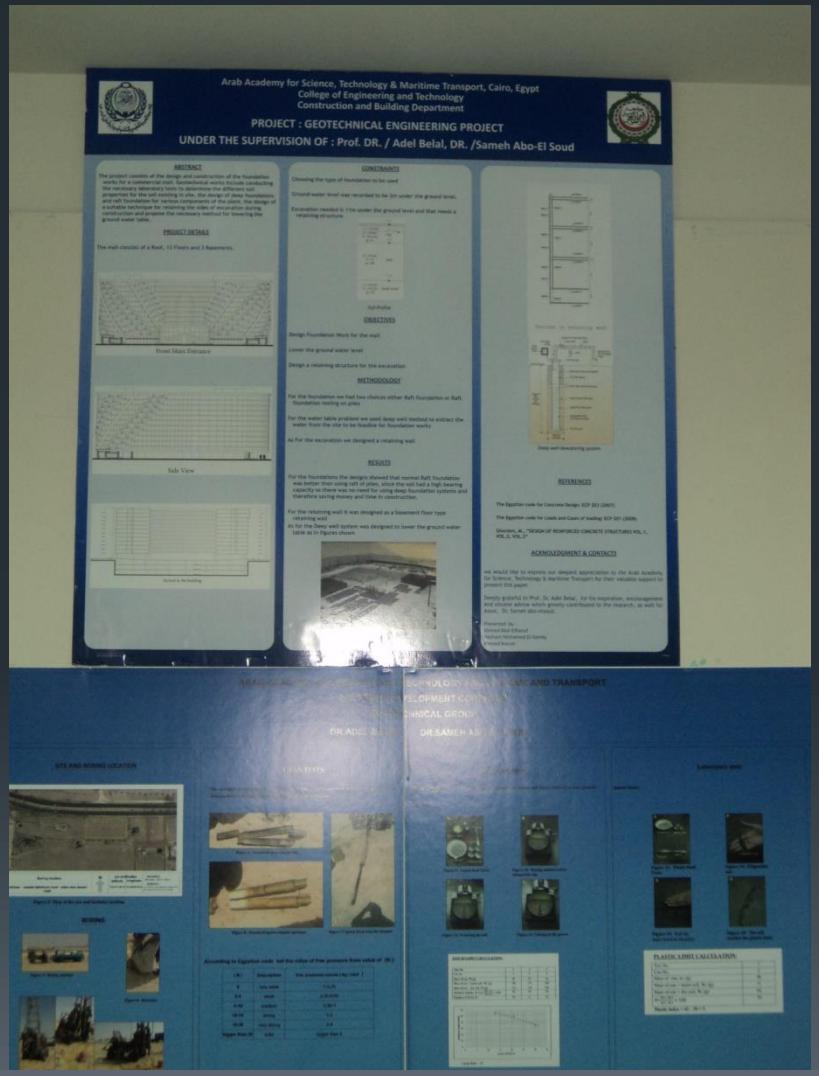

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2- Design of Metallic Structures

The project is intended to provide the student with a realistic experience on how to design and construct composite structures using the Egyptian Code of Practice. The student will apply the knowledge he accumulated over his undergraduate studies, to propose the following:

1. Select adequate structural systems fulfilling the architectural requirements and carry a complete structural analysis for the units.
2. Choose the most economical system and determine the internal forces.
3. Design composite elements according to the Egyptian Code of Practice 2001 based on two different way of construction of concrete slabs.
4. Quantity survey and cost estimate for each option with construction schedule.

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3- Design of RC Structures

The project provides the students with professional experience on how to design different concrete buildings. Students should apply the knowledge they accumulated over their undergraduate studies. They shall be implementing their design such that it abides to the Egyptian Code of Practice in addition to other international references to assure a safe design. They are expected to apply some of the knowledge they attained concerning construction management and cost analyses. They are equally expected to provide detailed plans and shop drawings for construction.

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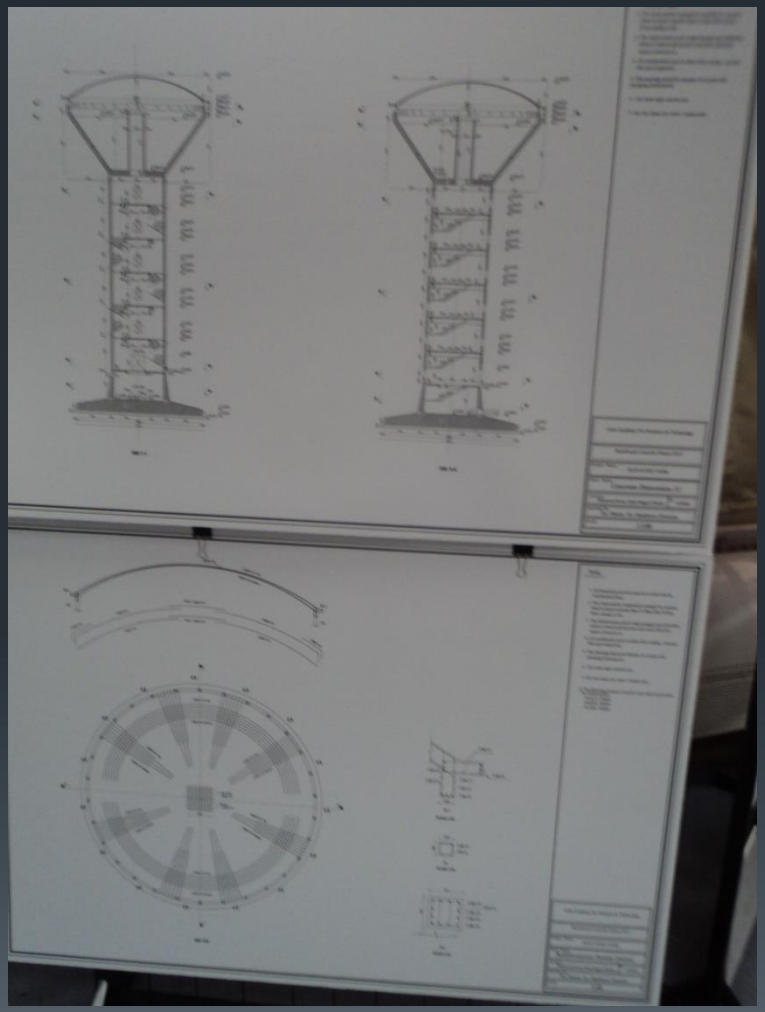

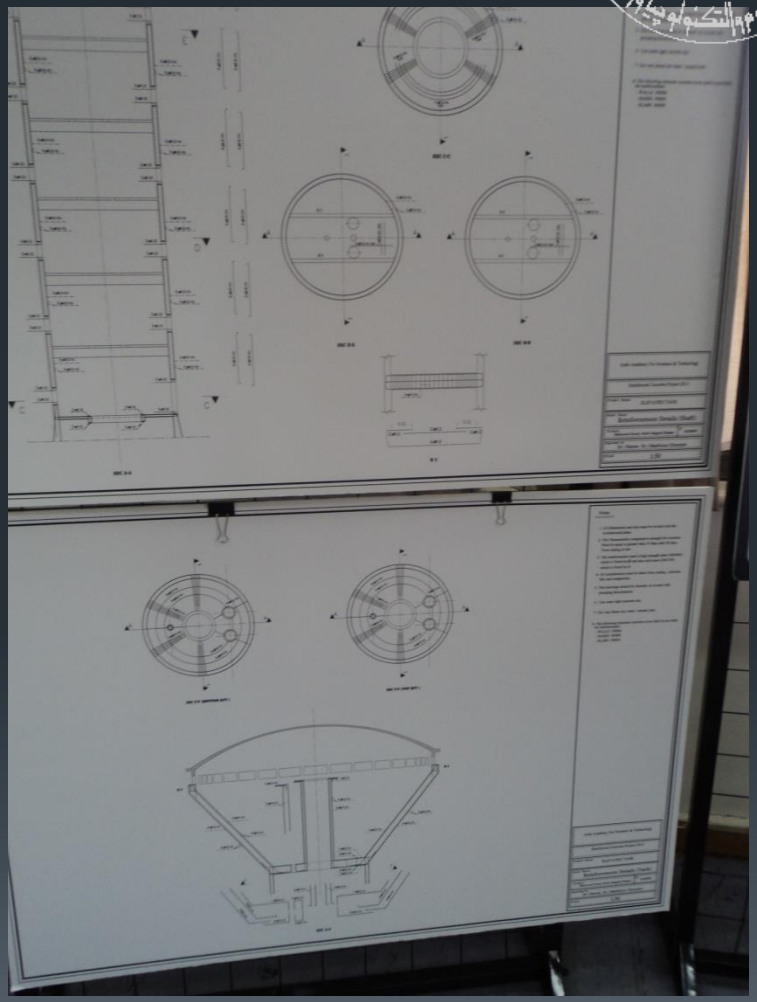

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4- Testing of Materials

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5- Highway

The main aim of the project is to have enough training on actual examples extracted from running project to simulate the market requirements and latest technology. Project is either inner roads network or highway with grade separation intersections. During the solving of this real example, continuous learning of how to deal with different design aspects of highway topics of which horizontal alignments, vertical alignments, at grade intersections, interchanges, roundabouts, parking design, structure design, soil properties, and asphalt layers thickness design. Latest worldwide programs should be used such as Civil 3D, AutoCAD and Auto turn programs

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6- Railway

The main aim of the project is to have enough training on actual examples extracted from running project to simulate the market requirements and latest technology. Project is railway track alignment and design of track elements. During the solving of this real example, continuous learning of how to deal with different design aspects of railway topics of which horizontal alignments, vertical alignments, structure design, turnout design, and station design. In addition to above mentioned tasks, the railway construction and quality control are important goals for academy to learn student actual market experience and to execute a safe and economic design according to the Egyptian code of practice.

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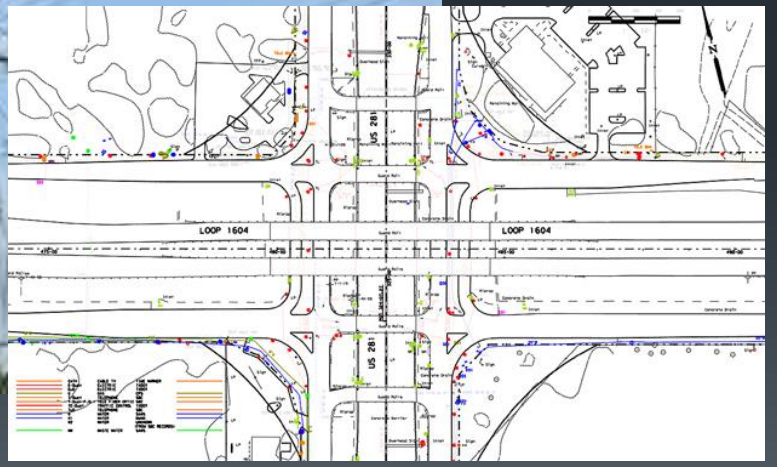
7- Surveying



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8- Traffic

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10- Design of Coastal Structures

The main aims of the project are:

- How to make planning of the HARBOUR with many varieties of design for the : Breakwater, , Quay walls, Berths , Navigation Channel, slipway, design several ways of dredging, water pipeline, electricity and drainage pipes.

- Cost estimation of all the items of this HARBOUR.

- Design all HAROUR elements according to the Egyptian Code of Practice.

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11- Water Projects

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Sewage Water Treatment Projects

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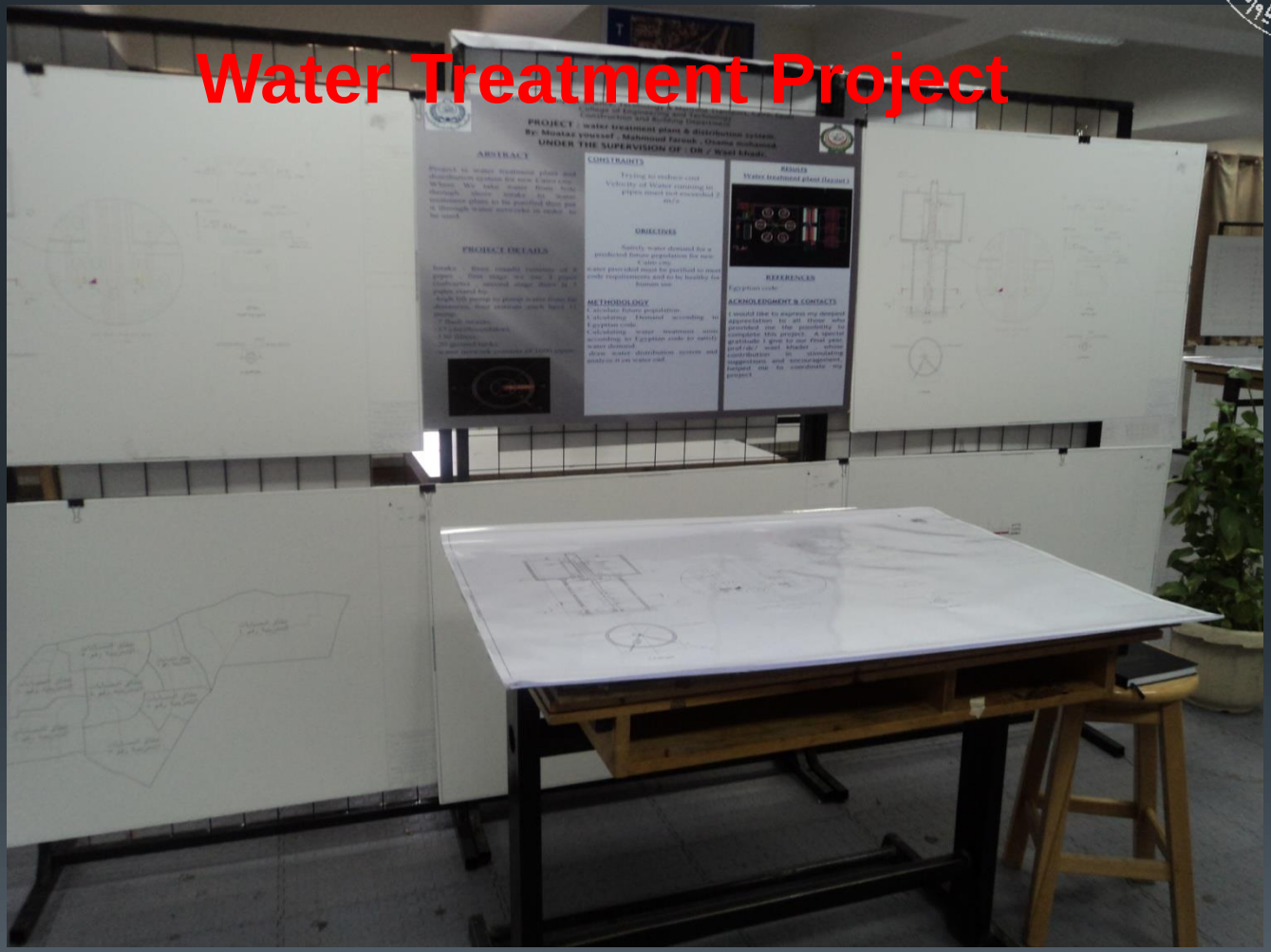
Water Treatment Project



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Irrigation

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12- Environmental Projects

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Solid Waste Management

Solid waste management is an integral component of heavy and large manufacturing industries dealing with safe disposal and reuse of wastes. The project aims to cover:

1- Public Education and Involvement
2- Facility Sitting and Permitting
3- Develop and Waste Management Program
4- Collection and Transfer
5- Source Reduction
6- Recycling
7- Composting
8- Combustion
9- Land Disposal

The project emphasizes that the industry plays a major role each of which focuses on some portion of this process.

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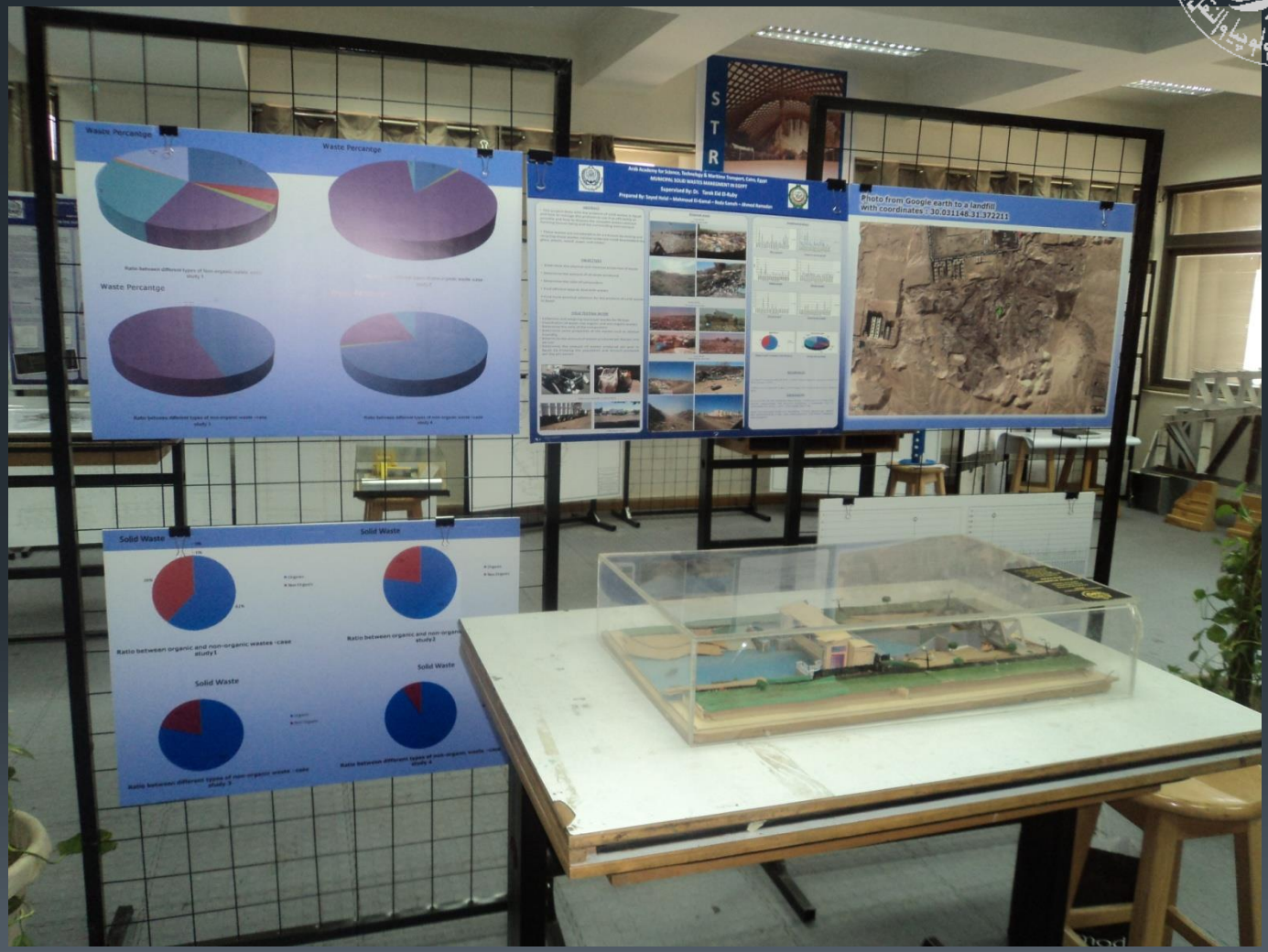
College of Engineering and Technology
Construction and Building Engineering Department



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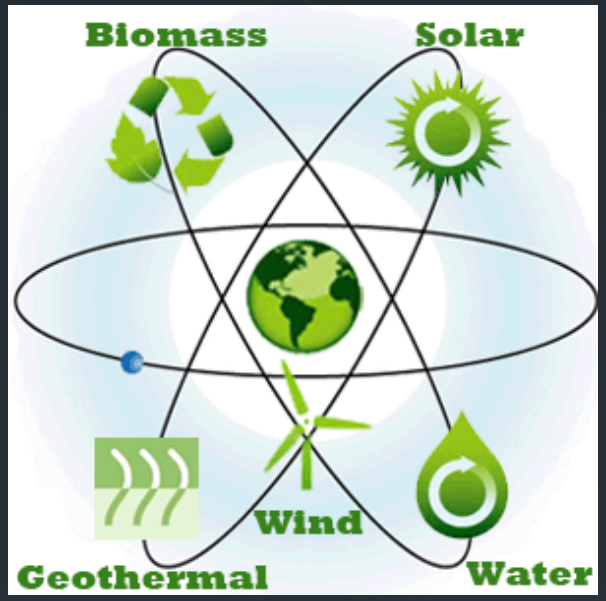
Construction and Building Engineering Department

Renewable Energy



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13- Construction Management

The project provides the students with professional experience on how to plan for executing a construction project based on real data from a project under construction. Students should apply the knowledge they accumulated over their undergraduate studies in the field of management, financial, environmental, in order to analyze contracts, estimate quantities and cost, and prepare a plan for the schedule with the project activities and their logical relationships. Students are expected in their final submission to provide detailed plan for executing with the cash flow analysis and risk assessment for the project.

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