

INSTITUT SUPERIEUR DE TECHNOLOGIES

Sarl au capital de 10 000 000

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Agréé par le FAFPA (ministère de l'emploi)

Diplômes reconnus par le CAMES

Vingt (20) ans au service de la formation des ressources humaines

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BACHELOR OF ENGINEERING IN CIVIL ENGINEERING AND MANAGEMENT

1. TITLE OF PROGRAMME

The programme shall be Bachelor of Engineering in Civil Engineering and Management **B.EngM. (CEM)**

2 PREAMBLE

2.1 Background

The entire environment of homes, buildings, roads, freeways, bridges, and much more result from the delivery of construction projects. It is the responsibility of the construction engineer and construction manager to deliver these projects in a manner that maximizes value – a quality product at a fair price, safely constructed in a timely fashion. This final step in the development of our infrastructure – construction – is one of the most visible products in all of engineering

2.2 Justification

The program emphasizes practical applications as well as basic principles. Students are given many hands-on experiences in the laboratory and are involved in numerous field trips to supplement classroom activities. CEM graduates find employment in all phases of construction: commercial and industrial building, heavy/highway, structures, utilities, and civil projects. They are employed by general constructors, subcontractors, suppliers, developers, homebuilders, consultants, and governmental agencies. They work as project engineers, project managers, field and office engineers, estimators, as well as in other positions.

2.3 Target Group

The targeted group includes holders of:

Advanced Level Certificate of Education;

Diplomas in Engineering and other related Science and Technology fields;

Degrees in the Physical Sciences and other Related .

3. Programme Objectives

3.1. General Objectives

Our Civil Engineering and Management (CEM) undergraduate program prepares students with the tools they need to become construction engineers and managers in all areas of the construction industry.

3.2. Specific Objectives

The mission of the CEM program is to provide a comprehensive, state-of-the-art education to prepare students for professional and responsible constructor positions with business, industry, consulting firms or government. The program's educational objectives are to:

1. Provide a compelling education based in the natural sciences, mathematics, engineering sciences, and business, and in the fundamental paradigms, concepts, understandings, applications, and knowledge of civil and construction engineering and construction management.
2. Develop students' abilities through their education to analyze, synthesize, and evaluate information, solve engineering problems, and be prepared to effectively perform project engineering and management tasks for effective execution of construction projects.
3. Provide education for modern professional practice including the abilities for effective communication, collaborative work in diverse teams, ethical decision-making, successful management of personal and professional career objectives, and continual development through lifelong learning and professional involvement.
4. Prepare our graduates for either immediate employment or for graduate school opportunities in construction or business.
5. Provide students with knowledge of contemporary societal issues and a sensitivity to the challenge of meeting social, environmental, and economic constraints within a global community.

Duration of the Programme: 4 years and one Year for advanced Diploma student

Programme Structure

Courses codes	Courses Names	Credit Units
	Year one	
	Semester one	
CS 100	General English I	3
BCEN 101	Engineering Mathematics I	3
BCEN 102	Communication skills for technology	3
BCCA 103	Information and communication technology	3
BOB 104	Engineering Mechanics	3
BCEM105	Basic engineering science I	3
BCEM106	Engineering technical drawing I	4
BCEM107	Engineering chemistry	4
BCEM108	Engineering geology	4

	Semester Two	
BCEM120	General English II	3
BCEM121	Engineering Mathematics II	3
BCEM122	Engineering technical drawing II	3
BCEM123	Workshop technology and practice I	3
BCEM124	Construction materials	3
BCEM125	Construction Technology	3
BCEM126	Basic engineering science II	4
BCEM127	Concrete Technology	4
BCEM128	Strength of Materials	4
		60
	Year Two	
	Semester one	
BBA210	English for engineers	3
BEN211	Engineering mathematics III	4
BCEM212	Engineering surveying I	4
BCEM213	Economics for Civil Engineering	3
BEN214	Engineering Hydrology	4
BCEM215	Workshop technology and practice II	4
BMEE216	Organisational Theory for Engineering	4
BMEE217	Soil Mechanics	4
		60
	Semester Two	
BEE220	Engineering Surveying II	5
BEN221	Workshop technology and practice III	5
BCEM222	Engineering mathematics IV	4
BCEM223	Hydraulics engineering	4
BCEM224	Sociology of Technology	4
BCEM227	Theory of Structures	4
BCEM225	Computer aided design	4
BCEM226	Structural design I	60

	Year Three	
	Semester One	
BCEM 321	Entrepreneurship Development	3
BCEM 322	Building services	3
BCEM 323	Civil Engineering Law	3
BCEM 324	Structural design II	3
BCEM 325	Water Treatment and Supply	3
BCEM 326	Civil Engineering Infrastructure Maintenance	3
BCEM 327	Coastal Engineering	4
BCEM 328	Basic quantity surveying I	4
BCEM 320	Foundation Engineering	4
	Semester Two	
BCEM 329	Highway Engineering	3
BCEM 339	Hydrology and Hydraulic design	3
BCEM 338	Basic Quantity Surveying II	3
BCEM 337	Water Resources Engineering I	3
BCEM 336	Reinforced concrete design I	3
BCEM 335	Contract law and arbitration	3
BCEM 334	Engineers in the society	4
BCEM 333	Urban Engineering	4
BCEM 329	Highway Engineering	4
		60
	Year Four	
	Semester One	
BCEM 416	Research methods and communication skills	1
BCEM 417	Reinforced Concrete Design II	1
BCEM 418	Bridge and Special Structure	2
BCEM 419	Civil Engineering Economy	1
BCEM 421	Construction Management	2
BCEM 422	Engineering Professional and Ethics	1
BCEM 423	Hydrology and Hydraulics Design	2
BCEM 424	GIS and Remote sensing	2
BCEM 425	Planning and Work Coordination	2
BCEM 405	Pre stressed Concrete	2
	Semester Two	
BCEM 406	Quality Control Management	2

BCEM 407	Advanced Dynamic Structure	2
BCEM 409	Software Engineering	2
BCEM 410	Traffic and Transportation Engineering	2
BCEM 411	Steel and timber structures	2
BCEM 413	Construction Technology	2
BCEM 415	Environmental Engineering and Management	2
BCEM 416	Estimating and tendering	2
BCEM 427	Public Health and Civil Engineering Environmental	2
BCEM 484	Academic essays in civil engineering	2
BCEM 429	Internship	4
BCEM 430	Project and Defense	20
		60
GCU		180