

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

www.istburkina.com; Email : infos@isburkina.com

Master of Engineering in Civil Engineering and Management

1. TITLE OF PROGRAMME

The programme shall be master of engineering in civil engineering and management **MEng. (CEM)**

2 PREAMBLE

2.1 Background

Modern civil engineering professionals often require an extensive understanding of construction management due to the strategic benefits it can bring to both individuals and project teams.

As the industry becomes more competitive, organizations and their clients are increasingly demanding the combined time, cost and quality assurances that good project management practice provides. Furthermore, the industry now recognizes that there is a need for engineers to gain specialist technical knowledge which compliments their academic and professional background.

The course uses experience from our internationally recognized Construction Project Management course and combines it with our high-profile Civil Engineering postgraduate course to provide a broad and valuable education. As a result, our recent graduates have been employed by a range of both national and international employers.

2.2 Justification

Our Civil Engineering and Management Masters/Masc. is designed for civil engineering graduates and graduates with related degrees, this programme allows you to study project and construction management within a technical civil engineering context. The Civil Engineering and Management (CEM) Master's is the premier programme in the IST for students eager to focus extensively on both the technical and non-technical aspects of planning, design, realization, and maintenance of civil engineering projects and systems. Many other factors need to be taken into account early in the

planning phase of real estate and infrastructure projects: policy, political interests, participation and permits, land expropriation, environmental impact studies, costs, budgeting and price control, logistic efficiency and safety. All of these factors are addressed in the CEM programme.

2.3 Target Group

The targeted group includes holders of:

Applicants must have completed a UTS recognized bachelor's degree, or an equivalent or higher qualification, or submitted other evidence of general and professional qualifications that demonstrates potential to pursue graduate studies. Bachelor's in Engineering and other related Science and Technology fields.

As part of your online application, you also need to submit the following supporting documents:

- ❖ A copy (or copies) of your official bachelor's degree certificate(s)
- ❖ A copy (or copies) of your official academic transcript(s), showing full details of subjects studied and grades/marks obtained
- ❖ One reference letter on headed paper
- ❖ Any additional documents required for this programme (see Entry requirements for university)

3. Programme Objectives

3.1. General Objectives

You will study modules of keen interest to professionals working in both civil engineering and construction. These include flood risk engineering management, environmental risk and responsibility and project planning, value engineering and risk management. We also develop your transferable skills in scholarly writing, research, critical thinking, independent learning, communication and problem solving. Such skills will mean you are ideally placed to engage with Continuing Professional Development (CPD) and further advanced study in the disciplines of civil engineering and construction management. The combination of core and optional modules enables you to tailor your MSc studies to address topics which are important in successfully achieving and maintaining sustainable built environments – anything ranging from significant property developments to infrastructure projects including highways and railways.

3.2. Specific Objectives

Gain knowledge in high-demand areas such as:

- infrastructure planning and management
- infrastructure asset management
- railway infrastructure
- engineering geology and advanced laboratory testing
- stability of earth structures
- advanced transport infrastructure

With an emphasis on project-based and multidisciplinary learning, you will develop your professional engineering competencies in teamwork, leadership, problem-solving, communication and research.

- **Duration of the Programme:**

This course is offered on a Two-year (Four semesters), full-time or online basis for students with a UTS-recognised bachelor's degree in engineering or the natural and physical sciences.

Programme Structure

Courses codes	Courses Names	Credit Units
	Year one	
	Semester one	
RM M01	Advanced research methods	3
OB M03	Organization Behavior	3
CS M02	Communication Skills	3
ESD M04	Entrepreneurship and Development	3
MBEC 2632	Business Ethics and Corporate Governance	3
MSM 9450	Strategic Management	3
MAE 421	Academic Essay	3
MECEM 432	Advanced Project Planning & Management	3
MECEM111	Computer Application in Construction	3
	Semester Two	
MECEM120	Construction Business and Organization	3
MECEM121	Construction Equipment and Management	3
MECEM122	Site Management and Practice	3
MECEM123	Environment Management	3
MECEM124	Human Resource Management	3
MECEM125	DAMS	3
MECEM126	Construction Economics and Finance	3
MECEM127	Infrastructure Maintenance and Management	3
MECEM128	Total Quality Control	3
MECEM129	Civil Engineering Applications of GIS	3
		60
	Year Two	
	Semester One	
MECEM 416	Design and Behavior of prestressed Concrete Structures	3
MECEM 417	Physical and Engineering properties of soil	3

MECEM 418	Engineering Analysis of Decision Making	3
MECEM220	Roadside Safety Design	3
MECEM 421	Strategic Planning and Management	3
MECEM 422	Structural Design of Pavements	3
MECEM 423	Advanced Reinforced Concrete Design	3
MECEM 424	Engineering Risk Analysis	3
MECEM 425	Highway Project Development and Project Management	2
MECEM 426	Slope stability and Retaining Walls	2
MECEM 427	Supervision of Construction Workforce	2
		60
	Semester Two	
MECEM 429	Internship	10
MECEM 430	Thesis	20
		60
GCU		120