INTERNATIONAL UNIVERSITY OF GRAND-BASSAM

School of Science and Engineering

Academic Programs Guide

Advancing Innovation Through Science and Engineering Excellence

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Overview of SSE

The School of Science and Engineering (SSE) is a recently established academic institution that merges the former STEM School with newly launched engineering programs, strengthening IUGB's strategic position in science, engineering, and emerging technologies.

Starting in 2026, SSE offers a comprehensive portfolio of eight (8) Bachelor's degree programs, reflecting its commitment to academic excellence, innovation, and responsiveness to evolving demands.

Academic Programs

Established Programs:

- Bachelor of Science in Computer Science
- Bachelor of Science in Data Science
- Bachelor of Science in Mathematics
- Bachelor of Science in Mechanical Engineering Technology

New Programs (Spring 2026):

- Bachelor of Science in Petroleum Engineering
- Bachelor of Science in Mining Engineering
- Bachelor of Science in Artificial Intelligence
- Bachelor of Science in Computer Science – Software Engineering

Minors Available

SSE offers minors in Mathematics, Financial Engineering, Actuarial Science, Statistics, Computer Science, Petroleum Engineering, Petroleum Data Analytics, Mining Management, and Applied Artificial Intelligence.

Bachelor of Science in Computer Science

The program offers training in theoretical concepts and practical methodologies, preparing students for professional services in emerging technologies.

Concentrations

- **Database & Knowledge Based Systems:** Expertise in database and deduction techniques
- **Network & Mobile Communications:** Computer network architecture, design, administration
- **IT & Mobile Application Development:** Mobile app development and IT solutions

Career Prospects

Graduates work as database/network project managers, architects, analysts, designers, developers, programmers, and administrators in telecommunications, banking, insurance, manufacturing, healthcare, government, education, and research.

Bachelor of Science in Artificial Intelligence

NEW PROGRAM - Spring 2026

The BS in AI develops technical leaders who can harness AI to address challenges across Côte d'Ivoire and West Africa, positioning the country as a continental leader in AI innovation.

Program Features

- **Core AI Expertise:** Machine learning, deep learning, NLP, computer vision
- **Data-Driven Skills:** Statistical analysis, predictive modeling
- **Industry Applications:** AI for agriculture, finance, healthcare
- **Innovation Focus:** Capstone projects solving regional challenges

BS in Computer Science - Software Engineering

NEW PROGRAM - Spring 2026

This program prepares future technology leaders to design, develop, and deploy impactful software solutions, combining Computer Science fundamentals with comprehensive Software Engineering practices.

Program Features

- **Complete Lifecycle:** Requirements, architecture, development, testing, deployment
- **Industry-Ready Skills:** Web, mobile, cloud systems, cybersecurity
- **Professional Practice:** DevOps, project management, quality assurance

Bachelor of Science in Mathematics

The BS in Mathematics introduces students to a vast body of mathematical knowledge and shows how mathematics solves real-life problems.

Concentrations

- **Actuarial Science:** Risk modeling, theory of interests, life contingencies
- **Financial Engineering:** Computational finance, derivatives valuation
- **Statistics:** Applied statistical methods, Monte-Carlo simulation

BS in Mechanical Engineering Technology

The MET program provides application-oriented education focused on mechanical engineering, emphasizing computer-aided drafting, design, and manufacturing.

Concentrations

- **Computer-Aided Design & Manufacturing:** CAD systems, materials selection
- **Petroleum Technology:** Offshore systems, pipeline design, drilling

Bachelor of Science in Data Science

Data Science is an interdisciplinary field unifying mathematics, statistics, computing, data mining, and machine learning.

Core Skills

- Computational and data analytical skills
- Statistical data analysis with professional software
- Machine learning algorithms for unstructured data

Bachelor of Science in Petroleum Engineering

NEW PROGRAM - Spring 2026

This program responds to the growing demand for highly qualified professionals in Côte d'Ivoire's expanding hydrocarbon sector.

Program Focus

Safe and environmentally sound exploration, evaluation, development, and recovery of oil and gas. Topics include geology, geophysics, well drilling, reservoir engineering, and environmental safety.

Bachelor of Science in Mining Engineering

NEW PROGRAM - Spring 2026

This program responds to Côte d'Ivoire's potential in natural resources, particularly precious minerals and industrial materials.

Core Topics

- Rock mechanics and fragmentation
- Plant and mine design
- Mine ventilation and surveying
- Mine safety and environmental management

Minor Programs

SSE offers a rich selection of minors promoting interdisciplinary learning and complementary skills.

- **Computer Science:** Programming, data structures, networks
- **Mathematics:** Calculus, advanced mathematics
- **Actuarial Science:** Risk modeling, life contingencies
- **Financial Engineering:** Computational finance
- **Petroleum Engineering:** Oil and gas fundamentals
- **Applied Artificial Intelligence:** AI applications and machine learning