# Strategic Plan for the College of Engineering,

# Tikrit University (2025-2028)

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# Introduction

The College of Engineering at Tikrit University is one of the leading engineering colleges in Iraq, playing a pivotal role in preparing qualified engineering professionals to contribute to the development of national industries and infrastructure. Currently, the college includes five departments: Civil Engineering, Environmental Engineering, Mechanical Engineering, Chemical Engineering, and Electrical Engineering. There are plans to establish two additional departments–Sustainable Energy Engineering and Water Resources Engineering–next year to align with technological advancements and labor market needs.

With significant global transformations in technology and industry, a comprehensive development plan is essential to improve the educational process, enhance research activities, and modernize infrastructure. This strategic plan focuses on raising educational quality, improving global rankings of the college and university, and implementing environmental sustainability standards through renewable energy use.

The development plan spans three years (2025-2028), outlining steps, activities, and financial estimations. Annual reports and evaluation meetings will monitor progress to ensure the achievement of the set objectives.

# Dean's Message

Dear students, faculty members, alumni, and esteemed partners,

I am pleased to present the strategic plan (2025 - 2028) for the College of Engineering at Tikrit University.

This plan highlights our goals to enhance the quality of education, advance research and innovation, develop state-of-the-art facilities, and achieve global recognition.

Our college has always played a pivotal role in preparing engineers who drive progress in industries and infrastructure.

Today, we aspire to achieve even greater milestones by fostering sustainability, adopting cutting-edge technologies, and promoting a culture of innovation.

Together, we will overcome challenges and realize our shared vision for a brighter future for Iraq and beyond.

Thank you for your continued support.

Sincerely,
Dr. Saad Ramadan Ahmed
Dean of the College of Engineering

# Mission and Vision

This strategic plan provides a comprehensive framework for the development of the College of Engineering at Tikrit University, focusing on improving the quality of education, enhancing scientific research, developing infrastructure, achieving international accreditation, and applying environmental sustainability principles. The plan aims to position the college as a leader at both the national and global levels by fostering a rich educational environment, supporting innovative research, and graduating qualified engineers to drive national development.

## Mission

To deliver high-quality engineering education, equip students with essential skills to tackle global challenges, advance impactful research, and promote sustainability through innovative practices.

## Vision

To be internationally recognized as a leader in engineering education and research, contributing to sustainable development and technological advancement.

# Strategic Objectives

## Improve Education Quality

Update curricula and integrate modern teaching technologies.

## Enhance College Infrastructure

Provide a superior educational and research environment.

## Promote Scientific Research

Increase publications in reputable international journals.

## Improve Rankings

Obtain quality certifications (ISO) and adopt European quality standards (ESG).

## Achieve Environmental Sustainability

Utilize renewable energy sources and reduce carbon emissions.

## Obtain International Accreditation

Enhance education quality and apply European quality standards.

# Main Pillars of the Plan

1. Improving Education Quality.

2. Infrastructure Development.

3. Promoting Scientific Research.

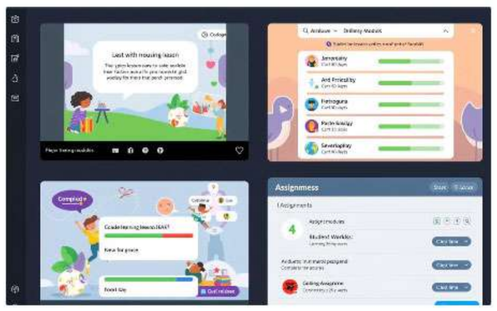
4. Improving International Rankings.

5. Environmental Sustainability.

# 1. Improving Education Quality

### Updating Curricula

Revise current curricula across all departments to incorporate modern scientific and engineering advancements, introducing new courses on sustainable energy, artificial intelligence, and the Internet of Things.



### E-Learning Integration

Develop online learning platforms containing lectures, study materials, and online exams to ensure learning continuity during crises (e.g., COVID-19). Adopt Learning Management Systems (LMS) such as Moodle or Blackboard.

### Faculty Training

Conduct continuous training programs for faculty members on advanced teaching technologies, interactive teaching methods, and specialized software.

### Virtual Labs

- Utilize simulation and virtual reality technologies for complex engineering experiments, enabling students to practice virtually before conducting physical experiments.

## Estimated Costs:

- E-learning implementation: $50,000 (LMS setup, training, and technical support)
- Faculty training: $30,000 (internal and external workshops)
- Virtual labs development: $15,000 (software and systems)

## Timeline:

- Curriculum updates: Year 1 (2025)
- E-learning implementation: Year 1 (2025)
- Faculty training: Year 1 (2025), with specialized training continuing until Year 3 (2028)
- Virtual labs setup: Year 2 (2026)

## 2. Infrastructure Development

### Key Activities:

- **Expanding and Equipping Labs:** Establish new labs for all departments, especially for Sustainable Energy and Water Resources Engineering, while upgrading existing labs with advanced technological devices for research and applied learning.
- **Renovating Classrooms:** Upgrade classrooms with interactive whiteboards, digital display systems, and electronic control devices.
- **Improving Digital Infrastructure:** Enhance internet networks and computing systems to facilitate access to global scientific databases.
- **Developing a Digital Library:** Create a modern digital library with comprehensive references and e-books for students and faculty.

### Estimated Costs:

- New labs and buildings: $600,000
- Classroom renovations: $200,000
- Digital infrastructure upgrades: $120,000
- Digital library creation: $50,000

### Timeline:

- Labs and classrooms: Year 2 (2026)
- Digital infrastructure and library: Year 1 (2025)


## 3. Promoting Scientific Research

### Key Activities:

- **Supporting Applied Research:** Provide financial grants for research addressing industrial and environmental challenges, particularly in renewable energy and environmental engineering.
- **Industry Collaboration:** Sign cooperation agreements with industrial and governmental organizations to foster applied research projects.
- **Publishing in International Journals:** Offer financial incentives to researchers for publishing in globally recognized journals.

### Estimated Costs:

- Research grants: $150,000 annually
- Publication support: $50,000 annually

### Timeline:

- Research grants and publication support: Year 1 (2025) to Year 3 (2028)

## 4. Improving International Rankings

**Obtaining ISO 14001 Certification for Environmental Management**
Implementing international standards to preserve the environment and ensure sustainable operations.
**Estimated Cost**: $10,000 (including training and assessment).

**Implementing ESG Standards (European Standards in Education)**
Adopting recognized European Union standards for education and scientific research to enhance educational quality and ensure international academic recognition.
**Estimated Cost**: $30,000.

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**Obtaining ISO 45001 Certification for Occupational Health and Safety**
Ensuring a safe and healthy environment for students and faculty members.
**Estimated Cost**: $10,000 (including training and assessment).

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### Estimated Costs:

- ISO certifications: $10,000 (training and evaluation)
- ESG standards implementation: $30,000

### Timeline:

- ISO certifications: Year 1 (2025)
- ESG standards: Year 2 (2026)

# 5. Environmental Sustainability

1. • **Solar Energy Installation:** Install a solar power system to reduce reliance on the national grid and lower operational costs, particularly during evening hours when lighting is the primary need.

2. • **Student Sustainability Projects:** Fund student projects focusing on renewable energy and green technology applications.

## Estimated Costs:

- Solar panel installation: $200,000
- Student projects: $30,000

## Timeline:

- Solar panels: Year 1 (2025)
- Student projects: Year 1 (2025)

# Detailed Timeline (2025-2028)

| Year | Activities |
| --- | --- |
| 2025 | Curriculum updates, e-learning, faculty training, digital infrastructure upgrades, solar panels, ISO certifications, digital library, research grants |
| 2026 | Lab and classroom upgrades, ESG standards implementation, expanded solar energy, continued research support |
| 2027 | Increased research collaboration, strengthened industry partnerships, continued research support |
| 2028 | Continued evaluations, enhanced research and publications, ensuring international accreditation |

# Evaluation and Monitoring

This strategic plan serves as a roadmap for advancing the College of Engineering at Tikrit University, ensuring its academic, research, and infrastructural excellence over the next three years.

1. **Annual Meetings:** Conduct annual reviews to assess progress, identify obstacles, and seize new opportunities.

1. **Annual Reports:** Each department will submit detailed reports comparing achievements against planned activities.