Study Plan for Bachelor's Degree in Electrical Engineering and Automation.

Introduction

My name is Kankiza Mabugo, and I am a prospective student aiming to pursue a Bachelor's Degree in Electrical Engineering and Automation, beginning in September 2025. My objective is to acquire advanced education and practical skills in this field, enabling me to contribute to the development of the evolving engineering sector as well as to the progress of my home country, Tanzania, after completing my degree. Additionally, I am eager to learn the Chinese language (Mandarin) to broaden my cultural understanding and enhance my academic and professional opportunities.

Background

I completed my high school education at Barbro Johansson Secondary School in 2023, graduating with honors as the best student in Physics and General Studies. Throughout my high school, I was dedicated to my studies and took on leadership roles, which helped me develop strong organizational and problem-solving skills.

From a young age, I aspired to become an electrical engineer, inspired by my father, who was an engineer himself. I admired his work and wanted to follow his footsteps. Growing up, I was fascinated by how electricity powers and automates machines, which stimulated my passion in Electrical Engineering and Automation.

Why Study in China?

I chose to study in China because of its strong reputation in technology, engineering, and automation, as well as the opportunity to experience a new culture and interact with people from diverse backgrounds. China's rapid advancement in innovation provide access to modern research facilities, experienced professors and a learning environment that emphasizes both theoretical and practical skills. Additionally, studying in China will allow me to immerse myself in a rich culture, learn Mandarin, and build connections with students and professionals from around the world. This exposure will not only enhance my academic and professional growth but also help me develop a global perspective, adaptability, and cross-cultural communication skills, essential qualities in today's interconnected world.

Detailed Study Plan

First Year (2025-2026)

Semester 1 (September 2025 - January 2026)

- **Engineering Mathematics I:** Build a foundational understanding of calculus and algebra for engineering applications.
- **Physics for Engineers**: Understand core concepts in mechanics, thermodynamics, and electromagnetism.
- **Introduction to Computer Programming:** Develop basics coding skills for automation applications.
- **Circuit Analysis I:** Learn principles of electrical circuits and their behavior.
- **Basic Electronics:** Understand electronic components and analog circuit design.
- **Chinese Language and Culture I**: Begin learning Chinese and understand the Chinese culture.

Semester 2 (February 2026 - June 2026)

- **Engineering Mathematics II:** Understand more on advance calculus and differential equations.
- **Circuit Analysis II:** Study complex circuit designs, including AC/DC circuits and network theorems.
- **Digital Logic Design:** Understand digital electronics, logic gates, Boolean algebra, and microprocessors.
- **Electromagnetic Theory I:** Grasp fundamentals of electromagnetic fields and their application.
- **Chinese Language and Culture II**: Continue to develop language skills and culture understanding.

Second Year (2026-2027)

Semester 3 (September 2026 - January 2027)

- **Power Systems I:** Learn the basics of power generation, transmission, and distribution.
- **Signal Processing:** Basics knowledge on signals and their applications in electrical systems.
- **Analog and Digital Electronics:** Deepen understanding on transistors, amplifiers, and digital circuits.
- **Electromagnetic Theory II:** Explore advanced concepts of electromagnetism in engineering.
- **Intermediate Chinese Language I**: Strengthening language skills for academic use.
- **Seminar on Innovations in Power Systems**: Attend discussion on recent developments in power systems.

Semester 4 (February 2027 - June 2027)

- **Power Systems II:** Study advanced topics including, power system stability, protection, and fault analysis.
- **Programmable Logic Controllers (PLCs):** Gain practical skills in programming and operating PLCs for automation.
- **Sensors and Transducers:** Learn about sensor technologies used in automation.
- **Feedback Control Systems:** Learn on control theory and application of feedback loops in automation.
- **Intermediate Chinese Language II**: Further develop language skills for academic and social interactions.

Third Year (2027-2028)

Semester 5 (September 2027 - January 2028)

- **Industrial Control Systems (DCS):** Study distributed control systems used in industries.
- **Power Electronics and Drives:** Understand power conversion and motor drives.
- **Embedded Systems:** Learn about microcontrollers and real-time computing.
- **Robotics and Motion Control**: Understand the principles of robotics, actuators, and automation strategies.
- **Advanced Chinese Language I:** Improve technical communication skills in Chinese.

Semester 6 (February 2028 - June 2028)

- **Industrial Automation:** Learn about automation strategies and smart manufacturing.
- **Internet of Things (IoT) in Automation**: Explore IoT applications in electrical engineering.
- **Advanced Control Systems**: Study modern control techniques in automation.
- **Internship/Practical Training**: Gain real-world industry experience.
- **Advanced Chinese Language II:** Improve competence for professional communication.
- **Seminar on Advanced Control Strategies:** Attend discussions on modern control algorithms.

Fourth Year (2028-2029)

Semester 7 (September 2028 - January 2029)

- **Artificial Intelligence (AI) in Automation:** Apply AI techniques to industrial automation.
- **Energy Management System:** Understand energy efficiency and conservation strategies.
- **Capstone Project I (Research Proposal and Literature Review):** Conduct research on an automation-related topic.
- **Chinese Business Communication I:** Learn technical and business communication in Chinese.
- **Seminar on AI application in industries:** Engage in sessions discussing AI’s impact on automation.

Semester 8 (February 2029 - June 2029)

- **Smart Grid Technologies**: Exploring IoT-based and AI-driven power grid systems.
- **Industrial Automation and PLC Programming:** Advance practical skills in PLC and SCADA system applications.
- **Capstone Project II (Implementation and Presentation):** Finalize and present research findings.
- **Comprehensive Exam Preparation:** Review core subjects to ensure readiness for final exams.
- **Chinese Business Communication II:** Enhance professional communication skills in Chinese.
- **Workshop on Industrial Automation Best practices:** Participate in practical workshop with case studies on effective automation.

Conclusion

This scholarship not only represents a financial support but also a gateway to realizing my dreams. I am deeply committed to making the most of this opportunity to study in China, as it will enable me to gain advanced knowledge in my field, immerse myself in a new culture, and connect with like-minded individuals from around the world. Throughout this journey, I will remain focused, driven, and deeply grateful for the chance to grow and learn in a transformative environment.

Thank you for considering my application.

Sincerely,
Kankiza Mabugo.