Bachelor of Engineering
(Dual Degree) in

Smart Materials Technology

and Robotics and AI

Total 150 credits
to complete the degree

General Education 30 credits
Major courses 114 credits
Free electives 6 credits

The program emphasizes on knowledges and skills in smart materials, sensor technology, robotics and artificial intelligence which corresponds to Thailand national strategy Thailand 4.0 and the new s-curve industries especially in a category of industrial robotics and sensor technology. This is highly important for the country development in the near future.

Smart Materials Technology and Robotics and AI

The objectives of the program are

1. To develop knowledges and skills in smart materials and sensor technology including fundamental robotics and artificial intelligence.

2. To produce human resource with knowledges and skills in smart materials and sensor technology including fundamental robotics and artificial intelligence.

Program Learning Outcome (PLO)

- An ability to design an innovative system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context societal context
- A recognition of the need for, and an ability to engage in life-long learning
- An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

tuition fee 3,700 USD/semester

(29,100 USD for the entire program)

***** 120,000 baht/semester (960,000 baht for the entire program)***

Smart Materials Technology
and Robotics and AI

study plan

	Semester 1	*Semester 2*
YEAR 1	Introduction to Engineering Programming Introduction to Calculus Physics 1 (GENED) Elective Subject Engineering 3d Drawing (ESL) Academic Listening and Speaking Introduction to Nanotechnology	Introduction to Robotics Engineering Mechanics for RAI Advanced Calculus (GENED) Physics for RAI Life (Physic 2) (ESL) Academic Reading and Writing Robotics Laboratory 1 Chemistry
YEAR 2	Electric Circuit and Electronics (GENED) Elective Subject (GENED) Elective Subject Differential Equations and Matrix Algebra Feedback Control 1 (GENED) Interpretation and Arguments Robotics Laboratory 2 Nanosensors	(GENED) Elective Subject Safety and Standardization Discrete Mathematics and Application Kinematics and Dynamics Manufacturing Process Robotics Laboratory 3 Elective Mandatory Subject for Smart Materials Technology Micro and Nano-Fabrication
YEAR 3	(GENED) Probability And Statistics For RAI Artificial Intelligence Technology RAI Elective Mandatory Subject RAI Elective Mandatory Subject Quantum and Nanoelectronic Devices Applications and Trends of Smart Materials Elective Subject for Smart Materials Technology	***Regular Students*** (GENED) Elective Subject Free Elective Subject RAI Elective Mandatory Subject RAI Elective Mandatory Subject RAI Elective Mandatory Subject Elective Mandatory Subject for Smart Materials Technology ***Co-op/Study Abroad Students*** (GENED) Elective Subject Free Elective Subject Nanotechnology for Energy Storage RAI Elective Mandatory Subject RAI Elective Mandatory Subject RAI Elective Mandatory Subject Elective Subject for Smart Materials Technology

Summer (Semester 3) - Industrial Internship

Smart Materials Technology
and Robotics and AI

study plan

YEAR 4

	Semester 1	*Semester 2*
Regular Students	Capstone Design Preparation Free Elective Subject RAI Elective Mandatory Subject Capstone Design Preparation	Nanotechnology for Energy Storage RAI Elective Mandatory Subject Elective Subject for Smart Materials Technology Robotics and AI Engineering Capstone Design
Co-op/Study Abroad Students	Cooperative Education or Study Abroad	RAI Elective Mandatory Subject RAI Elective Mandatory Subject Free Elective Subject Robotics and AI Engineering Capstone Design Elective Subject for Smart Materials Technology Elective Mandatory Subject for Smart Materials Technology