

Curriculum
 Bachelor of Engineering Program
 Robotics and Automation System Engineering (International Program)
 Academic Year 2024-present

Total number of credits required for graduation at least 129 credits

1) General Education	at least	24	Credits
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Students must complete courses in all three parts, as follows

1.1) Courses to develop Kasetart University student characteristics. **8 Credits**

01999111 Knowledge of the Land 2(2-0-4)

Foreign language courses 6(- -)

1.2) Courses to develop all three competencies. **at least 7 Credits**

- Communication and information literacy

- Leadership

- Entrepreneur

1.3) Courses to develop competencies as specified in Program Learning Outcomes. **at least 9 Credits**

(Without the necessity to cover all 5 competencies.)

- Thinking

- Intercultural

- Self-management

- Life-long learning

- Citizenship

2) Major Required Courses	at least	99	Credits
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2.1) Fundamental Courses	42	Credits
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<i>2.1.1) Mathematics and Sciences</i>	<i>13</i>	<i>Credits</i>
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01417167	Engineering Mathematics I	3(3-0-6)
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01417168	Engineering Mathematics II	3(3-0-6)
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01417267	Engineering Mathematics III	3(3-0-6)
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01420111	General Physics I	3(3-0-6)
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01420113	Laboratory in Physics I	1(0-3-2)
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<i>2.1.2) Engineering Core</i>	<i>29</i>	<i>Credits</i>
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03600490	Co-operative Education	6
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03601211	Electric Circuit Analysis I	3(3-0-6)
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03601213	Electric Circuit Laboratory	1(0-3-2)
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03601434	Computer Aided Electronic System	3(3-0-6)
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Development

03602201	Introduction to Materials and Manufacturing	3(3-0-6)
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Processes

03602251	Engineering Economy	3(3-0-6)
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03603101	Introduction to Computer Programming	3(2-3-6)
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03604223	Basic Principles of Engineering Mechanics	3(3-0-6)
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03604281	Workshop Practice	1(0-3-2)
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03609231	Industrial Data Communication and	3(3-0-6)
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Internet of Things

2.2)Major Courses		at least	57	Credits
2.2.1) <i>Specific Courses</i>			48	<i>Credits</i>
03607131	Computer Programming for Robotic Applications		3(2-3-6)	
03607151	Robotics Exploration		3(3-0-6)	
03607161	Computer-Aided Design for Robotic Applications		3(2-3-6)	
03607231	Microcontroller for Robotics and Automation System		3(3-0-6)	
03607232	Introduction to Electrical System for Automation System		3(3-0-6)	
03607251	Computer-Aided Engineering and Manufacturing for Robotic Applications		3(3-0-6)	
03607261	Engineering Measurements and Mechatronics		3(3-0-6)	
03607299	Engineering Project for Robotics and Automation System I		1(0-3-2)	
03607311	Robot Structure and Machinery Design		3(3-0-6)	
03607312	Fundamentals of Robotics		3(3-0-6)	
03607331	Machine Vision and Applications in Automation System		3(3-0-6)	
03607332	Artificial Intelligence for Robot and Machinery		3(3-0-6)	
03607341	Control Engineering for Robotics		3(3-0-6)	
03607342	Industrial Control and SCADA		3(2-3-6)	
03607351	Industrial Robot and Applications in Manufacturing Processes		3(2-3-6)	
03607361	Industrial Automation System Design		3(2-3-6)	
03607399	Engineering Project for Robotics and Automation System II		2(0-6-4)	

2.2.2) Electives

at least 9 Credits

A minimum of 9 credits of electives from one of the following modules is required.

- Study Abroad Module

03607395 Study Abroad 1-6

03607396 Body of Knowledge from Overseas Studies 1-15

- Work-Integrated Education Module

03607492 Work-Integrated Education 9

- Engineering Project Module

03607499 Engineering Project for Robotics and Automation System III 3(0-9-6)

and select at least 6 credits from the following major electives.

03607421 Tools Design for Robotics 3(3-0-6)

03607422 Smart Embedded System in Robotics 3(3-0-6)

03607451 Introduction to Autonomous Mobile Robots 3(3-0-6)

03607496 Selected Topics in Robotics and Automation System Engineering 3(3-0-6)

03607498 Special Problems 1-3

3) Free Electives

at least

6

Credits

Meaning of course code

The course code in Bachelor of Engineering Program in Robotics and Automation System Engineering comprises of 8 digits referred to followings:

1 st -2 nd digit (03)	refers to Sriracha Campus
3 rd -5 th digit (607)	refers to Robotics and Automation System Engineering
6 th digit	refers to level or year
7 th digit	refers to following
1	refers to Computation courses
2	refers to Interaction courses
3	refers to Cognition courses
4	refers to Control courses
5	refers to Robots courses
2	refers to Automation Systems courses
9	refers to Co-operative Education, Seminar, Special Problems and Engineering Project courses
8 th digit	refers to course order