

Curriculum
 Bachelor of Engineering Program
 Robotics and Automation System Engineering
 (International Program)

Total Number of Credits Required for Graduation at least 135 Credits

(1) General Education Course **at least** **30** **Credits**

- Wellness **at least** **3** **Credits**

01175xxx Physical Education Activities 1(0-2-1)

and select at least 2 credits from Wellness courses

- Entrepreneurship **at least** **6** **Credits**

03600014 Creative Problem Solving and Critical Thinking Skills 3(3-0-6)

and select at least 3 credits from Entrepreneurship courses

- Language and Communication **13** **Credits**

01999021 Thai Language for Communication 3(3-0-6)

03600013 Essential Computer Tools and Skills 1(0-3-2)

Foreign Languages 9(- -)

- Thai Citizen and Global Citizen **at least** **5** **Credits**

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

and select at least 3 credits from Thai Citizen and Global Citizen courses

- Aesthetics **3** **Credits**

03600012 Green Technology 3(3-0-6)

(2) Specific Course **at least** **99** **Credits**

2.1) Core Course **48** **Credits**

2.1.1) Mathematics and Sciences Fundamental course *13* *Credits*

01417167 Engineering Mathematics I 3(3-0-6)

01417168	Engineering Mathematics II	3(3-0-6)
01417267	Engineering Mathematics III	3(3-0-6)
01420111	General Physics I	3(3-0-6)
01420113	Laboratory in Physics I	1(0-3-2)

2.1.2) Engineering Fundamental course 35 Credits

03601211	Electric Circuit Analysis I	3(3-0-6)
03601213	Electric Circuit Laboratory	1(0-3-2)
03601232	Digital Circuits and Logic Design	(6-0-3)3
03601332	Microprocessors	3(3-0-6)
03602201	Introduction to Materials and Manufacturing Processes	3(3-0-6)
03602212	Computer-Aided Design	3(2-3-6)
03602417	Computer-aided Engineering and Manufacturing	(6-0-3)3
03603101	Introduction to Computer Programming	3(2-3-6)
03604111	Engineering Drawing	3(2-3-6)
03604201	Basic Principles of Engineering Mechanics	3(3-0-6)
03604261	Mechanics of Material	3(3-0-6)
03604281	Workshop Practice	1(0-3-2)
03604323	Engineering Measurement	3(3-0-6)

2.2) Technical Course at least 51 Credits

2.2.1) Required Technical Course 36 Credits

03607131	Computer Programming for Robotic Applications	3(2-3-6)
03607151	Robotics Exploration	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(0-4-6)
03607499	Engineering Project for Robotics and Automation System III	3(0-9-6)

2.2.2) Technical Electives **at least** **15 Credits**

03600490	Cooperative Education	6
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and select at least 9 credits from following Engineering Electives courses

03602221	Applied Probability and Statistics for Engineers	3(3-0-6)
03602251	Engineering Economy	3(3-0-6)
03607395	Overseas Studies	1-6
03607396	Body of Knowledge from Overseas Studies	1-15
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)
03607461	Internet of Things System Design	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	Academic year
7 th digit refers to following		
1	refers to	Computation course
2	refers to	Interaction course
3	refers to	Cognition course
4	refers to	Control course
5	refers to	Robots course
6	refers to	Automation Systems course
9	refers to	Seminar, Special Problems and Engineering Project course
8 th digit	refers to	Ordering numbers