

Major Course Requirements for Robotics Program (M.S. Degree)

Thesis M.S Degree Program

- **Credit Requirement:** 33 credits or more in total

 - **General Required Courses:** 3 credits or more
 - Courses designated by the Department:
 - At least 1 course among the following: CC500 Scientific Writing, CC510 Introduction to Computer Application, CC511 Probability and Statistics (Substitutive course: EE528 Engineering Random Processes), CC512 Introduction to Materials and Engineering, CC513 Engineering Economy and Cost Analysis, CC522 Introduction to Instruments, CC530 Entrepreneurship and Business Strategies
 - CC010 Special Lecture on Leadership (No credit. Mandatory course for students enrolled from 2002, except general scholarship students or international students)
 - CC020 Ethics and Safety I (1AU) is mandatory

 - **Elective Courses:** 18 credits or more
 - At least 3 courses are required among the following: EE581 Linear Systems, ME553 Robot Dynamics, ME655 Robotics Engineering, EE682 Intelligent Control Theory, EE683 Robot Control, CS510 Computer Architecture, CS570 Artificial Intelligence and Machine Learning, RE510 Intelligent Robot Design Lab, ME453 Introduction to Robotics Engineering, ME652 Mobile Robotics, EE735 Computer Vision, CS572 Intelligent Robotics, CS672 Reinforcement Learning, EE534 Pattern Recognition, AI502 Deep Learning
 - Up to six credits of unit 500 or higher may be taken among courses other than those designated by this Program.

 - **Research Courses:** 12 credits or more
 - At least 12 credits of research courses, including the M.S. Seminar course (1 credit), are required.
 - May be substituted by the research courses in the department/major of student's supervisor. (If the supervisor changes his or her department/major, the research courses taken in the previous department/major are also accepted)
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- Transitional Measures**
- Subject Requirements herein are applicable to all enrolled students.

Major Course Requirements for Robotics Program (Ph.D. Degree)

- **Credit Requirement:** 60 credits or more in total

 - **General Required Courses:** 3 credits or more
 - Identical to the Thesis M.S. Degree Program requirements. No additional courses are required if they were already taken during the student's M.S. Degree Program.

 - **Elective Courses:** 27 credits or more
 - At least 3 courses are required among the following: EE581 Linear Systems, ME553 Robot Dynamics, ME655 Robotics Engineering, EE682 Intelligent Control Theory, EE683 Robot Control, CS510 Computer Architecture, CS570 Artificial Intelligence and Machine Learning, RE510 Intelligent Robot Design Lab, ME453 Introduction to Robotics Engineering, ME652 Mobile Robotics, EE735 Computer Vision, CS572 Intelligent Robotics, CS672 Reinforcement Learning, EE534 Pattern Recognition, AI502 Deep Learning
 - Up to nine credits of unit 500 or higher may be taken among courses other than those designated by this Program.

 - **Research Courses:** 30 credits or more
 - At least 30 credits of research courses, including the Ph.D. Seminar course (1 credit), are required.
 - May be substituted by the research courses in the department/major of student's supervisor. (If the supervisor changes his or her department/major, the research courses taken in the previous department/major are also accepted)

 - **Miscellaneous:** Credits earned during M.S. Program are accumulated in the Ph.D. Program. (not applicable to research credits)
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- **Transitional Measures**
 - Subject Requirements herein are applicable to all enrolled students.