

Curriculum structure and course groups for RAI graduate checking (68xxxxxx onwards)

Course Group	Credits (For Regular Students)	Credits (For Co-op / Study Aboard Students)
A. General Education Courses	24	24
A1. KMITL Identity Skills Courses	9	9
A2. Language and Communication Courses	3	3
A3. General Education Selective Courses	12	12
B. Robotics and AI Specific Courses	100	100
B1. Engineering Fundamental	42	42
B2. Major Compulsory Courses	37	37
B3. Capstone Projects	6	6
B4. RAI Elective Subjects	15	9
B5. Alternative Study	-	6
C. Free Electives	6	6
Total	130	130

A. GENERAL EDUCATION COURSES

24 CREDITS

A1. KMITL Identity Skills Courses

9 CREDITS

96641007 DIGITAL CITIZEN

3 (3-0-6)

96641009 INTERCULTURAL COMMUNICATION SKILLS IN ENGLISH 1

3 (3-0-6)

96641010 INTERCULTURAL COMMUNICATION SKILLS IN ENGLISH 2

3 (3-0-6)

The assessment of these courses (96641007, 96641009, and 96641010) will be graded on a Satisfactory (S) / Unsatisfactory (U) basis.

A2. Language and Communication Courses

3 CREDITS

96644034 TECHNICAL WRITING

3 (3-0-6)

A3. General Education Selective Courses

12 CREDITS

96642031 PROFESSIONAL ETHICS AND LAWS

3 (3-0-6)

And select the remaining credits from the elective courses specified in the General Education Program 2023

(See at this link: https://drive.google.com/file/d/1B7dOHWYys-6lgw-J_qwAiX2v11qsCX-o/view)

B. ROBOTICS AND AI SPECIFIC COURSES

100 CREDITS

B1. Engineering Fundamental

42 CREDITS

01006710 INTRODUCTION TO CALCULUS

3 (3-0-6)

01006711 ADVANCED CALCULUS

3 (3-0-6)

01416321 DIFFERENTIAL EQUATIONS AND MATRIX ALGEBRA

4 (3-2-7)

01006733 DISCRETE MATHEMATICS

3 (3-0-6)

01006734 PROBABILITY AND STATISTICS

3 (3-0-6)

01006723 GENERAL PHYSICS 1

3 (3-0-6)

01006724 GENERAL PHYSICS LABORATORY 1

1 (0-3-2)

01006725 GENERAL PHYSICS 2

3 (3-0-6)

01006726	GENERAL PHYSICS LABORATORY 2	1 (0-3-2)
01006311	FUNDAMENTALS OF MATERIALS SCIENCE	3 (3-0-6)
01xxxxxx	SCIENCE AND MATHEMATICS ELECTIVE *	3 (3-0-6)
01006803	ENGINEERING MECHANICS	3 (3-0-6)
01416309	ENGINEERING 3D DRAWING	3 (2-2-5)
01416317	COMPUTER PROGRAMMING	3 (2-2-5)
01416322	MICROCONTROLLER AND EMBEDDED SYSTEMS	3 (2-2-5)

* For SCIENCE AND MATHEMATICS ELECTIVE, students must choose a course from the following courses.

01006312	QUANTUM MECHANICS	3 (3-0-6)
01006313	SPACE SCIENCE	3 (3-0-6)
01006314	ENVIRONMENT SCIENCE	3 (3-0-6)
01416803	ADVANCED ENGINEERING MATHEMATICS	3 (3-0-6)

B2. Major Compulsory Courses

37 CREDITS

01416205	FEEDBACK AND MODERN CONTROL	3 (3-0-6)
01416206	DATA STRUCTURE AND ALGORITHMS	3 (3-0-6)
01416207	ADVANCED ARTIFICIAL INTELLIGENCE	3 (3-0-6)
01416308	KINEMATICS AND DYNAMICS	3 (3-0-6)
01416312	ELECTRIC CIRCUIT AND ELECTRONICS	3 (3-0-6)
01416313	INTRODUCTION TO ROBOTICS AND AI	3 (3-0-6)
01416314	SAFETY AND STANDARDIZATION	3 (3-0-6)
01416319	MANUFACTURING PROCESS	3 (3-0-6)
01416323	INTELLIGENT AUTOMATION	3 (3-0-6)
01416324	ADVANCED COMPUTER PROGRAMMING	3 (2-2-5)
01416325	SENSORS AND ACTUATORS FOR ROBOTICS	3 (3-0-6)
01416326	INDUSTRIAL ROBOT LABORATORY	1 (0-3-6)
01416327	CIRCUIT AND ELECTRONICS DEVICE LABORATORY	1 (0-3-6)
01416328	MOBILE ROBOT LABORATORY	1 (0-3-6)
01416329	COMPUTER VISION AND AI LABORATORY	1 (0-3-6)
01006805	INDUSTRIAL INTERNSHIP	0 (0-45-0)

B3. Capstone Projects

6 CREDITS

01416703	RAI ENGINEERING CAPSTONE DESIGN 1	3 (0-9-5)
01416704	RAI ENGINEERING CAPSTONE DESIGN 2	3 (0-9-5)

B4. RAI Elective Subjects**For Regular Students****15 CREDITS****For Co-op / Study Aboard Students****9 CREDITS**

01416208	DIGITAL SIGNAL PROCESSING	3 (3-0-6)
01416315	INDUSTRIAL ELECTRONICS	3 (3-0-6)
01416524	COMPUTER AIDED MECHANICAL DESIGN	3 (3-0-6)
01416416	INFORMATION SYSTEMS, DATABASES AND APPLICATION	3 (3-0-6)
01416417	DEEP LEARNING AND APPLICATION	3 (3-0-6)
01416500	COMPUTER VISIONS	3 (3-0-6)
01416503	DESIGNING COMPUTER VISION APPLICATIONS	3 (3-0-6)
01416505	INTERNET OF THINGS AND SMART ROBOTICS AND AI SYSTEMS	3 (3-0-6)
01416507	PERCEPTION AND COGNITIVE ROBOTS	3 (2-2-5)
01416510	HUMAN ROBOT INTERACTION	3 (3-0-6)
01416517	MOBILE ROBOTS	3 (2-2-5)
01416522	BIG DATA	3 (3-0-6)
01416528	COMMUNICATION NETWORK	3 (3-0-6)
01416529	ENGINEERING PROJECT MANAGEMENT	3 (3-0-6)
01416530	ADVANCED EMBEDDED SYSTEM DEVELOPMENT	3 (3-0-6)
01416607	STARTUP ENGINEERING	3 (3-0-6)
01416608	DATA VISUALIZATION	3 (3-0-6)
01416610	SOFTWARE-DEFINED DATA CENTER	3 (3-0-6)
01416613	FUNDAMENTALS OF AR, VR AND MIXED REALITY	3 (3-0-6)
01416615	CYBER PHYSICAL ROBOTICS	3 (3-0-6)
01416616	MOBILE APPLICATION DEVELOPMENT	3 (3-0-6)
01416619	USER EXPERIENCE AND USER INTERFACE DESIGN	3 (2-2-5)
01416620	BLOCKCHAIN TECHNOLOGY AND APPLICATION	3 (3-0-6)
01416621	LEAN MANAGEMENT	3 (3-0-6)
01416633	REINFORCEMENT LEARNING	3 (3-0-6)
01416636	CYBER SECURITY	3 (3-0-6)
01416637	PROMPT ENGINEERING	3 (2-2-5)
01006006	INDUSTRIAL EXPERIENCE FOR ENGINEERS	3 (0-16-0)
01416638	SELECTED TOPIC IN ROBOTICS AND AI 1	3 (0-16-0)
01416639	SELECTED TOPIC IN ROBOTICS AND AI 2	3 (0-16-0)
01416640	STUDY ABROAD IN ROBOTICS AND AI 1	3 (3-0-6)
01416641	STUDY ABROAD IN ROBOTICS AND AI 2	3 (3-0-6)
01416643	STRATEGIC PRODUCT INNOVATION AND BUSINESS MODEL DESIGN	3 (3-0-6)
01416644	PROJECT FEASIBILITY AND COMMERCIALIZATION	3 (3-0-6)

B5. Alternative Study**For Co-op / Study Aboard Students****6 CREDITS**

01006301 COOPERATIVE EDUCATION

6 (0-45-0)

01006302 STUDY ABROAD

6 (6-0-12)

01006303 OVERSEA TRAINING

6 (0-45-0)

C. FREE ELECTIVES**6 CREDITS**

Students must complete at least 6 additional credits from any courses offered by the institution.