ASSUMPTION UNIVERSITY OF THAILAND
SINCE 1969

UNIVERSITY OF BIRMINGHAM

AU STUDY ABROAD

AU–BIRMINGHAM

STUDY ABROAD PROGRAM

DOUBLE DEGREE (2+2)

ENGINEERING

AT UNIVERSITY OF BIRMINGHAM
ENGLAND

For more information

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UNIVERSITY OF BIRMINGHAM

AU STUDY ABROAD

University Of Birmingham

Topic	Details	
Program Offer	AU	Birmingham
	Vincent Mary School of Engineering • Department of Electrical Engineering • Department of Mechatronics Engineering	Bachelor • BEng Electronic and Electrical Engineering • BEng Electronic and Railway Engineering • BEng Mechatronic and Robotic Engineering Master • BEng Electronic and Electrical Engineering • BEng Electronic and Railway Engineering • BEng Mechatronic and Robotic Engineering
Place(Country, City)	Birmingham, UK	
Tuition Fees	20% discount from an annual fees	
Duration	2 years	
Semester starts	At the end of September	
Tuition Fees	Approximately Baht 750,000 Baht (Tuition fees for 1 year)	
Accommodation Fees Living Expenses	Approximately Baht 350,000 Baht Per year	

University of Birmingham and Assumption University
BEng Mechatronic and Robotic Engineering (2+2)

University of Birmingham Mechatronics and Robotics Engineering	Assumption University Mechatronics Engineering (Automation Engineering concentration)
Mechatronics and Robotics Engineering (B.Eng.)	Bachelor of Engineering Program in Mechatronics Engineering (International Program)
Year 1	**Year 1 and 2**
Electrical Engineering 1 : 20 credits	BG 1213 Physics II : 3 credits BG 1214 Physics Laboratory II : 1 credit EE 2201 Electric Circuits : 3 credits EE 2202 Electric Circuits Laboratory : 1 credit EE 2203 Signals and Systems : 3 credits
Engineering Materials : 10 credits	BG 0008 General Chemistry Laboratory : 1 credit BG 1108 General Chemistry : 3 credits IE 1110 Engineering Materials : 3 credits IE 3100 Manufacturing Processes : 3 credits
Engineering Mathematics 1 : 20 credits	BG 1204 Calculus I : 3 credits BG 1205 Calculus II : 3 credits BG 2208 Discrete Mathematics : 3 credits
Fluid Mechanics and Energy Transfer : 20 credits	ME 3311 Pneumatic and Hydraulic Systems : 3 credits ME 3312 Pneumatic and Hydraulic Systems Laboratory : 1 credit
Integrated Design Project 1 : 20 credits	ME 1113 Engineering Drawing : 3 credits ME 1114 Engineering Workshop : 2 credits
Computing for Engineers : 10 credits	BG 1221 Computer Programming : 3 credits BG 2212 Applied Statistics : 3 credits
Mechanics 1 : 20 credits	BG 1211 Physics I : 3 credits BG 1212 Physics Laboratory I : 1 credit ME 2211 Engineering Mechanics I : 3 credits

*The students will have to complete 2 years at Assumption University or all subjects listed above before starting the class at the University of Birmingham.

University of Birmingham Mechatronics and Robotics Engineering	Assumption University Mechatronics Engineering (Automation Engineering concentration)
Year 2	
Digital Systems and Embedded Computing : 20 credits	CE 2704 Digital Logic Design : 3 credits CE 2705 Digital Logic Design Laboratory : 3 credits EE 3606 Electrical Instruments and Measurements : 3 credits EE 3705 Microprocessors and Microcontrollers : 3 credits EE 3704 Embedded Systems : 3 credits (as a Major Elective Course)
Engineering Mathematics 2 : 20 credits	BG 2207 Engineering Mathematics : 3 credits
Electronic Circuits and Devices and Electromagnetics : 20 credits	EE 3402 Electrical Machines : 3 credits EE 3403 Electrical Machines Laboratory : 1 credit EE 3301 Electromagnetic Fields : 3 credits (as a Major Elective Course)
Electrical Energy Systems and Control : 20 credits	EE 2401 Electromechanical Energy Conversion : 3 credits EE 2402 Electromechanical Energy Conversion Laboratory : 1 credit EE 3406 Control Systems : 3 credits EE 3405 Digital Control Systems : 3 credits
Integrated Design Project 2 : 20 credits	MCE 2101 Fundamentals of Mechatronics Engineering : 3 credits MCE 2102 Mechatronics Engineering Laboratory I : 1 credit
Mechanics 2 : 20 credits	ME 2220 Engineering Mechanics II : 3 credits ME 3110 Mechanics of Materials : 3 credits ME 3120 Mechanics of Machinery : 3 credits
Year 3	
Integrated Design Project 3 : 20 credits	MCE 4101 Introduction to Robotics : 3 credits MCE 4102 Introduction to Industrial Automation : 3 credits CE 4201 Image Processing and Computer Vision : 3 credits
Individual Project : 40 credits	MCE 4901 Mechatronics Engineering Project I : 1 credit MCE 4902 Mechatronics Engineering Project II : 2 credits 2 Free Elective Courses 6 credits
Mechatronic Design : 20 credits	MCE 4103 Mechatronics Engineering Laboratory II : 1 credit
Choose 40 credits of 2 Optional modules	
Electronic Engineering : 20 credits	EE 2605 Engineering Electronics : 3 credits EE 2606 Engineering Electronics Laboratory : 1 credit
Power Electronics and Power Systems: 20 credits	EE 4705 Power Electronics : 3 credits EE 4706 Power Electronics Laboratory : 1 credit

UNIVERSITY OF BIRMINGHAM

AU STUDY ABROAD

University of Birmingham and Assumption University
BEng Electronic and Electrical Engineering, BEng Electrical, and Railway Engineering (2+2)

University of Birmingham	Assumption University Electrical (Power)
Year 1	**Year 1 and 2**
Electrical Engineering 20 credits	EE 2201 Electric Circuits 3 credits EE 2202 Electric Circuits Laboratory 1 credit
Engineering Materials 20 credits	IE 1110 Engineering Materials 3 credits ME 1113 Engineering Drawing 3 credits ME 1114 Engineering Workshop 2 credits
Engineering Mathematics 20 credits	BG 1204 Calculus I 3 credits BG 1205 Calculus II 3 credits BG 2208 Discrete Mathematics 3 credits
Fluid Mechanics and Energy Transfer 20 credits	BG 0008 General Chemistry Laboratory 1 credit BG 1108 General Chemistry 3 credits EE 2401 Electromechanical Energy Conversion 3 credits EE 2402 Electromechanical Energy Conversion Laboratory 1 credit
Integrated Design Project 20 credits	------UNKNOWN SUBJECTS---------
Computing for Engineers 10 credits	BG 1221 Computer Programming 3 credits CE 2102 Data Structures and Algorithms 3 credits
Mechanics 1 20 credits	BG 1211 Physics I 3 credits BG 1212 Physics Laboratory I 1 credit BG 1213 Physics II 3 credits BG 1214 Physics Laboratory II 1 credit ME 2211 Engineering Mechanics I 3 credits
*The students will have to complete 2 years at Assumption University or all subjects listed above before starting the class at the University of Birmingham.	
Year 2	
Integrated Design Project 3 : 20 credits	MCE 4101 Introduction to Robotics : 3 credits MCE 4102 Introduction to Industrial Automation : 3 credits CE 4201 Image Processing and Computer Vision : 3 credits
Digital Systems and Embedded Computing 20 credits	CE 2704 Digital Logic Design 3 credits CE 2705 Digital Logic Design Laboratory 1 credit EE 3705 Microprocessors and Microcontrollers 3 credits EE 3704 Embedded Systems 3 credits
Engineering Mathematics 2 20 credits	BG 2207 Engineering Mathematics 3 credits BG 2212 Applied Statistics 3 credits
Electronic Circuits and Devices and Electromagnetic 20 credits	EE 2605 Engineering Electronics 3 credits EE 2606 Engineering Electronics Laboratory 1 credit EE 3301 Electromagnetic Fields 3 credits
Integrated Design Project 2 20 credits	------UNKNOWN SUBJECTS---------
Electrical Energy Systems and Control 20 credits	EE 3402 Electrical Machines 3 credits EE 3403 Electrical Machines Laboratory 1 credit EE 3406 Control Systems 3 credits
Communication System 10 credits	EE 2203 Signals and Systems 3 credits TE 3000 Principles of Communications 3 credits
Multidisciplinary Software and System Engineering 10 credits	MCE 4102 Introduction to Industrial Automation 3 credits
	EE 3606 Electrical Instruments and Measurements 3 credits
Year 3	
Integrated Design Project 3 : 20 credits	MCE 4101 Introduction to Robotics : 3 credits MCE 4102 Introduction to Industrial Automation : 3 credits CE 4201 Image Processing and Computer Vision : 3 credits
Electronic Engineering 20 credits	EE 3601 Electronic Circuit Design 3 credits EE 3602 Electronic Circuit Design Laboratory 1 credit
Integrated Design Project 3 20 credits	------UNKNOWN SUBJECTS---------
Individual Project 40 credits	EE 4901 Electrical Engineering Project I 1 credit EE 4902 Electrical Engineering Project II 2 credits
	EE 4506 High Voltage Engineering 3 credits EE 4503 Electrical Systems Design 3 credits
Optional 2 subjects	
Engineering Mathematics 2 20 credits	
Power Electronics and Power Systems : 20 credits	EE 4705 Power Electronics 3 credits EE 4706 Power Electronics Laboratory 1 credit EE4501 Power Analysis 3 credits EE4518 Power Generation and Distribution System 3 credits EE4505 Power Protection 3 credits
Advanced Communication Systems 2 : 20 credits	

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AU STUDY ABROAD

Electrical Engineering (Telecommunication)

University of Birmingham Electrical (Telecommunication)	Assumption University
Year 1	**Year 1 and 2**
Electrical Engineering 20 credits	EE 2201 Electric Circuits 3 credits EE 2202 Electric Circuits Laboratory 1 credit
Engineering Materials 20 credits	IE 1110 Engineering Materials 3 credits ME 1113 Engineering Drawing 3 credits ME 1114 Engineering Workshop 2 credits
Engineering Mathematics 20 credits	BG 1204 Calculus I 3 credits BG 1205 Calculus II 3 credits BG 2208 Discrete Mathematics 3 credits
Fluid Mechanics and Energy Transfer 20 credits	BG 0008 General Chemistry Laboratory BG 1108 General Chemistry 3 credits
Integrated Design Project 20 credits	------UNKNOWN SUBJECTS---------
Computing for Engineers 10 credits	BG 1221 Computer Programming 3 credits CE 2102 Data Structures and Algorithms 3 credits
Mechanics 1 20 credits	BG 1211 Physics I 3 credits BG 1212 Physics Laboratory I 1 credit BG 1213 Physics II 3 credits BG 1214 Physics Laboratory II (1) ME 2211 Engineering Mechanics I 1 credit
*The students will have to complete 2 years at Assumption University or all subjects listed above before starting the class at the University of Birmingham.	
Year 2	
Digital Systems and Embedded Computing 20 credits	CE 2704 Digital Logic Design 3 credits CE 2705 Digital Logic Design Laboratory 1 credit EE 3705 Microprocessors and Microcontrollers 3 credits EE 3704 Embedded Systems 3 credits
Engineering Mathematics 2 20 credits	BG 2207 Engineering Mathematics 3 credits BG 2212 Applied Statistics 3 credits
Electronic Circuits and Devices and Electromagnetic 20 credits	EE 2605 Engineering Electronics 3 credits EE 2606 Engineering Electronics Laboratory 1 credit EE 3301 Electromagnetic Fields 3 credits TE 3301 Radio Wave Propagation
Integrated Design Project 2 20 credits	------UNKNOWN SUBJECTS---------
Electrical Energy Systems and Control 20 credits	EE 3406 Control Systems 3 credits
Communication System 10 credits	EE 2203 Signals and Systems 3 credits TE 3000 Principles of Communications 3 credits TE 3102 Communication Networks and Transmission Lines 1 credit
Multidisciplinary Software and System Engineering 10 credits	CE 4224 Telecommunication Networks Laboratory 1 credit CE 4207 System and Network Programming 3 credits
	EE 3606 Electrical Instruments and Measurements 3 credits CE 4228 Data Communication and Networking 3 credits
Year 3	
Electronic Engineering 20 credits	EE 3601 Electronic Circuit Design 3 credits EE 3602 Electronic Circuit Design Laboratory 1 credit
Integrated Design Project 3 20 credits	------UNKNOWN SUBJECTS---------
Individual Project 40 credits	EE 4901 Electrical Engineering Project I 1 credit EE 4902 Electrical Engineering Project II 2 credits
	TE 4112 Optical Communications 3 credits TE 4111 Antenna Engineering 3 credits
Optional 2 subjects	
The Internet of Things 20 credits	CE 4229 Introduction to Cloud Computing
Advanced Communication Systems 2 20 credits	TE 4113 Digital Communication 3 credits TE 4201 Communication Electronics 3 credits TE 4202 Communication Electronics Laboratory 1 credit EE 4305 Digital Signal Processing 3 credits
Electronic Engineering 20 credits	EE 3601 Electronic Circuit Design 3 credits EE 3602 Electronic Circuit Design Laboratory 1 credit

Entry Requirements

1. Complete Year 1 and Year 2 at AU with GPA 3.0
2. 60% of subjects must be major specific subjects
3. Students must have passed all of the AU major specific modules
4. IELTS 6.0 overall with no less than 5.5 in each band
5. TOEFL 80 overall – 19 Reading, 19 Listening, 21 Speaking, 19 Writing

Application Period

At least 4 months before the semester begins

*Deposit of 10,000baht for the application fees
(It is refundable only in the case of visa or University rejection.)