

Code : 25550041101636  
 Bachelor of Engineering Program in Information Systems and  
 Network Engineering (International Program) (2566)

## Name of the degree

**Full :** Bachelor of Engineering (Information Systems and Network Engineering)

**Abbreviation :** B.Eng. (Information Systems and Network Engineering)

## Curriculum structure

<b>(1) General Education</b>					<b>30</b>
<b>1.1 Required Courses</b>					<b>23</b>
<b>1.1 Learner Person</b>					<b>15</b>
001101	ENGL	101	Fundamental English 1		3(3-0-6)
001102	ENGL	102	Fundamental English 2		3(3-0-6)
001201	ENGL	201	Critical Reading and Effective Writing		3(3-0-6)
001225	ENGL	225	English in Science and Technology Context		3(3-0-6)
Select additional three-credits course on this list					
204100	CS	100	Information Technology and Modern Life		3(3-0-6)
261111	CPE	111	Internet and Online Community		3(3-0-6)
953111	SE	111	Software for Everyday Life		3(3-0-6)
<b>1.1.2. Innovative Co-creator</b>					<b>4</b>
259192	ENGR	192	Skills for Professionalism and Entrepreneurship		1(0-3-1)
Select additional three-credits course on this list					
013110	PSY	110	Psychology and Daily Life		3(3-0-6)
050106	HUGE	106	Humanistic Arts		3(3-0-6)
176100	LAGE	100	Law and Modern World		3(3-0-6)
201114	SC	114	Environmental Science in Today's World		3(3-0-6)
201117	SC	117	Mathematics and Science in Civilization		3(3-0-6)
201190	SC	190	Critical Thinking, Problem Solving and Science Communication		3(3-0-6)
207109	PHYS	109	Life and the Universe		3(3-0-6)
207110	PHYS	110	Physics : the Science that Changed the World		3(3-0-6)
368100	ABM	100	Starting an Agribusiness in a Changing World		3(3-0-6)
610111	AG	111	Packaging for Marketing		3(3-0-6)
703103	MGMT	103	Introduction to Entrepreneurship and Business		3(3-0-6)
751100	ECON	100	Economics for Everyday Life		3(3-0-6)
851103	MC	103	Life and Society through Media		3(3-0-6)
852100	DF	100	Introduction to Film		3(3-0-6)
<b>1.1.3. Active Citizen</b>					<b>4</b>
140104	PG	104	Citizenship		3(3-0-6)
259191	ENGR	191	Principle of Being Professional		1(0-3-1)
<b>1.2. GE Elective</b>					<b>7</b>
A student also chooses at least 7 credits of GE courses					

<b>1.2.1 Learner Person</b>					
009103	LS	103	Information Literacy and Information Presentation		3(3-0-6)
154130	GEO	130	Geo-Information in Daily Life		3(3-0-6)
201100	SC	100	Integrated Science		3(3-0-6)
203100	CHEM	100	Chemistry in Everyday Life		3(3-0-6)
211100	BCT	100	Eating Well : Better Living and Disease Prevention		3(3-0-6)
462130	PHPC	130	Medications in Everyday Life		3(3-0-6)
571116	NGGE	116	Health and Working in the Digital Age		3(3-0-6)
701181	ACC	181	Basic Accounting for Entrepreneurs		3(3-0-6)
702101	FINA	101	Finance for Daily Life		3(3-0-6)
705191	MKTG	191	Smart Consumer		1(1-0-2)
<b>1.2.2 Innovative Co-creator</b>					
259194	ENGR	194	Characteristics and Values for Being a Professional Entrepreneur		1(0-3-1)
<b>1.2.3 Active Citizen</b>					
109114	FAGE	114	Art in Everyday Life		3(3-0-6)
127100	GOV	100	Politics in Everyday Life		3(3-0-6)
128100	PA	100	Basic Good Governance in Administration		3(3-0-6)
154104	GEO	104	Environmental Conservation		3(3-0-6)
256131	MN	131	Urban Mining		3(3-0-6)
259193	ENGR	193	Morality and Intelligence for Being a Professional		1(0-3-1)
259195	ENGR	195	Managing Activities for Development		1(0-3-1)
801100	ARCT	100	Architecture in Everyday Life		3(3-0-6)
951100	ANI	100	Modern Life and Animation		3(3-0-6)
<b>(2) Field of Specialization : a minimum of</b>					<b>107</b>
<b>2.1 Core Courses</b>					<b>24</b>
<b>Mathematics and Statistics for Information Technicians</b>					
206161	MATH	161	Calculus for Engineering 1		3(3-0-6)
206162	MATH	162	Calculus for Engineering 2		3(3-0-6)
255201	IE	201	Quantitative Analysis in Industrial Engineering		3(3-0-6)
261216	CPE	216	Discrete Mathematics for Computer Engineers		3(3-0-6)
<b>Fundamental of Information Technology</b>					
269101	ISNE	101	Introduction to Information Systems and Network Engineering		3(3-0-6)
269103	ISNE	103	Programming for Information Systems and Network Engineering		3(3-0-6)
<b>Others</b>					
252281	EE	281	Fundamentals of Electronic Circuits for Information Systems and Network Engineering		3(3-0-6)
259104	ENGR	104	Engineering Drawing		3(2-3-4)
<b>2.2 Major : a minimum of</b>					<b>83</b>
At least 36 credits in 2.2.1 and 2.2.2 must be 300 or higher level courses, among such courses there must be at least 18 credits from 400 or higher level courses.					
<b>2.2.1 Required Courses</b>					
<b>2.2.1.1 Normal Plan</b>					<b>74</b>
<b>Organizations and Information Systems</b>					
261446	CPE	446	Information Systems		3(3-0-6)
269105	ISNE	105	Information Systems and Network Engineering Laboratory 1		1(0-3-0)
269201	ISNE	201	Information Systems and Network Engineering Laboratory 2		1(0-3-0)
269370	ISNE	370	Project Management for Information Systems and Network Engineering		3(3-0-6)
269470	ISNE	470	Information Technology Service Management		3(3-0-6)

<b>Technology for Application</b>				
269200	ISNE	200	Web Programming Language	3(2-3-4)
269340	ISNE	340	Data Centric Application Development	3(3-0-6)
269360	ISNE	360	Platform Programming	3(3-0-6)
269430	ISNE	430	Wireless And Broadband Computer Networks	3(3-0-6)
269491	ISNE	491	Project Survey	1(0-3-0)
269492	ISNE	492	Project	3(0-9-0)
<b>Technology and Software Methods</b>				
261200	CPE	200	Object-Oriented Programming	3(2-3-4)
261205	CPE	205	Data Structures and Algorithms	3(3-0-6)
261361	CPE	361	Software Engineering	3(3-0-6)
269102	ISNE	102	Basic Computer Programming for Information Systems and Network Engineering	3(1-6-2)
269202	ISNE	202	Algorithms for Information Systems and Network Engineering	3(3-0-6)
269210	ISNE	210	Computer Architecture for Information Systems and Network Engineering	3(3-0-6)
269462	ISNE	462	Introduction to Human-Computer Interaction	3(3-0-6)
<b>Basic Structure of the Systems</b>				
261335	CPE	335	Computer Networks	3(3-0-6)
261336	CPE	336	Computer Networks Laboratory	1(0-3-0)
261342	CPE	342	Fundamentals of Database Systems	3(3-0-6)
261343	CPE	343	Database System Laboratory	1(0-3-0)
261433	CPE	433	Network Programming	3(3-0-6)
261434	CPE	434	Computer Network Design and Management	3(3-0-6)
261447	CPE	447	Network and Information Security	3(3-0-6)
269130	ISNE	130	Fundamentals of Data and Computer Communications for Information Systems and Network Engineering	3(3-0-6)
<b>Hardware and Computer Architecture</b>				
261305	CPE	305	Operating Systems	3(3-0-6)
<b>Field Experience Training</b>				
269401	ISNE	401	Information System and Network Engineering Training	3(0-18-0)
<b>2.2.1.2 Cooperative Education Plan</b>				<b>77</b>
<b>Organizations and Information Systems</b>				
261446	CPE	446	Information Systems	3(3-0-6)
269105	ISNE	105	Information Systems and Network Engineering Laboratory 1	1(0-3-0)
269201	ISNE	201	Information Systems and Network Engineering Laboratory 2	1(0-3-0)
269370	ISNE	370	Project Management for Information Systems and Network Engineering	3(3-0-6)
269470	ISNE	470	Information Technology Service Management	3(3-0-6)
<b>Technology for Application</b>				
269200	ISNE	200	Web Programming Language	3(2-3-4)
269340	ISNE	340	Data Centric Application Development	3(3-0-6)
269360	ISNE	360	Platform Programming	3(3-0-6)
269430	ISNE	430	Wireless And Broadband Computer Networks	3(3-0-6)
269491	ISNE	491	Project Survey	1(0-3-0)
269492	ISNE	492	Project	3(0-9-0)
<b>Technology and Software Methods</b>				
261200	CPE	200	Object-Oriented Programming	3(2-3-4)
261205	CPE	205	Data Structures and Algorithms	3(3-0-6)
261361	CPE	361	Software Engineering	3(3-0-6)
269102	ISNE	102	Basic Computer Programming for Information Systems and Network Engineering	3(1-6-2)

269202	ISNE	202	Algorithms for Information Systems and Network Engineering	3(3-0-6)
269210	ISNE	210	Computer Architecture for Information Systems and Network Engineering	3(3-0-6)
269462	ISNE	462	Introduction to Human-Computer Interaction	3(3-0-6)
<b>Basic Structure of the Systems</b>				
261335	CPE	335	Computer Networks	3(3-0-6)
261336	CPE	336	Computer Networks Laboratory	1(0-3-0)
261342	CPE	342	Fundamentals of Database Systems	3(3-0-6)
261343	CPE	343	Database System Laboratory	1(0-3-0)
261433	CPE	433	Network Programming	3(3-0-6)
261434	CPE	434	Computer Network Design and Management	3(3-0-6)
261447	CPE	447	Network and Information Security	3(3-0-6)
269130	ISNE	130	Fundamentals of Data and Computer Communications for Information Systems and Network Engineering	3(3-0-6)
<b>Hardware and Computer Architecture</b>				
261305	CPE	305	Operating Systems	3(3-0-6)
<b>Field Experience Training</b>				
269495	ISNE	495	Cooperative Education	6
<b>2.2.2 Major Electives</b>				
<b>2.2.2.1 Normal Plan : a minimum of</b>				<b>9</b>
<b>2.2.2.2 Cooperative Education Plan : a minimum of</b>				<b>6</b>
Select From the Followings				
261408	CPE	408	Quantum Computation	3(3-0-6)
261409	CPE	409	Functional Programming	3(3-0-6)
261411	CPE	411	Parallel Processing and Distributed Systems	3(3-0-6)
261430	CPE	430	Wireless Networks	3(3-0-6)
261435	CPE	435	Broadband Communication Networks	3(3-0-6)
261438	CPE	438	Fundamentals of Multiprotocol Label Switching	3(3-0-6)
261441	CPE	441	Internet of Things and Big Data	3(3-0-6)
261444	CPE	444	Advanced Database Systems	3(3-0-6)
261448	CPE	448	Data Mining for Computer Engineering	3(3-0-6)
261449	CPE	449	Software Testing for Computer Engineering	3(3-0-6)
261453	CPE	453	Digital Image Processing	3(3-0-6)
261456	CPE	456	Introduction to Computational Intelligence for Computer Engineering	3(3-0-6)
261459	CPE	459	Deep Learning	3(3-0-6)
261461	CPE	461	Visual and Interactive Programming	3(3-0-6)
261465	CPE	465	Computer Graphics	3(3-0-6)
261468	CPE	468	System Analysis and Design for Computer Engineering	3(3-0-6)
261472	CPE	472	Robotics	3(3-0-6)
261473	CPE	473	Computer - Aided Manufacturing	3(3-0-6)
261475	CPE	475	Modeling and Optimization for Big Data Analytics	3(3-0-6)
261476	CPE	476	Biomedical Instruments	3(3-0-6)
269341	ISNE	341	Data Warehousing and Business Intelligence for Information Systems and Network Engineering	3(3-0-6)
269400	ISNE	400	Advanced Information Systems and Network Technology	3(3-0-6)
269421	ISNE	421	Computer Network Traffic Analysis	3(3-0-6)
269431	ISNE	431	Wireless Sensor Network	3(3-0-6)

269432	ISNE	432	Peer-to-Peer Systems	3(3-0-6)
269433	ISNE	433	Computer Network Routing Protocols	3(3-0-6)
269441	ISNE	441	Information Retrieval and Extraction	3(3-0-6)
269451	ISNE	451	Introduction to Neuro-Fuzzy Systems	3(3-0-6)
269452	ISNE	452	Mobile Application Development	3(3-0-6)
269461	ISNE	461	Personal Software Process Improvement	3(3-0-6)
269471	ISNE	471	Advanced Project Management for Information System and Network Engineering	3(3-0-6)
269472	ISNE	472	Risk Management in Software Project	3(3-0-6)
269493	ISNE	493	Seminar	3(3-0-6)
269494	ISNE	494	Selected Topics in Information Systems and Network Engineering	3(3-0-6)
269496	ISNE	496	Selected Topics in Information Systems 1	3(3-0-6)
269497	ISNE	497	Selected Topics in Information Systems 2	3(3-0-6)
269498	ISNE	498	Selected Topics in Network Engineering 1	3(3-0-6)
269499	ISNE	499	Selected Topics in Network Engineering 2	3(3-0-6)

**2.3 Minor (if any) : a minimum of** **15**

According to the Chiang Mai University regulation on the Minor curriculum for the Chiang Mai University student, if students choose to have a minor degree in a curriculum at the Chiang Mai university, they can register those courses not less than 15 credits with the academic advisor's approval. Hence, the total credits for the whole curriculum is increased at least 15 credits.

**3. Free Electives : a minimum of** **6**

Any courses can be selected with the approval from the student's academic advisor

**Total : a minimum of** **143**

## Study plan

### First Year

<u>First Semester</u>				<b>Credits</b>
001101	ENGL	101	Fundamental English 1	3(3-0-6)
206161	MATH	161	Calculus for Engineering 1	3(3-0-6)
259104	ENGR	104	Engineering Drawing	3(2-3-4)
259191	ENGR	191	Principle of Being Professional	1(0-3-1)
261216	CPE	216	Discrete Mathematics for Computer Engineers	3(3-0-6)
269101	ISNE	101	Introduction to Information Systems and Network Engineering	3(3-0-6)
269102	ISNE	102	Basic Computer Programming for Information Systems and Network Engineering	3(1-6-2)

**Total** **19**

<u>Second Semester</u>				<b>Credits</b>
001102	ENGL	102	Fundamental English 2	3(3-0-6)
140104	PG	104	Citizenship	3(3-0-6)
206162	MATH	162	Calculus for Engineering 2	3(3-0-6)
261205	CPE	205	Data Structures and Algorithms	3(3-0-6)
269103	ISNE	103	Programming for Information Systems and Network Engineering	3(3-0-6)
269105	ISNE	105	Information Systems and Network Engineering Laboratory 1	1(0-3-0)
269130	ISNE	130	Fundamentals of Data and Computer Communications for Information Systems and Network Engineering	3(3-0-6)

				<b>Total</b>	<b><u>19</u></b>
<b>Second Year</b>					
			<b><u>First Semester</u></b>		<b>Credits</b>
001201	ENGL	201	Critical Reading and Effective Writing		3(3-0-6)
255201	IE	201	Quantitative Analysis in Industrial Engineering		3(3-0-6)
261200	CPE	200	Object-Oriented Programming		3(2-3-4)
261335	CPE	335	Computer Networks		3(3-0-6)
261336	CPE	336	Computer Networks Laboratory		1(0-3-0)
269200	ISNE	200	Web Programming Language		3(2-3-4)
269201	ISNE	201	Information Systems and Network Engineering Laboratory 2		1(0-3-0)
269202	ISNE	202	Algorithms for Information Systems and Network Engineering		3(3-0-6)
				<b>Total</b>	<b><u>20</u></b>
			<b><u>Second Semester</u></b>		<b>Credits</b>
001225	ENGL	225	English in Science and Technology Context		3(3-0-6)
252281	EE	281	Fundamentals of Electronic Circuits for Information Systems and Network Engineering		3(3-0-6)
261342	CPE	342	Fundamentals of Database Systems		3(3-0-6)
261343	CPE	343	Database System Laboratory		1(0-3-0)
261433	CPE	433	Network Programming		3(3-0-6)
269210	ISNE	210	Computer Architecture for Information Systems and Network Engineering		3(3-0-6)
Elective from General Education Courses (Co-Creator)					3
				<b>Total</b>	<b><u>19</u></b>
<b>Normal Plan</b>					
<b>Third Year</b>					
			<b><u>First Semester</u></b>		<b>Credits</b>
261305	CPE	305	Operating Systems		3(3-0-6)
261434	CPE	434	Computer Network Design and Management		3(3-0-6)
261361	CPE	361	Software Engineering		3(3-0-6)
269340	ISNE	340	Data Centric Application Development		3(3-0-6)
269430	ISNE	430	Wireless And Broadband Computer Networks		3(3-0-6)
Elective from General Education Courses (Learner Person)					3
				<b>Total</b>	<b><u>18</u></b>
			<b><u>Second Semester</u></b>		<b>Credits</b>
261446	CPE	446	Information Systems		3(3-0-6)
261447	CPE	447	Network and Information Security		3(3-0-6)
269360	ISNE	360	Platform Programming		3(3-0-6)
269370	ISNE	370	Project Management for Information Systems and Network Engineering		3(3-0-6)
269462	ISNE	462	Introduction to Human-Computer Interaction		3(3-0-6)
Major Electives					3
Elective from General Education Courses					1
				<b>Total</b>	<b><u>19</u></b>
			<b><u>Summer Session</u></b>		<b>Credits</b>
269401	ISNE	401	Information System and Network Engineering Training		3(0-18-0)

				Total	<u>3</u>
Fourth Year					
<u>First Semester</u>				<b>Credits</b>	
269491	ISNE	491	Project Survey		1(0-3-0)
Major Electives					3
Elective from General Education Courses					6
Free Electives					3
				Total	<u>13</u>
<u>Second Semester</u>				<b>Credits</b>	
259192	ENGR	192	Skills for Professionalism and Entrepreneurship		1(0-3-1)
269470	ISNE	470	Information Technology Service Management		3(3-0-6)
269492	ISNE	492	Project		3(0-9-0)
Major Electives					3
Free Electives					3
				Total	<u>13</u>
Cooperative Education					
Third Year					
<u>First Semester</u>				<b>Credits</b>	
261305	CPE	305	Operating Systems		3(3-0-6)
261434	CPE	434	Computer Network Design and Management		3(3-0-6)
261361	CPE	361	Software Engineering		3(3-0-6)
269340	ISNE	340	Data Centric Application Development		3(3-0-6)
269430	ISNE	430	Wireless And Broadband Computer Networks		3(3-0-6)
Elective from General Education Courses (Learner Person)					3
Free Electives					3
				Total	<u>21</u>
<u>Second Semester</u>				<b>Credits</b>	
261446	CPE	446	Information Systems		3(3-0-6)
261447	CPE	447	Network and Information Security		3(3-0-6)
269360	ISNE	360	Platform Programming		3(3-0-6)
269370	ISNE	370	Project Management for Information Systems and Network Engineering		3(3-0-6)
269462	ISNE	462	Introduction to Human-Computer Interaction		3(3-0-6)
269491	ISNE	491	Project Survey		1(0-3-0)
Major Electives					3
Elective from General Education Courses					1
				Total	<u>20</u>
Fourth Year					
<u>First Semester</u>				<b>Credits</b>	
269495	ISNE	495	Cooperative Education		6
				Total	<u>6</u>
<u>Second Semester</u>				<b>Credits</b>	
259192	ENGR	192	Skills for Professionalism and Entrepreneurship		1(0-3-1)
269470	ISNE	470	Information Technology Service Management		3(3-0-6)
269492	ISNE	492	Project		3(0-9-0)

Major Electives	3
Elective from General Education Courses	6
Free Electives	3
Total	<u>19</u>