

Information Technology (IT)

Curriculum Outline

The Information Technology curriculum is designed to prepare students for rapidly changing technology. Students will be exposed to a wide range of subjects covering all aspects of information technology and its applications. Emphasis is put on the convergence of computer and telecommunications technologies, and their applications to management science.

The compulsory core courses are designed to help students to:

- (1) understand fundamental concepts of electronics and information technology that lead to high performance digital processing,
- (2) know the essence of techniques that are needed for the development of information technology applications for telecommunication, industry and business, and
- (3) gain confidence to perform the management of information technology in the current business world.

After gaining enough background through the compulsory core courses, the students are allowed to tailor their courses according to their personal interest. Twelve credits of compulsory elective courses which are required for graduation, can be selected from one of these:

- (1) Major in General IT
- (2) Major in Information and Communication Technology
- (3) Major in Information Technology Management

Structure and Components

1. General Basic Courses	36 Credits
1.1 Part I	21 Credits
1.1.1 Humanities	2 Credits
1.1.2 Social Sciences	5 Credits
1.1.3 Science and Mathematics or Computing	5 Credits
1.1.4 Languages	9 Credits
1.2 Part II	15 Credits
2. Core Courses	108 Credits
2.1 Compulsory Courses	87 Credits
2.2 Compulsory Elective Courses	18 Credits
2.3 Technical Elective Courses	3 Credits
3. Free Elective Courses	6 Credits
Total	<u>150</u> Credits

Details of the Curriculum

1. General Basic Courses	36 Credits
1.1 Part I	21 Credits
1.1.1 Humanities (1 course)	2 Credits
TU110	
1.1.2 Social Sciences (2 courses)	5 Credits
TU100 TU120	
1.1.3 Science and Mathematics or Computing (2 courses)	5 Credits
ITS100 TU130	
1.1.4 Languages (3 courses)	9 Credits
EL171 EL172 TU140	
1.2 Part II	15 Credits
EC210 GTS101 GTS133	
GTS202 GTS231	
2. Core Courses	108 Credits
2.1 Compulsory Courses	87 Credits
2.1.1 Science and Mathematics (6 courses)	18 Credits
CSS226 GTS116 GTS117	
GTS121 GTS122 GTS210	
2.1.2 Non-IT Courses (8 courses)	21 Credits
CSS221 CSS224 CSS225 ECS370	
ECS371 GTS302 IES302 MTS252	
2.1.3 IT Courses (20 courses)	48 Credits
ITS102 ITS103 ITS201 ITS221	
ITS227 ITS229 ITS231 ITS322	
ITS323 ITS327 ITS329 ITS335	
ITS336 ITS341 ITS342 ITS344	
ITS351 ITS352 ITS353 ITS400	
2.2 Compulsory Elective Courses	18 Credits
2.2.1 Track-related courses:	6 Credits
Select one of the following 3 tracks:	
1) For students who wish to join the Senior Project Track	
ITS300 ITS403	
2) For students who wish to join the Foreign Exchange Track	
ITS300 ITS495 ITS496	
3) For students who wish to join the Extended Training Track	
ITS499	
2.2.2 Specialized courses:	12 Credits
Select one of the following 3 options:	
1) Option I: Information and Communication Technology (4 courses)	
CSS444 ITS412 ITS413 ITS432	
2) Option II: Information Technology Management (4 courses)	
ITS423 ITS424 ITS441 ITS442	
3) Option III: Information Technology	
Select 4 courses (12 credits) from the following courses:	
CSS444 ITS412 ITS413 ITS423	
ITS424 ITS432 ITS441 ITS442	
ITS481 ITS482 ITS483 ITS484	
ITS485 ITS486 ITS487 ITS488	
ITS489	
2.3 Technical Elective Courses	3 Credits
Select 3 credits from the list of courses offered by SIIT, except for basic courses.	
XXSxxx	
3. Free Elective Courses	6 Credits
Students may choose any free elective courses (not less than 6 credits in total) including general basic courses, except:	
1. General basic courses in Science and Mathematics	
2. All general basic TU courses in both Part 1 and Part 2	
Total Credit Requirement	<u>150</u> Credits

IT Curriculum : 150 Credits**Course Credits (lecture-practice-self study hours)****First Year****Semester I**

EL171	English Course II	3(3-0-6)
GTS101	Skills Development for Technical Studies	3(3-0-6)
GTS116	Mathematics for Technologist I	3(3-0-6)
GTS121	General Science I	3(3-0-6)
GTS133	Environmental Studies	3(2-2-5)
ITS100	Introduction to Computers and Programming	3(2-3-4)
MTS252	Materials Science	3(3-0-6)
	Sub-Total	21(19-5-39)

Semester II

EC210	Introductory Economics	3(3-0-6)
EL172	English Course III	3(3-0-6)
GTS117	Mathematics for Technologist II	3(3-0-6)
GTS122	General Science II	3(3-0-6)
ITS102	Object-oriented Programming	3(3-0-6)
ITS103	Object-oriented Programming Laboratory	1(0-3-0)
TU100	Civic Education	3(3-0-6)
TU130	Integrated Sciences and Technology	2(2-0-4)
	Sub-Total	21(20-3-40)

Second Year**Semester I**

CSS224	Computer Architectures	3(3-0-6)
ECS371	Digital Circuits	3(3-0-6)
GTS210	Mathematics for Technologist III	3(3-0-6)
GTS231	Law and Technology	3(3-0-6)
ITS201	Discrete Mathematics	3(3-0-6)
ITS221	Data Structures and Algorithms	3(3-0-6)
ITS231	Data Structures and Algorithms Laboratory	1(0-3-0)
TU110	Integrated Humanities	2(2-0-4)
	Sub-Total	21(20-3-40)

Semester II

CSS221	Computer Graphics and Applications	3(2-3-4)
CSS225	Operating System	3(3-0-6)
ECS370	Digital Circuit Laboratory	1(0-3-0)
GTS202	English Language Structures	3(3-0-6)
IES302	Engineering Statistics	3(3-0-6)
ITS227	Algorithm Design	3(3-0-6)
ITS229	Human Computer Interface Design	3(3-0-6)
	Sub-Total	19(17-6-34)

Third Year**Semester I**

CSS226	Scientific Computing	3(3-0-6)
ITS322	Database Systems	3(3-0-6)
ITS323	Introduction to Data Communications	3(3-0-6)
ITS341	Management Information Systems	3(3-0-6)
ITS342	Computer Animation	3(2-3-4)
ITS344	Web and Business Application Development	3(3-0-6)
ITS351	Database Programming Laboratory	1(0-3-0)
	Sub-Total	19(17-6-34)

Semester II

GTS302	Technical Writing	2(2-1-3)
ITS327	Computer Network Architectures and Protocols	3(3-0-6)
ITS329	System Analysis and Design	3(3-0-6)
ITS335	IT Security	3(3-0-6)
ITS336	Artificial Intelligence	3(3-0-6)
ITS352	Networking Laboratory	1(0-3-0)
ITS353	Graphic and Game Programming Laboratory	1(0-3-0)

Course Credits (lecture-practice-self study hours)**Option I: Information and Communication Technology**

ITS412	Tele-services and Service Architecture	3(3-0-6)
ITS432	Mobile Application Programming	3(2-3-4)
	Sub-Total	22(19-10-37)

Option II: Information Technology Management

ITS423	Data Warehouses and Data Mining	3(3-0-6)
ITS424	Electronic Commerce	3(3-0-6)
	Sub-Total	22(20-7-39)

Option III: Information Technology

ITSxxx	Compulsory Elective	3(x-x-x)
ITSxxx	Compulsory Elective	3(x-x-x)
	Sub-Total	22(x-x-x)

Summer

Select either Senior Project Track, Foreign Exchange Track, or Extended Training Track.

1. Senior Project Track and Foreign Exchange Track

ITS300	Information Technology Training	0(0-0-0)
	Sub-Total	0(0-0-0)

2. Extended Training Track

XXXxxx	Free Elective	3(x-x-x)
XXXxxx	Free Elective	3(x-x-x)
	Sub-Total	6(x-x-x)

Fourth Year**Semester I**

ITS400	Project Development	1(0-3-0)
TU120	Integrated Social Sciences	2(2-0-4)
TU140	Thai Studies	3(3-0-6)
XXSxxx	Technical Elective	3(x-x-x)

Option I: Information and Communication Technology

CSS444	Wireless Networks	3(3-0-6)
ITS413	Internet Technologies and Applications	3(3-0-6)
	Sub-Total	15(x-x-x)

Option II: Information Technology Management

ITS441	Accounting Information Systems	3(3-0-6)
ITS442	Entrepreneurship for IT Business Development	3(3-0-6)
	Sub-Total	15(x-x-x)

Option III: Information Technology

ITSxxx	Compulsory Elective	3(x-x-x)
ITSxxx	Compulsory Elective	3(x-x-x)
	Sub-Total	15(x-x-x)

Semester II**1) Senior Project Track**

ITS403	Senior Project	6(0-18-0)
XXXxxx	Free Elective	3(x-x-x)
XXXxxx	Free Elective	3(x-x-x)
	Sub-Total	12(x-x-x)

2) Foreign Exchange Track

ITS495	Special Topics in Information Technology I	3(3-0-6)
ITS496	Special Topics in Information Technology II	3(3-0-6)
XXXxxx	Free Elective	3(x-x-x)
XXXxxx	Free Elective	3(x-x-x)
	Sub-Total	12(x-x-x)

3) Extended Training Track

ITS499	Extended Information Technology Training	6(0-40-0)
	Sub-Total	6(0-40-0)