

Information Technology (IT)

Curriculum Outline

The Information Technology curriculum is designed to prepare students for the 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 essences 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	3 Credits
1.1.2 Social Sciences	3 Credits
1.1.3 Languages	9 Credits
1.1.4 Science and Mathematics	6 Credits
1.2 Part II	15 Credits
2. Core Courses	108 Credits
2.1 Compulsory Courses	93 Credits
2.2 Compulsory Elective Courses	12 Credits
2.3 Technical Elective Courses	3 Credits
3. Free Elective Courses	6 Credits
Total	<u>150 Credits</u>

Details of the Curriculum

1. General Basic Courses	36 Credits
1.1 Part I	21 Credits
1.1.1 Humanities (1 course) TU 110	3 Credits
1.1.2 Social Sciences (1 course) TU 120	3 Credits
1.1.3 Languages (3 courses) EL 171 EL 172 TU 140	9 Credits
1.1.4 Science and Mathematics (2 courses) ITS 100 TU 130	6 Credits
1.2 Part II	15 Credits
EC 210 GTS 101 GTS 133 GTS 202 GTS 231	
2. Core Courses	108 Credits
2.1 Compulsory Courses	93 Credits
2.1.1 Science and Mathematics (6 courses)	18 Credits
GTS 116 GTS 117 GTS 121 GTS 122 GTS 210 GTS 211	
2.1.2 Non-IT Courses (8 courses)	21 Credits
CSS 221 CSS 224 CSS 225 ECS 370 ECS 371 GTS 302 IES 302 MTS 252	
2.1.3 IT Courses (21-23 courses)	54 Credits
ITS 102 ITS 103 ITS 201 ITS 221 ITS 227 ITS 229 ITS 231 ITS 322 ITS 323 ITS 327 ITS 329 ITS 331 ITS 332 ITS 333 ITS 335 ITS 336 ITS 341 ITS 342 ITS 343 ITS 400 (ITS 300 and ITS 403) or (ITS 300 and ITS 495 and ITS 496) or (ITS 499)	
2.2 Compulsory Elective Courses	12 Credits
2.2.1 Option I: General IT Select 4 courses (12 credits) from the following courses:	
ITS 412 ITS 413 ITS 423 ITS 424 ITS 431 ITS 432 ITS 441 ITS 442 ITS 481 ITS 482 ITS 483 ITS 484 ITS 485 ITS 486 ITS 487 ITS 488 ITS 489	
2.2.2 Option II: Information and Communication Technology (4 courses)	
ITS 412 ITS 413 ITS 431 ITS 432	
2.2.3 Option III: Information Technology Management (4 courses)	
ITS 423 ITS 424 ITS 441 ITS 442	
2.3 Technical Elective Courses	3 Credits
Select 3 credits from the list of courses offered by SIIT, except basic courses. XXS xxx	
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 Credits</u>

IT Curriculum: 150 Credits

First Year

<i>Semester I</i>	<i>Credits (lecture-practice-self study hrs)</i>
EL 171 English Course II	3(3-1-5)
GTS 101 Skills Development for Technical Studies	3(3-1-5)
GTS 116 Mathematics for Technologists I	3(3-1-5)
GTS 121 General Science I	3(3-1-5)
GTS 133 Environmental Studies	3(2-2-5)
ITS 100 Introduction to Computers and Programming	3(2-3-4)
MTS 252 Materials Science	3(3-0-6)
Sub-Total	21(19-9-35)

Semester II

EC 210 Introductory Economics	3(3-1-5)
EL 172 English Course III	3(3-1-5)
GTS 117 Mathematics for Technologists II	3(3-1-5)
GTS 122 General Science II	3(3-1-5)
ITS 102 Object-Oriented Programming	3(3-0-6)
ITS 103 Object-Oriented Programming Laboratory	1(0-3-0)
TU 130 Integrated Sciences and Technology	3(3-0-6)
Sub-Total	19(18-7-32)

Third Year

<i>Semester I</i>	<i>Credits (lecture-practice-self study hrs)</i>
GTS 231 Law and Technology	3(3-1-5)
ITS 322 Database Management Systems	3(3-0-6)
ITS 323 Introduction to Data Communications	3(3-0-6)
ITS 331 Information Technology I Laboratory	1(0-3-0)
ITS 341 Management Information Systems	3(3-0-6)
ITS 342 3D Computer Animation	3(3-0-6)
ITS 343 Business Application Programming	3(3-0-6)
TU 110 Integrated Humanities	3(3-0-6)
Sub-Total	22(21-4-41)

Semester II

GTS 302 Technical Writing	2(2-1-3)
ITS 327 Computer Network Architectures and Protocols	3(3-0-6)
ITS 329 System Analysis and Design	3(3-0-6)
ITS 332 Information Technology II Laboratory	1(0-3-0)
ITS 333 Information Technology III Laboratory	1(0-3-0)
ITS 335 IT Security	3(3-0-6)
ITS 336 Artificial Intelligence	3(3-0-6)

Option I: General IT

ITS xxx Technical Elective	3(x-x-x)
ITS xxx Technical Elective	3(x-x-x)
Sub-Total	22(x-x-x)

Option II: Information and Communication Technology

ITS 412 Tele-services and Service Architecture	3(3-0-6)
ITS 413 Internet Technologies and Applications	3(3-0-6)
Sub-Total	22(20-7-39)

Option III: Information Technology Management

ITS 423 Data Warehouses and Data Mining	3(3-0-6)
ITS 424 Electronic Commerce	3(3-0-6)
Sub-Total	22(20-7-39)

Summer

ITS 300 Information Technology Training (Except students who select to take the Extended Training Track)	0(0-0-0)
Sub-Total	0(0-0-0)

Second Year

<i>Semester I</i>	<i>Credits (lecture-practice-self study hrs)</i>
CSS 224 Computer Architectures	3(3-0-6)
ECS 371 Digital Circuits	3(3-0-6)
GTS 210 Mathematics for Technologist III	3(3-1-5)
GTS 211 Differential Equations and Numerical Methods	3(3-0-6)
ITS 201 Discrete Mathematics	3(3-0-6)
ITS 221 Data Structures and Algorithms	3(3-0-6)
ITS 231 Data Structures and Algorithms Laboratory	1(0-3-0)
Sub-Total	19(18-4-35)

Semester II

CSS 221 Computer Graphics and Applications	3(2-3-4)
CSS 225 Operating System	3(3-0-6)
ECS 370 Digital Circuit Laboratory	1(0-3-0)
GTS 202 English Language Structures	3(3-1-5)
IES 302 Engineering Statistics	3(3-1-5)
ITS 227 Algorithm Design	3(3-0-6)
ITS 229 Human Computer Interface Design	3(3-0-6)
Sub-Total	19(17-8-32)

Fourth Year

<i>Semester I</i>	<i>Credits (lecture-practice-self study hrs)</i>
ITS 400 Project Development	1(0-3-0)
TU 120 Integrated Social Sciences	3(3-0-6)
TU 140 Thai Studies	3(3-0-6)
XXS xxx Technical Elective	3(x-x-x)

Option I: General IT

ITS xxx Compulsory Elective	3(x-x-x)
ITS xxx Compulsory Elective	3(x-x-x)
Sub-Total	16(x-x-x)

Option II: Information and Communication Technology

ITS 431 Mobile Computing	3(3-0-6)
ITS 432 Real-time and Embedded Systems	3(3-0-6)
Sub-Total	16(x-x-x)

Option III: Information Technology Management

ITS 441 Accounting Information Systems	3(3-0-6)
ITS 442 Entrepreneurship for IT Business Development	3(3-0-6)
Sub-Total	16(x-x-x)

Semester II

*XXX xxx Free Elective	3(x-x-x)
*XXX xxx Free Elective	3(x-x-x)

and one of the following 3 tracks:

1) Senior Project Track

ITS 403 Senior Project	6(0-18-0)
Sub-Total	12(x-x-x)

2) Foreign Exchange Track

ITS 495 Special Topics in Information Technology I	3(3-0-6)
ITS 496 Special Topics in Information Technology II	3(3-0-6)
Sub-Total	12(x-x-x)

3) Extended Training Track

ITS 499 Extended Information Technology Training	6(0-40-0)
Sub-Total	12(x-x-x)

Remark

*Students who plan to take the **Extended Training Track** in the second semester of their 4th year are advised to take 6 credits of these Free Elective Courses in the summer session of the 3rd year.