

# **CCIT - AASTMT Course Plan Document**

**for**

**<All Programs>**

**Version Date: September 2021**

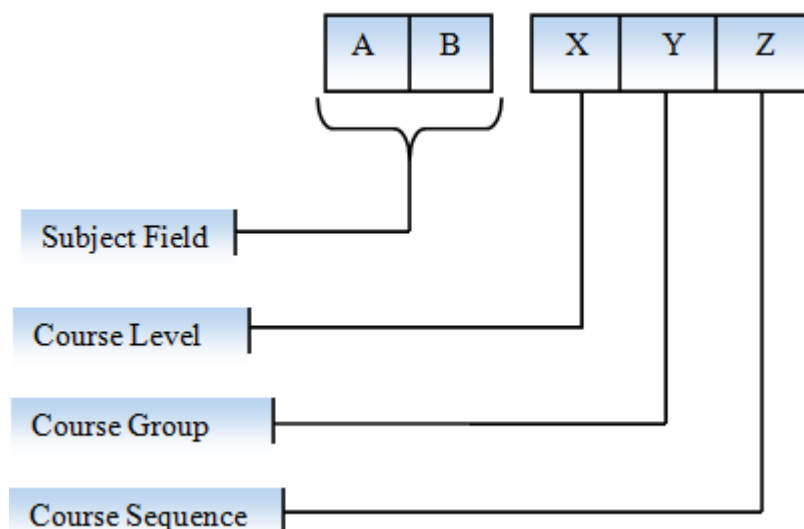
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**Upon agreement of <Department Heads>**

**And courses' data entry to the system**

## Course Coding Numbering System

The course code consists of five alphanumeric digits, AB XYZ depending on the nature of the course.



The **AB** letters : Represent the abbreviations of the subject field.

The **X** digit : Represents the course level or the year at which the course is offered in the plan of study.

The **Y** digit : Represents the course group.

The **Z** digit : Represents the course sequence number within the group.

### Abbreviations of Subject Field

The following abbreviations of subject fields are used in the program detailed structure and Course Description sections of this report; and are listed below:

<b>AR</b>	Architecture	<b>BA</b>	Basic and Applied Sciences	<b>CE</b>	Computer Engineering
<b>CS</b>	Computer Science	<b>GM</b>	Graphics and Multimedia	<b>IS</b>	Information Systems
<b>LH</b>	Linguistics and Humanities	<b>NC</b>	Non-Computing	<b>SE</b>	Software Engineering
<b>EC</b>	Electronics and Communications				

## CS Program Detailed Structure

Term I			
Course		Prerequisite	
Code	Title	Code	Title
<b>LH135</b>	English for Specific Purposes I		None
<b>BA101</b>	Calculus I		None
<b>BA113</b>	Physics		None
<b>NC172</b>	Fundamentals of Business		None
<b>CS111</b>	Intro. to Computers		None
<b>IS171</b>	Introduction to Information systems		None
<b>BA003 *</b>	Math 0		None

Term II			
Course		Prerequisite	
Code	Title	Code	Title
<b>LH136</b>	English for Specific Purposes II	<b>LH135</b>	English for Specific Purposes I
<b>BA102</b>	Calculus II	<b>BA101</b>	Calculus I
<b>GM311</b>	Introduction to Multimedia	<b>CS111</b>	Intro. to Computers
<b>EC134</b>	Fundamentals of Electronics	<b>BA113</b>	Physics
<b>CS143</b>	Intro. to Problem Solving and Programming	<b>CS111</b>	Intro. to Computers
<b>NC133</b>	Communication Skills	<b>LH135</b>	English for Specific Purposes I

Term III			
Course		Prerequisite	
Code	Title	Code	Title
<b>CE216</b>	Digital Logic Design	<b>CS111</b>	Intro. to Computers
<b>CS243</b>	Object-Oriented Programming	<b>CS143</b>	Intro. to Problem Solving and Programming
<b>BA201</b>	Calculus III	<b>BA102</b>	Calculus II
<b>CS202</b>	Discrete Structures	<b>CS111</b>	Intro. to Computers
<b>BA203</b>	Probability and Statistics	<b>BA102</b>	Calculus II
<b>BA216</b>	Advanced Physics	<b>BA113</b>	Physics

(\*): This course is added for students of science section only

<b>Term IV</b>			
<b>Course</b>		<b>Prerequisite</b>	
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
<b>SE291</b>	Introduction to Software Engineering	<b>CS243</b> <b>IS171</b>	Object-Oriented Programming Introduction to Information systems
<b>CS212</b>	Data Structures and Algorithms	<b>CS243</b>	Object-Oriented Programming
<b>CE243</b>	Intro. to Computer Architecture	<b>CE216</b>	Digital Logic Design
<b>CS244</b>	Advanced Programming Applications	<b>CS243</b>	Object-Oriented Programming
<b>IS273</b>	Database systems	<b>CS143</b>	Intro. to Problem Solving and Programming
<b>CE231</b>	Introduction to Networks	<b>CS143</b>	Intro. to Problem Solving and Programming
<b>IT291</b>	Professional Training in Entrepreneurship	-	None

<b>Term V</b>			
<b>Course</b>		<b>Prerequisite</b>	
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
<b>BA304</b>	Linear Algebra	<b>BA102</b>	Calculus II
<b>CS311</b>	Theory of Computation	<b>CS202</b>	Discrete Structures
<b>CS321</b>	Systems Programming	<b>CS243</b> <b>CE243</b>	Object-Oriented Programming Intro. to Comp. Architecture
<b>CS333</b>	Web Programming	<b>IS273</b>	Database Systems
<b>CS352</b>	Computer Graphics	<b>CS212</b>	Data Structures & Algorithms
<b>BA301</b>	Advanced Statistics	<b>BA203</b>	Probability and Statistics
<b>IT321</b>	Professional Training in Programming I (.Net 1)	-	None

<b>Term VI</b>			
<b>Course</b>		<b>Prerequisite</b>	
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
<b>CS322</b>	Operating Systems	<b>CE243</b> <b>CS212</b>	Intro. to Comp. Architecture Data Structures & Algorithms
<b>CS366</b>	Introduction to Artificial Intelligence	<b>CS202</b> <b>CS212</b>	Discrete Structures Data Structures & Algorithms
<b>CS312</b>	Computing Algorithms	<b>CS212</b>	Data Structures & Algorithms
<b>CS301</b>	Numerical Methods	<b>BA304</b> <b>CS143</b>	Linear Algebra Intro. to Problem Solving and Programming
<b>CS305</b>	System Modeling & simulation	<b>BA203</b> <b>CS243</b>	Probability and Statistics Object-Oriented Programming
	Minor Elective		
	Professional Training *	-	None

Term VII			
Course		Prerequisite	
Code	Title	Code	Title
<b>CS481</b>	Computers & Society		96 CR or more
<b>CS445</b>	Structure of programming Languages	<b>CS311</b> <b>CS321</b>	Theory of Computation Systems Programming
<b>CS401</b>	Project I		GPA $\geq$ 2.0 & 96 CR or more
	Major Elective		
	Major Elective		
	Minor Elective		
	Professional Training *	-	None

Term VIII			
Course		Prerequisite	
Code	Title	Code	Title
<b>CS421</b>	Computer System Security	<b>CS322</b> <b>CE231</b>	Operating Systems Introduction to Networks
<b>CS451</b>	Human Computer Interaction	<b>SE291</b>	Intro. to Software Engineering
<b>CS402</b>	Project II	<b>CS401</b>	Project I
	Major Elective		
	Major Elective		
	Minor Elective		
	Professional Training *	-	None

(\*): check the last page of the course plan for the Professional Training instructions.

## Computer Science Department

### Courses for Major Electives

Course		Prerequisite	
Code	Title	Code	Title
CS461	Software Agents	CS366	Introduction to Artificial Intelligence.
CS425	Distributed Systems	CS322	Operating Systems
CS403	Optimization techniques	CS301	Numerical Methods
CS432	Network Protocols & Programming	CE231	Introduction to Networks
		CS244	Advanced Programming Applications
CS441	Compilers	CS321	Systems Programming
		CS445	Structure of programming Languages
CS427	Embedded Systems Programming	CE243	Intro. to Computer Architecture
		CS143	Intro. to Problem Solving and Programming
CS453	Virtual Environments	CS352	Computer Graphics
CS454	Multimedia Acquisition & Communications	CS244	Advanced Programming Applications
		CE231	Introduction to Networks
CS464	Soft Computing	CS366	Introduction to Artificial Intelligence.
CS469	Robotics Applications	CS366	Introduction to Artificial Intelligence
		CE243	Intro. to Computer Architecture
CS443	Game Programming	CS243	Object-oriented Programming
		CS352	Computer Graphics
SE391	Project Management	SE291	Introduction to Software Engineering
CS468	Advanced Artificial intelligence	CS366	Introduction to Artificial Intelligence
CS475	Information Retrieval	CS212	Data Structures & Algorithms
		BA304	Linear Algebra
CS455	Digital Image Processing	CS212 BA201	Data Structures and Algorithms Calculus III
CS449	Functional Programming	CS445	Structure of programming Languages
CS428	Cloud Computing	CS322	Operating Systems
		CE231	Introduction to Networks
CS411	Data Compression	CS212	Data Structures and Algorithms
		BA201	Calculus III

## IS Program Detailed Structure

<b>Term I</b>			
<b>Course</b>		<b>Prerequisite</b>	
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
<b>LH135</b>	English For Specific Purposes I		None
<b>BA101</b>	Calculus I		None
<b>BA113</b>	Physics		None
<b>NC172</b>	Fundamentals of Business		None
<b>CS111</b>	Introduction to Computers		None
<b>IS171</b>	Introduction to Information systems		None
<b>BA003 *</b>	Math 0		None

<b>Term II</b>			
<b>Course</b>		<b>Prerequisite</b>	
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
<b>LH136</b>	English For Specific Purposes II	<b>LH135</b>	English For Specific Purposes I
<b>BA102</b>	Calculus II	<b>BA101</b>	Calculus I
<b>GM311</b>	Introduction to Multimedia	<b>CS111</b>	Intro. to Computers
<b>EC134</b>	Fundamentals of Electronics	<b>BA113</b>	Physics
<b>CS143</b>	Introduction to Problem Solving and Programming	<b>CS111</b>	Introduction to Computers
<b>NC133</b>	Communication Skills	<b>LH135</b>	English For Specific Purposes I

<b>Term III</b>			
<b>Course</b>		<b>Prerequisite</b>	
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
<b>CE216</b>	Digital Logic Design	<b>CS111</b>	Intro. to Computers
<b>CS243</b>	Object-Oriented Programming	<b>CS143</b>	Introduction to Problem Solving and Programming
<b>BA201</b>	Calculus III	<b>BA102</b>	Calculus II
<b>CS202</b>	Discrete Structures	<b>CS111</b>	Introduction to Computers
<b>BA203</b>	Probability and Statistics	<b>BA102</b>	Calculus II
<b>BA216</b>	Advanced Physics	<b>BA113</b>	Physics

(\*): This course is added to term I students of science section.

<b>Term IV</b>			
<b>Course</b>		<b>Course</b>	
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
<b>SE291</b>	Introduction to Software Engineering	<b>CS243</b> <b>IS171</b>	Object-Oriented Programming Intro. to Information systems
<b>CS212</b>	Data Structures and Algorithms	<b>CS243</b>	Object-Oriented Programming
<b>IS273</b>	Database Systems	<b>CS143</b>	Intro. to Problem Solving and Programming
<b>CS244</b>	Advanced Programming Applications	<b>CS243</b>	Object-Oriented Programming
<b>CE243</b>	Intro. to Computer Architecture	<b>CE216</b>	Digital Logic Design
<b>CE231</b>	Introduction to Networks	<b>CS143</b>	Intro. to Problem Solving and Programming
<b>IT291</b>	Professional Training in Entrepreneurship	-	None

<b>Term V</b>			
<b>Course</b>		<b>Prerequisite</b>	
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
<b>IS372</b>	Information Systems Theory & Practice	<b>IS171</b>	Intro. to Information Systems
<b>CS333</b>	Web Programming	<b>IS273</b>	Database Systems
<b>NC283</b>	Introduction to Accounting		None
<b>SE391</b>	Project Management	<b>SE291</b>	Intro. to Software Engineering
<b>IS391</b>	Systems Analysis & Design	<b>IS171</b> <b>CS243</b>	Intro. to Information Systems Object-Oriented Programming
<b>NC252</b>	Principles of Marketing		None
<b>IT321</b>	Professional Training in Programming I (.Net 1)	-	None

<b>Term VI</b>			
<b>Course</b>		<b>Prerequisite</b>	
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
<b>CS322</b>	Operating Systems	<b>CE243</b> <b>CS212</b>	Intro. to Computer Architecture Data Structures & Algorithms
<b>CS366</b>	Introduction to Artificial Intelligence	<b>CS202</b> <b>CS212</b>	Discrete Structures Data Structures & Algorithms
<b>NC275</b>	Global Business		None
<b>IS371</b>	E-business Fundamentals	<b>IS171</b>	Intro. to Information Systems
<b>IS374</b>	Advanced Database Systems	<b>IS273</b>	Database Systems
	Minor Elective		
	Professional Training *	-	None



<b>Term VII</b>			
<b>Course</b>		<b>Prerequisite</b>	
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
<b>IS471</b>	Strategic Planning for IS	<b>IS391</b>	Systems Analysis & Design
<b>CS481</b>	Computers & Society		96 CR or more
<b>IS401</b>	Project I		GPA>=2.0 & 96 CR or more
	Major Elective		
	Major Elective		
<b>NC471</b>	Business Process Management		96 CR or more
	Professional Training *	-	None

<b>Term VIII</b>			
<b>Course</b>		<b>Prerequisite</b>	
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
<b>IS421</b>	IS Security	<b>CS322</b>	Operating Systems
		<b>CE231</b>	Introduction to Networks
<b>IS461</b>	Decision Support Systems	<b>CS366</b>	Intro. to Artificial Intelligence
<b>IS402</b>	Project II	<b>IS401</b>	Project I
	Major Elective		
	Major Elective		
	Minor Elective		
	Professional Training *	-	None

(\*): check the last page of the course plan for the Professional Training instructions.

## Information Systems Department

### Courses for Major Electives

Code	Title	Prerequisite	
		Code	Title
<b>BA301</b>	Advanced Statistics	<b>BA203</b>	Probability and Statistics
<b>IS477</b>	Geographic Information Systems	<b>IS273</b>	Database Systems
<b>IS478</b>	Integrated Information Systems Management	<b>IS372</b>	Information Systems Theory & Practice
<b>IS472</b>	E-Learning	<b>IS372</b>	Information Systems Theory & Practice
<b>IS479</b>	Digital Libraries	<b>IS171</b>	Introduction to Information Systems
<b>IS433</b>	Mobile Computing Applications	<b>CS244</b>	Advanced Programming Applications
<b>CS451</b>	Human Computer Interaction	<b>SE291</b>	Introduction to Software Engineering
<b>IS473</b>	Multimedia Information Systems	<b>IS273</b>	Database Systems
		<b>CS212</b>	Data Structures & Algorithms
<b>IS463</b>	Knowledge Management	<b>CS366</b>	Introduction to AI
<b>IS465</b>	Data Mining	<b>IS273</b>	Database Systems
<b>IS474</b>	Digital Transformation	<b>IS372</b>	Information Systems Theory and Practice
<b>IS475</b>	IS Audit	<b>IS372</b>	Information Systems Theory and Practice
<b>IS467</b>	Big Data Analytics	<b>BA203</b>	Probability and Statistics
		<b>CS366</b>	Intro. to Artificial Intelligence

## **SE Program Detailed Structure**

<b>Term I</b>			
<b>Course</b>		<b>Prerequisite</b>	
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
<b>LH135</b>	English For Specific Purposes I		None
<b>BA101</b>	Calculus I		None
<b>BA113</b>	Physics		None
<b>NC172</b>	Fundamentals of Business		None
<b>CS111</b>	Introduction to Computers		None
<b>IS171</b>	Introduction to Information systems		None
<b>BA003 *</b>	Math 0		None

<b>Term II</b>			
<b>Course</b>		<b>Prerequisite</b>	
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
<b>LH136</b>	English For Specific Purposes II	<b>LH135</b>	English For Specific Purposes I
<b>BA102</b>	Calculus II	<b>BA101</b>	Calculus I
<b>GM311</b>	Introduction to Multimedia	<b>CS111</b>	Intro. to Computers
<b>EC134</b>	Fundamentals of Electronics	<b>BA113</b>	Physics
<b>CS143</b>	Introduction to Problem Solving and Programming	<b>CS111</b>	Introduction to Computers
<b>NC133</b>	Communication Skills	<b>LH135</b>	English For Specific Purposes I

<b>Term III</b>			
<b>Course</b>		<b>Prerequisite</b>	
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
<b>CE216</b>	Digital Logic Design	<b>CS111</b>	Introduction to Computers
<b>CS243</b>	Object-Oriented Programming	<b>CS143</b>	Introduction to Problem Solving and Programming
<b>BA201</b>	Calculus III	<b>BA102</b>	Calculus II
<b>CS202</b>	Discrete Structures	<b>CS111</b>	Introduction to Computers
<b>BA203</b>	Probability and Statistics	<b>BA102</b>	Calculus II
<b>BA216</b>	Advanced Physics	<b>BA113</b>	Physics

(\*): This course is added to term I students of science section.

<b>Term IV</b>			
<b>Course</b>		<b>Course</b>	
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
<b>SE291</b>	Introduction to Software Engineering	<b>CS243</b> <b>IS171</b>	Object-Oriented Programming Intro. to Information systems
<b>CS212</b>	Data Structures and Algorithms	<b>CS243</b>	Object-Oriented Programming
<b>IS273</b>	Database systems	<b>CS143</b>	Intro. to Problem Solving and Programming
<b>CS244</b>	Advanced Programming Applications	<b>CS243</b>	Object-Oriented Programming
<b>CE243</b>	Intro. to Computer Architecture	<b>CE216</b>	Digital Logic Design
<b>CE231</b>	Introduction to Networks	<b>CS143</b>	Intro. to Problem Solving and Programming
<b>IT291</b>	Professional Training in Entrepreneurship	-	None

<b>Term V</b>			
<b>Course</b>		<b>Prerequisite</b>	
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
<b>SE392</b>	Software requirement & Specifications	<b>SE291</b>	Intro. to Software Engineering
<b>BA304</b>	Linear Algebra	<b>BA102</b>	Calculus II
<b>SE391</b>	Project Management	<b>SE291</b>	Intro. to Software Engineering
<b>SE396</b>	Software Engineering Process	<b>SE291</b>	Intro. to Software Engineering
<b>CS333</b>	Web Programming	<b>IS273</b>	Database Systems
<b>BA301</b>	Advanced Statistics	<b>BA203</b>	Probability and Statistics
<b>IT321</b>	Professional Training in Programming I (.Net 1)	-	None

<b>Term VI</b>			
<b>Course</b>		<b>Prerequisite</b>	
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
<b>CS322</b>	Operating Systems	<b>CE243</b> <b>CS212</b>	Intro. to Comp. Architecture Data Structures & Algorithms
<b>CS366</b>	Introduction to Artificial Intelligence	<b>CS212</b> <b>CS202</b>	Data Structures & Algorithms Discrete Structures
<b>CS312</b>	Computing Algorithms	<b>CS212</b>	Data Structures & Algorithms
<b>SE393</b>	Principles of Software Architecture	<b>SE291</b>	Intro. to Software Engineering
<b>CS451</b>	Human Computer Interaction	<b>SE291</b>	Intro. to Software Engineering
<b>CS301</b>	Numerical Methods	<b>BA304</b> <b>CS143</b>	Linear Algebra Introduction to Problem solving and Programming
	Professional Training *	-	None

<b>Term VII</b>			
<b>Course</b>		<b>Prerequisite</b>	
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
<b>SE491</b>	Software component Design	<b>SE291</b>	Introduction to Software Engineering
<b>CS481</b>	Computers & Society		96 CR or more
<b>SE401</b>	Project I		GPA $\geq$ 2.0 & 96 CR or more
	Major Elective		
	Major Elective		
	Minor Elective		
	Professional Training *	-	None

<b>Term VIII</b>			
<b>Course</b>		<b>Prerequisite</b>	
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
<b>SE497</b>	Software verification and Validation	<b>SE291</b>	Introduction to Software Engineering
<b>CS421</b>	Computer System Security	<b>CS322</b> <b>CE231</b>	Operating Systems Introduction to Networks
<b>SE402</b>	Project II	<b>SE401</b>	Project I
	Major Elective		
	Major Elective		
	Minor Elective		
	Professional Training *	-	None

(\*): check the last page of the course plan for the Professional Training instructions.

**Courses for Major Electives**  
**Software Engineering Department**

Code	Title	Prerequisite	
		Code	Title
CS427	Embedded Systems Programming	CE243 CS143	Introduction to Computer Architecture Introduction to Problem Solving
CS428	Cloud Computing	CS322 CE231	Operating Systems Introduction to Networks
SE481	Agile Software Development	SE291	Introduction to Software Engineering
SE482	Architecting IOT Solutions	SE291	Introduction to Software Engineering
SE483	Engineering AI-enabled Systems	CS366	Introduction to Artificial Intelligence
SE484	Engineering for Deployment and Operations		96 Credits Hours or More
SE485	Software Configuration Management	SE291	Introduction to Software Engineering
SE486	Software Engineering for Large Scale Systems	SE291	Introduction to Software Engineering
SE487	Software Maintenance and Evolution	SE291	Introduction to Software Engineering
SE488	Software Product Lines Engineering	SE393	Principles of Software Architecture
SE489	Software Risk Management	SE291	Introduction to Software Engineering
SE493	Software Quality Assurance	SE291	Introduction to Software Engineering
SE494	Formal Methods in Software Engineering	SE291	Introduction to Software Engineering
SE495	Security in Software Engineering	SE291	Introduction to Software Engineering

## GM Program Detailed Structure

<b>Term I</b>			
<b>Course</b>		<b>Prerequisite</b>	
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
<b>LH135</b>	English for Specific Purposes I		None
<b>BA101</b>	Calculus I		None
<b>BA113</b>	Physics		None
<b>NC172</b>	Fundamentals of Business		None
<b>CS111</b>	Intro. to Computers		None
<b>IS171</b>	Introduction to Information systems		None
<b>BA003 *</b>	Math 0		None

<b>Term II</b>			
<b>Course</b>		<b>Prerequisite</b>	
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
<b>LH136</b>	English for Specific Purposes II	<b>LH011</b>	English for Specific Purposes I
<b>BA102</b>	Calculus II	<b>BA101</b>	Calculus I
<b>GM311</b>	Introduction to Multimedia	<b>CS111</b>	Intro. to Computers
<b>EC134</b>	Fundamentals of Electronics	<b>BA113</b>	Physics
<b>CS143</b>	Intro. to Problem Solving and Programming	<b>CS111</b>	Intro. to Computers
<b>NC133</b>	Communication Skills	<b>LH135</b>	English for Specific Purposes I

<b>Term III</b>			
<b>Course</b>		<b>Prerequisite</b>	
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
<b>CE216</b>	Digital Logic Design	<b>CS111</b>	Intro. to Computers
<b>CS243</b>	Object-Oriented Programming	<b>CS143</b>	Intro. to Problem Solving and Programming
<b>BA201</b>	Calculus III	<b>BA102</b>	Calculus II
<b>CS202</b>	Discrete Structures	<b>CS111</b>	Intro. to Computers
<b>BA203</b>	Probability and Statistics	<b>BA102</b>	Calculus II
<b>BA216</b>	Advanced Physics	<b>BA113</b>	Physics

(\*): This course is added for students of science section only.

<b>Term IV</b>			
<b>Course</b>		<b>Prerequisite</b>	
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
<b>SE291</b>	Introduction to Software Engineering	<b>CS243</b> <b>IS171</b>	Object-Oriented Programming Introduction to Information systems
<b>CS212</b>	Data Structures and Algorithms	<b>CS243</b>	Object-Oriented Programming
<b>CE243</b>	Intro. to Computer Architecture	<b>CE216</b>	Digital Logic Design
<b>CS244</b>	Advanced Programming Applications	<b>CS243</b>	Object-Oriented Programming
<b>IS273</b>	Database systems	<b>CS143</b>	Intro. to Problem Solving and Programming
<b>CE231</b>	Introduction to Networks	<b>CS143</b>	Intro. to Problem Solving and Programming
<b>IT291</b>	Professional Training in Entrepreneurship	-	None

<b>Term V</b>			
<b>Course</b>		<b>Prerequisite</b>	
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
<b>CS333</b>	Web Programming	<b>IS273</b>	Database systems
<b>GM315</b>	Digital Audio & Video Fundamentals	<b>GM311</b>	Introduction to Multimedia
<b>CS352</b>	Computer Graphics	<b>CS212</b>	Data Structures and Algorithms
<b>SE391</b>	Project Management	<b>SE291</b>	Intro. to Software Engineering
	Humanities Elective		
<b>GM317</b>	Media Production and Editing	<b>GM311</b>	Introduction to Multimedia
<b>IT321</b>	Professional Training in Programming I (.Net 1)	-	None

<b>Term VI</b>			
<b>Course</b>		<b>Prerequisite</b>	
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
<b>CS322</b>	Operating Systems	<b>CE243</b> <b>CS212</b>	Intro. to Computer Architecture Data Structures and Algorithms
<b>CS366</b>	Introduction to Artificial Intelligence	<b>CS202</b> <b>CS212</b>	Discrete Structures Data Structures & Algorithms
<b>CS451</b>	Human Computer Interaction	<b>SE291</b>	Introduction to Software Engineering
<b>GM324</b>	3D Modeling	<b>GM311</b>	Introduction to Multimedia
<b>CS443</b>	Game Programming	<b>CS243</b> <b>CS352</b>	Object-Oriented Programming Computer Graphics
	Minor Elective		
	Professional Training *	-	None



Term VII			
Course		Prerequisite	
Code	Title	Code	Title
<b>GM323</b>	Digital Lighting and Rendering	<b>GM324</b>	3D Modeling
<b>CS455</b>	Digital Image Processing	<b>CS212</b>	Data Structures and Algorithms
		<b>BA201</b>	Calculus III
<b>GM413</b>	Project I		GPA>=2.0 & 96 CR or more
	Minor Elective		
	Major Elective		
	Major Elective		
	Professional Training *	-	None

Term VIII			
Course		Prerequisite	
Code	Title	Code	Title
<b>CS421</b>	Computer System Security	<b>CS322</b>	Operating Systems
		<b>CE231</b>	Introduction to Networks
<b>GM411</b>	Computer Animation	<b>GM323</b>	Digital Lighting and Rendering
<b>GM423</b>	Project II	<b>GM413</b>	Project I
	Minor Elective		
	Major Elective		
	Major Elective		
	Professional Training *	-	None

(\*): check the last page of the course plan for the Professional Training instructions.

## Multimedia and Graphics Department

### Courses for Major Electives

<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Prerequisite</b>
<b>GM416</b>	Video Editing	<b>GM311</b>	Introduction to Multimedia
<b>CS446</b>	Computer Games programming: Tools and Techniques	<b>CS443</b>	Game Programming
<b>GM418</b>	Information Visualization	<b>CS352</b>	Computer Graphics
		<b>IS171</b>	Intro. to Information systems
<b>CS466</b>	Machine Learning and AI for Games	<b>CS366</b>	Introduction to Artificial Intelligence
		<b>CS443</b>	Game Programming
<b>CS447</b>	Writing Games Analysis – concept art for gaming	<b>CS443</b>	Game Programming
		<b>GM324</b>	3D Modeling
<b>GM425</b>	3D animation and Graphics Programming Tools	<b>GM324</b>	3D Modeling
<b>GM426</b>	Video Databases	<b>GM311</b>	Introduction to Multimedia
		<b>IS273</b>	Database Systems
<b>CS448</b>	Game Modeling Design	<b>CS443</b>	Game Programming
<b>GM427</b>	Video Streaming	<b>GM311</b>	Introduction to Multimedia
		<b>CE231</b>	Introduction to Networks
<b>CS411</b>	Data Compression	<b>CS212</b>	Data Structures and Algorithms
		<b>BA201</b>	Calculus III

## Courses for Minor Electives

### Computer Science

Code	Title	Prerequisite	
		Code	Title
CS301	Numerical Methods	BA304	Linear Algebra
		CS143	Introduction to Problem Solving & Programming
CS445	Structure of Programming Languages	CS311	Theory of Computation
		CS321	Systems Programming
CS305	System Modeling & Simulation	BA203	Probability and Statistics
		CS243	Object-Oriented Programming
CS321	Systems Programming	CS243	Object-Oriented Programming
		CE243	Introduction to Computer Architecture
CS352	Computer Graphics	CS212	Data Structures & Algorithms
CS311	Theory of Computation	CS202	Discrete Structures
CS443	Game Programming	CS243	Object-oriented Programming
		CS352	Computer Graphics

### Information Systems

Course		Prerequisite	
Code	Title	Code	Title
IS372	Information Systems Theory & Practice	IS171	Introduction to Information systems
IS391	Systems Analysis & Design	IS171	Introduction to Information systems
		CS243	Object-Oriented Programming
IS371	E-business Fundamentals	IS171	Intro. to Information Systems
IS374	Advanced Database Systems	IS273	Database Systems
IS461	Decision Support Systems	CS366	Introduction to Artificial Intelligence
IS471	Strategic Planning for IS	IS391	Systems Analysis & Design
IS467	Big Data Analytics	BA203	Probability and Statistics
		CS366	Intro. to Artificial Intelligence

## Software Engineering

Course		Prerequisite	
Code	Title	Code	Title
SE392	Software Requirements & Specifications	SE291	Introduction to Software Engineering
SE393	Principle of Software Architecture	SE291	Introduction to Software Engineering
SE491	Software Component Design	SE291	Introduction to Software Engineering
SE492	Software Verification	SE291	Introduction to Software Engineering
SE493	Software Quality Assurance	SE291	Introduction to Software Engineering

## Multimedia and Graphics

Course		Prerequisite	
Code	Title	Code	Title
GM323	Digital Lighting and Rendering	GM324	3D Modeling
GM324	3D Modeling	GM311	Introduction to Multimedia
CS352	Computer Graphics	CS212	Data Structures & Algorithms
GM411	Computer Animation	GM323	Digital Lighting and Rendering
GM317	Media Production and Editing	GM311	Introduction to Multimedia
GM315	Digital Audio & Video Fundamentals	GM311	Introduction to Multimedia

### **Humanities Elective Courses (GM and SE only)**

<b>Course</b>		<b>Prerequisite</b>	
<b>Code</b>	<b>Title</b>	<b>Code</b>	<b>Title</b>
NC215	Theory of Colors		None
NC252	Principles of Marketing		None
NC262	Scientific Thinking		None
NC263	Environmental Science & Technology		None
NC264	Principle of Microeconomics		None
NC275	Global Business		None
NC282	Financial Accounting		None
NC283	Introduction to Accounting		None

## **Professional Training Courses in CCIT**

**All students MUST complete professional training requirements before graduation.**

At term 4, the student is expected to register Professional Training in Entrepreneurship followed by Professional Training in Programming I, at term 5. Then, at term 6, the student chooses one of the three currently available tracks (*Networking, Database, or Multimedia*), where he or she has to cover three Professional Training courses in the chosen track in terms 6, 7, and 8 respectively.

The following tables show the distribution of Professional Training courses in each track.

### **Networking**

<b>Term</b>	<b>Course Code</b>	<b>Course Title</b>
<b>Term 6</b>	IT331	Professional Training in Networking I
<b>Term 7</b>	IT332	Professional Training in Networking II
<b>Term 8</b>	IT431	Professional Training in Networking III

### **Database**

<b>Term</b>	<b>Course Code</b>	<b>Course Title</b>
<b>Term 6</b>	IT371	Professional Training in Database I
<b>Term 7</b>	IT372	Professional Training in Database II
<b>Term 8</b>	IT471	Professional Training in Database III

### **Multimedia**

<b>Term</b>	<b>Course Code</b>	<b>Course Title</b>
<b>Term 6</b>	IT382	Professional Training in Multimedia I
<b>Term 7</b>	IT481	Professional Training in Multimedia II
<b>Term 8</b>	IT482	Professional Training in Multimedia III