



## The ICFAI University, Tripura

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Ref: IUT/CSE/2017-18/02

Date: 16/08/2017

**Minutes of the Meeting of the Board of Studies(BOS) held on 16<sup>th</sup> August 2017 at 11:00 AM in Board Room regarding the programme of B.Tech in Computer Science and Engineering**

**Members Present in the meeting -**

1. Prof. Biplab Halder, Pro-Vice Chancellor, ICFAI University, Tripura (Chairperson).
2. Dr. P.R. Borthakur (Coordinator, Faculty of Science and Technology, ICFAI University, Tripura).
3. Prof. B.V. Srikanth (HoD, Computer Science and Engineering, ICFAI University, Tripura).
4. Prof. Abhijit Biswas (Internal member, Assistant Professor, Computer Science and Engineering, ICFAI University, Tripura).
5. Dr. T. K. Basu ( External member, Retired Professor, IIT Kharagpur), joined through video conferencing.

**Agenda -**

- I. Modification of syllabus for B.Tech in Computer Science and Engineering (Programme Code – FST003).
- II. List of elective papers to be included in the aforesaid programme.
- III. Credit distribution for B.Tech in Computer Science and Engineering.
- IV. Any other with the approval of the chair.

**Minutes of meeting -**

- I. The chairperson welcomed the members and introduced external BOS member to the board and further internal members introduced themselves.
- II. Chairperson advised the coordinator of FST to proceed with the meeting as per the agendas.
- III. HoD, CSE made a presentation on the proposed curriculum for B.Tech in CSE and discussed the new courses which need to be introduced in the programme.
- IV. It was unanimously resolved that the modification (refer Annexure I) of the syllabus in the existing programme was approved by the members of BOS and it was decided that


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the said revision (marked in yellow) will be sent to the Academic Council of the university for the final approval.

- V. It was resolved that the course-specific outcome and program outcome should be well defined and should get integrated into the current syllabus.
- VI. Regarding the list of elective courses, the list of elective courses was produced by the HoD, CSE which would be offered for the programme.
- o Elective Courses for B.Tech in CSE programme –


Course Code	Course Title	L T P U
CS424	Network Security	3 0 0 3
CS 438	E-Commerce	3 0 0 3
CS 403T	Parallel Computing	3 0 0 3
CS 403P	Parallel Computing Lab	
CS 413	Real Time Systems	3 0 0 3
CS 417	SQL and Database Application	3 0 0 3
CS418T	Advanced Operating System	3 0 0 3
CS418P	Advanced Operating System Practical	0 0 3 2
CS 430	Multimedia Computing	3 0 0 3
CS431	Block Chain and Applications	3 0 0 3
CS433	Database Security Administration	3 0 0 3
CS422	Design Patterns	3 0 0 3
CS 423	Network Programming	3 0 0 3
CS443T	Unix and Shell Programming	3 0 0 3
CS443P	Unix and Shell Programming Practical	0 0 3 2
CS 427	Software Testing Methods	3 0 0 3
CSE416T	Python Programming	3 0 0 3
CSE416P	Python Programming practical	0 0 3 2
CS426	Service Oriented Architecture	3 0 0 3
CS 310T	Internet of Things	3 0 0 3

- VII. With regards to the number of credits for courses, all members of the board agreed that each theory course offered by the Computer Science and Engineering should be worth 3 credits and each practical course should be worth 2 credits.
- VIII. Course codes of a few courses were modified.
- IX. The meeting got successfully concluded with a Vote of Thanks from the chairperson.

  
Prof. B.V. Srikanth  
(HoD, CSE, FST)

  
Dr. P.R. Borthakur  
(Co ordinator, FST)

  
Prof. Abhijit Biswas  
(Internal Member, CSE, FST)

  
Chairperson  
Board of Studies  
Computer Science and Engineering  
Faculty of Science and Technology  
ICFAI University, Tripura

Pro-Vice Chancellor,  
ICFAI University, Tripura.  
Kamalghat, West Tripura.

  
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### Annexure I

Existing program structure of B.Tech in Computer Science and Engineering up to July, 2018

#### **B.Tech ( Computer Science and Engineering ) (Program Code – FST003)**

	SEMESTER I			SEMESTER II		
	Course Code	Course Title	L P U	Course Code	Course Title	L P U
YEAR I	ES111	English Language 1	3 0 3	MA 121	Mathematics II	3 0 3
	MA 111	Mathematics I	3 0 3	PH 121	Physics II	3 0 3
	PH 111	Physics I	3 0 3	TA 105	Physical Sciences Lab II	0 2 1
	CH 111	Chemistry	3 0 3	ES 111	Thermodynamics	3 0 3
	TA 104	Physical Sciences Lab I	0 2 1	ES 121	Engineering Mechanics	3 0 3
	TA 101	Engineering Graphics	2 4 4	TA 102	Workshop Practice	2 4 4
	ENV122	Environmental Science	3 0 3	TA 121	C Programming	3 3 4
		Total Units (20)			Total Units (21)	
	Summer Term	Course on English Language Skills				
	SEMESTER III			SEMESTER IV		
	Course Code	Course Title	L P U	Course Code	Course Title	L P U
YEAR II	MA 211	Mathematics III	3 0 3	MA222	Probability and Statistics	3 0 3
	TA 204	Technical Report Writing	3 0 3	MG302	Principles of Economics	3 0 3
	ES 211	Basic Electrical & Electronics Engineering	3 3 4	CS 223	Design and Analysis of Algorithms	3 0 3
	CS 216	Object oriented Programming through C++	3 3 4	CS 222	Java Programming	3 3 4
	CS 214	Database Management Systems	3 3 4	MA 221	Discrete Structures for Computer Science (Computer Maths)	3 0 3
	CS 211	Digital Logic Design	3 0 3	EC 222	Microprocessor Programming and Interfacing	3 3 4
					CS 226	Data structures for Computer Science
	Total Units (21)			Total Units (23)		
Summer Term	IP 201	Internship Program I				0 0 5
	SEMESTER V			SEMESTER VI		
YEAR III	Course Code	Course Title	L P U	Course Code	Course Title	L P U
		Numerical Analysis	3 0 3		Humanities / Social Sciences	3 0 3

	CS 314	Object Oriented Analysis and Design with UML ( IBM tool)	3 3 4	MA 320	Operation Research	3 0 3
	CS 313	Artificial Intelligence	3 0 3	CS 324	.NET and C# Programming	3 3 4
	CS 313	Operating Systems	3 0 3	CS 325	Data Warehousing and Data Mining	3 3 4
	CS 315	Computer Networks	3 0 3	CS 322	Computer Organization and Architecture	3 0 3
	CS 315L	CN & OS Lab	0 3 1	CS 327	Software Engineering	3 0 3
	CS 318	Network Security	3 0 3			
		Soft Skills	2 0 0			
		Total Units (20)			Total Units (20)	
Summer Term	Summer Internship Program CS IP 401 Internship Project 0 0 5					
	SEMESTER VII			SEMESTER VIII		
	Course Code	Course Title	L P U	Course Code	Course Title	L P U
	CS 414	Computer Graphics	3 0 4	CS 428	Cloud Computing	3 0 3
	CS 416	Web Technologies	3 3 4	CS 429	Theory of Computation	3 0 3
	CS 411	Programming Languages and Compiler Construction	3 0 3	CS 423	PHP Programming	3 3 4
	CS ELEC 412	Mobile Computing ( CSE Elective 1)	3 0 3	CS ELEC 420	Parallel Programming (Elective 3)	3 3 4
	CS ELEC 413	Software Process & Project Management (CSE Elective 2)	3 0 3	CS ELEC 422	E-Commerce (Elective 4)	3 0 3
				CSGV 492	Grand Viva	0 0 9
	CS 491	Special Project	0 0 3	CS 491	Special Project - II	0 0 3
		Total Units (20)			Total Units (28)	
YEAR IV						

  
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List of Electives 4th Year Semester-I

Course Code	Course Title	L T P U
CS424	Design Patterns	3 0 0 3
CS 438	Network Programming	3 0 0 3
CS 403T	Network Security	3 0 0 3
CS 403P	Object Oriented Analysis and Design with UML	
CS 413	Service Oriented Architecture	3 0 0 3
CS 417	Software Testing Methods	2 0 2 3

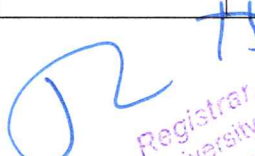
List of Electives 4th Year Semester-II

Course Code	Course Title	L T P U
CS 403	Parallel Computing	3 0 0 3
CS 403L	Parallel Computing Lab	3 0 0 3
CS 428	Mobile Computing	2 0 2 3
CS 413	Real Time Systems	3 0 0 3
CS 417	SQL and Database Application	0 0 3 2
CS 430	Multimedia Computing	3 0 0 3
CS437	Cloud Computing	3 0 0 3
CS 438	E- Commerce	3 0 0 3

Revised program structure of B.Tech in Computer Science and Engineering with effect from August, 2018

**B.Tech (Computer Science & Engineering)  
(Program Code – FST003)**

	SEMESTER I				SEMESTER II			
	Course Code	Course Title	L T P U	Course No	Course Title	L T P U		
YEAR I	MA111	Mathematics -I	3 1 0 3	ES121	Engineering Mechanics	3 0 0 3		
	PH111	Physics - I	3 1 0 3	MA121	Mathematics II	3 1 0 3		
	CH111	Chemistry	3 1 0 3	PH121	Physics II	3 1 0 3		
	TA101	Engineering Graphics	2 0 4 4	TA105	Physical Sciences Lab II	0 0 2 1		
	TA104	Physical Sciences Lab -I	0 0 2 1	TA102	Workshop	2 0 4 4		
	EGL11 1	English Language Skill	3 0 0 3	TA121T	C Programming	3 0 0 3		
	ENV12 2	Environmental Studies	3 0 0 3	TA121P	C Programming Practical	0 0 3 2		
				ES211T	Basic Electrical & Electronics Engineering-I	3 0 0 3		
				ES211P	Basic Electrical & Electronics Engineering-I Practical	0 0 3 2		

  
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	Total Unit: 20				Total Unit: 24				
<b>Summer Term</b>	SIP101	Summer Internship Program I						0 0 0 5	
<b>YEAR II</b>			<b>SEMESTER III</b>			<b>SEMESTER IV</b>			
	<b>Course No</b>		<b>Course Title</b>	<b>L T P U</b>	<b>Course No</b>		<b>Course Title</b>	<b>L T P U</b>	
	EC211 T		Digital Logic Design	3 0 0 3	ECN 201		Principles of Economics	3 0 0 3	
	EC211 P		Digital Logic Design Practical	0 0 3 2	MA212		Probability and Statistics	3 0 0 3	
	CS212 T		Object Oriented programming through C++	3 0 0 3	MA221		Discrete Structures for Computer Science	3 0 0 3	
	CS212 P		Object Oriented programming through C++ Practical	0 0 3 2	EC222T		Microprocessor Programming & Interfacing	3 0 0 3	
	CS 314T		Data structures & Algorithm	3 1 0 3	EC222P		Microprocessor Programming & Interfacing Practical	0 0 3 2	
	CS 314P		Data structures & Algorithm practical	0 0 2 2	CS223		Design and Analysis of Algorithms	3 1 0 3	
	EGL23 3		Technical Report Writing	3 0 0 3	CS311T		Database Management Systems	3 0 0 3	
	MA211		Mathematics III	3 0 0 3	CS311P		Database Management Systems Practical	0 0 3 2	
<b>Total Unit: 24</b>				<b>Total Unit: 22</b>					
<b>Summer Term</b>	SIP 201	Summer Internship Program II						0 0 0 5	
<b>YEAR III</b>			<b>SEMESTER V</b>			<b>SEMESTER VI</b>			
	<b>Course No</b>		<b>Course Title</b>	<b>L T P U</b>	<b>Course No</b>		<b>Course Title</b>	<b>L T P U</b>	
	MA309		Numerical Analysis	3 0 0 3	HS361		Dynamics Of Social Changes	3 0 0 3	
	CS 325T		Data Communication and Computer Networks	3 0 0 3	CS 323		Computer Organization and Architecture	3 1 0 3	
	CS 325P		Data Communication and Computer Networks Practical	0 0 3 2	CS 429T		Web Technologies	3 0 0 3	
CS 313T		Operating Systems	3 0 0 3	CS 429P		Web Technologies Practical	0 0 3 2		

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	CS 313P	Operating Systems practical	0 0 3 2	CSE32 4T		.NET Technologies	3 1 0 3	
	CS312 T	JAVA Programming	3 0 0 3	CSE32 4P		.NET Technologies Practical	0 0 2 2	
	CS312 P	JAVA Programming practical	0 0 3 2	CSE32 5T		System Analysis with Software Engineering	3 0 0 3	
	CS 428	Theory of Computation	3 0 0 3	CSE32 6T		Compiler Design	3 1 0 3	
	CS 405	Artificial Intelligence	3 0 0 3					
	<b>Total Unit: 24</b>			<b>Total Unit: 22</b>				
<b>Summer Term</b>	SIP301	Summer Internship Program III					0 0 0 5	
<b>YEAR IV</b>			<b>SEMESTER VII</b>			<b>SEMESTER VIII</b>		
	Course No	Course Title	L T P U	Course No	Course Title	L T P U		
	CS440 T	Smartphone Computing and Applications	3 0 0 3	CS437	Cloud Computing	3 0 0 3		
	CS440 P	Smartphone Computing and Applications Practical	0 0 3 2	CS225T	Object Oriented Analysis Design with UML	3 0 0 3		
	CS421 T	Data Warehousing and Data Mining	3 0 0 3	CS225P	Object Oriented Analysis Design with UML Practical	0 0 3 2		
	CS421 P	Data Warehousing and Data Mining Practical using R	0 0 3 2	CSE424 T	Advance Database Management System	3 0 0 3		
		Elective 1	3 0 0 3		Elective 2	3 0 0 3		
	CSE4 14T	Digital Image Processing	3 1 0 3	CS441	Big Data Analytics	3 0 0 3		
	CSE41 4P	Digital Image Processing practical	0 0 3 2	CSE427 T	Advanced Java Programming	3 0 0 3		
	CS439	Natural Language Processing and Machine Translation	3 0 0 3	CSE427 P	Advanced Java Programming practical	0 0 3 2		
	SSU35 4	Soft Skills	3 0 0 2	GV402	Grand Viva	0 0 0 3		
	CS 491	Special Project I	0 0 0 5	CS492	Special Project II	0 0 0 5		
	<b>Total Unit: 28</b>			<b>Total Unit: 30</b>				

  
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**List of Electives 4th Year Semester-I**

Course Code	Course Title	L T P U
CS424	Network Security	3 0 0 3
CS 438	E-Commerce	3 0 0 3
CS 403T	Parallel Computing	3 0 0 3
CS 403P	Parallel Computing Lab	
CS 413	Real Time Systems	3 0 0 3
CS 417	SQL and Database Application	2 0 2 3
CS418T	Advanced Operating System	3 0 0 3
CS418P	Advanced Operating System Practical	0 0 3 2
CS 430	Multimedia Computing	2 0 2 4
CS431	Block Chain and Applications	3 0 0 3

**List of Electives 4th Year Semester-II**

Course Code	Course Title	L T P U
CS433	Database Security Administration	3 0 0 3
CS422	Design Patterns	3 0 0 3
CS 423	Network Programming	2 0 2 3
CS443T	Unix and Shell Programming	3 0 0 3
CS443P	Unix and Shell Programming Practical	0 0 3 2
CS 427	Software Testing Methods	3 0 0 3
CSE416T	Python Programming	3 0 0 3
CSE416P	Python Programming practical	0 0 3 2
CS426	Service Oriented Architecture	3 0 0 3
CS 310T	Internet of Things	3 0 0 3

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