

# Curriculum for *B.Tech. Programs*



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**Indian Institute of Technology Jodhpur**

## Proposed Curriculum

### B. Tech. Systems Science (Computer Science Engineering)

Cat.	Course Title	L-T-P	Credits	Cat.	Course Title	L-T-P	Credits		
<b>I Semester</b>				<b>II Semester</b>					
H	ME111 System Exploration--Drawing	3-0-3	4	H	ME121 System Exploration--Workshop	3-0-3	4		
H	CS111 Computer Programming	3-1-3	5	H	EE121 Basic Electronics Engineering	3-1-3	5		
B	PH111 Electromagnetism and Optics	3-1-3	5	H	ME122 Engineering Mechanics	3-1-3	5		
B	MA111 Linear Algebra and Calculus	4-1-0	5	B	MA121 Complex Analysis & Differential Equation	4-1-0	5		
C	CS112 Discrete Mathematics	3-1-0	4	C	CS121 Data Structures and Algorithms	3-1-3	5		
L	HA111 English / Foreign Language	3-0-0	3	L	HS211 Rights, Responsibilities, Law and Constitution	3-0-0	3		
S	PE111 Physical Exercises I			S	PE121 Physical Exercise II				
<b>Total</b>			<b>32</b>	<b>26</b>	<b>Total</b>			<b>35</b>	<b>27</b>
<b>III Semester</b>				<b>IV Semester</b>					
H	EE221 Basic Electrical Engineering	3-1-3	5	H	EE222 Digital Logic and Design	3-0-3	4		
B	ME211 Thermodynamics	3-1-0	4	B	MA221 Probability Statistics and Random Processes	4-1-0	5		
B	CY211 Chemistry	3-0-3	4	C	CS222 Operating Systems	3-0-3	4		
C	EE213 Signals and Systems	3-1-0	4	C	SS221 Systems thinking and Systems Modeling	3-1-0	4		
C	CS212 Algorithm Design and Analysis	3-0-0	3	P	SS299 B. Tech. Project	0-0-9	3		
L	HS211 Economics	3-0-0	3	L	HS221 Management	3-0-0	3		
<b>Total</b>			<b>27</b>	<b>23</b>	<b>Total</b>			<b>33</b>	<b>23</b>
<b>V Semester</b>				<b>VI Semester</b>					
C	SS311 OR Optimization	3-1-0	4	C	SS321 Dynamical Systems	3-1-0	4		
C	CS312 Software Engineering	3-0-3	4	C	SS322 Socio-Economic Network and Business Dynamics	3-0-0	3		
C	CS313 Computer Organization and Architecture	3-0-0	3	C	CS321 Computer Networks	3-0-3	4		
C	SS312 Systems Design	3-1-3	5	C	CS322 Programming Languages & Compiler Design	3-0-3	4		
P	SS398 B. Tech. Project	0-0-9	3	P	SS399 B. Tech. Project	0-0-9	3		
L	HS311 Psychology	3-0-0	3	L	HS321 Writing in Newspaper Column	3-0-0	3		
<b>Total</b>			<b>32</b>	<b>22</b>	<b>Total</b>			<b>31</b>	<b>21</b>
<b>VII Semester</b>				<b>VIII Semester</b>					
E	Elective 1	3-0-0	3	E	Elective 4	3-0-0	3		
E	Elective 2	3-0-0	3	E	Elective 5	3-0-0	3		
E	Elective 3	3-0-0	3	E	Elective 6	3-0-0	3		
P	SS498 B. Tech. Project	0-0-21	7	P	SS499 B. Tech. Project	0-0-21	7		
L	HS411 Leadership	3-0-0	3	L	HS421 Development of India	3-0-0	3		
<b>Total</b>			<b>33</b>	<b>19</b>	<b>Total</b>			<b>33</b>	<b>19</b>
<b>GRAND TOTAL</b>							<b>256</b>	<b>180</b>	

S. No.	Category	Course Category Title	Total Courses	Total Credits
1	H	Hands-on Experience	7	32
2	B	Basics	6	28
3	C	Compulsory	14	55
4	E	Electives	6	18
5	P	Hands-on Project	5	23
6	L	Life Skills	8	24
7	S	Games & Sports/Social Service	2	0
<b>Total</b>			<b>46</b>	<b>180</b>

## Proposed Curriculum

### B. Tech. Systems Science (Electrical Engineering)

Cat.	Course Title	L-T-P	Credits		Cat.	Course Title	L-T-P	Credits	
<b>I Semester</b>					<b>II Semester</b>				
H	ME111 System Exploration--Drawing	3-0-3	4		H	ME121 System Exploration--Workshop	3-0-3	4	
H	CS111 Computer Programming	3-1-3	5		H	EE121 Basic Electronics Engg.	3-1-3	5	
B	MA111 Linear Algebra and Calculus	4-1-0	5		H	ME122 Engineering Mechanics	3-1-3	5	
B	PH111 Electromagnetism and Optics	3-1-3	5		B	MA121 Complex Analysis & Differential Equation	4-1-0	5	
C	EE111 Physics of Semiconductor Devices	3-0-0	3		C	EE122 Electromagnetic Theory	3-1-0	4	
L	HS111 English / Foreign Language	3-0-0	3		L	HS121 Rights, Responsibilities, Law and Constitution	3-0-0	3	
S	PE111 Physical Exercises I				S	PE121 Physical Exercise II			
<b>Total</b>				<b>31</b>	<b>25</b>	<b>Total</b>			
<b>III Semester</b>					<b>IV Semester</b>				
H	EE221 Basic Electrical Engineering	3-1-3	5		H	EE221 Electrical Machines	3-0-3	4	
B	CY211 Chemistry	3-0-3	4		B	MA221 Probability Statistics and Random Processes	4-1-0	5	
B	ME211 Thermodynamics	3-1-0	4		C	EE222 Digital Logic and Design	3-0-3	4	
C	EE212 Circuit Theory	3-1-0	4		C	SS221 Systems Thinking and Systems Modeling	3-1-0	4	
C	EE213 Signals and Systems	3-1-0	4		P	SS299 B.Tech. Project	0-0-9	3	
L	HS211 Economics	3-0-0	3		L	HS221 Management	3-0-0	3	
<b>Total</b>				<b>28</b>	<b>24</b>	<b>Total</b>			
<b>V Semester</b>					<b>VI Semester</b>				
C	SS311 OR Optimization	3-1-0	4		C	SS321 Dynamical Systems	3-1-0	4	
C	SS312 Systems Design	3-1-3	5		C	SS322 Socio-Economic Network and Business Dynamics	3-0-0	3	
C	EE313 Communication System	3-1-0	4		C	EE322 Digital Signal Processing	3-1-0	4	
C	EE314 Analog Electronics	3-1-0	4		C	EE324 Control Systems	3-0-3	4	
P	SS398 B.Tech. Project	0-0-9	3		P	SS399 B.Tech. Project	0-0-9	3	
L	HS311 Psychology	3-0-0	3		L	HS321 Writing in Newspaper Column	3-0-0	3	
<b>Total</b>				<b>31</b>	<b>23</b>	<b>Total</b>			
<b>VII Semester</b>					<b>VIII Semester</b>				
E	Elective 1	3-0-0	3		E	Elective 4	3-0-0	3	
E	Elective 2	3-0-0	3		E	Elective 5	3-0-0	3	
E	Elective 3	3-0-0	3		E	Elective 6	3-0-0	3	
P	SS498 B.Tech. Project	0-0-21	7		P	SS499 B.Tech. Project	0-0-21	7	
L	HS411 Life Skill 7	3-0-0	3		L	HS421 Life Skill 8	3-0-0	3	
<b>Total</b>				<b>33</b>	<b>19</b>	<b>Total</b>			
<b>GRAND TOTAL</b>				<b>250</b>	<b>180</b>				

S.No.	Category	Course Category Title	Total Courses	Total Credits
1	H	Hands-on Experience	7	32
2	B	Basics	6	28
3	C	Compulsory	14	55
4	E	Electives	6	18
5	P	Hands-On Project	5	23
6	L	Life Skills	8	24
7	S	Games & Sports/Social Service	2	0
<b>Total</b>			<b>46</b>	<b>180</b>

## Proposed Curriculum B. Tech. Systems Science (Mechanical Engineering)

Cat.	Course Title	L-T-P	Credits	Cat.	Course Title	L-T-P	Credits
<b>I Semester</b>				<b>II Semester</b>			
H	ME111 System Exploration- Drawing	3-0-3	4	H	ME121 System Exploration- Workshop	3-0-3	4
H	CS111 Computer Programming	3-1-3	5	H	EE121 Basic Electronics Engineering	3-1-3	5
B	MA111 Linear Algebra and Calculus	4-1-0	5	H	ME122 Engineering Mechanics	3-1-3	5
B	CY211 Chemistry	3-0-3	4	B	MA121 Complex Analysis & Differential Equation	4-1-0	5
C	Engineering Materials	3-0-3	4	C	ME123 Fluid Mechanics	3-0-3	4
L	HS111 English/ Foreign Language	3-0-0	3	L	HS121 Rights, Responsibility, Law & Constitution	3-0-0	3
S	PE111 Physical Exercises I			S	PE121 Physical Exercise II		
<b>Total</b>				<b>Total</b>			
<b>33</b>				<b>25</b>			
<b>III Semester</b>				<b>IV Semester</b>			
H	EE221 Basic Electrical Engineering	3-1-3	5	H	ME221 Manufacturing Technology	3-0-3	4
B	PH111 Electromagnetism and Optics	3-1-3	5	B	MA221 Probability Statistics and Random Processes	4-1-0	5
B	ME211 Thermodynamics	3-1-0	4	C	SS221 Systems Thinking and Systems Modeling	3-1-0	4
C	ME213 Mechatronics	3-1-0	4	C	ME223 Heat and Mass Transfer	3-0-3	4
C	ME214 Mechanics of Solids	3-0-3	4	P	SS298 B.Tech. Project	0-0-9	3
L	HS211 Economics	3-0-0	3	L	HS221 Management	3-0-0	3
<b>Total</b>				<b>Total</b>			
<b>31</b>				<b>33</b>			
<b>V Semester</b>				<b>VI Semester</b>			
C	SS311 OR Optimization	3-1-0	4	C	SS321 Dynamical Systems	3-1-0	4
C	ME312 IC Engines	3-0-3	4	C	SS322 Socio-Economic Network and Business Dynamics	3-0-0	3
C	ME313 Machining Science	3-0-3	4	C	ME321 Refrigeration and Air Conditioning	3-0-3	4
C	SS312 Systems Design	3-1-3	5	C	ME322 Turbomachinery	3-0-3	4
P	SS398 B.Tech. Project	0-0-9	3	P	SS399 B.Tech. Project	0-0-9	3
L	HS311 Psychology	3-0-0	3	L	HS321 Writing in Newspaper Columns	3-0-0	3
<b>Total</b>				<b>Total</b>			
<b>35</b>				<b>31</b>			
<b>VII Semester</b>				<b>VIII Semester</b>			
E	Elective 1	3-0-0	3	E	Elective 4	3-0-0	3
E	Elective 2	3-0-0	3	E	Elective 5	3-0-0	3
E	Elective 3	3-0-0	3	E	Elective 6	3-0-0	3
P	SS498 B.Tech. Project	0-0-18	6	P	SS499 B.Tech. Project	0-0-21	7
L	HS411 Leadership	3-0-0	3	L	HS421 Development of India	3-0-0	3
<b>Total</b>				<b>Total</b>			
<b>30</b>				<b>33</b>			
<b>18</b>				<b>18</b>			
<b>GRAND TOTAL</b>				<b>GRAND TOTAL</b>			
<b>260</b>				<b>180</b>			

S.No.	Category	Course Category Title	Total Courses	Total Credits
1	H	Hands-on Experience	7	32
2	B	Basics	6	28
3	C	Compulsory	14	56
4	E	Electives	6	18
5	P	Hands-On Project	5	22
6	L	Life Skills	8	24
7	S	Games & Sports/Social Service	2	0
<b>Total</b>			<b>46</b>	<b>180</b>

**Note: The L-T-P-C calculations will be as per the B.Tech. regulations for students enrolled before and after July 2014. This document will be updated for final credit calculations soon.**