

Honours/Minor Degree Programs

Booklet

Part 2- Detailed Syllabus

(with effect from 2022-2023)

Honours/Minor Degree Programs

(with effect from 2022-2023)

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Note: Course code format used in the document

1. Course Code: HXXC-Z01: (example- HEVC-501)

H stands for Honours/ Minor course

XX : Abbrevation of Program code: eg. For Electric Vehcile- it is 'EV'

C- Theory Course

Z for semester. For sem 5 -> 501

2. Skill Based Lab Code: HXXSBL-Z01: (example- HEVSBL-701)

H stands for Honours/ Minor course

XX : Abbrevation of Program code: eg. For Electric Vehcile- it is 'EV'

SBL- Theory Course

Z for semester. For sem 7 -> 701



Syllabus

Honours/ Minor Degree Program

in

Cyber Security

FACULTY OF SCIENCE & TECHNOLOGY

(As per AICTE guidelines with effect from the academic year 2022-2023)

Harbonnellov of Marris of													
University of Mumbai													
Cyber Security													
(With effect from 2022-23) Teaching Credit													
	Course Code and Course Title		e Hours/\	Neek	Exami	Scheme							
Year & Sem		Theory	Seminar/ Tutorial	Pract	Internal Assess ment	End Sem Exam	Term Work	Oral/ Pract	Total	Credits			
TE Sem	HCSC501: Ethical Hacking	04	-		20	80			100	04			
V	Total	04	-		100		-	-	100	04			
	Total Credits = 04												
75	T		1				ı	T	1				
TE Sem.	HCSC601: Digital Forensic	04	-	-	20	80			100	04			
VI	Total	04	- `	•	100			-	100	04			
	Total Credits = 04												
BE Sem. VII	HCSC701: Security Information Management	04	1		20	80	-	-	100	04			
	HCSSBL601: Vulnerability Assessment Penetration Testing (VAPT) Lab (SBL)			04	-		50	50	100	02			
	Total	04	-	04	100		50	50	200	06			
	Total Credits = 06												
DE	HCSC801:		T				I						
BE Sem. VIII	Application Security	04	-		20	80	-		100	04			
	Total	04	-	-	100		-	-	100	04			
	Total Credits = 04												
Total Credits for Semesters V,VI, VII &VIII = 04+04+06+04=18													



Syllabus for

Honours/Minor Degree Program

In.

Artificial Intelligence and Machine Learning

FACULTY OF SCIENCE & TECHNOLOGY

(As per AICTE guidelines with effect from the academic year 2022-2023)

University of Mumbai											
Artificial Intelligence and Machine Learning (AI&ML)											
(With effect from 2022-23) Teaching Scheme Hrs Examination Scheme and Marks Credit Scheme											
		Teac	hing Schen	ne Hrs	E	xamina	Credit Scheme				
	ø		/ Week								
e e	Course Code &		_	Practical Internal Assessment End Sem Exam Ferm Work							
S S	se C	2	nar rial	ical	nal	e .	š	_ le		\$	
Year & Sem	ano	Theory	Seminar , Tutorial	Practical	Internal	End Sem Exam	Ferm Work	Oral / Practical	Total	Credits	
		F	ŠΕ	Δ.	= 4	<u> </u>	Ĕ	0 4	F	Ü	
TE	HAIMLC501:										
Sem V	Mathematics	04			20	80	7		100	04	
\ \	for AI & ML										
	Total	04	-		100	-		100	04		
Total	Total Credits = 04										
TE	LIA IN ALCCOA										
TE Sem	HAIMLC601:	١									
VI	Game Theory	04		-	20	80		'	100	04	
١.,	using AI & ML				400			400	21		
	Total	04	-		100	-	-	100	04		
Total	Credits = 04										
BE	HAIMLC701:			_							
Sem	AI&ML in	04	-		20	80			100	04	
VII	Healthcare		. 1	N .							
	HAIMLSBL701:	_									
	AI&ML in			24					400		
	Healthcare:	-		04	-		50	50	100	02	
	Lab										
	Total	04	-	04	10	0	50	50	200	06	
Total	Credits = 06			7							
BE	HAIMLC801:										
Sem	Text, Web and	04			20	80			100	04	
VIII	Social Media	04			20	80			100	-	
	Analytics										
	Total	04	-	-	100		-	-	100	04	
Total	Credits = 04										
Total Credits for Semesters V,VI, VII &VIII = 04+04+06+04 = 18											



Syllabus for

Honours/Minor Degree Program

In

Data Science

FACULTY OF SCIENCE & TECHNOLOGY

(As per AICTE guidelines with effect from the academic year 2022-2023)

University of Mumbai											
Data Science											
(With effect from 2022-23)											
		Teac	hing Sch	eme	Exami	ination	Scheme	Credit Scheme			
	ø	Н	rs / Wee	k							
ε	Course Code &				Ħ		¥				
Year & Sem	Course Code	_	ar/	75	Internal Assessment	E	Ferm Work	75		ω.	
∞	35 35	Theory	Seminar Tutorial	Practical	Internal Assessm	× =	E	Ġ ĕ	Te S	Credits	
Yes	8 8	Ě	Seminar Tutorial	Pra	Inte	End Sem Exam	Ţ,	Oral / Practical	Total	ီ	
TE	HDSC501:										
Sem	Mathematics										
V	for Data	04	-		20	80	-		100	04	
	Science										
	Total	04	-		100	2	-	100	04		
Total	Credits = 04						l .	7			
	Ott. 6 Call 5 - 5 7										
TE	HDSC601:				_						
Sem	Statistical					000			400		
VI	Learning for	04	_	7	20	80		-	100	04	
	Data Science										
	Total	04	-	- 1	100	-	- \	100	04		
Total	Credits = 04									•	
BE	HDSC701:										
Sem	Data Science	04			20	000			100	04	
VII	for Health and	04			20	80	-		100	04	
	Social Care										
	HDSSBL701:										
	Data Science										
	for Health and	_		04	-	_	50	50	100	02	
	Social Care:										
	Lab			ı							
	Total	04	-	04	10	0	50	50	200	06	
Total	Credits = 06										
BE	HDSC801:										
Sem	Text, Web and	04			20	80			100	04	
VIII	Social Media	04	-		20	80	_		100	04	
	Analytics										
	Total	04	-	-	100		-	-	100	04	
Total	Credits = 04										
Total Credits for Semesters V,VI, VII &VIII = 04+04+06+04 = 18											
I											



Syllabus

Honours/Minor Degree Program

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Internet of Things

FACULTY OF SCIENCE & TECHNOLOGY

(As per AICTE guidelines with effect from the academic year 2022-2023

University of Mumbai Internet of Things (With effect from 2022-23)

Year &	Course Code and Course Title		Teaching e Hours/V	Week	Exami	Credit Scheme					
Sem		Theory	Seminar/ Tutorial	Pract	Internal Assess ment	End Sem Exam	Term Work	Oral/ Pract	Total	Credits	
TE Sem	HIoTC501: IoT Sensor Technologies	04	-	ı	20	80	ı	_	100	04	
v	Total	04	-	-	100		-	-	100	04	
								Tota	l Credits	= 04	
TE Sem.	HIoTC601: IoT System Design	04	-	1	20	80		-	100	04	
VI	Total	04	-	-	100		-	-	100	04	
	Total Credits =								04		
BE Sem.	HIoTC701: Dynamic Paradigm in IoT	04	-	1	20	80	-	_	100	04	
VII	HIOTSBL601: Interfacing & Programming with IoTLab (SBL)	1		04	-		50	50	100	02	
	Total	04		04	100	i	50	50	200	06	
								Total	Credits =	: 06	
BE Sem.	HIoTC801: Industrial IoT	04	-		20	80	-	-	100	04	
VIII	Total	04	-	-	100		-	-	100	04	
Total Credits = 04											
Total Credits for Semesters V,VI, VII &VIII = 04+04+06+04=18											