

# **UNIVERSITY OF MUMBAI**



## **Honours/Minor Degree Programs Booklet**

**Part 2- Detailed Syllabus  
(with effect from 2022-2023)**

**UNIVERSITY OF MUMBAI**  
**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

**UNIVERSITY OF MUMBAI**



**Syllabus**

**Honours/ Minor Degree Program**

**in**

**Cyber Security**

**FACULTY OF SCIENCE & TECHNOLOGY**

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

University of Mumbai Cyber Security (With effect from 2022-23)										
Year & Sem	Course Code and Course Title	Teaching Scheme Hours / Week			Examination Scheme and Marks					Credit Scheme
		Theory	Seminar/Tutorial	Pract	Internal Assessment	End Sem Exam	Term Work	Oral/Pract	Total	Credits
TE Sem V	HCSC501: Ethical Hacking	04	--	--	20	80	--	--	100	04
	Total	04	-	--	100	-	-	100	04	
Total Credits = 04										
TE Sem. VI	HCSC601: Digital Forensic	04	--	--	20	80	--	--	100	04
	Total	04	-	-	100	-	-	100	04	
Total Credits = 04										
BE Sem. VII	HCSC701: Security Information Management	04	--	--	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										
BE Sem. VIII	HCSC801: 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										

# UNIVERSITY OF MUMBAI



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)**

Year & Sem	Course Code & Course Title	Teaching Scheme Hrs / Week			Examination Scheme and Marks					Credit Scheme
		Theory	Seminar / Tutorial	Practical	Internal Assessment	End Sem Exam	Term Work	Oral / Practical	Total	Credits
TE Sem V	HAIMLC501: Mathematics for AI & ML	04	--	--	20	80	--	--	100	04
	<b>Total</b>	<b>04</b>	<b>-</b>	<b>--</b>	<b>100</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>04</b>	
<b>Total Credits = 04</b>										
TE Sem VI	HAIMLC601: Game Theory using AI & ML	04	--	--	20	80	--	--	100	04
	<b>Total</b>	<b>04</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>04</b>	
<b>Total Credits = 04</b>										
BE Sem VII	HAIMLC701: AI&ML in Healthcare	04	--	--	20	80	--	--	100	04
	HAIMLSBL701: AI&ML in Healthcare: Lab	--	--	04	--	--	50	50	100	02
	<b>Total</b>	<b>04</b>	<b>-</b>	<b>04</b>	<b>100</b>	<b>50</b>	<b>50</b>	<b>200</b>	<b>06</b>	
<b>Total Credits = 06</b>										
BE Sem VIII	HAIMLC801: Text, Web and Social Media Analytics	04	-	--	20	80	--	--	100	04
	<b>Total</b>	<b>04</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>04</b>	
<b>Total Credits = 04</b>										
<b>Total Credits for Semesters V,VI, VII &amp;VIII = 04+04+06+04 = 18</b>										

# UNIVERSITY OF MUMBAI



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)										
Year & Sem	Course Code & Course Title	Teaching Scheme Hrs / Week			Examination Scheme and Marks					Credit Scheme
		Theory	Seminar / Tutorial	Practical	Internal Assessment	End Sem Exam	Term Work	Oral / Practical	Total	
TE Sem V	HDSC501: Mathematics for Data Science	04	--	--	20	80	--	--	100	04
	Total	04	-	--	100	-	-	100	04	
Total Credits = 04										
TE Sem VI	HDSC601: Statistical Learning for Data Science	04	--	--	20	80	--	--	100	04
	Total	04	-	-	100	-	-	100	04	
Total Credits = 04										
BE Sem VII	HDSC701: Data Science for Health and Social Care	04	--	--	20	80	--	--	100	04
	HDSSBL701: Data Science for Health and Social Care: Lab	--	--	04	--	--	50	50	100	02
	Total	04	-	04	100	50	50	200	06	
Total Credits = 06										
BE Sem VIII	HDSC801: Text, Web and Social Media Analytics	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										



# UNIVERSITY OF MUMBAI



**Syllabus**

**Honours/Minor Degree Program**

**In**

**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 & Sem	Course Code and Course Title	Teaching Scheme Hours / Week			Examination Scheme and Marks					Credit Scheme
		Theory	Seminar/Tutorial	Pract	Internal Assessment	End Sem Exam	Term Work	Oral/Pract	Total	Credits
TE Sem V	HloTC501: IoT Sensor Technologies	04	--	--	20	80	--	--	100	04
	<b>Total</b>	<b>04</b>	<b>-</b>	<b>--</b>	<b>100</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>04</b>	
<b>Total Credits = 04</b>										
TE Sem. VI	HloTC601: IoT System Design	04	--	--	20	80	--	--	100	04
	<b>Total</b>	<b>04</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>04</b>	
<b>Total Credits = 04</b>										
BE Sem. VII	HloTC701: Dynamic Paradigm in IoT	04	--	--	20	80	--	--	100	04
	HloTSBL601: Interfacing & Programming with IoT Lab (SBL)	--	--	04	--	--	50	50	100	02
	<b>Total</b>	<b>04</b>	<b>-</b>	<b>04</b>	<b>100</b>	<b>-</b>	<b>50</b>	<b>50</b>	<b>200</b>	<b>06</b>
<b>Total Credits = 06</b>										
BE Sem. VIII	HloTC801: Industrial IoT	04	-	--	20	80	--	--	100	04
	<b>Total</b>	<b>04</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>04</b>	
<b>Total Credits = 04</b>										
<b>Total Credits for Semesters V,VI, VII &amp;VIII = 04+04+06+04=18</b>										