University of Mumbai

Website - mu.ac.in
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Academic Authorities,
Meetings & Services (AAMS)
Room No. 128, M. G. Road, Fort,
Mumbai – 400 032.
Tel. 022-68320033

Re- accredited with A ++ Grade (CGPA 3.65) by NAAC
Category- I University Status awarded by UGC

No. AAMS_UGS/ICC/2025-26/ 59 Date : 1st July, 2025

To,
The Director,
Garware Institute of Career Education
and Development,
Vidyanagari
Santacruz (East)
Mumbai – 400 098.

Sub : M.M.S (Financial Technology) (Two year) (Sem – I & II)

Sir,

With reference to the subject noted above, this is to inform you that the recommendations made by the **Board of Studies** of Garware Institute of Career Education & Development at its Meeting held on **5th June, 2023** & resolution passed by the **Board of Deans** at its meeting held on **18th May, 2024 vide** Item No. **9.1** have been accepted by the **Academic Council** at its meeting held on **4th December, 2024 vide** Item no. **9.12 (N)** and subsequently approved by the **Management Council** at its meeting held on **15th April, 2025 vide** Item No. **5** that in accordance therewith, in exercise of the powers conferred upon the Management Council under Section 74(4) of the Maharashtra Public Universities Act, 2016 (Mah. Act No. VI of 2017) the following program with Ordinance for Title of the Program, Eligibility and Regulation numbers for Duration of Program, Intake Capacity, Scheme of Examinations, Standard of Passing and Credit Structure along with syllabus of **M.M.S (Financial Technology) (Sem I & II)** (Appendix – 'A') have been introduced and the same have been brought into force with effect from the academic year **2024-25**.

The New Ordinances & Regulations as per NEP 2020 is as follows :-

Sr. No	Name of the Programme	Title	Eligibility	Duration
A	P.G Diploma in Financial Technology	O.GPA – 73 A	O.GPA – 74 A	Two year
B	M.M.S (Financial Technology)	O.GPA – 73 B	O.GPA – 74 B	
C	M.M.S.(Financial Technology)	O.GPA – 73 C	O.GPA – 74 C	One year

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No. AAMS_UGS/ICC/2025-26/ 59 Date : 1st July, 2025.

Regulation Nos	
Duration	R. GPA – 176
Intake Capacity	R. GPA – 177
Scheme of examination	R. GPA – 178
Standard of Passing	R. GPA – 179
Credit Structure	R. GPA – 180 A
	R. GPA – 180 B
	R. GPA – 180 C
	R. GPA – 180 D

(Dr. Prasad Karande)
REGISTRAR

A.C/9.12(N) 4/12/2024
M.C/5/15/4/2025

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Copy forwarded with Compliments for information to:-

1) The Chairman, Board of Studies,
2) The Chairman, Board of Deans
3) The Dean, Faculty of Commerce & Management,
4) The Director, Board of Examinations and Evaluation,
5) The Director, Board of Students Development,
6) The Director, Department of Information & Communication Technology,
7) The Co-ordinator, MKCL.

Desktop/kamal/Garware Cir/NEP

Copy forwarded for information and necessary action to :-	
1	The Deputy Registrar, (Admissions, Enrolment, Eligibility and Migration Dept)(AEM), dr@eligi.mu.ac.in
2	The Deputy Registrar, Result unit, Vidyanagari drresults@exam.mu.ac.in
3	The Deputy Registrar, Marks and Certificate Unit,. Vidyanagari dr.verification@mu.ac.in
4	The Deputy Registrar, Appointment Unit, Vidyanagari dr.appointment@exam.mu.ac.in
5	The Deputy Registrar, CAP Unit, Vidyanagari cap.exam@mu.ac.in
6	The Deputy Registrar, College Affiliations & Development Department (CAD), deputyregistrar.uni@gmail.com
7	The Deputy Registrar, PRO, Fort, (Publication Section), Pro@mu.ac.in
8	The Deputy Registrar, Executive Authorities Section (EA) eau120@fort.mu.ac.in He is requested to treat this as action taken report on the concerned resolution adopted by the Academic Council referred to the above circular.
9	The Deputy Registrar, Research Administration & Promotion Cell (RAPC), rapc@mu.ac.in
10	The Deputy Registrar, Academic Appointments & Quality Assurance (AAQA) dy.registrar.tau.fort.mu.ac.in ar.tau@fort.mu.ac.in
11	The Deputy Registrar, College Teachers Approval Unit (CTA), concolsection@gmail.com
12	The Deputy Registrars, Finance & Accounts Section, fort draccounts@fort.mu.ac.in
13	The Deputy Registrar, Election Section, Fort drelection@election.mu.ac.in
14	The Assistant Registrar, Administrative Sub-Campus Thane, thanesubcampus@mu.ac.in
15	The Assistant Registrar, School of Engg. & Applied Sciences, Kalyan, ar.seask@mu.ac.in
16	The Assistant Registrar, Ratnagiri Sub-centre, Ratnagiri, ratnagirisubcentar@gmail.com
17	The Director, Centre for Distance and Online Education (CDOE), Vidyanagari, director@idol.mu.ac.in
18	Director, Innovation, Incubation and Linkages, Dr. Sachin Laddha pinkumanno@gmail.com
19	Director, Department of Lifelong Learning and Extension (DLLE), dlleuniversityofmumbai@gmail.com

Copy for information :-	
1	P.A to Hon'ble Vice-Chancellor, vice-chancellor@mu.ac.in
2	P.A to Pro-Vice-Chancellor pvc@fort.mu.ac.in
3	P.A to Registrar, registrar@fort.mu.ac.in
4	P.A to all Deans of all Faculties
5	P.A to Finance & Account Officers, (F & A.O), camu@accounts.mu.ac.in

To,

1	The Chairman, Board of Deans pvc@fort.mu.ac.in
2	**Faculty of Humanities,** **Offg. Dean** 1. Prof.Anil Singh Dranilsingh129@gmail.com **Offg. Associate Dean** 2. Prof.Manisha Karne mkarne@economics.mu.ac.in 3. Dr.Suchitra Naik Naiksuchitra27@gmail.com
	Faculty of Commerce & Management, **Offg. Dean,** 1 Prin.Ravindra Bambardekar principal@model-college.edu.in **Offg. Associate Dean** 2. Dr.Kavita Laghate kavitalaghate@jbims.mu.ac.in 3. Dr.Ravikant Balkrishna Sangurde Ravikant.s.@somaiya.edu 4. Prin.Kishori Bhagat kishoribhagat@rediffmail.com

	Faculty of Science & Technology **Offg. Dean** 1. Prof. Shivram Garje ssgarje@chem.mu.ac.in **Offg. Associate Dean** 2. Dr. Madhav R. Rajwade Madhavr64@gmail.com 3. Prin. Deven Shah sir.deven@gmail.com
	Faculty of Inter-Disciplinary Studies, **Offg. Dean** 1.Dr. Anil K. Singh aksingh@trcl.org.in **Offg. Associate Dean** 2.Prin.Chadrashekhar Ashok Chakradeo cachakradeo@gmail.com 3. Dr. Kunal Ingle drkunalingle@gmail.com
3	Chairman, Board of Studies,
4	The Director, Board of Examinations and Evaluation, dboee@exam.mu.ac.in
5	The Director, Board of Students Development, dsd@mu.ac.in DSW direcotr@dsw.mu.ac.in
6	The Director, Department of Information & Communication Technology, director.dict@mu.ac.in

AC- 4/12/2024
Item No.- 9.12

As Per NEP 2020

University of Mumbai

Title of the program

A- P.G. Diploma in Financial Technology

B- Master of Management Studies (Financial Technology) (Two Year) } 2024-25

C- Master of Management Studies (Financial Technology) (One Year) -2027-28

Garware Institute of Career Education and Development

Syllabus for
Semester- Semester I and II

Ref: GR dated 16th May, 2023 for Credit Structure

UNIVERSITY OF MUMBAI

(AS PER NEP 2020)

Sr.No.	**Heading**	**Particulars**	
1	Title of program O : GPA-73A	A	P.G. Diploma in Financial Technology (One Year)
	O: GPA-73B	B	MMS (Financial Technology) (Two Year)
	O: GPA-73C	C	MMS(Financial Technology) (One Year)
2	Eligibility O: GPA-74A	A	Graduate in any faculty **OR** 1.Passed Equivalent Academic Level 5.5
	O: GPA-74B	B	1.The candidate who has successfully completed P.G. Diploma in Financial Technology. 2. The candidate whose Post Graduate Diploma credits are 60% equivalent to MMS (Financial Technology)& he/she earns Minimum 8 Credits from P.G. Diploma in Financial Technology. 3. As per NEP criteria on the basis of RPL-Recognition of Prior Learning, Candidate to be admitted to 2nd Year subject to He/she securing minimum 50% in the 1st Year assessment of PGDFT& proof of employment of Minimum 2 Years. OR Passed Equivalent Academic Level 6.0
	O: GPA-74C	C	Any Graduate with 4 year U.G. Degree (Honours / Honours with Research) with Specialization in concerned subject or equivalent academic level 6.0 **OR** Graduate with four years UG Degree (Honours / Honours with Research) program with maximum credits required for award of Minor degree is allowed to take up the Post graduate program in Minor subject provided the student has acquired the required number of credits as prescribed by NEP.

3	Duration of Program R: GPA-176	A	1 Year
		B	2 Years
		C	1 Year
4	Intake Capacity R: GPA-177	60	
5	Scheme of Examination R: GPA-178	NEP 50% Internal – Continuous Evaluation 50% External- Semester End Examination Individual Passing in Internal and External Examination	
6	Standards of Passing R: GPA-179	50% in each component	
7	Credit Structure R: GPA-180A R: GPA-180B R: GPA-180C R: GPA-180D	Attached herewith	
8	Semesters	A	Sem I & II
		B	Sem I, II, III, & IV
		C	Sem I & II
9	Program Academic Level	A	6.0
		B	6.5
		C	6.5
10	Pattern	Semester	
11	Status	New	
12	To be implemented from Academic Year Progressively	A	2024-25
		B	
		C	2027-28

Dr. Keyurkumar M. Nayak,
Director,

UM-GICED

Prof.(Dr.) Kavita Laghate
Dean,

Faculty of Commerce & Management

Introduction:

The Masters in Management Studies in Financial Technology is a comprehensive and specialized coursedesigned to equip students with the skills, knowledge, and practical experience required to thrive in thefast-paced world of financial technology. Throughout this program, students will dive deep into the coreprinciplesoffinanceandtechnology,learninghowtheyintersectandcomplementeachotherinthecontextof the digital economy. From blockchain and cryptocurrencies to artificial intelligence and machinelearning,studentswill explorethelatesttechnologiesrevolutionizingthefinancialindustry.

ProgramObjectives:

The Masters in Management Studies in Financial Technology is a unique and dynamic course that aims toequip students with in-depth domain knowledge and design skills in the rapidly evolving field of financialtechnology.Thisprogramisspecificallydesignedtoenablestudentstounderstandandnavigatethemarke tdynamics of the FinTech revolution. Throughout the course, students will engage in a detailed study ofvarious aspects of financial technology, including digital currencies, blockchains, robo-advisors, andsystematictrading.

CourseObjectives:

TheMastersinManagementStudiesinFinancialTechnologyaimstoprovidestudentswithacomprehensive understanding of financial technology concepts and principles. Throughout the program,studentswilllearntoapplytechnologicalsolutionstofinancialprocessesandservices,exploringinnovati vetechnologieslikeblockchain,artificialintelligence,andmachinelearning.Theprogramemphasizeseffectivec ommunicationandcollaborationskillswithinthefinancialtechnologycontext,enablingstudentsto effectively convey complex ideas and work collaboratively in multidisciplinary teams. By achievingthese course objectives, students will be equipped to excel in the dynamic and transformative field offinancialtechnology.

CourseOutcomes:

CO1 Developacomprehensiveunderstandingoffinancial technologyconceptsandprinciples.

CO2 Applytechnologicalsolutionstofinancialprocessesandservices.

CO3 Analyzeandinterpretfinancial datausingadvancedanalyticaltoolsandtechniques.

CO4 Designanddevelopinnovativefinancialtechnologyproducts andservices.

CO5 Evaluatetheimpactoffinancial technologyonbusinessoperationsandriskmanagement.

CO6 Demonstrateeffectivecommunicationandcollaborationskillsinafinancialtechnologycontext.

SEMESTER-WISESYLLABUS

MastersinManagementStudies inFinancialTechnology

Year(2 YrMM SFT)	Level	(1Yr)	Major		RM	OJT /FP	RP	Cum. Credit	Degree
			Mandatory*	ElectivesAnyone					
I	6.0	SemI	**Course 1:**FoundationsofFintech**(Credits 2)** **Course2:**Statistical Thinking**(Credits4)** **Course 3:** ExploringDealing with Data**(Credits 4)** **Course 4:**Programming forFintech **(Credits4)**	**Set1** **Course 1:** Introductionto Financial Markets**(Credits2)** **AND** **Course2:** FoundationofFinanceand Accounting**(Credits2)** **OR** **Set2** **Course1:** MarketingandSalesofFinancial Products**(Credits4)**	ResearchMethodology**(Credits 4)**			22	**MMS Diploma**
		SemII	**Course 1:** BankingOperationsand Technology**(Credits 2)** **Course2:**Database Management**(Credits4)** **Course3:**Advanced Programming forFintech**(Credits4)** **Course4:**Becomingan EffectiveTechnology Analyst**(Credits4)**	**Course 1:**International PoliticalAnalysis**(Credits2)** **Course 2:**Derivatives**(Credits 2)**		OJT / FP**(Credits 4)**		22	
Cum. Cr. ForMMSDiploma			**28**	**8**	**4**	**4**	**-**	**44**	
Exitoption:MMS Diploma(40-44Credits)afterThreeYearUGDegree									

Abbreviations:Yr.:Year;Sem.:Semester;OJT:OnJobTraining:Internship/Apprenticeship;FP:Fieldprojects; RM:

ResearchMethodology;ResearchProject: RP; Cumulative Credits:Cum.

SEMESTER-WISESYLLABUS

MastersinManagementStudies inFinancialTechnology

Year(2 YrMMSFT)	Level	(2Yr)	Major: Mandatory*	Major: ElectivesAnyone	RM	OJT /FP	RP	Cum. Credit	Degree
II	6.5	SemIII	**Course1:**OpenStacksAPIs and CloudComputing**(Credits4)** **Course 2:** Cyber SecurityTechnology **(Credits4)** **Course 3:** Fundamentalsof Machine Learning forDataAnalytics**(Credits4)** **Course4:**Data Storytelling**(Credits2)**	**Course 1:**Design Thinkingand BusinessStrategy Models **(Credits2)** **OR** **Course 2:**Applied PeopleSkills**(Credits2)**			ResearchProject **(Credits4)**	22	**MMS Degree**
		SemIV	**Course 1:** AlgorithmicTrading **(Credits4)** **Course 2:** FinTechInnovations,Applications& Considerations**(Credits4)** **Course 3:** Block chainand its Applications**(Credits4)**	**Course 1:**BusinessFinance **(Credits2)** **OR** **Course 2:**Equity Research**(Credits 2)**			ResearchProject **(Credits6)**	22	
Cum. Cr. For 1 yearMMSDiploma			**26**	**8**			**10**	**44**	
Cum. Cr. For 2 yearMMS Degree			**54**	**16**	**4**	**4**	**10**	**88**	
2 Years-4 Sem. MMS Degree (80-88 credits) after Three Year UG Degree or 1 Year-2 Sem PG Degree (40-44credits)after Four YearUGDegree									
8.0			**Course Work Min. 12(3*4)**	**Training inTeaching /Education / Pedagogy: 4**	**16 +Ph. D. Work**		**Ph.D.inSubject**		

Abbreviations:Yr.:Year;Sem.:Semester;OJT:OnJobTraining:Internship/Apprenticeship;FP:Fieldprojects; RM: ResearchMethodology;ResearchProject: RP; Cumulative Credits:Cum.

Dr. Keyurkumar M. Nayak, Director,

Prof.(Dr.) Kavita Laghate Dean,

SEMESTER-WISESYLLABUS

Mastersin ManagementStudies inFinancialTechnology							
	SubjectCode	**CoreSubjects**	**AssessmentPattern**			**TeachingHours**	
			Internal Marks	**External Marks**	**Total Marks**	**Total Hrs**	**TotalCredits**
SEMESTERI	**MajorMandatory**						
	1.1	FoundationsofFintech	25	25	50	30	2
	1.2	StatisticalThinking	50	50	100	60	4
	1.3	ExploringDealingwithData	50	50	100	60	4
	1.4	ProgrammingforFintech	50	50	100	60	4
	MajorELECTIVES:Set1						
	1.5	IntroductiontoFinancialMarkets	25	25	50	30	2
	1.6	FoundationsofFinanceand Accounting	25	25	50	30	2
	OR						
	MajorELECTIVES:Set2						
	1.7	MarketingandSalesofFinancialProducts	50	50	100	60	4
	RM						
	1.8	ResearchMethodology	50	50	100	60	4
TOTAL			**275**	**275**	**550**	**330**	**22**
	MajorMandatory						
SEMESTERII	2.1	BankingOperationsandTechnology	25	25	50	30	2
	2.2	DatabaseManagement	50	50	100	60	4
	2.3	AdvancedProgrammingforFintech	50	50	100	60	4
	2.4	BecominganEffectiveTechnologyAnalyst	50	50	100	60	4
	MajorElectives						
	2.5	InternationalPoliticalAnalysis	25	25	50	30	2
	2.6	Derivatives	25	25	50	30	2
	OJT/FP						
	2.7	OJT/FP	50	50	100	60	4
TOTAL			**275**	**275**	**550**	**330**	**22**
FINALTOTAL			**550**	**550**	**1100**	**660**	**44**

SEMESTER-WISESYLLABUS

Mastersin ManagementStudies inFinancialTechnology							
	SubjectCode	CoreSubjects	AssessmentPattern			Teaching Hours	
			Internal Marks	External Marks	Total Marks	Total Hrs	Total Credits
SEMESTERIII	MajorMandatory						
	3.1	Open Stacks APIs and CloudComputing	50	50	100	60	4
	3.2	CyberSecurityTechnology	50	50	100	60	4
	3.3	Fundamentals of Machine LearningforDataAnalytics	50	50	100	60	4
	3.4	DataStorytelling	25	25	50	30	2
	MajorElectives						
	3.5	Design Thinking and BusinessStrategyModels	25	25	50	30	2
	3.6	AppliedPeopleSkills	25	25	50	30	2
	RP						
	3.8	ResearchProject	50	50	100	60	4
TOTAL			**275**	**275**	**550**	**330**	**22**
	MajorMandatory						
SEMESTERIV	4.1	AlgorithmicTrading	50	50	100	60	4
	4.2	FinTech Innovations, Applications& Considerations	50	50	100	60	4
	4.3	BlockchainanditsApplications	50	50	100	60	4
	MajorElectives						
	4.4	Business Finance	25	25	50	30	2
	4.5	EquityResearch	25	25	50	30	2
	RP						
	4.6	ResearchProject	50	50	100	90	6
TOTAL			**250**	**250**	**500**	**330**	**22**
FINALTOTAL			**525**	**525**	**1050**	**660**	**44**
TOTAL			**1075**	**1075**	**2150**	**1320**	**88**

SEMESTER I

Sr.no.	Subjects	No ofhou rs	No of sessions3hour /session
	MajorMandatory		
1.1	**FoundationsofFinTech** • Unit1-Introduction:theFinTechopportunitytoimprovethe financial system, Financial Innovation: Theory,History,Today • Unit2-EncryptionandInformationSecurity • Unit3-BlockchainsandCryptocurrencies • Unit 4-Privacyandfinancial data • Unit5-How"Traditional"MachineLearningWorks	30	10
1.2	**StatisticalThinking** • Unit1-Workingwithdata,Probability • Unit 2 -Summarizingdata,Fittingmodelstodata • Unit3 -DataVisualization,Sampling • Unit4-Resamplingandsimulation,Hypothesistesting • Unit5-Bayesianstatistics,Doingreproducibleresearch	60	20
1.3	**ExploringandDealingwithData** • Unit 1 - Data in a Connected World ,The BusinessAnalyticsModel • Unit 2 - Strategy creation: Choosing an informationstrategy, Business processes: Using information andknowledge • Unit 3 - Reporting and analytics, Creating informationand knowledge • Unit 4 - Data warehouse Gathering data, making themaccessibleand usable • Unit5-DatasourcesandITInfrastructure,Datacreation	60	20
1.4	**ProgrammingforFintech** • Unit 1 - Introduction to Programming , Working inPython • Unit2 -WorkingwithText,MakingChoices • Unit 3 - Using Methods, A Modular Approach toProgram Organization • Unit 4 - Repeating Code Using Loops, Reading andWritingFiles • Unit5-BuildingaSimpleFintechApp	60	20
	MajorElective		
	SET1		
1.5	**IntroductiontoFinancialMarkets** • Unit 1 -IntroductiontoFinancialMarkets • Unit2-FinancialInstrumentsandParticipants • Unit3-AlternativeInvestmentSchemesandother	30	10

	InvestmentProducts • Unit4 -RegulatorsandRegulations • Unit5-CommodityMarketsandFOREXMarkets		
1.6	**FoundationsofFinanceandAccounting** • Unit1 -IntroductiontoFinance,Principlesofvaluation –1,Principlesofvaluation–2 • Unit2-Financialstatements,Accountingconventions • Unit3-FinancialRatios,CorporateGovernance • Unit 4 - Overview of the relationship between FinanceandAccounting, Valuationof Bonds • Unit 5 - Valuation of shares, Risk and return,Introductionto corporatefinance	30	10
	OR		
	SET2		
1.7	**MarketingandSalesofFinancialProducts** • Unit 1 - Introduction to Marketing &EnvironmentScanning,MarketingStrategyandCons umerbuying • Unit 2 - The Behavioural Foundations – Role ofbehavioural antecedents ,The Roles of Marketing inFinancial Services • Unit 3 -UnderstandingtheFinancial Services • Unit 4 - Marketing Research, Product Management andNew Product Development, Marketing Strategies forFinancial Services • Unit 5 - Bank Marketing in Rural Areas, ConsumerConvenienceand Distribution	60	20
	RM		
1.8	**ResearchMethodology**	60	20

SEMESTER II

Sr.no.	Subjects	No ofhours	No of sessions3hour /session
	MajorMandatory		
2.1	**BankingOperationsandTechnology** • Unit 1 - Introduction to Banking, Banking RegulationandCustomerRelationship • Unit 2 - Types of Customers and their Accounts,BankingProducts and Services • Unit 3 - Electronic Banking, Basics of Accounting forBanks • Unit4 -Payment Systems • Unit5-NewDevelopmentsinDigitalBanking	30	10
2.2	**DatabaseManagement** • Unit1 -IntroductiontoDatabaseSystem • Unit 2 -RelationalModel • Unit 3-SQL • Unit 4 -NoSQL DatabaseSystem • Unit5 -Transactions	60	20
2.3	**AdvancedProgrammingforFintech** • Unit1-StoringCollectionsofDataUsingLists,StoringDataUsing OtherCollection Types • Unit2-DesigningAlgorithms,SearchingandSorting • Unit 3 - Object-Oriented Programming, Testing andDebugging • Unit4-CreatingGraphicalUserInterfaces • Unit 5 -Databases	60	20
2.4	**BecominganEffectiveTechnologyAnalyst** • Unit 1 - Introduction to Technology Business Analysis,TheEssentialofTech Requirement Process • Unit 2 – Technology Requirements Development,TechnologyRequirementsManagement • Unit 3 - Business Object-Oriented Modeling (B.O.O.M.),AnalyzingEnd-to-End Business Processes • Unit4 -ScopingtheTechnologyProject withSystemUseCases,StoryboardingtheUser’sExperience • Unit 5 - DesigningTestCasesandCompletingtheProject	60	20
	MajorElective		

2.5	**InternationalPoliticalAnalysis** • Unit 1 - Introduction to Politics and InternationalRelations, Understanding Politics through the StatePrism • Unit 2 - State and Non-State Actors: The StructuralistPerspective,NeoliberalCapitalistWorldMarket:The	30	10

	Core,InternationalRegimes:TheInterveningVariables • Unit 3 - Challenges in the “New World,Industrialization and globalization: capitalism,socialism andthe way ahead • Unit 4 - IMF, World Bank and other RegionalOrganizations,SocietyandCultureinInternationalBusiness • Unit 5 - Problems in International Politics, The NewEconomic Model, Understanding the world throughregions:Europe,WestAsia,America,SouthAsia and othersIndiaasanEmergingPower		
2.6	**Derivatives** • Unit 1 - Introduction to Derivatives and DerivativeProducts • Unit2 -Options,Futures • Unit 3 -TypesofMargins • Unit 4 -FutureandOptionStrategies • Unit5 -DerivativeMarkets	30	10
OJT/FP			
2.7	**OnJobTraining/FieldProject**	60	-

SEMESTER III

Sr.no.	Subjects	No ofhours	No of sessions3 hour/session
	MajorMandatory		
3.1	**OpenStack,APIsandCloudComputing** • Unit 1 - Understanding the virtualization concept,Relationbetween Virtualizationand Cloud • Unit2 -IntroductiontocloudandcloudconceptsCloudand OpenStack • Unit 3 - OpenStack architecture and its servicecomponents,UnderstandingtheNatureofC loud • Unit4 -ExaminingtheCloudElements • Unit 5 -Managingthe Cloud	60	20
3.2	**CyberSecurityTechnology** • Unit 1 - Computers and Cyber Security: Introduction toComputers, Computer History, Software, Hardware,Classification, Computer Input-Output Devices,Windows, DOS Prompt Commands, Linux/MacTerminal and Commands, Basic ComputerTerminology, Computer Security models, ComputerSecurity Terms, Computer Ethics, Business andProfessional Ethics, Need for cyber security; CyberFrauds and crimes, Digital Payments, Various SearchEngines, Introduction to Auditing, Deep Web, VAPT,Smartphone Operating systems, introduction tocompliancesGlobalizationand borderlessworld. • Unit 2 - Python Scripting and PHP Basics: PythonBasics, Variables and Types, Lists, Basic Operators,StringFormatting,BasicStringOperations,Con ditions,Loops, Functions, Classes and Objects, Dictionaries,Modulesand Packages. • Unit 3 - Cyber Laws: Need for Cyber Regulations;Scope and Significance of Cyber laws: InformationTechnology Act 2000; Network and Network Security,Access and Unauthorised Access, Data Security,EContracts and E Forms. Penal Provisions for Phishing,Spam, Virus, Worms, Malware, Hacking, Trespass andStalking; Human rights in cyberspace, International Co-operationin investigating cybercrimes. • Unit4-Encoding: Charset,ASCII,UNICODE,URLEncoding, Base64, Illustration: ISBN/ QR Code/Barcode, Binary hamming codes and BinaryReedmullercodes. • Unit 5 - Web Application Architecture**:** HTML Basics,XAMPP Server Setup, Hosting Websites Linux,Apache, Virtualisation, Server Configurations,	60	20

	WebApplicationFirewalls		

3.3	**FundamentalsofMachineLearningforDataAnalytics** • Unit 1 - Introduction to Machine Learning , RegressionTechniques • Unit 2 - Performance Measures in Machine Learning,Random walks andco-integration • Unit 3 - Models for high-frequency price dynamics,Evaluatingtrade executioncosts • Unit 4 - Combining Multiple Learners, ReinforcementLearning • Unit5-DesignandAnalysisofMachineLearningExperiments	60	20
3.4	**DataStorytelling** • Unit 1-Theimportance ofcontext • Unit 2 -Choosinganeffective visual • Unit3 -Focusyouraudience'sattention • Unit 4 -Thinklikeadesigner • Unit5-Puttingitalltogether	30	10
MajorElective			

3.5	**DesignThinkingandBusinessStrategyModels**
	• Unit1-StagesofDesignthinking,ResearchandIdeaGeneration
	• Unit 2 - Refinement and Prototyping,Implementation
	• Unit3 -TheNatureofBusinessStrategyModels
	• Unit 4-The BusinessModelCanvas
	• Unit5-ToolsforImplementingBusinessStrategyModel
	    ○ CriticalQuestionAnalysis
	    ○ BCGMatrix
	    ○ PESTELAnalysis
	    ○ Mintzberg's5Ps
	    ○ Porter'sFiveForces
		30	10

3.6	**AppliedPeopleSkills** • Unit1-InterpersonalCommunicationStrategy • Unit2-CriticalThinkingandProblemSolving • Unit 3 -AdaptabilityasaManager • Unit4-CognitiveReadiness	30	10
RP			
3.7	**ResearchProject**	60	20

SEMESTER IV

Sr.no.	Subjects	No ofhours	No of sessions3 hour/session
	MajorMandatory		
4.1	**AlgorithmicTrading** • Unit 1 - Introduction and Overview of AlgorithmicTrading,TheMathematicsofAlgorithmicTrading • Unit 2 - Global Trends in Algorithmic TradingLifecycleof AlgorithmicTrading • Unit 3 - Risk, Costs and Roles in Algorithmic Trading,Thetrading strategies • Unit4 -Business aspectofalgorithmictrading • Unit5 -Indiainalgorithmictrading	60	20
4.2	**FinTechInnovations,Applications&Considerations** • Unit 1-FinTech Themes • Unit 2-FinTechHubs • Unit 3 -FinTechSolutions • Unit 4 -CapitalandInvestment • Unit 5 -TheFutureofFinTech	60	20
4.3	**BlockchainandApplications** • Unit 1-Blockchain. • Unit2 -DistributedConsensus • Unit3 -Cryptocurrency • Unit4-BlockchainApplications	60	20
MajorElective			
4.4	**BusinessFinance** • Unit 1 - The business cycle, where do all the businessfunctionsfitin? • Unit 2 - Financial planning – the budgets, Where is allthecash? Managing workingcapital • Unit3 -IntroductiontoBusinessFinance • Unit4 -Financial Statements • Unit 5 -WorkingCapital • Unit6 -Capital BudgetingandStructure • Unit 7 - Sources of Finance: Shares, Debt and ShortTermFinance;AccountingforManagerialDecisions • Unit 8-Weighted CostofCapital • Unit 9-Leverage	30	10
4.5	**EquityResearch** • Unit 1 - Introduction to Equity Analysis & Investing,Evaluating Business Model & Learning IndustryAnalysis • Unit2-Porter’sfiveforces&MoatApplication • Unit3 -EvaluatingManagement &Learning,	30	10

	CorporateGovernance • Unit 4 - Ranking Qualitative Businesses, QuantitativeAnalysis • Unit 5 - Valuation, Analysis beyond numbers, ReportWriting		
RP			
4.6	**ResearchProject**	90	-

PASSING PERFORMANCE GRADING :
The Performance Grading of the learner shall be on ten point scale be adopted uniformly.

Letter Grades and Grade Point

Semester GPA/ Program CGPA Semester / Program	% of Marks	Alpha-Sign/Letter Grade Result	Grading Point
9.00 – 10.00	90.0 - 100	O (Outstanding)	10
8.00 - < 9.00	80.0 < 90.0	A+ (Excellent)	9
7.00 - < 8.00	70.0 < 80.0	A (Very Good)	8
6.00 - < 7.00	60.0 < 70.0	B+ (Good)	7
5.50 - < 6.00	55.0 < 60.0	B (Average)	6
5.00 - < 5.50	50.0 < 55.0	C (Pass)	5
Below 5.00	Below 50	F (Fail)	0
AB (Absent)		Absent	

NOTE : VC : Vocational Courses, SEC : Skill Enhancement Courses, AEC : Ability Enhancement Courses, VEC : Value Education Courses, VSC : Vocational Skill Course, IKS : Indian Knowledge System, OJT: On The Job Training, FP: Field Projects.

The performance grading shall be based on the aggregate performance of Internal Assessment and Semester End Examination.

The Semester Grade Point Average (SGPA) will be calculated in the following manner: SGPA = □CG / □C for a semester, where C is Credit Point and G is Grade Point for the Course/ Subject.

The Cumulative Grade Point Average (CGPA) will be calculated in the following manner: CGPA = □CG / □C for all semesters taken together.

PASSING STANDARD:

Passing 50% in each subject /Course separate Progressive Evaluation (PE)/Internal Evaluation and Semester-End/Final Evaluation (FE) examination.

A. Carry forward of marks in case of learner who fails in the Internal Assessments and/ or Semester-end examination in one or more subjects (whichever component the learner has failed although passing is on total marks).
B. A learner who PASSES in the Internal Examination but FAILS in the Semester-end Examination of the Course shall reappear for the Semester-End Examination of that Course. However, his/her marks

of internal examinations shall be carried over and he/she shall be entitled for grade obtained by him/her on passing.

C. A learner who PASSES in the Semester-end Examination but FAILS in the Internal Assessment of the course shall reappear for the Internal Examination of that Course. However, his/her marks of Semester-End Examination shall be carried over and he/she shall be entitled for grade obtained by him/her on passing

ALLOWED TO KEEP TERMS (ATKT)

A. A learner shall be allowed to keep term for Semester II irrespective of number of heads/courses of failure in the Semester I.

B. A learner shall be allowed to keep term for Semester III wherever applicable if he/she passes each of Semester I and Semester II.

OR

C. A learner shall be allowed to keep term for Semester III wherever applicable irrespective of number of heads/courses of failure in the Semester I & Semester II.

D. A learner shall be allowed to keep term for Semester IV wherever applicable if he/she passes each of Semester I, Semester II and Semester III.

OR

E. A learner shall be allowed to keep term for Semester IV wherever applicable irrespective of number of heads/courses of failure in the Semester I, Semester II, and Semester III

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University of Mumbai's
Garware Institute of Career Education and Development
Board of Studies – Committee members
Course Name: MMS(Financial Technology)
Date- 5th June, 2023 & Time- 11.00 a.m

Sr. No.	Name	Signature
1	Dr. Keyurkumar Nayak Director, UM-GICED and Chairman- BOS	
2	Smt. Shilpa Borkar, Placement Officer	
3	Rahul Ranadive Course Coordinator Member Secretary	
4	Mr. Roshani Yadav Industry Experts	
5	Mr. Afshan Dadan Industry Experts	AB
6	Mr. Parth Shah Alumni	AB
7	Ms. Reet Kanodia Alumni	
8	Dr. Samveg Patel NMIMS	
9	Dr. Abhilas Nair Professor IIMK	AB
10	Mr. Rakesh Nair Subject Experts	
11	Dr. Pallavi Gupta Subject Experts	

Dr. Keyurkumar M. Nayak,
Director,
UM-GICED

Prof.(Dr.) Kavita Laghate
Dean,
Faculty of Commerce & Management

Justification for MMS (Financial Technology)

1.	Necessity for starting the course	The University of Mumbai's Garware Institute of Career Education & Development plans to introduce a Two year Post Graduate Diploma in Financial Technology. The innovations of the financial markets, as well as the globalization process and technological changes require highly trained professionals, able to face the challenges of the financial areas of corporate business. They seek individuals who can represent the company in a positive light when dealing with clients and transmitting in them confidence of the company's ability to manage the funds.
2.	Whether the UGC has recommended the course:	Yes, UGC has recommended the course as per gazette no. DL(N)-04/0007/2003-05 dated 11th July 2014. UGC encourages the incorporation of skill oriented and value-added courses to develop skilled manpower.
3.	Whether all the courses have commenced from the academic year 2023-2024	Yes, it would be commencing from the Academic year 2023-24 as per NEP 2020. However, the course was launched in the year 2020.
4.	The courses started by the University are self-financed, whether adequate number of eligible permanent faculties are available?	Yes, this course is self-financed. The expert visiting faculty from industries come to teach this course.
5.	To give details regarding the duration of the Course and is it possible to compress the course?	The duration of the course is Two year (Four Semester). It cannot be further compressed.
6.	The intake capacity of each course and no. of admissions given in the current academic year:	The intake capacity of this course is 60 students. The admission procedure is still ongoing.
7.	Opportunities of Employability/ Employment available after undertaking these courses:	Employment opportunities in FinTech Companies as Financial Planner, Analyst Equity, Technical, Derivatives, as Fund/Risk/Portfolio/Wealth Manager, Financial Journalist.

Kmnayak KRlaghate

Dr. Keyurkumar M. Nayak, Prof.(Dr.) Kavita Laghate
Director, Dean,

UM-GICED Faculty of Commerce & Management