Graduate Programs

Section Contents

School of Business Administration

Master's degree: Business Administration

The mission of the Master of Business Administration program is to prepare students for careers in various aspects of business, management, and leadership in the private and public sectors. The curriculum incorporates the industry reliance on information technology, recognition of the international business environment, contemporary issues affecting business enterprises, and the need for companies to undergo frequent transformation. The program assists students with developing and nurturing their analytical, technical, and interpersonal skills. Students acquire a comprehensive foundation in the fundamentals of business, the global environment in which they will function, and the analytical tools for intelligent decision making. Students gain added functional expertise with an option to select specialization courses.

MBA

8 Foundation Courses x 4.5 credit hours	= 36 credit hours
10 Core courses x 4.5 credit hours	= 45 credit hours
4 common courses x 4.5 credit hours	= 18 credit hours
2 Internship/Co-op Capstone courses x 4.5 credit hours	= 13.5 credit hours
COW and ECA&GI x 0.5	= 1.5 credit hours
4 Professional Certification Courses (PCC) x 0.5 credit hours	= 2 credit hours
25 Total courses x 4.5 credit hours + 7 PCC x 4.5 credit hours	= 116 Credit Hours

This program typically takes 2 years to complete for students enrolled full time.

Foundation and Language Courses

Code	Course Name	Credit
ENG201	The Art of Conversation II	4.5
COM301	Business Communication	4.5
MGT201	Business Fundamentals	4.5
MTH201	Business Mathematics	4.5
OPS201	Production and Operations Management	4.5
PHL201	Indian Ethos and Mindful Leadership	4.5
MGT203	Design Thinking	4.5
PSY202	The Science of Happiness	4.5
Total Requirements		**36**

Core Requirements

Course Code	Course Name	Credits
ACC501	Accounting for Managerial Decision Making	4.5

ENT501	Entrepreneurship and Venture Management	4.5
HRM501	Human Resource Management	4.5
FIN501	Corporate Finance	4.5
MGT501	International Business	4.5
MGT507	Business Transformation	4.5
MKT502	Strategic Business Marketing	4.5
QNT201	Quantitative Methods for Decision Making	4.5
RES201	Research Methods	4.5
TEC511	Data Visualization and Business Intelligence	4.5
Total Requirements		**45**
Common Courses (Choose any four courses)		
MKT601	Electronic Commerce: Business Models & Strategies	4.5
MKT602	Influencer Marketing	4.5
FIN601	Security Analysis and Portfolio Management	4.5
FIN602	Financial Statement Analysis	4.5
HRM601	Change Management	4.5
HRM602	Industrial relations and Labor laws	4.5
ENT601	International Economics	4.5
ENT604	Business Plan for the New Venture	4.5
Total Requirements		**18**
Internship/Project (Co-op)/		
APT700	Capstone	4.5
INT600	Internship (Co-op) I	4.5
INT601	Internship (Co-Op) II	4.5
COW501	Community Welfare	0.5
PCC301	Extra-Curricular & General Interest	0.5
PCC302	Career Preparation Courses /Alumni Mentoring	0.5
Total Requirements		**15**
Professional Core Courses		
PCC101	Skills for Lifelong Learning	0.5
PCC103	Harvard Certification - Ethics at Work	0.5

PCC104	Positive Intelligence	0.5
PCT100	Advanced Excel/Word Training	0.5
Total Requirements		**2.0**
Summary of Total Requirements		
Total Foundation Courses		36
Total Core Requirements		45
Total Common Requirements		18
Total Co-Op Requirements		15
Total Professional Course Requirement		2
Master of Business Administration Total Credits Required for Graduation		**116**

MBA with Specialization (Business Analytics; Digital Marketing; Mass Media; Entrepreneurship; Finance; HRM; Marketing; Supply Chain Management)

8 Foundation Courses x 4.5 credit hours	= 36 credit hours
10 Core courses x 4.5 credit hours	= 45 credit hours
4 Specialization courses x 4.5 credit hours	= 18 credit hours
2 Internship/Co-op Capstone courses x 4.5 credit hours	= 13.5 credit hours
COW and ECA&GI x 0.5	= 1.5 credit hours
4 Professional Certification Courses (PCC) x 0.5 credit hours	= 2 credit hours
25 Total courses x 4.5 credit hours + 7 PCC x 4.5 credit hours	= 116 Credit Hours

This program typically takes 2 years to complete for students enrolled full time.

Foundation and Language Courses

Code	Course Name	Credit
ENG201	The Art of Conversation II	4.5
COM301	Business Communication	4.5
MGT201	Business Fundamentals	4.5
MTH201	Business Mathematics	4.5
OPS201	Production and Operations Management	4.5
PHL201	Indian Ethos and Mindful Leadership	4.5
MGT203	Design Thinking	4.5
PSY202	The Science of Happiness	4.5
Total Requirements		**36**

Core Requirements

Course Code	Course Name	Credits
ACC501	Accounting for Managerial Decision Making	4.5
ENT501	Entrepreneurship and Venture Management	4.5
HRM501	Human Resource Management	4.5
FIN501	Corporate Finance	4.5
MGT501	International Business	4.5
MGT507	Business Transformation	4.5
MKT502	Strategic Business Marketing	4.5
QNT201	Quantitative Methods for Decision Making	4.5

RES201	Research Methods	4.5
TEC511	Data Visualization and Business Intelligence	4.5
Total Requirements		**45**
Business Analytics (Four Courses Required)		
BAL601	Basic Business Analytics using R/Python	4.5
BAL602	Data Mining for Intelligence Management	4.5
BAL603	Big Data Analysis	4.5
BAL604	Text Analytics	4.5
Total Requirements		**18**
Digital Marketing (Four Courses Required)		
DGM601	Digital Journey with Brand Management	4.5
DGM602	Social Media Optimization	4.5
DGM603	Web and Test Analytics	4.5
DGM604	E-Commerce Analytics	4.5
Total Requirements		**18**
Mass Media (Four Courses Required)		
MAS601	Data Journalism	4.5
MAS602	Investigative Reporting	4.5
MAS603	Public Relations and Events	4.5
MAS604	Media, CSR & Sustainable Development	4.5
Total Requirements		**18**
Entrepreneurship (Four Courses Required)		
ENT601	International Economics	4.5
ENT602	Growth Strategies for Emerging Companies	4.5
ENT603	Growth Strategies for Emerging Markets	4.5
ENT604	Business Plan for the New Venture	4.5
Total Requirements		**18**
Finance (Four Courses Required)		
FIN601	Investments	4.5
FIN602	Financial Statement Analysis	4.5
FIN603	Financial Modelling and Decision Making	4.5

FIN604	Financial Risk Management	4.5
Total Requirements		**18**
Human Resource Management (Four Courses Required)		
HRM501	Change Management	4.5
HRM502	Industrial Relations and Labor Laws	4.5
HRM503	Performance Management	4.5
HRM504	Compensation and Benefit Management	4.5
Total Requirements		**18**
Marketing (Four Courses Required)		
MKT601	Electronic Commerce: Business Models & Strategies	4.5
MKT602	Influencer Marketing	4.5
MKT603	International Marketing Management	4.5
MKT604	Internet marketing Strategies	4.5
Total Requirements		**18**
Supply Chain Management (Four Courses Required)		
SCM601	Supply Chain Management Operations	4.5
SCM602	Supply Chain Inventory Management	4.5
SCM603	Supply Chain Business Process Design	4.5
FIN605	Financial Management II	4.5
Total Requirements		**18**
Hospital Management (Four Courses Required)		
HSM601	Healthcare Environment & Management	4.5
HSM602	Health Care Laws, Ethics and Medical Terminology	4.5
HSM603	Hospital Operations Management	4.5
HSM604	Patient Care Management	4.5
Total Requirements		**18**
Hotel Management (Four Courses Required)		
HTM601	Hospitality & Tourism Management	4.5
HTM602	Conference & Event Management	4.5
HTM603	Food & Beverage Management and Control	4.5
HTM604	Hospitality Brand Management	4.5

Total Requirements		**18**
Internship/Project (Co-op)/		
APT700	Capstone	4.5
INT600	Internship (Co-op) I	4.5
INT601	Internship (Co-Op) II	4.5
COW501	Community Welfare	0.5
PCC301	Extra-Curricular & General Interest	0.5
PCC302	Career Preparation Courses /Alumni Mentoring	0.5
Total Requirements		**15**
Professional Core Courses		
PCC101	Skills for Lifelong Learning	0.5
PCC103	Harvard Certification - Ethics at Work	0.5
PCC104	Positive Intelligence	0.5
PCT100	Advanced Excel/Word Training	0.5
Total Requirements		**2.0**
Summary of Total Requirements		
Total Foundation Courses		36
Total Core Requirements		45
Total Specialization Requirements		18
Total Co-Op Requirements		15
Total Professional Course Requirement		2
Master of Business Administration Total Credits Required for Graduation		**116**

Executive MBA

The MBA (Executive) programme at KKMU has been designed for the students with the minimum of 2 years full time work experience after graduation in a registered firm/ company / industry/ educational/ government, autonomous organisations.

This programme has been tailor made for professionals desirous of acquiring a clear advantage in terms of knowledge and skills for their growth and development.

4 Foundation Courses x 4.5 credit hours	= 18 credit hours
6 Core courses x 4.5 credit hours	= 27 credit hours
2 common courses x 4.5 credit hours	= 9 credit hours
Internship/Co-op Capstone courses x 4.5 credit hours	= 13.5 credit hours
15 courses x 4.5 credit hours	= 67.5 credit hours

This program typically takes 1 years to complete for students enrolled full time.

Foundation and Language Courses

Code	Course Name	Credit
COM301	Business Communication	4.5
HUM201	Critical and Creative Thinking Skills	4.5
PHL201	Indian Ethos and Mindful Leadership	4.5
PSY202	The Science of Happiness	4.5
Total Requirements		**18**

Core Requirements (6 Courses Required)

Number	Course Name	Credits
ACC501	Accounting for Managerial Decision Making	4.5
ENT501	Entrepreneurship and Venture Management	4.5
HRM501	Human Resource Management	4.5
FIN501	Corporate Finance	4.5
MGT501	International Business	4.5
MGT507	Business Transformation	4.5
MKT502	Strategic Business Marketing	4.5
QNT201	Quantitative Methods for Decision Making	4.5
RES201	Research Methods	4.5
TEC511	Data Visualization and Business Intelligence	4.5

Total Requirements		**27**
Common Courses (2 courses Required)		
Number	**Course Name**	**Credits**
FIN601	Security Analysis and Portfolio Management	4.5
FIN602	Financial Statement Analysis	4.5
MKT601	Electronic Commerce: Business Models & Strategies	4.5
MKT602	Influencer Marketing	4.5
HRM602	Industrial Relations and Labor laws	4.5
HRM603	Performance Management	4.5
Total Requirements		**9.0**
Internship/Project (Co-op)/Free Electives		
APT700	Capstone	4.5
INT600	Internship (Co-op) I	4.5
INT601	Internship (Co-Op) II	4.5
Total Requirements		**13.5**
Summary of Total Requirements		
Total Foundation Courses		18
Total Core Requirements		27
Total Common Course Requirement		9
Total Co-Op Requirements		13.5
Executive MBA Total Credits Required for Graduation		**67.5**

M.Com (H)

7 Foundation Courses x 4.5 credit hours	= 31.5 credit hours
10 Core courses x 4.5 credit hours	= 45 credit hours
6 Specialization courses x 4.5 credit hours	= 27 credit hours
2 Internship/Co-op Capstone courses x 4.5 credit hours	= 13.5 credit hours
4 Professional Certification Courses (PCC) x 0.5 credit hours	= 2 credit hours
26 Total courses x 4.5 credit hours + 4 PCC x 0.5 credit hours	= 119 Credit Hours

This program typically takes 2 years to complete for students enrolled full time.

Foundation and Language Courses

Code	Course Name	Credit
ENG201	The Art of Conversation II	4.5
COM301	Business Communication	4.5
MGT201	Business Fundamentals	4.5
MTH201	Business Mathematics	4.5
PHL201	Indian Ethos and Mindful Leadership	4.5
MGT203	Design Thinking	4.5
PSY202	The Science of Happiness	4.5
Total Requirements		**31.5**

Core Requirements

Course Code	Course Name	Credits
ACC502	Advanced Managerial Accounting	4.5
ECO501	Managerial Economics	4.5
ENT501	Entrepreneurship and Venture Management	4.5
FIN501	Corporate Finance	4.5
FIN502	Financial Planning	4.5
FIN503	Marketing for Financial Services	4.5
MGT507	Business Transformation	4.5
QNT201	Quantitative Methods for Decision Making	4.5
RES201	Research Methods	4.5
TAC501	Corporate Tax Structure and Planning	4.5
Total Requirements		**45**

Common Courses (Six Courses Required)		
ACC601	Accounting Theory and Financial Reporting	4.5
ACC602	Cost Estimation and Control	4.5
FIN601	Security Analysis and Portfolio Management	4.5
FIN606	Investment Analysis	4.5
FIN607	Debt Market	4.5
FIN608	Financial Derivatives	4.5
FIN610	International Financial Systems	4.5
FIN611	International Financial Management	4.5
Total Requirements		**27**
Internship/Project (Co-op)		
APT700	Capstone	4.5
INT600	Internship (Co-op) I	4.5
INT601	Internship (Co-Op) II	4.5
Total Requirements		**13.5**
Professional Core Courses		
PCC101	Skills for Lifelong Learning	0.5
PCC103	Harvard Certification - Ethics at Work	0.5
PCC104	Positive Intelligence	0.5
PCT100	Advanced Excel/Word Training	0.5
Total Requirements		**2.0**
Summary of Total Requirements		
Total Foundation Courses		31.5
Total Core Requirements		45
Total Majors Requirements		27
Total Co-Op Requirements		13.5
Total Professional Course Requirement		2
Master of Commerce Total Credits Required for Graduation		**119**

M.Com with Specialization (Accounts and Finance; Financial and Stock Markets)

7 Foundation Courses x 4.5 credit hours	= 31.5 credit hours
10 Core courses x 4.5 credit hours	= 45 credit hours
6 Specialization courses x 4.5 credit hours	= 27 credit hours
2 Internship/Co-op Capstone courses x 4.5 credit hours	= 13.5 credit hours
4 Professional Certification Courses (PCC) x 0.5 credit hours	= 2 credit hours
26 Total courses x 4.5 credit hours + 4 PCC x 0.5 credit hours	= 119 Credit Hours

This program typically takes 2 years to complete for students enrolled full time.

Foundation and Language Courses

Code	Course Name	Credit
ENG201	The Art of Conversation II	4.5
COM301	Business Communication	4.5
MGT201	Business Fundamentals	4.5
MTH201	Business Mathematics	4.5
PHL201	Indian Ethos and Mindful Leadership	4.5
MGT203	Design Thinking	4.5
PSY202	The Science of Happiness	4.5
Total Requirements		**31.5**

Core Requirements

Course Code	Course Name	Credits
ACC502	Advanced Managerial Accounting	4.5
ECO501	Managerial Economics	4.5
ENT501	Entrepreneurship and Venture Management	4.5
FIN501	Corporate Finance	4.5
FIN502	Financial Planning	4.5
FIN503	Marketing for Financial Services	4.5
MGT507	Business Transformation	4.5
QNT201	Quantitative Methods for Decision Making	4.5
RES201	Research Methods	4.5
TAC501	Corporate Tax Structure and Planning	4.5
Total Requirements		**45**

Specialization in Accounts and Finance (Six Courses Required)		
ACC601	Accounting Theory and Financial Reporting	4.5
ACC602	Cost Estimation and Control	4.5
ACC603	Strategic Cost Analysis and Performance Evaluation	4.5
ACC604	Advanced Corporate Accounting and Accounting Standards	4.5
FIN609	International Finance	4.5
FIN611	International Financial Management	4.5
Total Requirements		**27**
Specialization in Financial and Stock Markets (Six Courses Required)		
FIN601	Security Analysis and Portfolio Management	4.5
FIN606	Investment Analysis	4.5
FIN607	Debt Market	4.5
FIN608	Financial Derivatives	4.5
FIN610	International Financial Systems	4.5
FIN611	International Financial Management	4.5
Total Requirements		**27**
Internship/Project (Co-op)		
APT700	Capstone	4.5
INT600	Internship (Co-op) I	4.5
INT601	Internship (Co-Op) II	4.5
Total Requirements		**13.5**
Professional Core Courses		
PCC101	Skills for Lifelong Learning	0.5
PCC103	Harvard Certification - Ethics at Work	0.5
PCC104	Positive Intelligence	0.5
PCT100	Advanced Excel/Word Training	0.5
Total Requirements		**2.0**
Summary of Total Requirements		
Total Foundation Courses		31.5
Total Core Requirements		45
Total Specialization Requirements		27

Total Co-Op Requirements	13.5
Total Professional Course Requirement	2
Master of Commerce Total Credits Required for Graduation	**119**

School of Sciences

Our School of Sciences often plays a pivotal role in finding answers to real world issues. Our curriculum is innovative, career-focused and application-oriented. It has a fine balance of theory, practical and projects. The learnings allow you to solve problems demanded by Industry. Our programs train you to be innovators to solve real world problems.

MCA

7 Foundation Courses x 4.5 credit hours	= 31.5 credit hours
13 Core Requirements x 4.5 credit hours	= 58.5 credit hours
4 Common Courses x 4.5 credit hours	= 18 credit hours
Internship/Co-op Capstone courses x 4.5 credit hours	= 9.0 credit hours
4 Professional Certification Courses (PCC) x 0.5 credit hours	= 2 credit hours
26 courses x 4.5 credit hours + 4 PCC x 0.5 credit hours	= 119 Credit Hours

This program typically takes 3 years to complete for students enrolled full time.

Foundation and Language Courses

Code	Course Name	Credit
ENG201	The Art of Conversation II	4.5
COM301	Business Communication	4.5
MGT201	Business Fundamentals	4.5
MTH201	Business Mathematics	4.5
PHL201	Indian Ethos and Mindful Leadership	4.5
MGT203	Design Thinking	4.5
PSY202	The Science of Happiness	4.5
Total Requirements		**31.5**

Core Requirements

Course Code	Course Name	Credits
CST505	Advanced Data Communication and Networks	4.5
PRG504	Advanced Data Structures and Algorithm using Java	4.5
CST506	Automata Theory	4.5
CST507	Advanced Operating Systems	4.5
PRG505	Advanced Software Engineering	4.5
PRG506	Computer Graphics	4.5
MTH501	Advanced Discrete Mathematics	4.5
QNT501	Statistical Techniques	4.5

PRG501	Design and Analysis of Algorithms	4.5
PRG502	Object Oriented Analysis and Design	4.5
CST501	Advanced Network Security	4.5
CST502	Wireless Computing	4.5
CST508	Advanced Database Management Systems	4.5
Total Requirements		**58.5**
Common Courses (Choose any four courses)		
MOC601	Application Development using Python	4.5
MOC602	Advanced Web Technologies	4.5
MOC603	Internet of Things	4.5
MOC604	Computer Vision*	4.5
DAL601	Statistics for Data Science	4.5
DAL602	Optimization for Machine Learning	4.5
DAL603	Deep Learning	4.5
DAL604	Communicating Data and Analysis	4.5
Total Requirements		**18**
Internship/Project (Co-op)		
APT700	Capstone	4.5
INT600	Internship (Co-op) I	4.5
Total Requirements		**9.0**
Professional Core Courses		
PCC101	Skills for Lifelong Learning	0.5
PCC103	Harvard Certification - Ethics at Work	0.5
PCC104	Positive Intelligence	0.5
PCT100	Advanced Excel/Word Training	0.5
Total Requirements		**2.0**
Summary of Total Requirements		
Total Foundation Courses		31.5
Total Core Requirements		58.6
Total Common Courses Requirements		18
Total Co-Op Requirements		9.0

Total Professional Course Requirement	2.0
Master of Computer Application Total Credits Required for Graduation	**119**

MCA with Specialization (Data Analytics; Mobile Computing)

7 Foundation Courses x 4.5 credit hours	= 31.5 credit hours
13 Core Requirements x 4.5 credit hours	= 58.5 credit hours
4 Specialization Courses x 4.5 credit hours	= 18 credit hours
Internship/Co-op Capstone courses x 4.5 credit hours	= 9.0 credit hours
4 Professional Certification Courses (PCC) x 0.5 credit hours	= 2 credit hours
26 courses x 4.5 credit hours + 4 PCC x 0.5 credit hours	= 119 Credit Hours

This program typically takes 3 years to complete for students enrolled full time.

Foundation and Language Courses

Code	**Course Name**	**Credit**
ENG201	The Art of Conversation II	4.5
COM301	Business Communication	4.5
MGT201	Business Fundamentals	4.5
MTH201	Business Mathematics	4.5
PHL201	Indian Ethos and Mindful Leadership	4.5
MGT203	Design Thinking	4.5
PSY202	The Science of Happiness	4.5
Total Requirements		**31.5**

Core Requirements

Course Code	**Course Name**	**Credits**
CST505	Advanced Data Communication and Networks	4.5
PRG504	Advanced Data Structures and Algorithm using Java	4.5
CST506	Automata Theory	4.5
CST507	Advanced Operating Systems	4.5
PRG505	Advanced Software Engineering	4.5
PRG506	Computer Graphics	4.5
MTH501	Advanced Discrete Mathematics	4.5
QNT501	Statistical Techniques	4.5
PRG501	Design and Analysis of Algorithms	4.5

PRG502	Object Oriented Analysis and Design	4.5
CST501	Advanced Network Security	4.5
CST502	Wireless Computing	4.5
CST508	Advanced Database Management Systems	4.5
Total Requirements		**58.5**

Specializations Requirements

Mobile Computing (Four Courses Required)

Course Code	**Course Name**	**Credits**
MOC601	Application Development using Python	4.5
MOC602	Advanced Web Technologies	4.5
MOC603	Internet of Things	4.5
MOC604	Computer Vision*	4.5
Total Requirements		**18**

Data Analytics (Four Courses Required)

Course Code	**Course Name**	**Credits**
DAL601	Statistics for Data Science	4.5
DAL602	Optimization for Machine Learning	4.5
DAL603	Deep Learning	4.5
DAL604	Communicating Data and Analysis	4.5
Total Requirements		**18**

Internship/Project (Co-op)

APT700	Capstone	4.5
INT600	Internship (Co-op) I	4.5
Total Requirements		**9.0**

Professional Core Courses

PCC101	Skills for Lifelong Learning	0.5
PCC103	Harvard Certification - Ethics at Work	0.5
PCC104	Positive Intelligence	0.5
PCT100	Advanced Excel/Word Training	0.5
Total Requirements		**2.0**

Summary of Total Requirements

Total Foundation Courses	31.5
Total Core Requirements	58.6
Total Common Courses Requirements	18
Total Co-Op Requirements	9.0
Total Professional Course Requirement	2.0
Master of Computer Application Total Credits Required for Graduation	**119**

School of Engineering

KKMU prepares students to address the most compelling challenges of the world, backed by sound knowledge, integrity, research, and innovation. With state-of-the-art infrastructure, faculty of the highest professional standards, a carefully crafted curriculum, active industry-academia collaborations, and global exposure, we provide students with specialised knowledge and practical skills, which enables them to make ground-breaking discoveries.

M. Tech

10 Core Requirements x 4.5 credit hours	= 45 credit hours
4 Common Courses x 4.5 credit hours	= 18 credit hours
Internship/Co-op Capstone courses x 4.5 credit hours	= 9.0 credit hours
2 Professional Certification Courses (PCC) x 0.5 credit hours	= 1.0 credit hours
16 courses x 4.5 credit hours + 2 PCC x 0.5 credit hours	= 73 Credit Hours

This program typically takes 2 years to complete for students enrolled full time.

Core Requirements (10 Courses required)

Course Code	Course Name	Credits
PRG501	Design and Analysis of Algorithms	4.5
PRG502	Object Oriented Analysis and Design	4.5
CST501	Advanced Network Security	4.5
AIM501	Artificial Intelligence and Machine Learning Applications	4.5
CLD501	Cloud Computing	4.5
MGT203	Design Thinking	4.5
CST502	Wireless Computing	4.5
CST503	Advanced DBMS	4.5
CST504	Distributed Systems	4.5
PRG503	Advanced Web Design	4.5
Total Requirements		**45**

Common Courses (Four Courses Required)

CLD601	Advanced Security in Cloud	4.5
CLD602	Data Center Virtualization	4.5

CLD603	Cloud Strategy Planning and Management	4.5
CLD604	Mobile Cloud	4.5
CYB601	Penetration Testing	4.5
CYB602	Computational Statistics and Data Mining	4.5
CYB603	Governance, Risk and Compliance	4.5
CYB604	Cryptography	4.5
AIM601	Mathematics for Artificial Intelligence	4.5
AIM602	Soft Computing Techniques	4.5
AIM603	Big-data Analytics	4.5
AIM604	Machine Learning Techniques	4.5
Total Requirements		**18**
Internship/Project (Co-op)/		
APT700	Capstone	4.5
INT600	Internship (Co-op) I	4.5
Total Requirements		**9.0**
Professional Core Courses		
PCC103	Harvard Certification - Ethics at Work	0.5
PCC104	Positive Intelligence	0.5
Total Requirements		**1.0**
Summary of Total Requirements		
Total Core Requirements		45
Total Common Courses Requirements		18
Total Co-Op Requirements		9.0
Total Professional Course Requirement		1.0
Master of Technology Total Credits Required for Graduation		**73**

M. Tech with Specialization (UI/UX; IOT; Image processing; DevOps; Cyber Security and Forensic; Cloud Computing and Virtualization; Artificial Intelligence and Machine Learning and Full Stack Development)

10 Core Requirements x 4.5 credit hours	= 45 credit hours
4 Specialization Courses x 4.5 credit hours	= 18 credit hours
Internship/Co-op Capstone courses x 4.5 credit hours	= 9.0 credit hours
2 Professional Certification Courses (PCC) x 0.5 credit hours	= 1.0 credit hours
16 courses x 4.5 credit hours + 2 PCC x 0.5 credit hours	= 73 Credit Hours

This program typically takes 2 years to complete for students enrolled full time.

Core Requirements (10 Courses required)

Course Code	Course Name	Credits
PRG501	Design and Analysis of Algorithms	4.5
PRG502	Object Oriented Analysis and Design	4.5
CST501	Advanced Network Security	4.5
AIM501	Artificial Intelligence and Machine Learning Applications	4.5
CLD501	Cloud Computing	4.5
MGT203	Design Thinking	4.5
CST502	Wireless Computing	4.5
CST503	Advanced DBMS	4.5
CST504	Distributed Systems	4.5
PRG503	Advanced Web Design	4.5
Total Requirements		**45**

Specialization Courses (Four Courses Required)

CLD601	Advanced Security in Cloud	4.5
CLD602	Data Centre Virtualization	4.5
CLD603	Cloud Strategy Planning and Management	4.5
CLD604	Mobile Cloud	4.5
Total Requirements		**18**

UI/UX Specialization (Four Courses Required)

UIX601	User Interface Design	4.5
UIX602	Graphics and Animation	4.5
UIX603	Operating Systems and Computer Architecture	4.5
UIX604	Unix Programming	4.5
Total Requirements		**18**
Specialization Requirements		
IOT (Four Courses Required)		
IOT601	Information Retrieval	4.5
IOT602	Wireless Access Technologies	4.5
IOT603	Data Science	4.5
IOT604	Smart Sensors and IOT	4.5
Total Requirements		**18**
Image Processing (Four Courses Required)		
IMP601	Advanced Digital Signal Processing	4.5
IMP602	Digital Image Processing	4.5
IMP603	Computer Graphics & Volume Visualisation	4.5
IMP604	Pattern Recognition	4.5
Total Requirements		**18**
DevOps (Four Courses Required)		
DEV601	DevOps and Big Data Integration, Agile Practices	4.5
DEV602	DevOps on Cloud, Exploration, Analytics and Visualization	4.5
DEV603	System Virtualization and Test Automation	4.5
DEV604	Configuration Management	4.5
Total Requirements		**18**
Cyber Security and Forensic (Four Courses Required)		
CYB601	Penetration Testing	4.5
CYB602	Computational Statistics and Data Mining	4.5
CYB603	Governance, Risk and Compliance	4.5
CYB604	Cryptography	4.5
Total Requirements		**18**
Cloud Computing and Virtualization (Four Course Required)		

CLD601	Advanced Security in Cloud	4.5
CLD602	Data Center Virtualization	4.5
CLD603	Cloud Strategy Planning and Management	4.5
CLD604	Mobile Cloud	4.5
Total Requirements		**18**
Artificial Intelligence and Machine Learning		
AIM601	Mathematics for Artificial Intelligence	4.5
AIM602	Soft Computing Techniques	4.5
AIM603	Big-data Analytics	4.5
AIM604	Machine Learning Techniques	4.5
Total Requirements		**18**
Full Stack Development (Four Courses Required)		
PRG601	The Advanced Web Developer Bootcamp	4.5
PRG602	Full Stack Java Developer	4.5
PRG603	Web Application Development with JavaScript and MongoDB	4.5
PRG604	Full Stack Cloud Developer	4.5
Total Requirements		**18**
Internship/Project (Co-op)/		
APT700	Capstone	4.5
INT600	Internship (Co-op) I	4.5
Total Requirements		**9.0**
Professional Core Courses		
PCC103	Harvard Certification - Ethics at Work	0.5
PCC104	Positive Intelligence	0.5
Total Requirements		**1.0**
Summary of Total Requirements		
Total Core Requirements		45
Total Specialization Courses Requirements		18
Total Co-Op Requirements		9.0
Total Professional Course Requirement		1.0

Graduate Course Descriptions

Graduate courses have numbers 500 and above. Consult with your advisor prior to enrolment to make certain that your course selection will meet your degree or diploma requirements and that you satisfy all prerequisites. Each course description includes all pre-requisite requirements. Any exceptions to these requirements must be approved by the Dean

ACC501 Accounting for Managerial Decision Making 4.5

The objective of the course is to familiarize the students with the basic management accounting concepts and their applications in managerial decision making. **Prerequisite: None**

ACC502 Advanced Managerial Accounting 4.5

The Advanced Managerial Accounting course will focus on problem solving for managerial accounting issues. Students will prepare for the role accountants have in planning and control of the organization. Students will also develop knowledge about and develop proficiencies in efficient techniques in analysis for decision making using cost information and economic insight. Students will also develop effective ways to communicate results and uphold ethical principles. **Prerequisite: None**

ACC601 Accounting Theory and Financial Reporting 4.5

This course is a survey of current financial accounting theory. The purpose of the course is to develop accounting thought that can be applied to the practical understanding of the financial reporting process, the accounting profession, and the controversial role of accounting in today's dynamic business environment. Major course topics include the nature of accounting theory; the historical development of accounting, the FASB's Conceptual Framework project; and the influence of standard setting agencies on the economic consequences of financial reporting**. Prerequisite: None**

ACC602 Cost Estimation and Control 4.5

Summarize the basic principal and standard methods for working out quantities in estimating; Demonstrate the detailed estimate of buildings and workout rate analysis of the various items of work; Understand the material requirements as per specified norms and standards; assess the valuation of buildings and provide practical knowledge of standard specifications of items of buildings construction. **Prerequisite: None**

ACC603 Strategic Cost Analysis and Performance Evaluation 4.5

Throughout the course, a strategic cost analysis and management framework will be applied across functions and organizations to highlight the cost analysis and performance evaluation methods available to forecast financial performance and improve strategic position. **Prerequisite: None**

ACC604 Advanced Corporate Accounting and Accounting Standards 4.5

To provide theoretical knowledge of International Financial Reporting Standards and enable the students to gain ability to solve problems relating to Holding Company Accounts, Liquidation of Companies and various other Accounts. **Prerequisite: None**

AIM401 Deep Learning 4.5

This course introduces major deep learning algorithms, the problem settings, and their applications to solve real world problems; Identify the deep learning algorithms which are more appropriate for various types of learning tasks in various domains and implement deep learning algorithms and solve real-world problems. **Prerequisite: None**

AIM501 Artificial Intelligence and Machine Learning Applications 4.5

AI is an introductory course in Artificial Intelligence. The goal is to acquire knowledge on intelligent systems and agents, formalization of knowledge, reasoning with and without uncertainty, machine learning and applications at a basic level. **Prerequisite: None**

AMI601 Mathematics for Artificial Intelligence 4.5

The course has been designed in collaboration with industry experts to help you breakdown the difficult mathematical concepts known to man into easier to understand concepts. The course covers three main mathematical theories: Linear Algebra, Multivariate Calculus and Probability Theory. **Prerequisite: None**

AIM602 Soft Computing Techniques 4.5

The main objective of the course is to expose the students to soft computing, various types of soft computing techniques, and applications of soft computing. **Prerequisite: None**

AIM603 Big-data Analytics 4.5

To study the basic technologies that forms the foundations of Big Data; to study the programming aspects of cloud computing with a view to rapid prototyping of complex applications and understand the specialized aspects of big data including big data application, and big data analytics; to study different types Case studies on the current research and applications of the Hadoop and big data in industry**. Prerequisite: None**

AIM604 Machine Learning Techniques 4.5

The objective of the course is to understand the basic theory underlying machine learning; to be able to formulate machine learning problems corresponding to different applications and to understand a range of machine learning algorithms along with their strengths and weaknesses. **Prerequisite: None**

APT700 Applied Thesis 4.5

Students independently research a topic to obtain a deep understanding of the subject matter and often work towards developing a solution, product, innovative idea or a prototype on a real-world problem. Students will dig into detail about the purpose of this significant work as well as methods to overcome some hurdles. **Prerequisite: None**

BAL601 Introduction to Business Analytics 4.5

This course introduces students to the science of business analytics while casting a keen eye toward the artful use of numbers found in the digital space. The goal is to provide businesses and managers with the foundation needed to apply data analytics to real-world challenges they confront daily in their professional lives. **Prerequisite: None**

BAL602 Big Data Analytics with Lab 4.5

This course provides an overview of an exciting growing field of big data analytics; introduce the tools required to manage and analyze big data like Hadoop, No Sql MapReduce and teach the fundamental techniques and principles in achieving big data analytics with scalability and streaming capability. **Prerequisite: None**

BAL603 Social & Web Analytics with Lab 4.5

This course explores the impending revolution in digital analytics, one that has the potential to change both the Web analytics and business intelligence fields. Students will study Web Analytics (Adobe Analytics and Google Analytics). **Prerequisite: None**

BAL604 Business Analytics for Industry 4.5

Business analytics is a powerful tool in today's marketplace. Across industries, organizations are generating vast amounts of data which, in turn, has heightened the need for professionals who know how to interpret and analyze that information. **Prerequisite: None**

CLD601 Advanced Security in Cloud 4.5

The course will describe the Cloud security architecture and explore the guiding security design principles, design patterns, industry standards, applied technologies and addressing regulatory compliance requirements critical to design, implement, deliver and manage secure cloud-based services**. Prerequisite: None**

CLD602 Data Center Virtualization 4.5

This course covers data center virtualization concepts. Topics include data storage, virtual network configuration, virtual machine and virtual application deployment. Upon completion, students should be able to perform tasks related to virtual machine and hypervisor installation and configuration. **Prerequisite: None**

CLD603 Cloud Strategy Planning and Management 4.5

This course deals with the concepts and technological advances fueling the rapid adoption of cloud computing today. This course provides the students with the skills and knowledge required to plan and manage a Cloud Computing strategy within an organization. This course will enable students to evaluate the strategic value of Cloud Computing using IT Governance and Compliance. **Prerequisite: None**

CLD606 Mobile Cloud 4.5

The mobile computing technology used in modern smart phones; The cloud computing technologies used in existing data centers; the synergy of mobile and cloud computing and its applications; Programming on smart phone utilizing data center services. Students will gain knowledge of: the fundamental principles of mobile cloud computing, the major technologies that support mobile cloud computing, the current challenges and primary areas of research within the field of mobile cloud computing, and a basic understanding of the role of mobile cloud computing in the context of the everyday living. **Prerequisite: None**

CST501 Advanced Network Security 4.5

The objective of this course is to expose students to advanced topics in network security. Topics covered will include network security issues like authentication, anonymity, traceback, denial of service, encryption, forensics etc. in both wired and wireless networks. At the conclusion of the course, students will be expected to get a clear and in-depth understanding of state of the art in network security attacks and defenses. **Prerequisite: None**

CST502 Wireless Computing 4.5

This course will examine the area of wireless networking, looking at the unique network protocol challenges and opportunities presented by wireless communications and host or router mobility. The course will give a brief overview of fundamental concepts in mobile wireless systems and mobile computing, it will then cover system and standards issues including wireless LANs, mobile IP, ad-hoc networks, sensor networks, as well as issues associated with small handheld portable devices and new applications that can exploit mobility and location information. This is followed by several topical studies around recent research publications in mobile computing and wireless networking field. This

course will make the system architecture and applications accessible to the electrical engineer and computer scientist. **Prerequisite: None**

CST503 Advanced DBMS 4.5

Advanced database systems try to meet the requirements of present-day database applications by offering advanced functionality in terms of data modelling, multimedia data type support, data integration capabilities, query languages, system features, and interfaces to other worlds. **Prerequisite: None**

CST504 Distributed Systems 4.5

A distributed system is a computing environment in which various components are spread across multiple computers (or other computing devices) on a network. This course provides an in-depth understanding of fundamental principles and models underlying the theory, algorithms, and systems aspects of distributed computing. **Prerequisite: None**

CST505 Advanced Data Communication and Networks 4.5

This course will teach basics of Data Communication and Computer Network (DCN) and will also take through various advance concepts related to Data Communication and Computer Network. Data communications refers to the transmission of this digital data between two or more computers and a computer network or data network is a telecommunications network that allows computers to exchange data. **Prerequisite: None**

CST506 Automata Theory 4.5

Automata, Languages and Computation have been an important part of the curriculum in computer science for several decades. The automata theory is the study of abstract machines and their application in solving computational problems. This course covers the theory of automata and languages. It includes the study of finite automata and the languages they can define (the so-called "regular languages."). Topics include deterministic and nondeterministic automata, regular expressions, and the equivalence of these language-defining mechanisms, grammar, Turing machine etc. **Prerequisite: None**

CST507 Advanced Operating Systems 4.5

This course teaches the basic operating system abstractions, mechanisms, and their implementations. The core of the course will discuss the history of modern computers and further it analyses in detail each of the major components of an operating system (from processes to threads, synchronization, deadlock), and explore more advanced topics in the field, including memory management and file input/output. **Prerequisite: None**

CST508 Advanced Database Management Systems 4.5

Databases form the backbone of all major applications today – tightly or loosely coupled, intranet or internet based, financial, social, administrative, and so on. Structured Database Management Systems (DBMS) based on relational and other models have long formed the basis for such databases. This course examines data structures, file organizations, concepts and principles of DBMS's, data analysis, database design, data modelling, database management, data & query optimization, and database implementation. **Prerequisite: None**

CYB601 Penetration Testing 4.5

This course is designed to strengthen penetration testers and further add to their skillset. The course is also designed to train system administrators, defenders, and others in security to understand the mindset and methodology of a modern attacker. Every organization needs skilled information security personnel who can find vulnerabilities and mitigate their effects, and this entire course is specially designed to get you ready for that role. Both the offensive teams and defenders have the same goal: keep the real bad guys out. **Prerequisite: None**

CYB602 Computational Statistics and Data Mining 4.5

This subject will introduce a number of recently developed methods and applications in computational statistics and data science that are scalable to large datasets and high-performance computing. The data mining methods to be introduced include general model diagnostic and assessment techniques, kernel and local polynomial nonparametric regression, basis expansion and nonparametric spline regression, generalised additive models, classification and regression trees, forward stagewise and gradient boosting models. **Prerequisite: None**

CYB603 Governance, Risk and Compliance 4.5

In today's complex global business environment, having a transparent view of information and a coordinated approach to the governance, management and assurance of performance, risk and compliance is critical to success. Organisations that understand and apply the principles of integrated governance, risk management and compliance (GRC), in both processes and technology, have a real competitive advantage. This course enables participants to effectively design and enhances GRC activities within an organisation based on established, internationally recognised GRC standards, and effectively audit the GRC capability. **Prerequisite: None**

CYB604 Cryptography 4.5

To make the student learn different encryption techniques along with hash functions, MAC, digital signatures and their use in various protocols for network security and system security. **Prerequisite: None**

DAL601 Statistics for Data Sciences 4.5

Statistics for Data Science course will prepare you to solve complex challenges with data and drive important decision-making processes. You will learn to code at an introductory level and take the first steps to becoming a data scientist. **Prerequisite: None**

DAL602 Optimization for Machine Learning 4.5

This course provides an accessible entry point to Modeling and Optimization for Machine Learning, key skills needed to use state-of-the-art software and algorithms from machine learning. It covers underlying theoretical motivations behind widely-used optimization algorithms (the "science"), while diving deep into aspects of mathematical modeling (the "art") to provide students with an intuitive, foundational introduction to this modern and fast-moving research area. **Prerequisite: None**

DAL604 Communicating Data and Analysis 4.5

In this course, Communicating Data and Analysis Results, you'll learn how to take data and analysis results and communicate them effectively. First, you'll begin with preparation – choosing the story, ensuring that you understand the data and deciding what conclusions you wish to share. Next, you'll explore the presentation itself – how to structure it to be effective, and keep viewers engaged. Finally,

you'll discover how follow-up can ensure that the data and results sink in so they can drive action and produce solutions. **Prerequisite: None**

DEV601 DevOps and Big Data Integration, Agile Practices 4.5

DEV602 DevOps on Cloud , Exploration, Analytics and Visualization 4.5

DEV603 System Virtualization and Test Automation 4.5

DEV604 Configuration Management 4.5

This course provides a basic introduction to the theory, principles, and techniques of Configuration Management as it applies to the entire software lifecycle. It addresses the application of CM in a wide variety of approaches to software development and maintenance, from traditional to agile. The course illustrates the CM strategies, techniques, and required tool capabilities that support each of the activities in the software development life cycle. The student will also gain a value-based understanding of which CM techniques are most useful for the development approach and tool capabilities that currently exist in their company. **Prerequisite: None**

DGM601 Digital Journey and Brand Management 4.5

The Digital Strategy for Brand Management course provides a comprehensive overview of brand management and marketing principles & concepts. Learn how to help your business establish a digital presence through the effective use of the content, images, and user engagement that appeals to your target market. **Prerequisite: None**

DGM602 Social Media Optimization 4.5

This course provides you with the skills to optimize your social media marketing efforts. Learn to evaluate and interpret the results of your advertising campaigns. Learn how to assess advertising effectiveness through lift studies and optimize your campaigns with split testing. Understand how advertising effectiveness is measured across platforms and devices, learn how to evaluate the ROI of your marketing, and master how to communicate your social media marketing results to others in the company. **Prerequisite: None**

DGM603 Web and Text Analysis 4.5

In this course, you will learn the fundamental concepts of text analytics and perform text analytics on different applications. Learn Text analytics concepts and applications ; Fundamental of Information retrieval and natural language processing; Text analytics framework; Theoretical techniques and applications in text analytics (e.g. social media) Python packages and commands to perform text analytics. **Prerequisite: None**

DGM604 E-Commerce Analytics 4.5

This course covers eCommerce fundamentals including how to generate traffic for an e-commerce website, identify and segment the best customers for increasing the business valuation, and leverage operations data to make smarter financial decisions for the profitability of the business based on inventory. **Prerequisite: None**

ENT501 Entrepreneurship and Venture Management 4.5

This course presents the knowledge and skills needed to create and manage a new venture. It also examines the various dynamics associated with the various forms of entrepreneurial activity. In this

course students are required to interview an entrepreneur, develop recommendations for a company and address challenges, and analyse a sector to uncover entrepreneurial opportunities and develop your own business concepts. **Prerequisite: None**

ENT601 International Economics 4.5

This course examines key dimensions of the global economy and global economics, including international business opportunities and risks, trade theory and policy, the balance of payments, foreign exchange markets, exchange rate systems and risks, and international payment systems. **Prerequisite: None**

ENT602 Growth Strategies for Emerging Companies 4.5

This course offers practical management tools to help grow and manage high potential new ventures. Topics include internal rapid growth strategies (including product development (high and low technology), vertical expansion, horizontal expansion, etc.), external rapid growth strategies (rollups, exporting, franchising, and acquisition, etc.), and unique growth techniques for technology product based firms. **Prerequisite: None.**

ENT603 Growth Strategies for Emerging Markets 4.5

This course examines how firms conduct an analysis and selects new international markets for entry, how firms develop strategies for success- fully entering these markets, and how firms manage these markets for growth and subsequent expansion. **Prerequisite: None**

ENT604 Business Plan for the New Venture 4.5

In this course each student must produce a business plan that will be accepted for the annual program business plan competition. It is expected that several business plans will be of sufficient quality that they will attract financing. Topics include a deep review of business plan construction and its derivative short forms (1 page summary, 3 pages summary, and executive summary). **Prerequisite: None.**

FIN501 Corporate Finance 4.5

This course is an in-depth analysis of financial considerations relating to maximizing the value of a corporation. It examines the setting of financial and corporate goals in terms of maximizing shareholders' equity, optimal financing policy and relationships among dividend policy, debt levels, capital costs, return on investments, and growth. **Prerequisite: None**

FIN601 Security Analysis and Portfolio Management 4.5

This course provides a broad overview of investment management, focusing on the application of finance theory to the issue faced by portfolio managers and investors in general and To provide conceptual foundation for the purpose of undertaking Investment analysis for securities as well as portfolios. **Prerequisite: None**

FIN602 Financial Statement Analysis 4.5

This course examines financial accounting rules and helps students develop skills in interpreting and analysing external financial reports. **Prerequisite: None**

FIN603 Financial Modelling and Decision Making 4.5

Presents the theory and practice of financial management, emphasizing computer-based modelling and forecasting. Uses spreadsheets and other software products to analyze the impacts of financial

decisions related to financial statement analysis, cash budgeting, and cost of capital determination, capital budgeting, and capital structure choices. The course covers a variety of techniques, such as sensitivity and scenario analysis, optimization methods, Monte Carlo simulation, and regression analysis. **Prerequisite: None**

FIN604 Financial Risk Management 4.5

The course is aimed at the understanding of main functions of financial risk management and its role in the system of a corporate management. It also provides students with tools and methods of financial risks assessment and mitigation. **Prerequisite: None**

FIN605 Financial Management II 4.5

This course provides an overview of financial management, with an emphasis on analysis of financial decisions pertinent to management of a business firm. The course identifies the responsibilities of financial man- agers, financial problems facing firms, and the various approaches to financial decision making. **Prerequisite: None**

FIN606 Investment Analysis 4.5

The objective of this course is to introduce the intuition and concepts of Investment analysis. Two broad decisions have been taken by any investors: allocation of the total investment in available asset classes and how to select the assets within asset classes for investment. The course will help the participants in developing skills required to conduct assessment of current issues covered by media and specialized journals. **Prerequisite: None**

FIN607 Debt Market 4.5

The students will be able to understand the difference between equity market & debt market and its various instruments. The students will know the importance of different players and their functioning The student will be able to identify different types of bonds, the process of rating agencies , benefits of rating The student will be able to calculate bond value i.e Present value & Future Value. **Prerequisite: None**

FIN608 Financial Derivatives 4.5

This course aims at providing an in-depth understanding of financial derivatives in terms of concepts, structure, instruments and trading strategies for profit and risk management. **Prerequisite: None**

FIN609 International Finance 4.5

The objective of this course is to provide students with an in-depth knowledge of these issues. The main topics covered in this course are: forex markets, international Parity conditions, forex risks, currency derivatives and hedging issues, issues with currency investment strategies, issues with cross border financing decisions and cross border investment decisions. **Prerequisite: None**

FIN610 International Financial Systems 4.5

This course is a comprehensive understanding of the system and regulation of international financial relations. The discipline studies modern approaches to the analysis of interaction between financial markets, the real economy and international financial institutions. The course covers relevant topics of international regulation of financial markets. The course is based on traditional theories of financial markets as well as on modern trends of the global financial system. **Prerequisite: None**

FIN611 International Financial Management 4.5

This course is concerned with the financial management of the firms that operate in the increasingly globalized business environment. Emphasizing broad concepts and real-world practices rather than extensive quantitative material, the course offers a concise introduction to international finance and provides a clear, conceptual framework for analyzing key financial decisions in multinational firms. The approach of the course is to treat international financial management as a natural and logical extension of the principles learned in the introductory financial management course. **Prerequisite: None**

HRM501 Human Resource Management 4.5

This introductory course concentrates on human resource management issues confronting organizations. These issues include organizational practices and legal aspects of recruitment, selection, training, orientation, and performance appraisals. Labour relations are also discussed. **Prerequisite: None**

HRM601 Change Management 4.5

This course examines and applies the process of change management. During this course students begin with an overview of change management, then examine change management models and theories, evaluate strategic and tactical factors in change management, implement a change management initiative, and consider steps for evaluating, refining, and sustaining change. The study group project on change requires the planning and implementation of a change process. **Prerequisite: None.**

HRM602 Industrial Relations and Labour Laws 4.5

This course focuses on the Management of employees, both individually and collectively. It demonstrates how individual relations & labour law remain a central feature of organizational life. This course examines the conceptual and practical aspects of employee relations at the macro and micro levels. **Prerequisite: None**

HRM603 Performance Management 4.5

This course provides a powerful combination of training, communicating, and motivating skills that will enable the students to successfully challenge your staff to reach higher levels of performance. **Prerequisite: None**

HRM604 Compensation and Benefit Management 4.5

This course focuses on how organizations use compensation and benefits to achieve their operational & strategic goals. It explores compensation design, analysis, and evaluation. The design of pay systems, paying for performance, and the administration of pay systems are appraised and assessed**.**
Prerequisite: None HSM601 Healthcare Environment & Management 4.5

This course is intended to introduce students to foundational and technical concepts in the field of Environmental Public Health (EPH). Primarily, students will learn how a variety of environmental factors impact health outcomes, the control measures currently used to prevent or minimize the health effects from these negative impacts, and where to access additional information to make a difference at the individual, community or higher level. The course is designed to acquaint the student with the scientific and technical foundations of the field and examines both practice and research contributions to understanding and controlling environmental hazards. **Prerequisite: None**

HSM602 Health care Laws, Ethics and Medical Terminology 4.5

This course is dedicated to the analysis and application of Healthcare Law and Ethics. Emphasis is placed on analysis of the legal and healthcare environment and its relationship to medical ethics. Students will examine case studies and will learn to identify and respond to legal and ethical issues. **Prerequisite: None**

HSM603 Hospital Operations Management 4.5

The objectives of this course are to provide students with a better understanding of the concepts, strategies and the issues involved in the day to day functioning of the hospital as managers and administrators. **Prerequisite: None**

HSM604 Patient Care Management 4.5

This course demonstrates the competency in providing health care to individual, sick or well, using nursing process; assess the nursing need of clients from birth of death; plan and carry out appropriate action to meet nursing needs and provide effective nursing care for maintain best possible level of health in all aspects. **Prerequisite: None**

HTM601 Front Office Operations and Management 4.5

The Managing Front Office Operations course is designed to provide students with a basic understanding of front office procedures in the hotel industry. Students will understand, organize, perform and evaluate front office functions that are critical to the success of a hotel. Students will be trained in the importance of guest service, along with any technical aspects of front office management. Meet our expert trainers to learn hotel management courses in a professional way. Become a professional receptionist at Bright Future. **Prerequisite: None**

HTM602 Food, Service and Catering Operations 4.5

Prepare students to meet the challenges of functional catering, specialized service. Acquires information about the suppliers and manufacturers, familiarize planning and operating in F & B outlets. **Prerequisite: None**

HTM603 Housekeeping Operations 4.5

This course presents a systematic approach to managing housekeeping operations and provides a thorough overview, from the big picture of maintaining a quality staff, planning, and organizing, to the technical details of cleaning each area of a hospitality facility. **Prerequisite: None**

HTM604 Event Management 4.5

To familiarize on event management and provide information on arranging larger functions; To impart the leadership skills required for conducting event. **Prerequisite: None**

IMP601 Advanced Digital Signal Processing 4.5

Digital Signal Processing (DSP) is at the heart of many applications in a wide array of fields: speech and audio processing, system monitoring and fault detection, biomedical signal analysis, mobile and internet communications, radar and sonar, vibration measurement and analysis, seismograph analysis, image/video coding and decoding etc. The objective of this course is to strengthen the students' knowledge of DSP fundamentals, and to familiarize them with the practical aspects of DSP algorithm development and implementation. **Prerequisite: None**

IMP602 Digital Image Processing 4.5

To introduce the concepts of image processing and basic analytical methods to be used in image processing. To familiarize students with image enhancement and restoration techniques, To explain different image compression techniques. To introduce segmentation and morphological processing techniques. **Prerequisite: None**

IMP603 Computer Graphics & Volume Visualisation 4.5

This course provides a comprehensive knowledge on scientific/information visualization concepts, theory, algorithms, techniques, and applications for data acquisition/simulation procedures, data modeling techniques, commonly used conventional visualization techniques, visualization and rendering processes, visualization of 2D, volumetric, higher-dimensional, and time-series datasets, human-computer interactions, and other key elements of visual computing. **Prerequisite: None**

INT600 Internship (Co-op) I 4.5

Course offers students opportunity to earn academic credit for off-campus or on-campus internship experience with formal reflection on professional field. This can also refer to a certain disciplinary work with a faculty member, typically during the Fall or Spring. **Prerequisite: None**

INT601 Internship (Co-op) II 4.5

Course offers students opportunity to earn academic credit for off-campus or on-campus internship experience with formal reflection on professional field. This can also refer to a certain disciplinary work with a faculty member, typically during the Fall or Spring. **Prerequisite: None**

IOT601 Information Retrieval 4.5

The main objective of this course is to present the scientific support in the field of information search and retrieval. This course explores the fundamental relationship between information retrieval, hypermedia architectures, and semantic models, thus deploying and testing several important retrieval models such as vector space, Boolean and query expansion. It discusses implementation and evaluation issues of new algorithms like clustering, pattern searching, and stemming with advanced data/file structures, indirectly facilitating a platform to implement comprehensive catalogue of information search tools while designing an e-commerce web site. **Prerequisite: None**

IOT602 Wireless Access Technologies 4.5

This course focuses on Wireless Access Technologies to Internet Network including technical, business and regulatory aspects. It includes wireless and mobile evolutions including mobility approaches by IETF and 3GPP, 4G access technologies by 3GPP (LTE/LTE-Advanced), as well as Evolved Packet Core (EPC). **Prerequisite: None**

IOT603 Data Science 4.5

The goal of data science is to construct the means for extracting business-focused insights from data. This requires an understanding of how value and information flows in a business, and the ability to use that understanding to identify business opportunities. **Prerequisite: None**

IOT604 Smart Sensors and IOT 4.5

In this course, the important sensors, associated interface electronics, signal conditioning, technology of smart sensor and IOT for the measurement and monitoring of vital environmental parameters will

be discussed. Objectives of the course include the importance of environmental parameters measurement and monitoring (b) Exposing participants to the comprehensive fundamentals of Smart Sensors and Internet of Things (IOT). **Prerequisite: None**

MAS601 Data Journalism 4.5

This course focuses on core concepts and principles in data journalism, exploring how data enhances reporting and giving an overview of tools for producing data visualizations. Topics include analyzing and structuring data, combining data from multiple data sets, and developing engaging visualizations**. Prerequisite: None**

MAS602 Investigative Reporting 4.5

The goal of this course is to inspire you and teach you the practical skills and ethical principles that will allow you to become a responsible investigative reporter – digital, broadcast or print. **Prerequisite: None**

MAS603 Public Relations and Events 4.5

This course focuses on the professional significance of learning Public Relations & Events, its tools, objectives and functions. It generates the art of managing clients, their agents, and a vast gamut of professionals one meets in their career to create organizations' branding.

MAS604 Media, CSR & Sustainable Development 4.5

This course is be able to Identify the dimensions of and analyse the theories developed to explain sustainable development Explore the dimensions of and comprehend the theories developed to introduce social responsibility parameters in business entities Analyse roles and interrelationships between major international, national, and local codes of business principles underlining social responsibility Examine the legal and ethical issues undermining the business roles in social formation/development

MGT501 International Business 4.5

This course examines current organizations and practices of domestic and foreign businesses in the international market; problems of trade and foreign government regulation barriers, investment opportunities and economic arrangements and developments; and the role of the manager in the rapidly changing economic environment. **Prerequisite: MGT201.**

MGT507 Business Transformation 4.5

With today's fast-paced and hectic way of doing business, change in the workplace has become an everyday reality. Change happens rapidly and sometimes with very little notice. Major changes such as mergers, takeovers, and layoffs can leave employees feeling confused, fearful, or disheartened. This course is designed to help future managers work through organizational change by studying strategies for providing positive leadership. **Prerequisite: None**

MKT502 Strategic Business Marketing 4.5

This course develops the marketing principles by which products and services are designed to meet customer needs, priced, promoted, and distributed to the end user. The focus is on the application of these marketing principles to a wide range of customers, both internal and external. Topics include new product/service introduction and segmentation and positioning strategy. **Prerequisite: None.**

MKT601 Electronic Commerce: Business Models & Strategies 4.5

This course presents the state-of-the-art in electronic commerce. Its focus is on the current and future impact of e-commerce on the student's organization, industry, and professional activities. Students examine recent successes and failures in e-commerce through case studies and other readings and will develop an e-commerce business plan for their organization. **Prerequisite: None**

MKT602 Influencer Marketing 4.5

Students will learn how to create one for a wide variety of B2B, B2C, and non-profit organizations using the two-step flow model of communication. Student will be able to confidently navigate this new digital advertising format, understand the various influencer archetypes and campaign use cases, and comfortably run a campaign for the brand you represent. **Prerequisite: MKT601**

MKT603 Internet Marketing Strategies 4.5

This course introduces the student to concepts, tools, and techniques as they apply in business-to-consumer (B2C) and business- to-business (B2B) el

ectronic marketing. Specific topics include: branding and recognition; consumer and organizational behaviour in an e-market place; channels and relationship marketing; tools and techniques in the B2B market; and assessment of e-market opportunities. **Prerequisite: MKT501**

MKT604 International Marketing Management 4.5

The course examines international market segmentation, product attributes, cultural differences, and economic differences, differences in product and technical standards, global advertising, and international pricing in transnational business operations. It stresses application of marketing concepts, principles and procedures for planning, development, implementation and control of marketing programs. **Prerequisites: MKT156**

MOC601 Application Development using Python 4.5

Learn the syntax and semantics of Python programming language; Illustrate the process of structuring the data using lists, tuples and dictionaries; demonstrate the use of built-in functions to navigate the file system; implement the Object Oriented Programming concepts in Python ; appraise the need for working with various documents like Excel, PDF, Word and Others. **Prerequisites: None**

MOC602 Advanced Web Technologies 4.5

The aim of this course is to teach the students the concepts, technologies and techniques for creating large-scale distributed software system using service-oriented computing and cloud applications. **Prerequisites: None**

MOC603 Internet of Things 4.5

This course will describe the market around the Internet of Things (IoT), the technology used to build these kinds of devices, how they communicate, how they store data, and the kinds of distributed systems needed to support them. Divided into four modules, we will learn by doing. We will start with simple examples and integrate the techniques we learn into a class project in which we design and build an actual IoT system. The client will run in an emulated ARM environment, communicating using common IoT protocols with a cloud enabled backend system. **Prerequisites: None**

MOC604 Computer Vision 4.5

The objectives are to develop your understanding of the basic principles and techniques of image processing and image understanding, and to develop your skills in the design and implementation of computer vision software. **Prerequisites: None**

MTH501 Advanced Discrete Mathematics 4.5

Discrete Mathematics (DM), or Discrete Math is the backbone of Mathematics and Computer Science. It is the study of topics that are discrete rather than continuous, for that, the course is a must for any Math or CS student. The topics that are covered in this course are the most essential ones, those that will touch every Math and Science student at some point in their education. The goal of this course is to build the mathematical foundation for computer science courses such as data structures, algorithms, relational and database theory. **Prerequisites: None**

PRG501 Design and Analysis of Algorithms 4.5

Important for designing algorithm such as the greedy method, divide and conquer, dynamic programming, backtracking and branch and bound to solve different types of problems in the branch of computer science and information technology. **Prerequisite: None**

PRG502 Object Oriented Analysis and Design 4.5

In Object-Oriented Concepts, the core concepts will be introducing behind modern, object-oriented, programming. It will include discussion of objects, classes, messaging, inheritance, polymorphism, and more. As with Fundamentals of Programming, it will illustrate the concepts using the Java language, but they will be portable to other object-oriented programming languages. **Prerequisite: None**

PRG503 Advanced Web Design PRG503 4.5

This course will help you take your web design skills to the next level. It refers to designing, developing, and maintaining websites, including different aspects such as Web design, publishing and development. This course is to provide delegates with a comprehensive understanding of the technologies required to become a Web Designer. **Prerequisite: None**

PRG504 Advanced Data Structures and Algorithm using Java 4.5

This course aims to cover the essential topics of data structures and algorithms and how the same can be implemented using Java programming language. The participants of the proposed course will be able to improve their skills, to cope with the current demand of IT industries and solve many problems in their own filed of studies**. Prerequisite: None**

PRG505 Advanced Software Engineering 4.5

This course will teach how to apply the software engineering lifecycle by demonstrating competence in communication, planning, analysis, design, construction, and deployment. It will enable to build high-quality and secure software using SDLC methodologies such as agile, lean, and traditional/waterfall and analyse a software development team's SDLC methodology and make recommendations for improvements. **Prerequisite: None**

PRG506 Computer Graphics 4.5

Computer graphics is one of the fundamental aspects of any computing system. Computer Graphics are created using 2D, 3D designs and Animation designs. Its primary role is to render the digital content (0's and 1's) in a human-comprehensible form on the computer screen. In this course, we will introduce the pipeline and its stages. The topics covered include various object representation

techniques followed by the pipeline stages of modelling transformation, 3D to 2D viewing transformation, clipping and hidden surface removal and scan conversion (rendering). **Prerequisite: None**

PRG601 The Advanced Web Developer Bootcamp 4.5

Make REAL web applications using cutting-edge technologies; Build responsive applications using modern CSS technologies like flexbox; Build JSON APIs using Node, Express and MongoD; Learn the most popular front end library React and master the fundamentals around state, props and the component lifecycle; Use babel and webpack to transpile and bundle code**. Prerequisite: None**

PRG602 Full Stack Java Developer 4.5

Students able to build a fully functioning web application through a simplistic step from a professional trainer; Java programming language; Learn Java server pages, servlets, and JSTL from the basics to advance; Understand building web forms with JSP. **Prerequisite: None**

PRG603 Web Application Development with Javascript and MongoDB 4.5

In this course, you will develop more advanced web application programming skills. You will learn how to control data read and write access using methods, publish and subscribe. You will learn how to access your database and server shells using command line tools. You will use the Simple Schema system to validate data and generate input forms automatically. You will see a complete collaborative code editing environment, Text Circle, being built from scratch. **Prerequisite: None**

PRG604 Full Stack Cloud Developer 4.5

No prior programming experience or Cloud background is required to start this program. You'll skill up with the tools and technologies that successful software developers use to build, deploy, test, run, and manage Full Stack Cloud Native applications, giving you the practical skills to begin a new career in a highly in-demand area. The courses in this program will help you develop skill sets in a variety of technologies including: Cloud foundations, HTML, CSS, JavaScript, GitHub, Node.js, React, Cloud Native practices, DevOps, CI/CD, Containers, Docker, Kubernetes, OpenShift, Istio, Python programming, Databases, SQL, NoSQL, Django ORM, Bootstrap, Application Security, Microservices, Serverless computing, and more. **Prerequisite: None**

QNT392 Quantitative Methods for Decision Making 4.5

In this course participants will be introduced to the theory and practice of decision-making methods and tools in a quantitative context. During the course, participants will learn the meaning and the fundamentals of statistics and how it impacts decision making. The course will help participants appreciate the importance of understanding statistics as the foundation of all other techniques. **Prerequisite: None**

QNT501 Statistical Techniques 4.5

This course introduces students to the philosophy and methods of modern statistical data analysis and inference. The course has a strong emphasis on computing and graphical methods, and uses a variety of real-world problems to motivate the theory and methods required for carrying out statistical data analysis. **Prerequisite: None**

SCM601 Supply Chain Business Process Design 4.5

This course examines both manufacturing and administrative/ service processes to include the traditional/ classical methods of process analysis. Major focus of the course is on current methods such as work- group analysis and cross-functional analysis. **Prerequisite: None**

SCM602 Supply Chain Inventory Management 4.5

This course will focus on the design of the distribution system and the planning and control system used to manage the supply chain. It provides students with the concepts of purchasing and inventory management to include purchasing and inventory planning processes, supplier selection, contract negotiations, "Green" policies, and procurement. **Prerequisite: SCM601**

SCM603 Supply Chain Management Operations 4.5

The course examines supply chain management including sourcing, manufacturing, distribution, technologies, and quantitative models used in managing the supply chain. It exposes students to the buyer supplier relationship as well as topics related to design and management of supply chains, from incoming raw materials to final product delivery. **Prerequisite: None.**

TEC511 Data Visualization and Business Intelligence 4.5

The course gives an overview of how business intelligence technologies can support decision making across any number of business sectors. These technologies have had a profound impact on corporate strategy, performance, and competitiveness and broadly encompass decision support systems, business intelligence systems, and visual analytics. **Prerequisite: None.**

UIX601 User Interface Design 4.5

The course is built around design assignments for a graphical user interface: topics include writing for web, information architecture, interface design, images, product identity, design for behavior, and ethics. The project includes paper prototyping, graphic design, digital prototyping and simulation of interactivity using prototyping technology (eg. Figma, Illustrator, Photoshop). **Prerequisite: None.**

UIX602 Graphics and Animation 4.5

To train the students to acquire skills in generating marketable computer graphics and animated pictures, especially in the area of advertisements. Students to acquire skills and mastery in the use of different software producing graphics and animation. To impart real-life advertisement exposure in an organization/PTC (Production cum Training centre) under OJT. **Prerequisite: None.**

UIX603 Operating Systems and Computer Architecture 4.5

Covers the classical internal algorithms and structures of operating systems, including CPU scheduling, memory management, and device management. Considers the unifying concept of the operating system as a collection of cooperating sequential processes. Covers topics including file systems, virtual memory, disk request scheduling, concurrent processes, deadlocks, security, and integrity. **Prerequisite: None.**

UNIX604 Unix Programming 4.5

Introduces the UNIX/Linux operating system, including task scheduling and management, memory management, input/output processing, internal and external commands, shell configuration, and shell customization. Explores the use of operating system utilities such as text editors, electronic mail, file management, scripting, and C/C++ compilers. Discusses trends in UNIX/Linux, including use of graphical user interfaces**. Prerequisite: None.**