INSTITUTE OF CHEMICAL TECHNOLOGY

**MASTER OF BUSINESS ADMINISTRATION IN
INNOVATION, ENTREPRENEURSHIP AND VENTURE DEVELOPMENT
(MBA – IEV)**

Syllabus Committee

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INSTITUTE OF CHEMICAL TECHNOLOGY
Ordinances, Regulations and Syllabi relating to the Degree of
**Master of Business Administration in Innovation, Entrepreneurship
and Venture Development**

1. Introduction

The Institute is offering a master's programme in innovation and entrepreneurship in line with the All-India Council for Technical Education recommendation. The programme is called Master of Business Administration in Innovation, Entrepreneurship and Venture Development. This is a two-year programme consisting of four semesters. All the courses will be credit based and the evaluation will be grade based.

The programme outcomes are as follows:

SR. NO.	PROGRAM OUTCOMES (POS)
1	The graduates will learn management of innovation, entrepreneurship and venture development from foundation to advanced stages.
2	The graduates will learn to apply their entrepreneurial skills in real life situations.
3	The graduates will be able to validate ideas, build innovations, identify markets and build successful ventures.

SR. NO.	PROGRAM SPECIFIC OUTCOMES (PSOs)
1	Graduates will be equipped with key concepts of entrepreneurship, innovation and new venture development.
2	Graduates will know how to take an idea, build a prototype, and launch in the market.
3	Graduates will be able to demonstrate how to market an idea/prototype which is already launched.
4	Graduates will be imparted all-round training to start their own business ventures.

Credit system is a systematic way of describing an educational programme by attaching credits to its components. The definition of credits may be based on different parameters, such as student workload, learning outcomes and contact hours. It is a student-centric system based on the **student workload** required to achieve the objectives of a programme. It should facilitate academic recognition of the courses and mobility of the students. Credits assignment is based on the principle that credits can only be obtained after successful completion of the work required and appropriate assessment of the learning outcomes achieved.

Student workload consists of the time required to complete all prescribed learning activities such as attendance at lectures/practical, seminars, projects, etc. Credits are allocated to all the educational components of a study programme and indicate the quantity of work each component requires to achieve its specific objectives.

Evaluation is an important component of any teaching-learning process. The Institute gives emphasis on continuous evaluation with considerable freedom to the teacher in deciding the mode of evaluation of the students. The

performance of the student is documented by a **grade** at the end of the semester. The grading scale ranks the students on a statistical basis. Therefore, statistical data on student performance is a prerequisite for applying the grading system.

2. Course Credits

In general, a certain quantum of work measured in terms of **credits** is laid down as the requirement for a particular degree. The student acquires credits by passing courses every semester, the amount of credit associated with a course being dependent upon the number of hours of instruction per week in that course.

There are mainly two types of courses in the Institute - lecture courses and laboratory courses. Lecture courses consist of lecture (L) and tutorial (T) hours. Laboratory courses consist of practical (P) hours. The credit (C) for a course is dependent on the number of hours of instruction per week in that course, as given below:
(1) 1h/week of lecture (L) or tutorial (T) = 1 credit
(2) 2h/week of Practical (P) = 1 credit
(3) Credit (C) for a theory course = No. of hours of lectures per week +
                      No. of hours of tutorials per week = L + T
(4) Credits (C) for a Laboratory course/Seminar/research work =
                ½ x No. of hours per week

Credits will be assigned to capstone projects, active learning segments and other mandatory course requirements and these will be mentioned in the respective syllabi. There may be some non-credit requirements. A student is required to earn credits as mentioned in the syllabus.

3. Evaluation

3.1 The weightages of different modes of assessments shall be as under.

	In-Semester evaluation		End-Semester-Exam	Components of continuous mode
	Continuous mode	Mid Semester-Exam		
Theory	20%	30%	50%	Quizzes, class tests (open or closed book), home assignments, group assignments, *vivavoce* assignments, discussions
Practical	50%	-	50%	Attendance, *viva -voce*, journal, assignments, project, experiments, tests

3.2 In-Semester Evaluation:
a) It is expected that the teacher would conduct at least two assessments (in any form as quizzes, tests, homework, group work etc) under the continuous mode in a Semester.
b) The teacher will announce at the beginning of the respective course the method of conducting the tests under the continuous mode and the assignment of marks
c) In-semester performance of all students should be displayed and sent to the academic office by the teacher at least 15 days before the end-semester examination.
d) For the theory courses, there will be one mid-semester test for each course to be held as per the schedule fixed in the Academic Calendar.

e) For mid –semester examinations in theory papers, duration of examination will be 1 hour for 3 credit courses and 2 hours for 4 credit courses

3.3. End-Semester examination:
a) The semester end examination will cover the full syllabus of the course and will be conducted as per the Institutional timetable at the end of each semester.

b) For end –semester examinations in theory papers, duration of examination will be 1 hour for 3 credit courses and 2 hours for 4 credit courses

c) For the end semester evaluation of seminar/research work, student will be expected to submit a written report and also make a presentation. The evaluation will be based on the quality of the written report and presentation.

3.4 Passes and Fail
(a) The candidates who obtain 40% and more marks of the total marks of a course head shall be deemed to have **passed** the respective course head.

(b) The candidates who obtain marks less than 40% of the total marks of a course head shall be deemed to have **failed** in the respective course head **(Grade FF).**

3.5Grades:
(a) The performance of a student shall be documented by a **Letter grade.** Each letter grade has a **Grade point** associated with it. The Grades and Grade points shall be assigned to each head of passing and both will be indicated in the mark-list of the semester examination.

(b) The total marks (in-semester + end-semester) of a candidate in a subject head are converted into a letter grade, based on the relative (and sometimes the absolute) performance of the student.

Letter Grade	Grade Point
AA	10
AB	9
BB	8
BC	7
CC	6.5
CD	6
DD	5.5
EE	5

(c) For granting class, a grade point of 6.0 and above will be considered equivalent to First class.

(d) The grades to be allotted in the case of students who fail or do not appear at the end-semester examination shall be as under.

Letter Grade	Grade Point	Explanation
FF	0	The candidate fails in course head. The candidate will be allowed to take end-semester repeat or subsequent examinations as per rule.
XX		The candidate has not kept term for the course head due to attendance less than requisite. Further see 3.5(g) below. In the above cases, the candidate has to repeat the respective course by paying the fees.
I	0	The candidate has kept term for the course head, has taken all the internal examinations with satisfactory performance, but has failed to take the end-semester examination or repeat examination due to genuine reasons. The candidate will be allowed to take end-semester repeat or subsequent examinations as per rule.
FR	0	The candidate has exhausted all the permissible chances to clear the end-semester examinations. The candidate has to register for the respective semester again for all the subject heads or will be out of the respective degree course as per the rules.
DR	0	(i) The candidate hasn't participated in academic programme. (ii) The candidate has taken a drop for the subject head;
		- provided he/she intimates the same (i or ii) at least 7 days in advance of the commencement of the end-semester examination for the respective year.

(e) Grades **FF** and **I** are placeholders only and do not enter into CPI/SPI calculations directly. These grades get converted to one of the regular grades after the end-semester examination.

(f) A candidate with an **FR** grade is not eligible for any repeat examination in that course and has to reregister for that semester by paying the appropriate fees.

(g) **I** grade will not be continued beyond the permissible number of end-semester/repeat examinations.

(h) **'XX' Grade:** The grade **XX** in a course is awarded if –
(i) candidate does not maintain the minimum 75% attendance in the Lecture/Tutorial/Practical classes,
(ii) candidate receives less than 20% of the combined marks assigned for continuous assessment and mid-semester examination, and
(iii) candidate indulges in a misconduct/uses unfair means in the examination, assignments, etc., of a nature serious enough to invite disciplinary action in the opinion of the teacher.
   (***Note:*** *Award of the XX grade in the case of g(iii) above shall be done by Disciplinary Action Committee (DAC)).*

(i) The names/roll numbers of students to be awarded the **XX** grade should be communicated by the teacher to the Academic office as per academic calendar before the last date **(AM)** obtained by the students *who have passed the subject head* and the **highest marks (HM)** obtained in the *same subject head*.

3.6.1. If the **average marks (AM)** obtained by the students *who have passed the subject head* is <60%, the interval AM shall be awarded grade CC and the other grades shall be decided as follows:

(c) AA, AB, BB, and BC grades shall be decided between the AM and HM by dividing the range in equal intervals.

(ii) CD, DD and EE grades shall be decided between the AM and minimum marks required for passing the head (i.e. 40%) by dividing the range in equal intervals.

3.6.2. If the **average marks (AM)** obtained by the students *who have passed the subject head* is such that **60% ≤ AM < 70%,** the interval AM shall be awarded grade BC and the other grades shall be decided as follows:

(i) AA, AB, BB grades shall be decided between the AM and HM by dividing the range in equal intervals.

(ii) CC, CD, DD and EE grades shall be decided between the AM and minimum marks required for passing the head (i.e. 40%) by dividing the range in equal intervals.

3.6.3. If the **average marks (AM)** obtained by the students *who have passed the subject head* is ≥ **70%,** the interval AM shall be awarded grade BB and the other grades shall be decided as follows:

(i) AA and AB grades shall be decided between the AM and HM by dividing the range in equal intervals.

(ii) BC CC, CD, DD and EE grades shall be decided between the AM and minimum marks required for passing the head (i.e. 40%) by dividing the range in equal intervals.

4. SPI and CPI

(a) **Semester Performance Index (SPI):** The performance of a student in a semester is indicated by **Semester Performance Index (SPI),** which is a weighted average of the grade points obtained in all the courses taken by the student in the semester and scaled to a maximum of 10. (SPI is to be calculated upto two decimal places.)

A Semester Grade Point Average (SGPA) will be computed for each semester as follows:

$$SGPA = \frac{\left(\sum_{i=1}^{n} c_i g_i \right)}{\left(\sum_{i=1}^{n} c_i \right)}$$

Where
'n' is the number of courses for the semester,
'ci' is the number of credits allotted to a particular course, and
'gi' is the grade-points awarded to the student for the course based on his performance as per the above table.
SGPA will be rounded off to the second place of decimal and recorded as such.

(b) **Cumulative Performance Index (CPI):** An up-to-date assessment of the overall performance of a student from the time he entered the Institute is obtained by calculating **Cumulative Performance Index**

(CPI) of a student. The CPI is weighted average of the grade points obtained in all the courses registered by the student since he entered the Institute. CPI is also calculated at the end of every semester (up to two decimal places).

Starting from the first semester at the end of each semester (S), a Cumulative Grade Point Average (CGPA) will be computed as follows:

$$CGPA = \frac{\left(\sum\limits_{i=1}^{m} c_i g_i \right)}{\left(\sum\limits_{i=1}^{m} c_i \right)}$$

Where
'm' is the total number of courses from the first semester onwards up to and including the semester S,
'c_i' is the number of credits allotted to a particular course, and
'g_i' is the grade-points awarded to the student for the course based on his performance as per the above table. CGPA will be rounded off to the second place of decimal and recorded as such.

(c) The CGPA, SGPA and the grades obtained in all the subjects in a semester will be communicated to every student at the end of every semester / beginning of the next semester.

(d) When a student gets the grade 'FF', or 'I' in any subject head during a semester, the SGPA and CGPA from that semester onwards will be tentatively calculated, taking only 'zero' grade point for each such 'FF' or 'I' grade. When the 'FF' grade(s) has / have been substituted by better grades after the repeat examination or subsequent semester examination, the SGPA and CGPA will be recomputed and recorded.

5. Repeat End-Semester Examination

5.1. For those candidates who fail in a subject head or are eligible for appearing at the repeat examination, **Repeat End-Semester Examination** will be conducted within one month from the declaration of the results of regular end-semester examination, as per **Regulation R.14**.

5.2. The marks obtained by candidates in the in-semester examinations (continuous assessment and Midsemester Examination) will be carried forward in such cases.

5.3. **Grading the performance in the Repeat Examination:** The grades will be assigned as per 3.5 and 3.6 above. However, for a candidate taking any repeat examination or subsequent regular semester examination or performance improvement examination shall be awarded **one grade lower** than that decided on the basis of the actual marks obtained; provided 'EE' grade obtained in such an examination shall remain 'EE'. For reference see the table below.

Grade obtained in repeat or subsequent end-semester examination	Grade to be assigned	Grade point
AA	AB	9.0
AB	BB	8.0
BB	BC	7.0
BC	CC	6.5
CC	CD	6.0
CD	DD	5.5
DD	EE	5.0
EE	EE	5.0

5.4. Revaluation of end-semester and repeat examination: Candidate's performance in these examinations will be displayed on proper notice board and after 3 days of such display the marks will be sent to the Academic Office. No revaluation of these examinations will be allowed.

6. Passing of a Semester examination

A candidate shall be declared as **'PASSED'** any semester examination if he/she has
(a) Cleared all heads of passing by securing grades EE or higher in all the heads;
(b) Passed all the heads of passing such as project, seminar, training, etc as per the rules;
(c) Satisfactorily completed all the mandatory requirements of the course;
(d) paid all the Institute dues;
(e) No case of indiscipline pending against him/her.

7. Eligibility for the Award of a Degree

A candidate shall be declared eligible for the award of a degree, if he/she has cleared all the semester examinations as given in (6) above.

8. Allowed to keep terms (ATKT)

8.1 A candidate who has I grade in one or more heads of passing of an odd semester of an academic year shall be allowed to keep terms for the respective even semester.

8.2 A candidate shall be allowed to keep terms for the subsequent academic year if he/she has FF or I grades in not more than two heads of passing from all the heads of passing of the two terms of the previous academic year taken together. Such a candidate shall be declared as **FAILED, ATKT**.

9. Repeating a course

9.1 A student is required to repeat the course under the following situations:
(a) A student who gets an **XX, FR, or DR** grade in a course; or
(b) A student has exhausted all permissible chances to clear the course.

9.2 A candidate from first year who remains absent for the regular end-semester examination of a semester and the corresponding repeat examination for **ALL SUBJECTS** shall have to take fresh admission for the corresponding year; unless the candidate has dropped out / terminated from the course.

9.3 If a candidate at the Second, fails to pass any semester examination in not more than 4 consecutive examinations, including the repeat examinations, from the date of registering for the respective year, the candidate shall have to take readmission for the corresponding year again in which the failure has occurred, provided the course is not changed.

10. Improvement of performance

A candidate will be allowed to appear at the **entire examination** after the regular end-semester examination as per the respective rules to improve the performance. In such a case if the result of the examination repeated –
1. Is better than the previous one, the previous result shall be declared null and void; and 2. Is worse than the previous one, the result of the subsequent examination shall not be declared.
3. However, awarding of final grade will be made under the provision of sub clause 5.3 above.

11. Exit rules for poorly performing students
A candidate shall be excluded from a course under the following conditions:

a) If he/she fails to pass any semester examination of the any year of the course in not more than four consecutive attempts (Examination conducted by Institute) from the date of joining the course.
b) If he/she does not keep two consecutive terms without giving any reasonable justification (as prescribed by the institute) for doing so.
c) If a candidate fails to fulfil all the requirements of his/her respective degree within the prescribed period from the date of taking admission to the course, the candidate shall be excluded from the course.

12. Miscellaneous
a) Although CPI will be given in the Semester grade report, the final degree certificate will not mention any **Class** whatsoever.
b) Not withstanding anything said above if a course is revised /restructured then transient provisions applicable at the time of revision /restructuring shall be applicable.

SYLLABUS STRUCTURE - MBA in IEV

No.	Subject	Credit	Hr / Week			Marks			
			L	T	P	Continuous Assessment	Mid-semester Examination	Final Examination	Total
SEMESTER I									
IEV 2101	Entrepreneurship I	3	2	1	0	10	15	25	50
IEV 2102	Innovations in Chemical and Emerging Technologies	3	2	1	0	10	15	25	50
IEV 2103	Elective: Business Communication	3	2	1	0	10	15	25	50
IEV 2104	Economics	3	2	1	0	10	15	25	50
IEV 2105	Corporate Law I	3	2	1	0	10	15	25	50
IEV 2106	Product Design	3	2	1	0	10	15	25	50
IEP 2501	Capstone Project I: Development of an innovative business idea into a proof-of-concept	6	---	---	12			60 (Report with appropriate weightage for POC) 40 (Presentation)	100
IEP 2502	Capstone Project II: Development of business idea into working prototype	6	---	---	12			60 (Report t with appropriate weightage for prototype) 40 (Presentation)	100
	TOTAL:	30	12	6	24				500

SEMESTER II									
IEV 2107	Intellectual Property Rights	3	2	1	0	10	15	25	50
IEV 2108	Entrepreneurship II	3	2	1	0	10	15	25	50
IEV 2109	Elective II: Project Management	3	2	1	0	10	15	25	50
IEV 2110	Corporate Law II	3	2	1	0	10	15	25	50
IEP 2503	Capstone Project III: Development of minimum viable business model of innovation	6	---	---	12			60 (Report) 40 (Presentation)	100
IEP 2504	Action Learning Segment I: Startup/incubation residency learning programme	8	---	---	16			90 (Report) 60 (Presentation)	150
	TOTAL:	26	8	4	28				450
SEMESTER III									
IEV 2111	Organizational Behaviour and Human Relations Management	3	2	1	0	10	15	25	50
IEV 2112	Logistics and Supply Chain Management	3	2	1	0	10	15	25	50
IEV 2113	Business Management and Strategy	3	2	1	0	10	15	25	50
IEV 2114	Financial Management and Accounting	3	2	1	0	10	15	25	50
IEV 2115	Marketing Research, Advertising and PR	3	2	1	0	10	15	25	50
IEV 2116	Elective III: Corporate Governance	3	2	1	0	10	15	25	50
	TOTAL:	18	12	6	0				300

	SEMESTER IV								
IEP 2505	Action Learning Segment II: Venture establishment at ICT incubator	10	0	0	25			150 (Report) 50 (Presentation)	200
	TOTAL:	10	0	0	25				200

SEMESTER I

	Course Code: IEV 2101	Course Title: Entrepreneurship I		Credits = 3		
				L	T	P
	Semester: I	Total contact hours: 45		2	1	0
Sr. No.	Course Contents (Topics and subtopics)			Reqd. hours		
1	Business opportunities Opportunities mapping: scanning the various sectors and conducting competitive analysis of the ecosystem of start-ups region-wise and nation wise Scanning the business environment of emerging markets SWOT analysis of emerging markets			4	2	
2	Competitive advantage PESTLE analysis for industry analysis Porter's 5 forces to understand the industry attractiveness The concept of competitive advantage Value analysis: To help identify the segment that would be most viable and provide a competitive advantage to the business TAM and SAM concepts			6	3	
3	Business models B2C – Business to consumer B2B – Business to business C2B – Consumer to business C2C – Consumer to consumer. Value delivery methods like D2C, white label and Private Label, Wholesaling, Drop shipping, Subscription services			6	3	
4	Team building Introduction to different types of teams and strategies to enable productivity among the teams Theories of team building and applications Team problem solving abilities and facilitation skills High performance teams and supportive team culture			6	3	
5	Financing new ventures			5	3	

	Introduction to financial management Financing alternatives like debt financing (from venture banks, commercial banks, and SBICs) and equity financing (from angels, private placements, venture capitalists, and public equity markets).		
6	Project Management Introduction to project management Project life cycles	3	1
Course outcomes: At the end of this course, students will be able to			
1	Identify business opportunities.		
2	Plan financing avenues for business ventures.		
3	Understand project life cycles.		
Suggested reference books			
1	Principles of Marketing (14th Edition), Kotler and Armstrong		
2	Team Building: Proven Strategies for Improving Team Performance, Dyer & Dyer		
3	Project management step by step : how to plan and manage a highly successful project, Newton & Richard		

Course Code: IEV 2102	**Course Title: Innovations in Chemical and Emerging Technologies**	**Credits = 3**		
		L	**T**	**P**
Semester: I	**Total contact hours: 45**	**2**	**1**	**0**
Sr. No.	**Course Contents (Topics and subtopics)**	**Reqd. hours**		
1	Innovator's dilemma Strategies to enter a market Disruptive Technologies and strategies Discussion of classic HBR cases	6	3	
2	Innovative product design Creativity and visualization An understanding of basic science, engineering science and manufacturing; Discussion on understanding on the specific need a product or service will satisfy in the market Product life cycle, scaling process	8	4	
3	Key inventions and the process of innovation Stages of innovation: ideation and mobilization, Advocacy and screening, Experimentation, Commercialization, Diffusion and Implementation Product innovations, Process innovation and Business Model innovations, Organizational Innovations, Marketing Innovations	8	4	

	Risks of Innovation process: technological failure, Financial strain, Market failure, Redundancy, Structural failure, Organizational risks and Unprecedented risks HBR case discussions			
4	TRIZ methodology	3	1	
5	Demystifying the process of innovation Innovation Strategy in an Era of Open Innovation Impact of AI and ML on Innovation with examples Innovation, social impact and social progress Metaverse innovation	5	3	
Course outcomes: At the end of this course, students will be able to				
1	Strategize market entry points.			
2	Learn about innovation product design.			
3	Apply the TRIZ methodology.			
Suggested reference books				
1	TRIZ for Engineers: Enabling Inventive Problem Solving, Karen Gadd			
2	Innovate Your Innovation Process, Shlomo Maital			
3	HBR issues			

	Course Code: IEV 2103	**Course Title: Elective: Business Communication**	**Credits = 3**		
			L	**T**	**P**
	Semester: I	**Total contact hours: 45**	**2**	**1**	**0**
Sr. No.	**Course Contents (Topics and subtopics)**		**Reqd. hours**		
1	Communication model		6	3	
2	Verbal and non-verbal communication		8	4	
3	Listening skills		8	4	
4	Written communication		3	1	
5	Role plays for business etiquette		5	3	
Course outcomes: At the end of this course, students will be able to					

1	Apply relevant business communication models.
2	Develop listening skills.
3	Propose effective communication strategies for businesses.
Suggested reference books	
1	Business Communication, Hartley & Buckmann
2	Business Communication Today (7th ed), Bovee, Thill & Schatzman
3	Basic Business Communication Skills for Empowering the Internet Generation, Lesikar & Flatley

	Course Code: IEV 2104	Course Title: Economics		Credits = 3		
				L	**T**	**P**
	Semester: I	Total contact hours: 45		2	1	0
Sr. No.	**Course Contents (Topics and subtopics)**			**Reqd. hours**		
1	Supply and demand Fundamentals of Managerial Economics Demand and Elasticities Production and Costs Firms vs Markets Sustainable Development			4	2	
2	Competition and monopoly Managing in Competitive and Monopolistic Markets Managing in Oligopolistic Markets			4	2	
3	Factors of production Impact of Globalization, Privatization and Liberalization			4	2	
4	Consumer choice Strategic Interactions in various types of markets and competitive situations Game Theory			5	3	
5	Cost of living Pricing with market power Incentives, Information and Market Structure			4	2	
6	Inflation Types of inflation Inflation remedies Inflation and entrepreneurship Economic growth Factors of economic growth			6	3	
7	Monetary and fiscal policy Regulation and public policy			3	1	

	Course outcomes: At the end of this course, students will be able to	
1	Use supply and demand curves to determine market equilibrium.	
2	Compute inflation measures.	
3	Analyse fiscal and monetary policy.	
	Suggested reference books	
1	Managerial Economics, 7th Ed, Samuelson & Marks	
2	Managerial Economics and Financial Analysis , Bhat & Rau	

	Course Code: IEV 2105	Course Title: Corporate Law I	Credits = 3		
			L	T	P
	Semester: I	Total contact hours: 45	2	1	0
Sr. No.	Course Contents (Topics and subtopics)		Reqd. hours		
1	Legal framework related to start-ups		6	3	
2	Legal framework related to companies		8	4	
3	Legal framework related to firms		8	4	
4	Legal framework related to SMEs		3	1	
5	Legal framework related to business incubators		5	3	
	Course outcomes: At the end of this course, students will be able to				
1	Explain the legal framework related to startups.				
2	Differentiate between different legal entities with respect to their formation requirements.				
3	Choose between legal entities for venture formation.				
	Suggested reference books				
1	Companies Law, 2018				
2	Limited Liability Partnership Act, 2008				
3	Website of Ministry of Corporate Affairs				

	Course Code: IEV 2106	Course Title: Product Design	Credits = 3		
			L	T	P
	Semester: I	Total contact hours: 45	2	1	0
Sr. No.	Course Contents (Topics and subtopics)		Reqd. hours		
1	Technology concepts Central concepts in innovation, like innovation cycles, sustained, disruptive and open innovation, hypes, the diffusion model and tipping points. Critical TI components like the third platform (cloud computing, Big Data and the power of social and mobile computing) Smarter Planet, smarter solutions		6	3	
2	Product development and prototyping Product development processes and organization product planning triple bottom line CAD/ solid modelling		6	3	
3	Advanced manufacturing techniques Startups, Open Innovation and API Economy Artificial intelligence, smart systems and the cognitive era, IoE and mesh computing Future trends based on technology outlooks--present and future Applicability of the techniques based on examples of significant ICT companies, from startups to industry leaders like Apple, IBM, Google, Amazon and others		6	3	
4	Concept generation and testing concept generation, concept selection, concept development, concept testing, Taguchi method and experimental design, product architectures, design for variety, design for environment,		6	3	
5	Prototyping Life cycle assessment, design for assembly/ manufacture, prototyping, design costing, design optimization, engineering ethics, universal design and entrepreneurship		6	3	
Course outcomes: At the end of this course, students will be able to					
1	Interpret technology concepts.				
2	Outline product development and prototyping strategies.				
3	Apply Taguchi method and experimental design.				

	Suggested reference books
1	Product Design and Development (7th Edition), Karl Ulrich
2	Product Design and Manufacturing, A. K. Chitale and R. C. Gupta
3	Principles of Product Design, Aarron Walter

Course Code: IEP 2501	Capstone Project I: Development of an innovative business idea into a proof-of-concept	Credits = 6		
		L	T	P
Semester: I	Total contact hours: 60	0	0	15
As part of Capstone Project I, students have to either individually or in teams brainstorm and come up with an innovative business idea. Working across the first three months of the first semester and applying the concepts they have been introduced to, students will develop the business idea into a proof-of-concept. Students will submit a detailed report and will present their work at the end of three months.				60

Course Code: IEP 2502	Capstone Project II: Development of business idea into working prototype	Credits = 6		
		L	T	P
Semester: I	Total contact hours: 60	0	0	15
As part of Capstone Project II, students will take forward the work done in Capstone Project I to develop the business idea into a working prototype. Working across the second three months of the first semester and applying the concepts they have been introduced to, students will develop the business idea into a working prototype. Students will submit a detailed report and will present their work at the end of three months.				60

SEMESTER II

	Course Code: IEV 2107	Course Title: Intellectual Property Rights	Credits = 3		
			L	T	P
	Semester: II	Total contact hours: 45	2	1	0
Sr. No.	Course Contents (Topics and subtopics)		Reqd. hours		
1	Patents Indian Patents Act, 1970 Definitions Specifications Claims Procedure to apply for a patent Opposition and revocation Compulsory licensing Infringement and remedies Patent Cooperation Treaty		10	5	

	Paris Convention			
2	Trademarks Definitions Collective marks Certification marks Procedure to apply for a trademark Infringement of a trademark International treaties governing trademarks	8	4	
3	Industrial designs Definitions Procedure for applying for an industrial design International treaties governing industrial designs	4	2	
4	Copyright Definitions Copyright law under common law and civil law Term of copyright Fair use provisions Infringement of copyright	8	4	

Course outcomes: At the end of this course, students will be able to	
1	Select between different forms of IPR to confer protection to innovations.
2	Understand the process of applying for a patent.
3	Plan IPR strategies for innovations.

Suggested reference books	
1	Patents Act, 1970
2	Copyright Act, 1958
3	Trade Marks Act, 1999

	Course Code: IEV 2108	Course Title: Entrepreneurship II	Credits = 3		
			L	**T**	**P**
	Semester: II	Total contact hours: 45	2	1	0
Sr. No.	Course Contents (Topics and subtopics)		Reqd. hours		
1	Market gaps Understanding Customer pain points to assess need Consumer segments and Customer outreach New markets, beachhead markets		6	3	

2	Sales strategy Building compensation systems, A Assigning territories, Resolving disputes, Managing channel conflicts, Opening sales offices and other complex sales and sales management situations	6	3	
3	Brand strategy Effective, strategy-linked brand positioning and architecture in delivering a clearly defined and differentiating value proposition and customer offering. Obtaining deep customer insights for building successful brands Identify important issues related to planning and implementing brand strategies for a diverse group of marketing offerings (e.g., products, services, industrial goods, non-profits, etc.).	7	4	
4	Licensing and franchising	3	1	
5	Metrics to track progress Introduction to KPIs Sales Revenue Net Profit Margin Gross Margin Sales growth year to date Cost of customer acquisition Customer loyalty retention Qualified leads per month Lead-Client conversion rate Monthly website traffic Met and overdue milestones Net Promoter Score Employee happiness	8	4	
Course outcomes: At the end of this course, students will be able to				
1	Identify market gaps.			
2	Evolve an effective brand strategy.			
3	Apply different metrics to track progress.			
Suggested reference books				
1	Strategic Brand Management, 5th Edition, Pearson			
2	Technical Analysis of Gaps: Identifying Profitable Gaps for Trading, 1st Edition, Dahlquist & Bauer			
3	Metrics: How to Improve Key Business Results, Martin Klubeck			

Course Code: IEV 2109	Course Title: Elective: Project Management	Credits = 3

		L	T	P
Semester: II	**Total contact hours: 45**	**2**	**1**	**0**

Sr. No.	Course Contents (Topics and subtopics)	Reqd. hours		
1	Project planning Project Identification Selection of product identification of market preparation of feasibility study/report Project formulation Evaluation of risks preparation of Project report.	6	3	
2	Project management Financial Analysis: Profitability Analysis, Social cost Benefit Analysis, preparation of Budget and Cash Flows. Materials Management in Project Planning: Procurement, storage, disposal. Financing of the Project: - Source of Finance, Cost implications there of Financial Institutions – Guidelines for funding projects, Risk Analysis: Sensitivity Analysis.	6	3	
3	PERT and CPM Quantitative Aspects of projects: PERT/CPM Network Analysis for monitoring of the project other quantitative techniques for monitoring and Control of project	6	3	
4	Payback period Project Risk management Project performance measurement and evaluation NPV	6	3	
5	Project life cycle Future Software Project Management: Modern Project Profiles, Next generation Software economics, modern process transitions.	6	3	
Course outcomes: At the end of this course, students will be able to				
1	Identify stages of project life cycles.			
2	Use PERT and CPM.			
3	Carry out financial analysis.			
Suggested reference books				
1	Project Management, 2nd Edition, Adrienne Watt			
2	The Project Management Life Cycle: A Complete Step-by-step Methodology for Initiating Planning Executing and Closing the Project, Jason Westland			

Course Code: IEV 2110	**Course Title: Corporate Law II**	**Credits = 3**		
		L	**T**	**P**
Semester: II	**Total contact hours: 45**	**2**	**1**	**0**

Sr. No.	Course Contents (Topics and subtopics)	Reqd. hours		
1	Taxation Income Tax, Sales Tax, GST, VAT	8	4	
2	Labour laws Industrial Disputes Act, Standing Orders Act	8	4	
3	SEZ Incentives for developing export markets	4	2	
4	Tax benefits Corporate Social Responsibility	6	3	
5	Import and export regulations	4	2	
Course outcomes: At the end of this course, students will be able to				
1	Analyze taxation statutes.			
2	Implement regulations related to labour law.			
3	Understand import and export regulations.			
Suggested reference books				
1	Income Tax Act, 1961			
2	Understanding Indian Income Tax Law, Lavneet Relan			
3	Industrial Disputes Act, 1947			

Course Code: IEP 2503	Capstone Project III: Development of minimum viable business model of innovation	Credits = 6		
		L	T	P
Semester: II	Total contact hours: 60	0	0	15
As part of Capstone Project III, students have to develop a minimum viable business model of innovation based on the work they have carried out as part of Capstone Projects I and II. Students will submit a detailed report and will present their work at the end of the semester.				

Course Code: IEP 2504	Action Learning Segment I: Startup/incubation residency learning programme	Credits = 8		
		L	T	P
Semester: II	Total contact hours: 120	0	0	30
Action Learning Segment I will provide students an opportunity to observe workings of a startup by spending time in an incubator. Students will pick up required soft skills for successful functioning of a startup and will be exposed to the startup ecosystem. Students will submit a detailed report and make a presentation at the end of the semester.				

	Course Code: IEV 2111	Course Title: Organizational Behaviour and Human Relations Management	Credits = 3		
			L	T	P
	Semester: III	Total contact hours: 45	2	1	0
Sr. No.	Course Contents (Topics and subtopics)		Reqd. hours		
1	Organization structure Greiner's model Different types of structures like functional, product, divisional, Matrix etc Organic and mechanistic structures		6	3	
2	Teams and team dynamics Teams and groups in the management process: Team management, use of teams, team communication Leadership models for greater affiliation and teamwork Teams and productivity		6	3	
3	Different departments and their functions: HR, Procurement, Operations, Supply Chain, Sales and Marketing, Finance, etc. Porter's value chain to understand primary and support activities		6	3	
4	Business ethics Ethics, morals and values Ethical dilemmas Hunt-Vitell model		4	2	
5	Entrepreneurial workplace Organizations of the digital age Changing skills of the digital age Working and work relations in the digital age Creating a framework for sustainable hybrid work environments		4	2	
6	Corporate governance Concept of Corporate Governance, Principles of Corporate Governance Generation of Value from Performance Beneficiaries of Corporate Governance Shareholder Activism and changing role of Institutional Investors Corporate Governance in various organizations Corporate Social Responsibilities and good corporate citizenship Discussion of cases		4	2	
Course outcomes: At the end of this course, students will be able to					
1	Outline organizational structures.				
2	Implement business ethics and values in organizations.				
3	Understand teams and team dynamics.				
Suggested reference books					

1	Organizational Behaviour, 9th Edition, Buchanan & Huczynski
2	Organizational Behaviour, 18th Edition, Robbins, Judge & Vohra
3	Organizational Behaviour, Intl Edition, Fred Luthans
4	Management and Organisational Behaviour, 10th Edition, Mullins

Course Code: IEV 2112		Course Title: Logistics and Supply Chain Management	Credits = 3		
			L	T	P
Semester: III		Total contact hours: 45	2	1	0
Sr. No.	Course Contents (Topics and subtopics)		Reqd. hours		
1	Concepts and practice The roles of distribution function in the marketing mix. The meaning of distribution Equity, Channel design and management for consumer, industrial products, rural markets and Services		6	3	
2	Components of logistics and impact on trade Storage, warehousing and materials handling Packaging and unitisation Inventory Transport Information and control		6	3	
3	Characteristics of a supply chain Distribution networks in Supply chain – Network design in certain and uncertain environments. Planning, sourcing raw materials, manufacturing, delivery, and returns.		6	3	
4	Vendor evaluation Vendor – Vendee relations, Vendor development, international purchasing Ppurchasing procedures and records: Requisition, purchases order follows up and expediting systems, receipt and inspection.		6	3	
5	Vendor performance Purchasing and vendor management Purchasing process Vendor relationship management Vendor performance evaluation: Value for your investment (ROI), quality, delivery, Service, Commitment to growth and feedback, complaint history, Financial and operational stability Financial and operational stability.		6	3	
Course outcomes: At the end of this course, students will be able to					
1	Determine components of logistics and their impact on trade.				
2	Evaluate vendor performance.				

3	Outline distribution networks in supply chain.			
Suggested reference books				
1	Supply Chain Management: Integrating Logistics and Operations, Chester Ward			
2	Logistics & Supply Chain Management, Martin Christopher			

	Course Code: IEV 2113	Course Title: Business Management and Strategy	Credits = 3		
			L	**T**	**P**
	Semester: III	Total contact hours: 45	2	1	0
Sr. No.	Course Contents (Topics and subtopics)		Reqd. hours		
1	Strategic management process Hierarchy of strategies McKinsey 7S model		6	3	
2	Organic and inorganic growth Blue Ocean Strategy		6	3	
3	Business strategies Joint ventures and strategic alliances, Mergers and Acquisitions, Diversification, Horizontal and vertical integration		6	3	
4	Profitability strategies: Turnaround, Transformation, Business process re-engineering Disinvestment and divestment		6	3	
5	Compensation and succession planning, Bankruptcy and insolvency		6	3	
Course outcomes: At the end of this course, students will be able to					
1	Analyse the McKinsey 7S model.				
2	Differentiate between organic and inorganic growth.				
3	Apply legal provisions related to bankruptcy and insolvency.				
Suggested reference books					
1	The Foundations of Business Strategy, Hamilton Helmer				
2	HBR's 10 Must Reads on Strategy, Vols. 1 and 2				

	Course Code: IEV 2114	Course Title: Financial Management and Accounting	Credits = 3		
			L	**T**	**P**

	Semester: III	Total contact hours: 45	2	1	0
Sr. No.	Course Contents (Topics and subtopics)		Reqd. hours		
1	Conceptual Framework of Accounting: Users of Financial Statements; Capital of a Firm; Structure of Business Firms; Objectives of Corporate Financial Reporting; Components of Financial Statements; Accounting Conventions; Accounting Standards Disclosure of Accounting Policies. Accounting Records and Systems: (Journal, Cash Book, General Ledger, Trial Balance) and Bank Reconciliation Statement Balance Sheet: Accounting Equation; Balance Sheet Structure; Assets; Current Assets; Non-Current Assets. Classification of Assets; Liabilities; Current Liabilities; Non-Current Liabilities; Secured and Unsecured Liabilities; Classification of Liabilities; Accounting Standards Contingencies and Events Occurring after the Balance Sheet Date International financial reporting	6	3	
2	Concepts of costing Meaning of Responsibility Centre, Cost Centre & Profit Centre, Cost units Methods & Techniques of Cost Accounting	6	3	
3	Working capital management Principles of Working capital: Introduction to Working capital, Concept of' Working Capital. Need for Working capital, Concepts and its determinants, estimation of working capital needs. Accounts Receivables Management and Factoring: Credit Policy, Nature and Goals, credit evaluation of individual accounts and its monitoring receivables, factoring: types and benefits, cash operating cycle	6	3	
4	Sources of finance Equity, debt, debentures, retained earnings, term loans, working capital loans, letter of credit, euro issue, venture funding etc	6	3	
5	Capital budgeting Investment calculations and project valuation Analyses of accounting and forecasts Valuation models for shares	6	3	
Course outcomes: At the end of this course, students will be able to					
1	Classify assets and liabilities.				
2	Outline sources of finance.				
3	Analyze capital budgets.				
Suggested reference books					
1	Financial Management and Analysis Workbook: Step-by-Step Exercises and Tests to Help You Master Financial Management and Analysis, Peterson & Habegger				
2	Financial Accounting: A Managerial Perspective, R. Narayanaswamy				

3	Financial Management: Principles and Applications, 13th Edition, Sheridan Titman, Arthur J. Keown, John D. Martin

	Course Code: IEV 2115	Course Title: Marketing Research, Advertising and PR	Credits = 3		
			L	T	P
	Semester: III	Total contact hours: 45	2	1	0
Sr. No.	Course Contents (Topics and subtopics)		Reqd. hours		
1	Customer discovery		6	3	
2	Market intelligence Case discussion on segmenting, targeting and positioning Introduction to common market intelligence tools Informed decision-making process to confront market problems		6	3	
3	Types of market research and its methods Discriminating between facts and insights. Research Process, Problem, Design, Data Collection and Proposals. Exploratory, Descriptive and Causal Research. Case discussion		6	3	
4	Cluster analysis Fundamentals of cluster analysis Applications of cluster analysis Multi-dimensional categorization An overview of Clustering Different Types of Data		6	3	
5	Advertisement and PR Mass communication process: News, Public relations, Advertisement, Television, Radio, Newspapers, Cinema, Internet, Magazines Principles and practice of public relations: Deceit, contact information, Target information, Photographs, Media relations, Tools, Timing, Availability, stay active, Fact checking Advertisement management: media campaigns, advertising ethics		6	3	
Course outcomes: At the end of this course, students will be able to					
1	Assess customers' expectations.				
2	Differentiate between types of market research.				
3	Manage media campaigns.				
Suggested reference books					
1	Marketing Research, 11th Edition, Aaker, Kumar, Leone				
2	Fundamentals of Advertising, John Wilmshurst				

3	Communications Writing and Design: The Integrated Manual for Marketing, Advertising, and Public Relations, John DiMarco

	Course Code: IEV 2116	**Course Title: Elective: Corporate Governance**	**Credits = 3**		
			L	**T**	**P**
	Semester: III	**Total contact hours: 45**	**2**	**1**	**0**
Sr. No.	**Course Contents (Topics and subtopics)**		**Reqd. hours**		
1	Business ethics, values, and concepts Theoretical foundations of business ethics, what is integrity in the philosophical tradition, what are the benefits of a leadership grounded in integrity, how to apply integrity to real life cases		6	3	
2	Ethical leadership Integrity and competitiveness The idea of efficiency, how to make integrity a instrument of market efficiency, sustainable business cases Understanding the borders of integrity and corruption in management, grey areas, corporate values, "zero-tolerance" strategies Guest talks and case studies		8	3	
3	Diversity and inclusivity Diversity in the globalized world Benefits of diversity in the workplace How to develop a culture /philosophy of diversity		6	3	
4	Crisis management Types of crises Coomb's classification of crisis communication Classic case studies		6	3	
5	Shareholder engagement, Balancing shareholder and stakeholder interests Ethical conflicts in stakeholders' and shareholders' needs Conflict resolution styles		6	3	
Course outcomes: At the end of this course, students will be able to					
1	Understand the borders of integrity and corruption in management.				
2	Propose measures to increase diversity in the workforce.				
3	Analyse conflict resolution styles.				
Suggested reference books					
1	Business Ethics and Corporate Governance - A Textbook with Cases, Hasnan Baber				
2	Corporate Governance and Ethics, Mahesh Kumar Sarva (editor)				
3	The Essential Book of Corporate Governance Paperback, G. N. Bajpai				

SEMESTER IV

Course Code: IEP 2505	Action Learning Segment II: Venture establishment at ICT incubator	Credits = 40		
		L	T	P
Semester: IV	Total contact hours: 640	0	0	160
Action Learning Segment II will be the culmination of the MBA programme in IEV. Based on the learning from the course, as well as the Capstone Projects and Action Learning Segment I, students will setup their own venture in the ICT-NICE incubation centre. Students will submit a detailed report and make a presentation at the end of the semester.				