

**M.TECH IN DIGITAL COMMUNICATION ENGINEERING  
(LDC)  
Choice Based Credit System (CBCS) and Outcome Based Education (OBE)  
(Effective from the academic year 2024-25)**

**SEMESTER – III (A)**

<b>PROFESSIONAL ELECTIVE V &amp; VI</b>			
Course Code	<b>MLDC311 &amp; MLDC312</b>	CIE Marks	100
Teaching Hours/Week (L:P:SDA)	(3:0:0)	SEE Marks	---
Total Hours of Pedagogy	12 WEEKS	Total Marks	100
Credits	3	Exam Hours	---
<p><b>Course Learning objectives:</b> This course will enable students to:</p> <ul style="list-style-type: none"> <li>• Develop a foundational understanding of key concepts, theories, and principles relevant to the course subject.</li> <li>• Enhance analytical skills by evaluating information, identifying biases, and making informed decisions based on evidence.</li> <li>• Apply learned theories and concepts to real-world scenarios through projects, case studies, or simulations.</li> <li>• Cultivate the ability to locate, evaluate, and utilize credible sources for academic writing and projects.</li> <li>• Improve written and verbal communication skills through discussions, presentations, and collaborative projects.</li> <li>• Gain proficiency in utilizing various digital tools and platforms relevant to the course content.</li> <li>• Foster the ability to work effectively in virtual teams, respecting diverse perspectives and contributions.</li> <li>• Encourage independent study habits and self-motivation to pursue additional resources beyond the course material.</li> <li>• Understand and apply ethical principles related to the field of study, including issues of integrity and responsibility.</li> <li>• Develop skills in giving and receiving constructive feedback, and engage in self-reflection to enhance personal and academic growth.</li> </ul> <ul style="list-style-type: none"> <li>• <b>MLDC311 &amp; MLDC312:</b> MOOC courses of 12 weeks duration are the courses suggested by the Board of Studies of the University and will be displayed on <a href="http://www.online.vtu.ac.in">www.online.vtu.ac.in</a>. The online courses selected should not be the same as those studied in the first and second semesters of the program. The student will not be eligible to get their degree if they unintentionally select online courses that match previously finished courses. These courses are not considered for the vertical progression; however, qualifying for these courses and earning the credits is a must for the award of the degree. It is permitted to complete these online MOOC courses either in 3rd semester or in 4th semester.</li> </ul>			
<b>RBT Level: L1, L2, L3</b>			

### Research Internship /Industry-Internship leading to project work/ Startup

Course Code	<b>MINT313</b>	CIE Marks	100
Teaching Hours/Week (L:P:SDA)	Two-semester duration, SEE in the IV semester which leads to project work /start-up.	SEE Marks	---
Total Hours of Pedagogy		Total Marks	100
Credits	06	Exam Hours	3

**Course Learning objectives:** This course will enable students to:

- Internship provide students the opportunity of hands-on experience that include personal training, time and stress management, interactive skills, presentations, budgeting, marketing, liability and risk management, paperwork, equipment ordering, maintenance, responding to emergencies etc. The objectives are further,
- To put theory into practice.
- To expand thinking and broaden the knowledge and skills acquired through course work in the field.
- To relate to, interact with, and learn from current professionals in the field.
- To gain a greater understanding of the duties and responsibilities of a professional.
- To understand and adhere to professional standards in the field.
- To gain insight to professional communication including meetings, memos, reading, writing, public speaking, research, client interaction, input of ideas, and confidentiality.
- To identify personal strengths and weaknesses.
- To develop the initiative and motivation to be a self-starter and work independently

Taking up a two-semester Industry/Research Internship that leads to project work or a start-up can be a highly rewarding experience for students. It allows them to apply theoretical knowledge in practical settings, gain valuable industry or research experience, and potentially develop innovative solutions or business ideas. Here are some key steps and considerations for students pursuing such an internship:

**Industry Internship:** The main objective of the industry internship is to ensure that the intern is exposed to a real-world environment and gain practical experience. Often, it may be a practical exposure to the theory that has been learned during the academic period. The industry internship helps students understand of analytical concepts and tools, hone their skills in real-life situations, and build confidence in applying the skills learned.

**Research Internship:** A research internship is an opportunity for students or early career professionals to gain hands-on experience in conducting research under the guidance of a mentor or within a research team. These internships can take place in academic institutions, research organizations, government agencies, or private companies

**Research /Industry Internship:** In the third-semester Students have to be in touch with a guide/mentor/coordinator and regularly submit the report referred to the progress internship. Based on the progress report the Guide/Mentor/coordinator has to enter the CIE marks at the end of the 3<sup>rd</sup> semester. At the beginning of the 4<sup>th</sup> semester, students have to define the project topic out of the learning due to the Internship, upon completion of the project work he/she has to attend the SEE

at the parent Institute.

**Internship Leading to Start-up:** An internship that leads to a startup is an exciting pathway, blending real-world experience with entrepreneurial ambition. Here's a comprehensive guide to transitioning an internship experience into launching your startup: 1) Maximize your internship experience, 2) Identifying Viable Business Ideas, 3) Research and Validation 4) Building a Business Plan 5) Networking and Mentorship 6) Securing Funding 7) Establishing Startup 8) Launching and Marketing. By following these steps, you can effectively transition from an internship to launching a successful startup. This journey requires dedication, resilience, and a willingness to learn and adapt.

**Course outcomes:** At the end of the course the student will be able to:

- Gain practical experience within industry in which the internship is done.
- Acquire knowledge of the industry in which the internship is done.
- Apply knowledge and skills learned to classroom work.
- Develop a greater understanding about career options while more clearly defining personal career goals.
- Experience the activities and functions of professionals.
- Develop and refine oral and written communication skills.
- Identify areas for future knowledge and skill development.
- Expand intellectual capacity, credibility, judgment, intuition.
- Acquire the knowledge of administration, marketing, finance and economics

**RBT Level: L3, L4, L5, L6**

<b>PROJECT WORK PHASE - I</b>			
Course Code	<b>MPRJ384</b>	CIE Marks	100
Teaching Hours/Week (L:P:SDA)	(0:6:0)	SEE Marks	-
Total Hours of Pedagogy	40 hours Practical	Total Marks	100
Credits	03	Exam Hours	-

**Course Learning objectives:** This course will enable students to:

- To encourage independent learning and the innovative attitude of the students.
- To develop an interactive attitude, communication skills, organization, time management, and presentation skills.
- To impart flexibility and adaptability.
- To inspire team work.
- To expand intellectual capacity, credibility, judgment, and intuition.
- To adhere to punctuality, setting and meeting deadlines.
- To instill responsibilities to oneself and others.
- To train students to present the topic of project work in a seminar without any fear, face the audience confidently, enhance communication skills, involved in group discussions to present and exchange ideas.

**Project Work Phase-1:** The project work shall be carried out individually. However, in case a disciplinary or interdisciplinary project requires more participants, then a group consisting of not more than three shall be permitted. Students in consultation with the guide/co-guide (if any) in disciplinary project or guides/co-guides (if any) of all departments in case of multidisciplinary projects, shall pursue a literature survey and complete the preliminary requirements of the selected Project work. Each student shall prepare a relevant introductory project document, and present a seminar.

Project Phase-I, typically the initial phase in any project, is crucial as it lays the foundation for the entire project. This phase involves defining the project's scope, objectives, and initial planning. Here's a structured approach to effectively carry out Project Phase-I:

- **Project Charter:** Outlines the project's purpose, objectives, and stakeholders.
- **Scope Statement:** Defines the project boundaries and deliverables.
- **Requirements Document:** Captures all project requirements.
- **Project Plan:** Details the approach, timeline, and resource allocation.
- **Risk Management Plan:** Identifies and plans for potential risks.
- **Feasibility Study Report:** Assesses technical, economic, and operational feasibility.

Students in consultation with the guide shall carry out literature survey/visit industries to finalize the topic of the Project. Subsequently, the students shall collect the material required for the selected project, prepare a synopsis, and narrate the methodology to carry out the project work. Each student, under selected project orally and/or through power point slides.

- Answer the queries and be involved in debate/discussion.
- Submit two copies of the typed report with a list of references.
- The participants shall take part in discussions to foster a friendly and stimulating environment in which the students are motivated to reach high standards and become self-confident.

**Continuous Internal Evaluation (100 Marks).**

CIE marks for the project report (60 marks), seminar (20 marks) and question and answer

(20marks) shall be awarded (based on the quality of report and presentation skill, participation in the question and answer session by the student) by the committee constituted for the purpose by the Principal. The committee shall consist of an internal guide and a faculty from the department with the senior most acting as the Chairperson.

**RBT Level: L3, L4, L5, L6**