

LOURDES MATHA COLLEGE OF SCIENCE AND TECHNOLOGY

Institutional Development Plan IDP 2025-40

Proposal for Institutional Development Initiatives

1. ACADEMIC ENABLERS			
Short Term Goals			
Sl No.	Action Plan	Expected Outcome	Target year
1	Conduct faculty development programs (FDPs) and student bootcamps on new teaching-learning methods, project-based learning, and pedagogical innovations.	Improved teaching quality and student engagement	2026
2	Launch continuous assessment and mentorship systems for academic performance tracking.	Enhanced student performance and retention rate.	2026
3	Strengthen mentoring, counselling, and career guidance systems.	Better student retention, morale, and success	2026
4	Implement quality assurance processes for academics, labs, exams, and research centres	Standardized academic operations and improved compliance readiness	2026
5	Embedding research, innovation, and entrepreneurship into academics by doing Student mini-projects; hackathons; collaboration with local industries and offering internship facilities in government /semi government organisations	Enhanced research culture and output	2026
6	Implement blended and experiential learning methods such as flipped class rooms for core courses, identifying community based projects such as rainwater harvesting design, waste management etc and innovative socially relevant projects	Improved engagement and holistic learning	2027

Medium Term Goals			
1	Establish a Center for Emerging Technologies (CET) for short-term value-added courses and offer online certificate courses in various streams through industry collaboration.	Bridging the gap between academia and industry	2028
2	Launch of interdisciplinary degree programmes	Bridging programmes	2028
3	BTech in Sustainable Energy Systems	Graduates ready for renewable and carbon-neutral energy roles	2030
4	Renewable Energy Microgrid implementation	Self reliant on Energy	2030
5	Move toward partial financial self-sustainability through research funding, consultancy, IP licensing	Reduced dependence on central institutional budgets	2030
Long Term Goals			
1	Achieve full responsible autonomy with strong accountability systems	Globally benchmarked institutional governance	2040
2	Centre for Hydrogen Technology	Leadership in next-gen energy research	2040
3	EV Battery Testing & Reliability Centre	Industry-funded R&D and consultancy	2040
2. RESEARCH, INTELLECTUAL PROPERTY AND SUPPORTIVE ENABLERS			
Short Term Goals			
Sl No	Action Plan	Expected Outcome	Target Year
1	Encourage Interdisciplinary Research and Joint Publications with other departments (AI, Electronics, Management, etc.)	Promote collaborative, application-oriented research addressing real-world problems	2026 onwards
2	Analytical Softwares	To promote analytical skills of teachers and students	2026

3	Collaborative Research, Faculty Research, Publication Support, Design thinking and set up a Department Research Committee (DRC) to monitor research quality and publication ethics.	Active MoUs with universities, research institutes, and industries to co-develop projects, resources, and jointly supervise research students	2026
4	Funded Research Projects and Consultancy Services	To provide real-world experiences to students and faculty	2027
5	Research Collaboration with other departments	Increased interdisciplinary and cross-border projects.	2027
6	UGC, ICSSR, AICTE Funded projects	To promote research and knowledge enhancement	2027
7	Develop Supportive and Facilitative Enablers – promote a positive academic culture through transparent governance, recognition, and inclusion	Improve faculty motivation, student engagement, and institutional belongingness	2027
8	Provide regular training and awareness programs on research methodology and IPR.	Improved understanding of ethics, research design, and IP registration processes.	2027
9	Establish a Research and Innovation Cell to coordinate research projects, consultancy, and industry collaborations in emerging technologies like AI, ML, IoT, and Cybersecurity	Create a structured research ecosystem with more funded projects, industry partnerships, and innovative outcomes. Increased research competencies.	2027
10	Research Funding & Projects-Institution-Industry-Government Collaboration (IIGC) – Facilitate MoUs for research consultancy, internships, and live projects	Increase in research income and Active industry research collaboration. Enhance research relevance, improve student employability, and promote technology transfer	2028
11	Department Journal	To promote research publication among teachers and students	2028
Medium Term Goals			

1	Create a digital research repository and project database.	Easy access to completed research work and prevention of duplication.	2027
2	Identify key research thrust areas aligned with national and local needs.	Focused and impactful research addressing societal and industry problems.	2028
3	Recognize and reward innovative research and patents at departmental events. Develop a seed-fund or mini-grant scheme for in-house research projects.	Encourages faculty and students to initiate innovative research ideas.	2028
4	Establish advanced skill academies (AI, industry 4.0, leadership)	Industry-aligned skill ecosystem	2030
5	Establish specialized research labs in AI, Robotics, and Cyber security.	Infrastructure for applied and interdisciplinary research.	2030
Long Term Goals			
1	Promote consultancy and testing services to generate research revenue	Resource generation and real-world exposure for faculty and students	2035

3. HUMAN RESOURCE MANAGEMENT ENABLERS

Short Term Goals			
Sl No	Action Plan	Expected Outcome	Target Year
1	Continuous Professional Development	External training programmes, FDPs (Faculty Development Programmes), and leadership development workshops should be provided.	2026
2	Support for Higher Studies	Institutional facilitation for faculty pursuing doctoral or post-doctoral studies, and short-term academic visits.	2026

3	Reward and Recognition Programs for faculty and staff	Creating recognition programs (eg., provide outstanding teaching award for teachers achieving 90% or above pass percentage in university exams) to boost morale and motivation by offering annual awards for best teacher, researcher, innovator, and service excellence.	2026
4	Employee Welfare Measures	Provident fund, insurance, health benefits, and wellness programs should be implemented.	2026
5	Faculty and Staff Representation	Participation in statutory and non-statutory committees, ensuring shared governance.	2026
6	Workplace Environment	Promotion of safe, inclusive, and gender-sensitive workspaces through Internal Complaints Committees (ICC) and Equal Opportunity Cells.	2026
7	Staff Training & Skill Development	Ongoing professional development through workshops, seminars, certifications, and advanced degrees. This ensures staff are up-to-date with the latest industry trends, technological advancements, and academic methodologies.	2026
8	Transparent Communication Channels	Facilitating open communication between faculty, students, and	2026

		administration. Regular departmental meetings and feedback loops can ensure alignment with the department's strategic goals.	
9	Conferences and Research Collaborations	Encouraging faculty and staff to participate in national and international conferences, webinars, and workshops to stay engaged with developments in the field.	2026
10	Interdepartmental Collaboration:	Fostering a collaborative approach with other departments (such as mechanical engineering, electrical engineering) to tackle cross-disciplinary challenges in civil engineering.	2026
11	Adopt equitable workload distribution integrating teaching, research, and outreach.	Optimal productivity and reduced burnout.	2026
12	Performance Management System: Implement transparent evaluation methods focusing on teaching, research, and student mentoring	Encourage accountability, innovation, and continuous professional growth.	2026
13	Career Development and Student Support: Organize industry-linked internships, placement drives, and soft-skill development programs for all students	Increased employability and professional readiness of graduates.	2026
14	Well-being and Work-Life Balance: Implement wellness initiatives and flexible work arrangements for faculty and staff	Improved job satisfaction, motivation, and overall productivity.	2026

15	Faculty Recruitment and Retention: Recruit and retain qualified faculty with Ph.D. or significant industry experience as per AICTE/UGC norms	Ensure high-quality teaching, strengthen research, and maintain regulatory compliance.	2028
16	Implement a faculty appraisal and mentorship program based on performance metrics.	Improved accountability and professional growth.	2026
17	Recruit faculty with specialized research expertise and industry experience.	Strong academic and practical knowledge base.	2027
18	Establish strong career counselling & placement support	Improved student employability.	2026
Medium Term Goals			
Sl No	Action Plan	Expected Outcome	Target year
1	Strategic HR Leadership	Establishing HR policies that encourage collaboration with industry experts for guest lectures, research opportunities, internships, and consultancy work.	2030
2	NBA accreditation	To bring our department to excellence.	2030
3	Expand funded training, national/international workshops	Faculty with global exposure.	2030
4	Establish advanced skill academies (AI, industry 4.0, leadership)	Industry-aligned skill ecosystem.	2030
Long Term Goals			
Sl No	Action Plan	Expected Outcome	Target year
1	Build globally competitive faculty teams with strong research-innovation impact	International-level academic stature.	2040
2	Create a global-standard student wellbeing and career ecosystem	High student success and global placements.	2040
4. ENABLERS FOR NETWORKING AND COLLABORATIONS			
Short Term Goals			
Sl No	Action Plan	Expected Outcome	Target year

1	Establish active partnerships with industries, construction firms, and government organizations.	Enhanced practical exposure, internships, and placement opportunities for students and joint programs with government skill-mission agencies.	2026
2	Inter-Institutional interactive programs.	To achieve excellence in teaching and provide opportunities for research Collaborations and internships .	2026 onwards
3	Alumni Interaction with students	shaping the future of students. support for endowments, new projects, funding, knowledge sharing, and mentorship.	2026 onwards
4	Sign MoUs with industries, R&D organizations, and academic institutions.	To establish a strong industry-institute interaction. Helps in course planning, curriculum development, training, employment opportunities, continuous learning, and research and development.	2026 onwards
5	Organize international conferences, hackathons, and innovation summits.	Global exposure for faculty and students.	2026
6	Map local industry partners (manufacturing, HVAC, thermal systems, automotive, foundries) for MoUs and short-term engagements	Baseline partnership network established. Enhanced employability and industry exposure.	2025
Medium Term Goals			
SI No	Action Plan	Expected Outcome	Target year
1	Governmental Collaboration	Engagement in projects sponsored by ministries, funding agencies, and public-sector enterprises.	2030

2	Create an Industry–Institute Interaction Cell (IIIC) under the department.	Structured collaboration platform for knowledge sharing and consultancy opportunities.	2030
3	Organize national and international technical collaborations and conferences.	Improved research visibility, interdisciplinary exposure, and global linkages.	2030
4	Encourage faculty exchange and guest lectures from industry and academia.	Enhanced curriculum relevance and exposure to emerging civil engineering practices.	2030
5	Promote collaborative student projects with real-world industry or community focus.	Application of classroom knowledge to field challenges; improved employability.	2030
6	Conduct regular industry-driven workshops, hackathons, and design competitions.	Improved innovation and entrepreneurial mindset among students.	2030
7	Establish formal alumni endowment program to support labs and scholarships and to offer beneficial schemes to under privileged	Sustainable departmental development.	2030
Long Term Goals			
Sl No	Action Plan	Expected Outcome	Target year
1	Develop academic partnerships with reputed universities like IITs/ NITs and R&D institutions.	Exchange of knowledge, research collaboration, and curriculum enrichment.	2040
2	Create departmental consultancy and testing centers linked to industry needs.	Strengthened industry relations and resource generation for the department.	2040
3	Establish Centre of Excellence for emerging fields of engineering.	Regional leadership in engineering expertise.	2040
5. PHYSICAL ENABLERS			

Short Term Goals			
Sl No	Action Plan	Expected Outcome	Target year
1	Improved teaching facilities	Equipped with smart boards, projectors, Wi-Fi connectivity, and audio-visual systems to support interactive and technology-enabled learning.	2026
2	Modernize laboratories and classrooms with IoT-enabled smart devices and interactive boards.	Smart learning environment.	2026
3	Computing Infrastructure:	High-speed servers, data storage systems, and licensed software supporting academic and research computing needs. Implementation of next-generation broadband and Wi-Fi connectivity.	2026
4	Sports and Fitness Infrastructure	Indoor and outdoor sports facilities, fitness centres, and wellness zones.	2026
5	Health and Counselling Services	On-campus medical clinic, psychological counselling services, and first-aid facilities.	2026
6	Student Activity Centres	Dedicated spaces for clubs, cultural events, and leadership activities.	2026
7	IoT-Enabled Campus Operations	Use of sensors and analytics for energy management, water use, and facility monitoring.	2026
8	Facility integration	Vocational Education, Training, and Skilling.	2026

9	Ensure digital and physical accessibility for Persons with Disability.	Reaching a wider audience where everyone can participate.	2026
10	Develop Innovation & Incubation Centre within the department.	Promotion of entrepreneurship and student startups.	2028
11	Expand department library and digital resource access.	Improved research and learning facilities.	2026
12	To conduct On Job Training Program for vocational higher secondary students	Students can obtain great awareness of various Electrical circuitry and Electrical machines and its industrial usage.	2026
Medium Term Goals			
Sl No	Action Plan	Expected Outcome	Target year
1	Upgrade existing labs, and classrooms to meet modern standards. Eg. Smart classrooms with AV facilities	Improved learning environment and institutional appeal.	2030
2	Strengthen ICT backbone and provide campus-wide high-speed internet.	Enhanced access to e-learning and online collaboration tools.	2030
3	Develop a Design Studio Lab	Lab with latest softwares of STAAD Pro, ETABS, Revit, Civil 3D,etc	2030
	Model Room/Exhibit areas	Showcasing structural models, material samples, construction techniques etc.	2030
4	Ensure energy-efficient infrastructure and green computing practices.	To improve energy efficiency and to promote sustainable campus initiatives.	2030
Long Term Goals			

SI No	Action Plan	Expected Outcome	Target year
1	Separate Seminar and Conference halls for the department	For guest lectures, workshops and technical symposia.	2040
2	To make an Electric Buggy	This can be used to utilise mobility between various departments in the campus.	2040

6. DIGITAL ENABLERS

Short Term Goals

SI No	Action Plan	Expected Outcome	Target year
1	Digital Capacity Building and establishing digital collaboration platforms for industry–academia interaction.	Students proficient in digital tools.Strengthened networking and real-time communication with professionals.	2026
3	Ensure high speed internet	Ensure a strong ICT infrastructure across the campus.	2026 onwards
4	Centralize admission processes, student fees, through digital platforms	Transition to a paperless system.	2026 onwards
5	Online networks for alumni, and support e-placement initiatives	Networking for job opportunities or mentorship. Sharing knowledge, experiences and best practices	2026 onwards
6	Conduct a digital readiness audit for labs, classrooms, and departmental workflows	Clear baseline for upgrades and digital gaps	2025
7	Implement a Department Learning Management System (LMS) for blended and flipped learning.	Seamless content delivery, assessment, and interaction between faculty and students.	2026

8	Implement e-Governance in departmental operations. (Online leave management, student attendance tracking, and digital submission of internal assessment records.)	Transparent and efficient management of academic, administrative, and financial records.	2026
9	Adopt Building Information Modelling (BIM) and digital construction technologies in teaching and research.	Industry-relevant digital competency among students.	2026
10	Establish a departmental digital library integrated with institutional resources. (Access to NPTEL, SWAYAM, BIS online code library, and e-journals through DELNET.)	Enhanced access to research papers, codes, and standards.	2026
11	Promote online certification and MOOCs for faculty and students.	Continuous professional upskilling and exposure to global knowledge systems.	2026
Medium Term Goals			
Sl No	Action Plan	Expected Outcome	Target year
1	Create a digital repository for course materials, lab manuals, and project reports.	Easy access to academic resources and institutional memory.	2030
2	Projectors/Smart Boards in all class rooms	Enabling smart learning	2030
3	IEEE and Science Direct access	Enables to access research journals	2030
4	Adopt AI-based academic analytics for student progress tracking.	Data-driven academic decision-making.	2030
Long Term Goals			
Sl No	Action Plan	Expected Outcome	Target year
1	Collaboration Platforms	Virtual research hubs connecting internal and external partners for project development.	2040

2	Integrated ERP 2.0	Expansion of ERP modules for student life-cycle management, alumni tracking, and external stakeholder portals	2040
3	Develop a robust ICT infrastructure with high-speed internet, LAN, and digital classrooms. (Smart classrooms with Wi-Fi-enabled projectors, digital boards, and online lecture recording facilities.)	Improved connectivity and access to digital resources for teaching, learning, and research.	2035

7. GOVERNANCE ENABLERS

Short Term Goals

Sl No	Action Plan	Expected Outcome	Target year
1	Strengthen Institutional Leadership and offer training for leadership teams and senior faculty on governance, strategic planning, and ethical leadership.	Establish strategic planning and review continuity	2026
2	Participative Management	Increased management, faculty and student engagement	2026
3	E-Governance Implementation	Paperless and transparent operations.	2026
4	Grievance and Ethics Committee	Transparent and fair institutional environment.	2026
5	Define the department's vision, mission, and objectives aligned with the institution's strategy.	Clear academic direction.	2026

6	Set academic and research priorities (curriculum innovation, placements, skill development).	Improved academic standards	2026
7	Engage students, faculty, parents, alumni, and the community in planning and evaluation.	Increased stakeholder trust and participation.	2026
8	Promote participative leadership through HoD and faculty committees. Establish departmental committees (Academic Committee, Research Committee, Student Welfare Committee).	Strong leadership and motivated faculty. Transparent and accountable governance.	2026
9	Encourage faculty and student research projects, publications, and patents.	Increased research output	2026
12	Establish regular feedback mechanisms (students, alumni, industry) and ensure actions based on feedback.	Continuous improvement and stakeholder trust.	2026
13	Integrate IT-enabled monitoring systems for academic and administrative performance tracking.	Efficient monitoring and data-based decision-making.	2026
14	Implement transparent Quality Assurance processes for academic, administrative, and research activities.	Improved accountability and measurable academic outcomes.	2026
15	Strengthening student help desks with dedicated helpline numbers.	Improved student support services.	2026
Medium Term Goals			
Sl No	Action Plan	Expected Outcome	Target year
1	Institutionalize recognition and reward systems for faculty and students contributing to departmental excellence.	Encourages innovation, accountability, and performance-based culture.	2030

2	Adopt structured stakeholder engagement: alumni councils, industry boards, societal advisory committees	Holistic, aligned institutional strategy	2030
3	Create an Institutional Strategy and Vision 2030 document aligning governance with national education goals	Long-term institutional direction and alignment with policy priorities	2030
4	Strengthen leadership and participatory management by assigning specific roles to faculty members for research, consultancy, student welfare, and community outreach. (Appointment of coordinators for research, consultancy, and social extension)	Improved operational efficiency and faculty motivation.	2030

Long Term Goals

SI No	Action Plan	Expected Outcome	Target year
1	Achieve full responsible autonomy with strong accountability systems	Globally benchmarked institutional governance	2040

8. FINANCIAL ENABLERS AND FUNDING MODELS

(Resource Generation)

Short Term Goals

SI No	Action Plan	Expected Outcome	Target year
1	Encourage faculty to submit funded research proposals to DST, KSCSTE, AICTE, or UGC for projects on sustainable construction materials	Increased departmental research funds and infrastructure improvement	2026
2	Launch alumni fundraising drives and micro-endowment programmes	Small but stable streams of non-tuition revenue	2026
3	Establish partnerships with the government, private sector, and donors.	Increased and diversified funding sources	2026 onwards

4	Develop a 3–5 year strategic financial plan. - Implement performance-based budgeting. - Establish a financial monitoring committee.	Clear financial direction. - Better alignment between budget and institutional goals.	2026 onwards
5	Internal Revenue Generation	Tuition fees, certificate courses, executive education, and value-added programmes.	2026 onwards
6	Infrastructure Utilization	Rental income from conference halls, for organising training programs.	2026

Medium Term Goals

Sl No	Action Plan	Expected Outcome	Target year
1	Establish a Research & Consultancy Foundation under the HEI	Higher research consultancy revenue, simplified fund management	2030
2	Generate revenue through consultancy, training programs, and certification courses.	Self-sustained financial ecosystem.	2028
3	Promote student innovation projects and startups with incubation support	Development of entrepreneurial culture and potential revenue generation	2030
4	Organize national-level seminars, workshops, and FDPs with sponsorship	Improved visibility of the department and additional funds	2030
5	Research and Consultancy Income	Funded research projects, consultancy services, and industry collaborations.	2030

6	CSR and Philanthropic Support	Sponsorships, and donations from corporates and alumni.	2027
Long Term Goals			
SI No	Action Plan	Expected Outcome	Target year
1	Creation of large-scale institutional endowments (chairs, fellowships, facility endowments)	Stable annual income independent of tuition and grants	2040