Mar Ephraem
College of Engineering & Technology
Run by Catholic Diocese of Marthandam
Accredited by NAAC, NBA (CSE, Civil & Mech)
Malankara Hills, Elavuvilai - 629 171, Kanyakumari Dist. Tamil Nadu, S.India.

Prof. Dr. A. Lenin Fred, M.E., Ph.D.
Principal

Approved by AICTE - No : 07/ 08 / TN / E&T / 2009 / 11
Affiliated to Anna University, Chennai - No : AUTVL / Affiliation : 2009-10 / 716

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Approval Letter - Innovation and Startup Policy of Mar Ephraem College

This is to certify that the finalized draft of the Innovation and Startup Policy of Mar Ephraem College of Engineering and Technology (AISHE Code: C-27039) has been approved by the constituted committee including the nomination of external experts and implementation team members.

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Mar Ephraem

College of Engineering and Technology

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INNOVATION AND ENTREPRENEURSHIP POLICY

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PREAMBLE

Innovation is the specific instrument of entrepreneurship. Innovation, indeed, creates a resource. There is no such thing as a 'resource' until man finds a use for something in nature and thus endows it with economic value. Entrepreneurship is an attitude of mind which can take risks but calculated ones; a true entrepreneur is one who can see possibilities in a given situation where others see none and has the patience to work out the idea into a scheme to which financial support can be provided. It is one of the catalytic activities fostering initiative, promoting and maintaining economic activities and distribution of wealth. Society needs innovation and entrepreneurship in a normal, steady and an ongoing basis.

Innovative performance has been measured in a variety of ways, using patents, trademarks, R&D inputs, and other secondary indicators such as publications or citations. Technological change is embodied in new generations of machinery and equipment and new generations of better educated workers. There are also disembodied advances in product and process technology, which result from formal and informal investment in R&D, capabilities, and on-the-job learning. Innovation requires not only highly knowledgeable, experienced, and skilled entrepreneurs, but also highly skilled laborers. Startups are the engines of exponential growth, manifesting the power of innovation.

Mar Ephraem Engineering College of Engineering and Technology aspires to build up an entrepreneurial ecosystem inside the campus, enhancing the knowledge and capability of the students to create new technology-driven enterprises and to address challenges of the society and the Industry.

VISION

To create an ecosystem that can generate an entrepreneur in every family.

MISSION

- To provide an opportunity for everyone to innovate, ideate and design solutions, irrespective of their age.
- To facilitates an entrepreneurial ecosystem in Mar Ephraem College of Engineering and Technology.
- To identify student innovators, promote and support them to evolve self- sustaining business models.

- To stimulate the innovation attitude of the student entrepreneurs, startups and enable them to design technology based products.
- To make partnerships with local industries / institutions in problem solving through innovative offerings in terms of products, services and processes and identifying innovation challenges.

STRATEGIES AND GOVERNANCE

a) To facilitate development of an entrepreneurial ecosystem in the organization, specific objectives and associated performance indicators will be defined for assessment.

b. The entrepreneurial agenda will be the responsibility of the Director of Entrepreneurship Development Cell and ably supported by the EDC coordinator's at the respective department level.

c. Resource mobilization plan will be worked out at the institute for supporting pre-incubation, incubation infrastructure and facilities.

i. Investment in the entrepreneurial activities will be a part of the institutional financial strategy.

ii. The strategy would also involve raising funds from diverse sources to reduce dependency on the public funding. Bringing in external funding through government (state and central) such as DST, DBT, MHRD, AICTE, TDB, TIFAC, DSIR, CSIR, BIRAC, NSTEDB, NRDC, Startup India, Invest India, MeitY, MSDE, MSME, etc. and non-government sources would be encouraged.

iii. To support technology incubators, institute will approach private and corporate sectors to generate funds, under Corporate Social Responsibility (CSR) as per Section 135 of the Company Act 2013.

iv. Institute will also rise funding through sponsorships and donations. Institute will actively engage alumni network for promoting Innovation & Entrepreneurship (I&E).

d. For expediting the decision making, hierarchical barriers would be minimized and individual autonomy of initiatives would be promoted.

e. Importance of innovation and entrepreneurial agenda would be made known across the institute and highlighted at institutional programs such as conferences, convocations, workshops, etc.

f. Institute would develop and implement I & E strategy and policy for the entire institute in order to integrate the entrepreneurial activities across various centers, departments, faculties, within the institutes.

g. Product to market strategy for startups would be developed by the institute on case to case basis.

h. Development of entrepreneurship culture would not be limited within the boundaries of the institution.

i. Institute would be the driving force in developing entrepreneurship culture in its vicinity (regional, social and community level). This includes giving opportunity for regional startups, provision to extend facilities for outsiders and active involvement of the institute in defining strategic direction for local development.

ii. Strategic international partnerships would be developed using bilateral and multilateral channels with international innovation clusters and other relevant organizations. Moreover, international exchange programs, internships, engaging the international faculties in teaching and research would also be promoted.

STARTUPS ENABLING INSTITUTIONAL INFRASTRUCTURE

Creation of pre-incubation and incubation facilities for nurturing innovations and startups in the institution would be undertaken. Incubation and Innovation would be organically interlinked.

a. The institute would create facilities within their institution for supporting pre-incubation (e.g. IICs as per the guidelines by MHRD's Innovation Cell, EDC, IEDC, New-Gen IEDC, Innovation Cell, Startup Cell, Student Clubs, etc.) and Incubation/ acceleration by mobilizing resources from internal and external sources.

b. This Pre-Incubation/Incubation facility would be accessible to students, staff and faculty of all disciplines and departments across the institution.

c. ACIC Mar Ephraem Incubation Forum is a separate entity registered under Section-8 of Company Act 2013 with independent governance structure. This would allow more freedom to Incubators in decision making with less administrative hassles for executing the programs related to innovation, IPR and Startups. Moreover, they would have better accountability towards investors supporting the incubation facility.

d. Institution would offer mentoring and other relevant services through Pre-incubation/Incubation units in-return for fees, equity sharing and (or) zero payment basis. The modalities regarding Equity Sharing in Startups supported through these units would depend upon the nature of services offered by these units and are elaborately explained in Section 3.

NURTURING INNOVATIONS AND START UPS

a. Institution would establish processes and mechanisms for easy creation and nurturing of Startups/enterprises by students (UG, PG, Ph.D.), staff, faculty, alumni and potential start up applicants even from outside the institutions.

b. While defining their processes, institution would ensure to achieve following:

i. Incubation support: Offer access to pre-incubation & Incubation facility to start ups by students, staff and faculty for mutually acceptable time-frame.

ii. Would allow licensing of IPR from institute to start up: Ideally students and faculty members intending to initiate a startup based on the technology developed or co-developed by them or the technology owned by the institute, would be allowed to take a license on the said technology on easy term, either in terms of equity in the venture and/ or license fees and/ or royalty to obviate the early stage financial burden.

ii. Would allow setting up a startup (including social startups) and working part-time for the startups while studying / working: Institution would allow their students / staff to work on their innovative projects and setting up startups (including Social Startups) or work as intern / part-time in startups (incubated in any recognized HEIs/Incubators) while studying / working. The area in which student wants to initiate a startup may be interdisciplinary or multi-disciplinary.

c. Students who are under incubation, but are pursuing some entrepreneurial ventures while studying would be allowed to use their address in the institute to register their company with due permission from the institution.

d. Institute would allow their students to take a semester/year break (or even more depending upon the decision of review committee constituted by the institute) to work on their startups and re-join academics to complete the course. Student entrepreneurs may earn academic credits for their efforts while creating an enterprise. Institute would set up a review committee for review of start up by students, and based on the progress made, it may consider giving appropriate credits for academics.

e. The institute would explore provision of accommodation to the entrepreneurs within the campus for some period of time.

f. Institute would facilitate the startup activities/ technology development by allowing students/ faculty/ staff to use institute infrastructure and facilities, as per the choice of the potential entrepreneur in the following manners:

i. Mentorship support on regular basis.

ii Facilitation in a variety of areas including technology development, ideation, creativity, design thinking, fund raising, financial management, cash-flow management, new venture planning, business development, product development, social entrepreneurship, product- costing, marketing, brand-development, human resource management as well as law and regulations impacting a business.

iii. Institute may also link the startups to other seed-fund providers/ angel funds/ venture funds or itself may set up seed-fund once the incubation
activities mature.

g. The institute would also provide services based on mixture of equity, fee-based and/ or zero payment model.

h. Institute could extend this startup facility to alumni of the institute as well as outsiders.

i. Participation in startup related activities needs to be considered as a legitimate activity of faculty in addition to teaching, R&D projects, industrial consultancy and management duties and must be considered while evaluating the annual performance of the faculty. Every faculty may be encouraged to mentor at least one startup.

j. Product development and commercialization as well as participating and nurturing of startups would now be added to a bucket of faculty-duties and each faculty would choose a mix and match of these activities (in addition to minimum required teaching and guidance) and then respective faculty are evaluated accordingly for their performance and promotion.

k. Institute would ensure that at no stage any liability accrue to it because of any activity of any startup.

PRODUCT OWNERSHIP RIGHTS FOR TECHNOLOGIES DEVELOPED AT INSTITUTE

a. When institute facilities / funds are used substantially or when IPR is developed as a part of curriculum/ academic activity, IPR is to be jointly owned by inventors and the institute.

b. Inventors and institute could together license the product / IPR to any commercial organization, with inventors having the primary say. License fees could be either / or a mix of

1. Upfront fees or one-time technology transfer fees
2. Royalty as a percentage of sale-price
3. Shares in the company licensing the product

c. If one or more of the inventors wish to incubate a company and license the product to this company, the royalties would be no more than 4% of sale price, preferably 1 to 2%, unless it is pure software product. If it is shares in the company, shares would again be 1% to 4%. For a pure software product licensing, there may be a revenue sharing to be mutually decided between the institute and the incubated company.

d. If product/ IPR is developed by innovators not using any institute facilities, outside office hours (for staff and faculty) or not as a part of curriculum by student, then product/ IPR would be entirely owned by inventors in proportion to the contributions made by them. In this case, inventors can decide to license the technology to third parties or use the technology the way they deem fit.

e. Institute IPR cell or incubation center would only be a coordinator and facilitator for providing services to faculty, staff and students

f. Interdisciplinary research and publication on startup and entrepreneurship would be promoted by the institutions.

ORGANIZATIONAL CAPACITY, HUMAN RESOURCES AND INCENTIVES

a. Institute would recruit staff having a strong innovation and entrepreneurial/ industrial experience, behavior and attitude. This would help in fostering the I&E culture.

i. Some of the relevant faculty members with prior exposure and interest would be deputed for training to promote I&E.

ii. To achieve better engagement of staff in entrepreneurial activities, institutional policy on career development of staff would be developed with constant upskilling.

b. Faculty and departments of the institutes have to work in coherence and cross-departmental linkages would be strengthened through shared faculty, cross-faculty teaching and research in order to gain maximum utilization of internal resources and knowledge.

c. Periodically some external subject matter experts such as guest lecturers or alumni can be engaged for strategic advice and bringing in skills which are not available internally.

d. Faculty and staff would be encouraged to do courses on innovation, entrepreneurship management and venture development.

e. In order to attract and retain right people, institute would develop academic and non-academic incentives and reward mechanisms for all staff and stakeholders that actively contribute and support entrepreneurship agenda and activities.

CREATING INNOVATION PIPELINE AND PATHWAYS FOR ENTREPRENEURS AT INSTITUTE LEVEL

i. To ensure exposure of maximum students to innovation and pre incubation activities at their early stage and to support the pathway from ideation to innovation to market, mechanisms would be devised at institution level.

ii. Spreading awareness among students, faculty and staff about the value of entrepreneurship and its role in career development or employability would be a part of the institutional entrepreneurial agenda.

iii. Students/ staff would be taught that innovation (technology, process or business innovation) is a mechanism to solve the problems of the society and consumers. Entrepreneurs would innovate with focus on the market niche.

iv. Students would be encouraged to develop entrepreneurial mindset through experiential learning by exposing them to training in cognitive skills (e.g. design thinking, critical thinking, etc.), by inviting first generation local entrepreneurs or experts to address young minds. Initiatives like idea and innovation competitions, hackathons, workshops, boot camps, seminars, conferences, exhibitions, mentoring by academic and industry personnel, throwing real life challenges, awards and recognition would be routinely organized.

v. To prepare the students for creating the start up through the education, integration of education activities with enterprise-related activities would be done.

vi. The institute would link their startups and companies with wider entrepreneurial ecosystem and by providing support to students who show potential, in pre-startup phase. Connecting student entrepreneurs with real life entrepreneurs would help the students in understanding real challenges which may be faced by them while going through the innovation funnel and would increase the probability of success.

vii. Institution's Innovation Councils (IICs) as per the guidelines of MHRD's Innovation Cell and allocate appropriate budget for its activities various activities related to innovation, startup and entrepreneurship development. Collective and concentrated efforts would be undertaken to identify, scout, acknowledge, support and reward proven student ideas and innovations and to further facilitate their entrepreneurial journey.

vii. For strengthening the innovation funnel of the institute, access to financing must be opened for the potential entrepreneurs.

viii. Networking events must be organized to create a platform for the budding entrepreneurs to meet investors and pitch their ideas.

ix. Provide business incubation facilities: premises at subsidised cost. Laboratories, research facilities, IT services, training, mentoring, etc. would be accessible to the new startups.

x. Institute must develop a ready reckoner of Innovation Tool Kit, which must be kept on the homepage on institute's website to answer the doubts and queries of the innovators and enlisting the facilities available at the institute.

NORMS FOR FACULTY STARTUPS

a. For better coordination of the entrepreneurial activities, norms for faculty to do startups would be created by the institutes. Only those technologies would be taken for faculty startups which originate from within the same institute.

i. Role of faculty may vary from being an owner/ direct promoter, mentor, consultant or as on-board member of the startup.

ii. Institutes would work on developing a policy on 'conflict of interests' to ensure that the regular duties of the faculty don't suffer owing to his/her involvement in the startup activities.

iii. Faculty startup may consist of faculty members alone or with students or with faculty of other institutes or with alumni or with other entrepreneurs.

b. Faculty must clearly separate and distinguish on-going research at the institute from the work conducted at the startup/ company.

c. Faculty must not accept gifts from the startup.

d. Faculty must not involve research staff or other staff of institute in activities at the startup and vice-versa.

e. Human subject related research in startup would get clearance from ethics committee of the institution.

PEDAGOGY AND LEARNING INTERVENTIONS FOR ENTREPRENEURSHIP DEVELOPMENT

a. Diversified approach would be adopted to produce desirable learning outcomes, which include cross disciplinary learning using mentors, labs, case studies, games, etc. in place of traditional lecture-based delivery.

i. Student clubs/ bodies/ departments must be created for organizing competitions, boot camps, workshops, awards, etc. These bodies would be involved in institutional strategy planning to ensure enhancement of the student's thinking and responding ability.

ii. Institute will start annual 'INNOVATION & ENTREPRENEURSHIP AWARD' to recognize outstanding ideas, successful enterprises and contributors for promoting innovation and enterprises ecosystem within the institute.

iii. For creating awareness among the students, the teaching methods would include case studies on business failure and real-life experience reports by startups.

iv. Tolerating and encouraging failures: Our systems are not designed for tolerating and encouraging failure. Failures need to be elaborately discussed and debated to imbibe that failure is a part of life, thus helping in reducing the social stigma associated with it.

v. Innovation champions would be nominated from within the students/ faculty/ staff for each department/ stream of study.

b. Entrepreneurship education would be imparted to students at curricular/ co-curricular/ extra-curricular level through elective/ short term or long-term courses on innovation, entrepreneurship and venture development. Validated learning outcomes would be made available to the students.

i. Integration of expertise of the external stakeholders would be done in the entrepreneurship education to evolve a culture of collaboration and engagement with external environment.

ii. In the beginning of every academic session, institute will conduct an induction program about the importance of I&E so that freshly inducted students are made aware about the entrepreneurial agenda of the institute and available support systems. Curriculum for the entrepreneurship education would be continuously updated based on entrepreneurship research outcomes. This would also include case studies on failures.

iii. Industry linkages would be leveraged for conducting research and survey on trends in technology, research, innovation, and market intelligence.

iv. Sensitization of students would be done for their understanding on expected learning outcomes.

v. Student innovators, startups, experts must be engaged in the dialogue process while developing the strategy so that it becomes need based..

vi. It must be noted that not everyone can become an entrepreneur. The entrepreneur is a leader, who would convert an innovation successfully into a product. One must carefully evaluate whether a student is capable and willing to take risk.

c. Pedagogical changes need to be done to ensure that maximum number of student projects and innovations are based around real life challenges. Learning interventions developed by the institutes for inculcating entrepreneurial culture would be constantly reviewed and updated.

COLLABORATION CO CREATION, BUSINESS RELATIONSHIPS AND KNOWLEDGE EXCHANGE

a. Stakeholder engagement would be given prime importance in the entrepreneurial agenda of the institute. Institutes would find potential partners, resource organizations, micro, small and medium- sized enterprises (MSMEs), social enterprises, schools, alumni, professional bodies and entrepreneurs to support entrepreneurship and co-design the programs.

b. To encourage co-creation, bi-directional flow/ exchange of knowledge and people would be ensured between institutes such as incubators, science parks, etc.

c. Institute would organize networking events for better engagement of collaborators and would open up the opportunities for staff, faculty and students to allow constant flow of ideas and knowledge through meetings, workshops, space for collaboration, lectures, etc.

d. Mechanism would be developed by the institute to capitalize on the knowledge gained through these collaborations.

f. The institute would develop policy and guidelines for forming and managing the relationships with external stakeholders including private industries.

g. Knowledge exchange through collaboration and partnership would be made a part of institutional policy and institutes must provide support mechanisms and guidance for creating, managing and coordinating these relationships.

h. Through formal and informal mechanisms such as internships, teaching and research exchange programs, clubs, social gatherings, etc., faculty, staff and students of the institute would be given the opportunities to connect with their external environment.

i. Connect of the institute with the external environment must be leveraged in form of absorbing information and experience from the external ecosystem into the institute's environment.

j. Single Point of Contact (SPOC) mechanism would be created in the institute for the students, faculty, collaborators, partners and other stakeholders to ensure access to information.

k. Mechanisms would be devised by the institutions to ensure maximum exploitation of entrepreneurial opportunities with industrial and commercial collaborators.

l. Knowledge management would be done by the institute through development of innovation knowledge platform using in-house Information & Communication Technology (ICT) capabilities.

ENTREPRENEURIAL IMPACT ASSESSMENT

Impact assessment of institute's entrepreneurial initiatives such as pre-incubation, incubation, entrepreneurship education would be performed regularly using well defined evaluation parameters.

i. Monitoring and evaluation of knowledge exchange initiatives, engagement of all departments and faculty in the entrepreneurial teaching and learning would be assessed.

ii. Number of startups created, support system provided at the institutional level and satisfaction of participants, new business relationships created by the institutes would be recorded and used for impact assessment.

Policy formulating committee of IIC may propose amendments in future based on the trends and decisions will be made.

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