



## STELLA MARY'S COLLEGE OF ENGINEERING

(Approved by AICTE, New Delhi, affiliated to Anna University, Chennai and Accredited by NAAC, Accredited by NBA (Mech& CSE))

Aruthenganvilai, Kallukatti Junction, Azhikal Post, Kanyakumari District-629202, Tamil Nadu, South India.

### VISION

To be a beacon of academic excellence, empowering future innovators with technical mastery to harness technology for positive global change.

### MISSION

M1	To Cultivate a vibrant learning environment where students delve into the frontiers of <b>technical knowledge</b> , hone their <b>problem-solving skills</b> , and embrace <b>innovation</b> to transform ideas into solutions that address <b>global challenges</b> .
M2	To bridge the gap between technical brilliance and <b>real-world impact</b> by forging <b>strong industry partnerships</b> , fostering <b>cutting-edge research</b> , and nurturing <b>entrepreneurial drive</b> in our students, empowering them to build a better future through technology.
M3	To ignite the spark of <b>intellectual curiosity</b> within every student, equip them with the <b>tools and knowledge</b> to become pioneers in their chosen fields, and guide them towards <b>ethical and responsible</b> use of technology for the <b>betterment of humanity</b> .

### MAPPING VISION WITH MISSION

#### **1. Cultivating Learning Excellence:**

Aligned with Vision: Empowering future innovators with technical mastery.

How: Creating a vibrant learning environment, fostering problem-solving skills, and encouraging innovation.

#### **2. Connecting Brilliance to Impact:**

Aligned with Vision: Harnessing technology for positive global change.

How: Forging industry partnerships, driving advanced research, and nurturing an entrepreneurial drive for societal impact.

#### **3. Igniting Intellectual Curiosity:**

Aligned with Vision: Being a beacon of academic excellence.

How: Sparking curiosity, providing tools for pioneering achievements, and emphasizing ethical technology use for global betterment.

### INSTITUTE OBJECTIVES

1. To produce technically competent, quality conscious engineers.
2. To develop functionally suitable and conducive environment for students and staff for academic purpose.
3. To develop the departments into the centre of excellence.
4. To develop post graduate centers for all branches.
5. To implement Effective & efficient Teaching–Learning practices.

6. To increase percentage of campus placements.
7. To strengthen industry institute interaction.
8. Help students for personality development and career guidance.
9. To promote research culture in the institution
10. To frame the Quality Policy for the academics and research.
11. To conduct Periodic audits for academics and administration.

### **CORE VALUES**

“Making every student of Stella Mary’s, a good citizen of the nation, by offering a good practice of advanced technologies, helping the teaching and learning community to do their exploration and experimentation in an ethical manner under an environment of academic transparency and honesty, thereby, achieving a sustainable nation-wide development of technology”.

### **INSTITUTIONAL STRATEGIC PLAN**

Stella Mary’s college of Engineering established with a vision of providing quality education with well-established infrastructure which leads to students progression towards technical and social excellence. To attain excellence, it is desirable to develop Strategic Plans which is a continuous process with a specific focus on achieving Short term and Long term plans which enhance the existing capacities of the institution to become dynamic, quality conscious and efficiency.

Stella Marys College of Engineering having a vision to attain excellence in education has developed the short-term plans for the period of **2019-2024**, to guide and drive the work of the Institute for the next 4 years. The support of the passionate management, commitment and willingness of the leadership team of the institute, inputs from academic and industrial experts. The final draft is presented to Governing Council for detailed review and discussion; the suggestions are incorporated towards its effective implementation.

### **LONG TERM GOAL**

#### **1. To integrate the academics and R&D programs in collaboration with the reputed Universities and Industries.**

##### **Plan of Action:**

- Enhance facilities in all departments by modernization and removal of obsolescence in laboratories
- Develop competency in technical staff for R&D laboratories with appropriate training
- Raise funds through project proposals
- Promote consultancy activities
- Promote multi / inter disciplinary research and product development Promote faculty members to publish research papers / articles in reputed journals / conferences
- Encourage “idea to product” activities by students and faculty members

##### **Target to be achieved:**

- Make sure staff involved in R&D understand the business' overall strategy.
- Ensure these employees understand what is commercially realistic.

- Assess the changing risks and potential of projects as they progress, continually developing a rigorous business case.

## **2. To be ranked at the top in the list of NIRF Technical Institutions.**

### **Plan of Action:**

- Academic Excellence and Research Output.
- Infrastructure and Facilities.
- Student-Centric Approach.
- Faculty Development and Quality.
- Industry Collaborations and Placements.
- Innovation and Entrepreneurship.
- Sustainable Practices and Social Responsibility.

### **Target to be achieved:**

- Encourage and support faculty in publishing high-impact research papers, patents, and innovative projects.
- Upgrade and modernize infrastructure, including classrooms, laboratories, libraries, sports facilities, and accommodation for students.
- Enhance student engagement and satisfaction through effective teaching methodologies, mentorship programs, counseling services, and career guidance.
- Encourage extracurricular activities, sports, cultural events, and community involvement to develop a holistic student experience.
- Invest in faculty development programs, workshops, seminars, and international collaborations to enhance teaching and research capabilities.
- Attract and retain highly qualified and experienced faculty members by offering competitive compensation packages and professional growth opportunities.
- Promote an entrepreneurial culture by supporting startup incubation centers, providing funding opportunities, and encouraging innovation and creativity among students and faculty.
- Strengthen ties with industries to facilitate internships, placements, and collaborative research projects for students and faculty.
- Promote an entrepreneurial culture by supporting startup incubation centers, providing funding opportunities, and encouraging innovation and creativity among students and faculty.
- Integrate sustainable and environmentally friendly practices within the institution and actively engage in community service and outreach programs.

## **3. To undergo a transformation to become an Autonomous Institution, fostering independent decision making and operational self-sufficiency.**

### **Plan of Action:**

- To develop day-to-day operations, course curriculum, teaching methodologies, admission procedures, fee structure, textbooks, evaluation procedure etc.
- To be empowered with its own administration, examination system, teaching-learning methods, faculty, courses and degree awarding organizations.
- Will be financially self-sufficient; it won't require any assistance from the government or other organizations.

- Authority to launch new degree programmes and tailor its curriculum to meet the demands of local industry.
- To have its own Governing Body, Academic Council, and Board of Studies to create new courses and programmes that adhere to the UGC-specified nomenclature.

**Target to be achieved:**

- **Day-to-Day Operations:** We aim to develop efficient day-to-day operations that ensure smooth functioning of the college.
- **Course Curriculum and Teaching Methodologies:** Our objective is to create a dynamic course curriculum and innovative teaching methodologies to provide high-quality education.
- **Administration Empowerment:** The college aspires to have its own administration, allowing it to make decisions independently.
- **Teaching-Learning Methods:** Our focus is on empowering the faculty with diverse teaching-learning methods to enhance the overall learning experience.
- **Faculty and Courses:** We plan to have a dedicated faculty and diverse courses to meet the evolving demands of the engineering industry.
- **Financial Independence:** The college is committed to achieving financial self-sufficiency, eliminating the need for external assistance from the government or other organizations.
- **Degree Awarding Authority:** We aim to have the authority to confer degrees, providing recognized qualifications to our students.
- **Launch New Degree Programs:** The college intends to have the autonomy to launch new degree programs aligned with the current needs of the local industry.
- **Governing Body, Academic Council, and Board of Studies:** We will establish our own governing bodies, academic councils, and boards of studies to create and modify courses while adhering to UGC-specified nomenclature.

## **SHORT TERM GOAL**

### **1. Upon the arrival of fresh batch, the eligible students are supported officially in getting minority or other scholarship schemes**

**Plan of Action:**

- a) 70% of the students are supported by various student scholarships as per various governmental programmes.
- b) All needy students are supported for taking educational loans from various nationalised banks. There is no student who turned back due to lack of financial support.

**Target to be achieved:**

All eligible students can be directed to apply for scholarship like First graduate, Minority scholarship, and also educational loan and also Merit scholarship.

### **2. Strengthening the coaching methods to bring out the best from slow learners to become a graduate.**

**Plan of Action:**

- a) Effective usage of Smart classrooms for better experiential learning
- b) Making avenues for blended learning and flipped classrooms for productive understanding of the students.

c) Participative learning and Peergroup learning can be effectively utilized.

**Target to be achieved:**

All classroom should be promoted into smartclassroom. Flipped videos should be send to students for easy reference. Peer Group learning to be encouraged for students for easy learning.

**3. Provide a motivating work atmosphere for faculty and staff, where teaching and research achievements are recognized and rewarded.**

**Plan of Action:**

- a) Build a team of outstanding faculty and ensure that every faculty member has a career path to academic excellence and success.
- b) Faculty and students to participate in seminars, conferences, workshops and faculty development programmes at reputed National and International organizations.
- c) Re-engage the senior faculty in more active research role by providing incentives such as differential workload, flexible timings and a faculty evaluation system that better rewards research and consultancy excellence.
- d) Ensure continuous value addition to skill sets for all employees.

**Target to be achieved:**

- a) Motivate faculty and students to participate in seminars, conferences, workshops and faculty development programmes.
- b) Financial support must be provided for all faculty members.

**4. To apply for funded research projects.**

**Plan of Action:**

- a) Emphasis on external funded research projects.
- b) Research with international collaborations.
- c) Augmenting industry sponsored R&D projects.
- d) Increasing consultancy projects.

**Target to be achieved:**

- a) Prioritize external support for research campus-wide.
- b) Diversify funding sources by expanding external university/agency/industry partnerships, including external support for the arts, humanities, and other non- science/technology disciplines.
- c) Identify emerging areas of research aligned with the priorities of the federal funding agencies.

**5. After satisfying all constrains required for NAAC upgradation, the college would apply for obtaining NBA in all departments.**

**Plan of Action:**

- a) To be listed in the top 200 in NIRF ranking , A+ in NAAC, NBA for all eligible UG programmes and 3 PG programmes.

**Target to be achieved:**

- a) **Academic Excellence:** Strengthening academic programs with a focus on quality curriculum, updated content, and industry relevance.
- b) **Faculty Development:** Conducting regular faculty development programs to enhance teaching methodologies and keep faculty abreast of the latest advancements. Faculty to engage in research and publish in reputed journals.

- c) **Infrastructure Up gradation:** Investing in modern infrastructure, laboratories, and technology to provide a conducive learning environment.
- d) **Research and Innovation:** Encouraging a culture of research and innovation among faculty and students through projects, patents, and publications.
- e) **Industry Collaboration:** Forging partnerships with industries to facilitate internships, guest lectures, and collaborative research, ensuring students are industry-ready.
- f) **Student Engagement:** Implementing student-centric initiatives such as mentoring programs, student clubs, and extracurricular activities to foster holistic development.
- g) **Accreditation Process:** Initiating the accreditation process by aligning with the criteria specified by NAAC and NBA.
- h) **Governance and Administration:** Establishing effective governance structures and administrative processes to ensure transparency, accountability, and smooth functioning.
- i) **Admission Quality:** Implementing rigorous admission procedures to attract high-caliber students.
- j) **Alumni Engagement:** Building strong ties with alumni for mentorship, industry connections, and support in various aspects.
- k) **Social Outreach and Impact:** Engaging in social responsibility projects that contribute positively to the community and society.

## 6. Research & Innovation

### Plan of Action:

- a) Faculty members to publish papers in journals listed in SCI/SCIE/Web of Science/Scopus and UGC CARE Journals.
- b) Utilize the seed money to strengthen the research and innovation activities.
- c) Research Committee to disseminate the details of call for proposals from various funding agencies for the faculty members to submit proposals for funding.
- d) To attract good research scholars.
- e) Every department to conduct one international conference per year in association with Professional Societies of the respective discipline.

### Target to be achieved:

- a) At least 40% of faculty to be with Ph.D.
- b) To have 4 publications per faculty per year in the Journals (SCI /Scopus/WoS).
- c) To increase the number of Books, book chapters, monographs etc to be published by the faculty members by 20%.
- d) Faculty members and Students to participate in Hackathons through IIC and IIPC.

## 7. Institutional and Social Responsibilities

### Plan of Action:

- a) Expand the reach of social welfare programs across regions, and introduce innovative ways to improve social and national well being.
- b) To mould the students into individuals who care for the society and fellow human beings.
- c) To increase the number of outreach activities through NSS, YRC, RRC, YOGA and other clubs.
- d) Articulating the role of the brand ambassadors in every aspects of SMCE starting from orientation to graduation and from community outreach to national service.

- e) To have Technology development and transfer to the society along with digital literacy to the public

**Target to be achieved:**

- a) To implement community development initiatives through Unnat Bharat Abhiyan.
- b) To conduct digital literacy other awareness programmes like road safety, fire safety, awareness on health and hygiene, etc.
- c) To conduct programmes for students in promoting the science and technology.

**8. To prepare students for successful placements and/or higher studies and admission.**

**Plan of Action:**

- a) Each department shall send minimum of 70% of students for industry placements. This may attract major industries for campus placement.
- b) To take necessary steps to attract more core industries for the campus placement by conducting institute-industry meets periodically.
- c) To improve the technical quality of students so that they can be placed in well reputed industries with good pay packages.
- d) To increase the percentage of eligible students to improve placement percentages as this could be one bench mark for good admission.

**Target to be achieved:**

- a) To create Network to mentor students to carrier guidance and opportunities.
- b) Career focused training from first year onwards for job / Civil Services / GATE
- c) To conduct mock sessions and training programs by industry professionals on industry related tasks and projects.

Strategic Plan 2019–2024 sets out specific targets in every sphere of activity of the Institute academic programmes, research, collaboration with industry, entrepreneurship, development of infrastructure and facilities, student life, placement, community outreach and alumni relations. The institution plans to have special and more focus on promoting and increasing the research activities. Specific targets are fixed with respect to research and development cell for the next five years.

The targets will be achieved if the contributions of faculty, students, alumni, partners and collaborators from industry are aligned and reinforce each other. Thus the vision outlined in the Plan will then be realized, and Stella Marys College of engineering and Management can be justifiably proud that the trust reposed in it by the society will stand reclaim.

**SWOC Analysis**

SWOC analysis is done for a strategic planning so as to understand the present and vision for the better future.

**STRENGTHS**

- Academic autonomy to refine curriculum and syllabi.
- Visionary leadership that encourages and supports progressive institutional development.
- Considers the holistic development of the individual by balanced support in education, arts, sports and humanities.
- Rich diversity in the Engineering programmes :6 UG programmes & 2PG programmes.

- Provides many Value Added Courses in all programmes that lead to industry employability for more students over the last years.
- Provides opportunities students with merit scholarships each year.
- Focus on industry linked final year projects, which lead to better graduation and employability outcomes.
- Encourages mini projects through Engineering exploration Laboratory.
- Networks to bridge the gap between the industry and academia through a number of industry interaction events.
- Strong network with alumnus from all batches.
- Encourages faculty members to pursue opportunities in Research & Extension.
- Committed faculty members with long tenures of service to the institution.
- Organises outreach programmes for the villages around the college.

### **Weaknesses**

- International relations for furthering the educational experience of students and the research experience of the faculty.
- Diversity of faculty and students in-terms of the geographical origins.
- Output in-terms of research projects to improve the practical knowledge of the students as well as the faculty members

### **Opportunities**

- Enhance the scope and scale of the Research & Consultancy activities on campus.
- Create multiple Centres of Excellence with industry partnership.
- Focus on nurturing and creating more student entrepreneurs.
- Create opportunities for students to work in abroad.

### **Challenges**

- Navigating the short term volatility in the core subject Jobs market.
- To inspire faculty members to obtain more funded projects and claiming patents.
- To create the attitude and focussed mindset among all stakeholders to achieve our quality objectives.