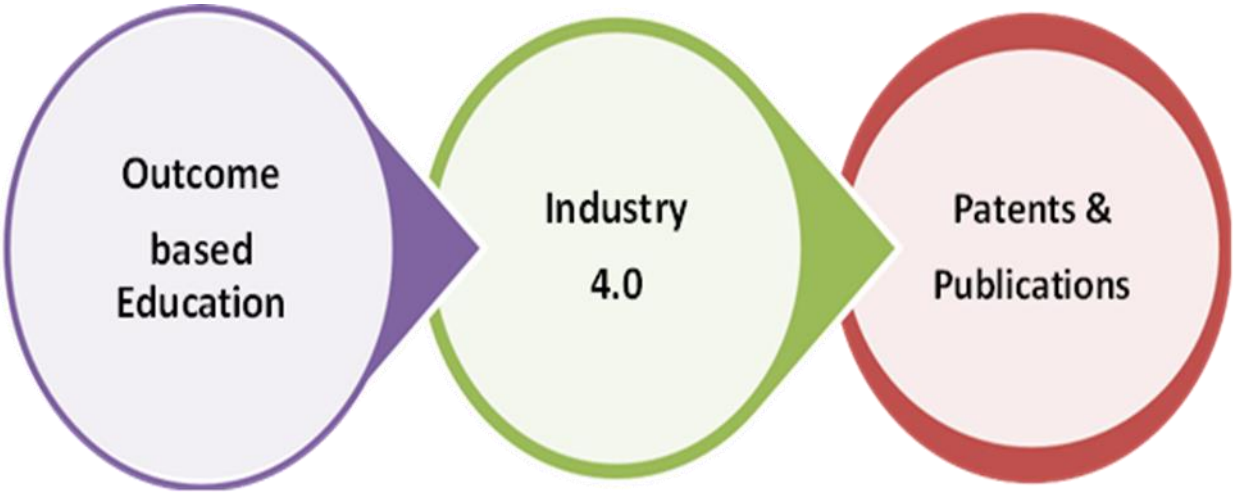
THEME FOR THE ACADEMIC YEAR 2023 – 2024



Holy Cross College (Autonomous), Nagercoil, has embraced the theme "Outcome-Based Education, Industry 4.0, and Patents and Publications" for the academic year 2023-2024. This initiative aims to enhance the educational experience and foster holistic development among students, keeping pace with the latest trends and innovations in the digital world. Each year, the college adopts a new theme to engage with contemporary advancements.

Holy Cross College consistently seizes every opportunity for achievement, ascending higher with each passing day and filling new pages in its book of accomplishments. This report provides an overview of the numerous initiatives and successes stemming from this year's theme.

Outcome-Based Education (OBE)

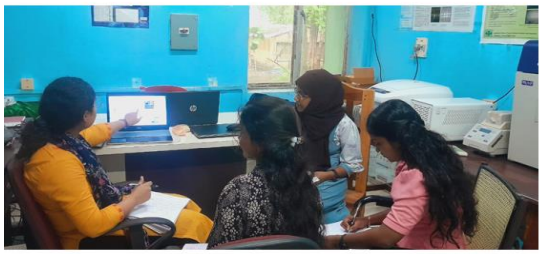
Outcome-Based Education (OBE) ensures that learners acquire skills, attitudes and competencies along with knowledge which are essential for their personal growth, industry readiness and societal contributions. OBE commits to nurturing a learner-centered environment that empowers individuals to become critical thinkers, problem solvers and lifelong learners. Holy Cross College introduced OBE in 2017 and LOCF in 2019, focusing on the Vision, Mission, Graduate attributes, Program Educational Objectives (PEOs), Program Outcomes (POs), Program Specific Outcomes (PSOs) and course outcomes. The college ventured into its full-fledged OBE system by adopting Outcome Based Teaching and Learning (OBTL) and Outcome Based Assessment (OBA) and attainment from the year 2020. By 2023, CO-PO-PSO attainment was calculated for the 2021-2024 undergraduate and 2022-2024 postgraduate students.

A dedicated team, including the Controller and Assistant Controller of Examinations, oversees OBE mapping and evaluation of outcome attainment. In alignment with curriculum, instruction and assessment, and with articulated outcomes, OBE promotes educational equity, ensures continuous improvement, and prepares learners to thrive in diverse and dynamic global contexts.

. Involvement of students in active learning, critical thinking, problem-solving, innovation, entrepreneurship and research which is evidenced in terms of patents, entrepreneurs and publications.

Evidence of success includes:

- The quality of the educational ecosystem has improved in terms of curriculum, student centric teaching and learning and student performance aligned with defined learning outcomes.
- The institution has helped the students to achieve the graduate attributes aligned with the vision and mission of the institution.
- Involvement of students in active learning, critical thinking, problem-solving. innovation, entrepreneurship and research which is evidenced in terms of patents, entrepreneurs and publications.
- Placement of students in reputed organizations and student progression to higher education in National and International Universities.
- Internship training for 1,253 students with various firms.



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- Exit survey is conducted to all the UG and PG outgone students on the curriculum's success and enhanced competency.
- Successful implementation of curriculum, teaching methodologies, and assessment procedures to accommodate the NEP and TANSCHE.
- The entire activities of the college during this academic year 2023-2024 are measured in terms of outcome and seen the incremental growth in teaching , learning and research.

Industry 4.0

In response to Industry 4.0 technologies such as artificial intelligence (AI), Internet of Things (IoT), Virtual Reality (VR), and Augmented Reality (AR), Holy Cross College adapts its curriculum to meet the changing needs of learners. The college ensures students acquire skills like data analysis, coding, and digital literacy through 52 seminars, conferences, webinars, personalized courses, and certifications.

The following are the salient events to deepen students' understanding of Industry 4.0 concepts:

- **Chemistry**: Session on "Design Thinking Strategies for Rapid Prototyping in Industry 4.0."
- **Physics**: Skill development programme on "Sensor-Based Equipment."
- **Commerce**: Dr. Stellabai's Endowment lecture on "Sustainable Green Revolution and Industry 4.0" and an international seminar on "Career Opportunities for Commerce Graduates in the Era of Industry 5.0."
- **Costume Design and Fashion Technology**: Motivational talk on "Modeling and Etiquette in Industry 4.0."
- **Economics**: International conference on "Contemporary Technological and Industrial Revolution 5.0."
- **English SF**: Talk on "Harnessing AI: Alter the Change Beyond Limits."
- **Mathematics**: Seminar on "Impact of Industry 4.0 on Entrepreneurship."
- **Tamil (SF)**: Seminar on "Entrepreneurship in the Era of Industry 4.0."
- **Botany**: National seminar on "Satellite Image-Based Estimation of Phytoplankton (Chl-a) and Seasonal Variability with Industry 4.0 in Smart Agriculture."
- **History**: Seminar on "Impact of Industry 4.0 on Entrepreneurship."
- **English**: National-level conference on "Innovative Reimagining of Language and Literature for Industry 4.0."

As a result, the evidence of success includes:

- Computer Science students have developed a software to conduct student council election.

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- Creation of 10 sensor-based water taps by the students of Physics

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- Organized industrial visits by all departments and arranged internships for students

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- Introduction of 84 generic and specific value-added courses to equip students with industry-ready skills

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- Establishment of 87 start steps

- 36 Industry based MoUs

- Introduction of B.Sc. Artificial Intelligence and Data Science program and B.A English with media communication

The curriculum emphasized the importance of soft skills, life skills, communication skill, lifelong learning, and adaptation to the evolving landscape of Industry 4.0. Students are encouraged to stay updated with emerging trends and technologies which provide career readiness.

Patents and Publications

Holy Cross College encourages its staff and students to patent their inventions and creative works. Students and faculty filed patents through HCIIC during the 2023–2024 academic year. They submitted ten patent applications; twenty-one were published; four were awarded. A grant of ₹3,98,690 was given by the college as seed money.

Publications have also seen a significant increase, with 229 faculty publications, including 17 in SCI, 28 in Web of Science, 32 in Scopus, 41 in UGC Care List 1, 79 in Crossian Resonance, and 32 in other ISSN journals. Along with that, this year's publications included ISBNs for 46 books, 3 proceedings, 60 book chapters, 148 full-length papers in proceedings, and 63 abstracts in proceedings.

Conclusion

The theme "Outcome-Based Education, Industry 4.0, and Patents and Publications" has established a framework for academic success at Holy Cross College, instilling a sense of purpose and meaning within the community. By engaging with the latest digital trends and developments, the college prepares students for future challenges and opportunities, setting new standards for quality and inspiring positive change.

Empowering Tomorrow's Innovators: Learn Today, Earn Tomorrow!!!