

2008 NAAC Inspection:
Responses on how we have
addressed the Gaps for Amrita
University

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- The University makes all efforts to recruit good faculty members as and when necessary. However more PhD holders in the faculty of Engineering are needed.

In 2008 the university had 174 faculty members with PhD as their highest qualification. This number has risen to 255 in 2013. Of these, 155 are in the schools of engineering at Amritapuri, Bangalore, and Coimbatore campuses. There is a concerted effort to recruit highly qualified candidates especially those with Ph.D. qualification and research potential. We have participated in the campus recruitment processes at IIT Bombay, IIT Madras, NIT Kozhikode, NIT Trichy and NIT Surathkal. Representatives from Amrita Centre for International Programmes (ACIP) visit various US and European universities and also scout for talented candidates especially NRIs and PIO professors, who have an interest in relocating to India.

- Establishment of dedicated centres for sponsored R&D projects. However, no specific and dedicated budgetary provision in the overall university budget for research.

Research activities are abundant, and the university is one of the best in the nation among self-aided institutions and deemed universities, in terms of the breadth of research areas, grants obtained, and output measured in terms of publications. Many centers of excellence have been set up in thrust areas like Nanosciences & Molecular Medicine, Tissue Engineering, Stem Cells, Solar Cells, Biotechnology, Biosensors, Computational Neuroscience, Biomedical Engineering, Environmental Studies, Machine Translation, Wireless Networks & Applications, Haptics, Educational Technologies, E-learning, Virtual Labs, Computational Engineering & Networking, Cyber Security, Cancer, Computational Chemistry, Digital Health, and Advanced Materials & Green Technologies. Across the university, budget has never been a constraint for faculty and researchers for setting up of research centers as well as initiation of research activity.

The university has continuously provided unstinting support to the research centers, in terms of civil (construction works), facilities & amenities, equipments, and human resources, in abundant measure. However the university expects the faculty to apply for and procure grants from outside sources for sustaining the research work in the long run.

- Research Advisory Committee is yet to be formed.

A research committee was formed, and is functional, for each school and department of the university. The committee aids in coordinating awareness and announcements for grant proposals, digital resources, grant management, academic support for research scholars, etc.

In addition to this committee in each school, an office of funded activities and sponsored projects in each campus supports this research advisory committee by facilitating various administrative and financial activities of funded projects. Research Advisory Committees also compile information

and provide inputs for preparation of a comprehensive research brochure of the University.

- Few departments have published quite a number of research papers in National/International Journals of high impact factors. However some departments have not yet initiated major research activities.

Amrita University attaches utmost importance to developing and promoting a research culture among its faculty. The establishment and success of various Centres of Excellence and Research, which are participating in projects and missions of national importance like National Mission on Education using ICT and National Knowledge Network (NKN), are indicative of these efforts. To provide a fillip to research activity especially in those departments where there is a need to expand research activities, the following policies have been enforced:

- Mandatory requirement for every PG student to have a publication in a reputed journal or conference; preferably a journal with high impact factor and/or Scopus listing, or conference indexed in Scopus.
 - Mandatory requirement for every Ph.D. research scholar to have a publication in a reputed journal or conference, preferably a journal with high impact factor, and/or Scopus listing, or conference indexed in Scopus, every year, after advancing to candidacy and completing the comprehensive examination.
 - To promote research culture among faculty, a compulsory requirement for faculty to have a publication in a reputed journal or conference, preferably in a journal with high impact factor, and/or Scopus listing, or conference indexed in Scopus every year, has been mandated.
- Consultancy service is initiated in the schools of Medicine, Management, Biotechnology and Ayurveda. It is yet to be initiated in other departments. Corporate and Industrial Relations (CIR) is the nodal agency at AMRITA for promoting consultancy services for industry. CIR has centres in all campuses focusing on Learning and Development, Corporate Relations, Career Facilitation, Entrepreneurship Development, Alumni Networking, Corporate Communication and Corporate Training. As part of its corporate action plan in its engagement with industries and companies, scouting for consultancy opportunities is underway especially in engineering departments. Companies/Organizations that have sought consultancy expertise include Sharp software for Natural Language Processing (NLP), Sri Chitra Tirunal Institute, Roots India Pvt. Ltd., and TTK Healthcare, IOCL R&D.
- Some of the departments are yet to start collaboration work in teaching, research and extension activities. Amrita Centre for International Programmes (ACIP) is the nodal department at AMRITA to support, coordinate, develop and manage all international collaborative initiatives in academics and research like student, researcher and faculty exchange, dual degrees, remote teaching, joint academic programmes & conferences, co-guidance of Ph.D. students and research scholars, high-end research collaboration and memoranda of understanding with premier universities across the globe. As such ACIP

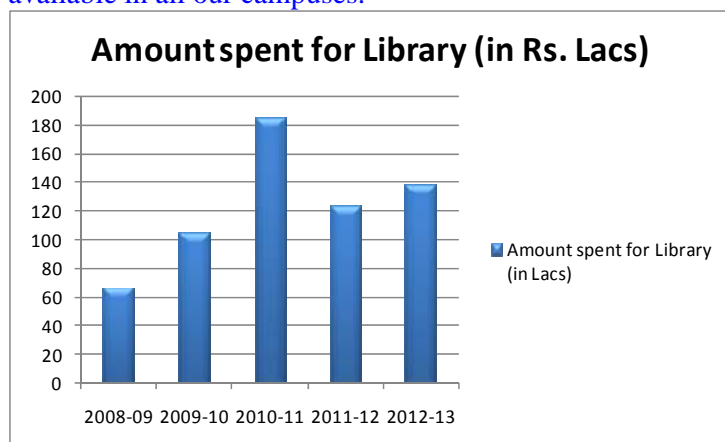
advertises and initiates various collaborative opportunities for the benefit of all schools, centres and departments in the university.

As part of these efforts, along with Deakin University, Australia; Amrita School of Business, Coimbatore organized an international conference on sustainability in December, 2012. A collaborative research centre in this area is being planned. M.Tech. students from departments/centres like Wireless Networks and Applications, Computer Vision and Image Processing, Computer Science Engineering, Cyber Security and Electrical Engineering can pursue an MS programme with University of New Mexico, USA or MS from Vrije University, Netherlands along with their M.Tech.

With regard to extension activity, every department at AMRITA is a participant. Since 2010, all departments have participated and played an active role in the Amala Bharatham – Clean India awareness drive and campaign, in the communities, localities, and cities, near the respective campuses, as well as wholeheartedly participating in the cleaning of the Sabarimalai pilgrimage site, before and after the pilgrimage season, for the last three years. This initiative involves extensive interaction with NGOs, municipal and local administrative bodies. Additionally the department of social work conducts socio-economic surveys and studies in association with social and industrial organizations like Harrison's Malayalam Ltd., Sabari Saranasramam Trust, etc.

- Budgetary allocations for library are not commensurate with the requirements.

The university has made it a point to continuously invest in the budget allocation for library resources, over Rs. 6 crores in the past five years, as is evident in the graph below. Additionally, it may be noted that the university recently spent an additional amount of Rs. 90 lacs, towards access to digital resources (such as Science Direct) – and these are available in all our campuses.



- Hostel facilities are available to most of the students. However hostels are overcrowded.

During the 2008 NAAC inspection, this observation was made for the hostels in the Mysore campus. Since that time, additional buildings have

been constructed at the Mysore campus and there is adequate space. In all the other campuses too, hostel facilities have been augmented. In Coimbatore campus, the hostels can accommodate 3500 boys and 1900 girls. In Bangalore campus, hostels for boys have a capacity of 1320, and hostels for girls have a capacity of 480.

- In spite of the encouragement provided to the students, the participation in sports and games is limited.

A university-wide sports and physical education committee headed by the university registrar and consisting of physical education directors and in-charges in all campuses has been constituted. For the last 6 years, intra-university competitions in various games like cricket, tennis, foot ball, swimming, chess, table tennis, etc. have been conducted. This year, an intra-university athletic meet was held in addition to the intra-university tournaments, annual sports days, and athletic meets on each campus. This has been a great success in increasing the participation in sports and games. Additionally, the university supports the students that have special talents in sports and games, via facilitating their participation in competitions outside the university. Provisions are made to support the students representing the university at competitions, via extra coaching and on-duty leave, etc. In October 2011, AMRITA also hosted a major university sports event, the South Zone Inter-university table tennis tournament for men and women allotted to us by Association of Indian Universities (AIU).

We are also encouraging the visit of renowned sportspersons to our campuses. Some of the visitors include Shri Vasudevan Bhaskaran, Olympian and Arjuna awardee and captain of the Indian hockey team that secured gold in the Olympics in 1980, Shri G. Sridharan, Arjuna awardee and Former captain of the Indian National Volleyball team, Smt M.D. Valsamma, Asian Games Gold medalist, Shri Omkar Singh, Triple shooting commonwealth games gold medalist, Shri Vimal Kumar, renowned badminton player and national champion, Shri S. Raman, Commonwealth and 4-time National Table Tennis Champion, etc.

- The Academic council directly reports to the Board of Management and there is a need for a more appropriate link with other authorities of the University.

There is involvement of all campuses and schools in various academic, administrative, research and policy matters. For example, issues with regard to regulations, syllabi and policies of engineering programmes are discussed and deliberated first at Engineering UG Programme (UGP) Committee or Engineering PG Programme (PGP) committee, which consists of senior administrators and senior faculty from the three engineering schools at Amritapuri, Bangalore and Coimbatore. A similar process and framework exists for the three schools of arts & sciences at Amritapuri, Kochi, and Bangalore. Recommendations are forwarded to the university level Committee for PG programmes (CPGP) or university level committee for UG Programmes (CUGP) for further deliberations, before being escalated to the Academic Council for approval. Such links between

these committees and the academic council are prevalent across all programmes, schools, and campuses of the university.

- Though there is an attempt to maintain the administrative hierarchy as per standard norms of University Grants Commission, the university mostly follows ad hoc arrangements for conducting the day to day business. Since AMRITA University has 5 campuses at Amritapuri, Bangalore, Coimbatore, Kochi and Mysore in 3 different states, administration to a certain extent is decentralized.

At an operational level, academic administration on a day to day basis at each school is done by the respective school head, assisted by the department chairmen/HODs. Campus management & upkeep, construction, facilities management, general administration & maintenance is overseen by a campus director, who works in close coordination with the school heads and the university senior administration.

Major academic issues are escalated from each school to the respective committee for UG programmes/PG Programmes, as is the case, and then to the academic council for approval.

Likewise, for examinations, each campus/school has an additional/deputy/assistant controller of examinations, who reports to the University Controller of Examinations. University Controller works in close coordination with the team managing our in-house academic ERP system, Amrita University Management System (AUMS), for course management, evaluation, registration, transcript & certificate generation, etc., and coordinates the establishment of streamlined procedures and fair policies for examinations.

Campus Directors escalate issues in their purview to statutory bodies like the Planning Board and Board of Management.

- Strategy of further growth is formulated at the University level and deployed at the school level by the Principal/Dean. However, the involvement of faculties and HODs is not visible. For preparation of perspective plan, a three tier system has been formulated. Departmental HODs sit with their faculty members and evolve a departmental plan of action for the next five years outlining their future plans in terms of academic & research goals and milestones, faculty development, infrastructural and space requirements etc supported by budgets. The departmental/centre plans are consolidated by the School Head, who formulates a perspective plan for the school. The Campus director, who is responsible for Campus management & upkeep, construction, facilities management, general administration & maintenance in a campus, also participates in the formulation of the perspective plan for each school. These are collated by the University senior administration to create a university level perspective plan with budgetary provisions.
- Although there has been a steady growth in the number of faculty and research funding, it is not reflected in the contribution of the faculty in research output.

The number of publications in reputed international and national journals from faculty and researchers in the university is substantial and is well over 3000, over the last ten years. Number of publications in Scopus listed conferences and journals are 2000.

Additionally, management issued directives and incentives for promotion and encouragement of greater involvement in research among the teaching faculty. Monetary incentives are provided for publications in journals with high impact factors and/or Scopus listing.

A directive has been issued for each faculty to publish at least one journal/conference publication (SCOPUS listed) per year, on an average, if they have be considered for any kind of career advancement. Major factors taken into account for promotion include funded projects, Ph.D guidance, and high impact publications.

- Management intervention is limited to prescribing the broad guidelines and overall monitoring of effective implementation.
As a distributed university with multiple campuses, to a certain extent, administration is decentralized. Management representatives at each campus, i.e., Campus Directors, effectively oversee various administrative activities and make decisions in close consultation with the top management and senior administration of the university.

- A clear cut road map for futuristic growth of the University is yet to be evolved.

The university receives guidance for growth directly from the Chancellor, who is a world-renowned true visionary & humanitarian leader, and who steers the programs in such a way as to reflect a combination of quality, dedication, values, and a true spirit of selfless service.

Additionally, the university has a process for individual departments and schools to develop their perspective plans, culminating in the university-level road map and plan for future growth. Several expansion plans are on the anvil including a new campus in the national capital region.

- The university has to introduce skill upgrading programs for non-teaching staff.

Training has been conducted to provide opportunities to non-teaching staff to update their professional skills in departments such as Information and Communication Technology Services (ICTS), Library, and Administration (including training on software, document writing, etc.). Similarly computer instruction courses have been conducted for lower level staff in security, peons, etc.

- Even though there are a large number of female students a Gender Harassment Cell has not been constituted.

The University Women's Cell has been set up to address women's harassment & grievance redressal. This consists of senior women professors with representation from various campuses. The Chancellor of

the University, Sri Mata Amritanandamayi Devi, a world renowned humanitarian leader, is very concerned about women's empowerment and upliftment. As per her direction, the Mata Amritanandamayi Math, the trust managing the university, has set up 6000 Women Self-Help Groups to provide free vocational training to over 100,000 women from impoverished agricultural families. There is also a pension scheme for the benefit of destitute women and widows. This scheme has 69,000 beneficiaries. Thus, through the strong focus on such social service programmes, there is constant gender sensitization occurring throughout the university.

- The institution has a good stakeholder relationship as observed from the various interactions and social perceptions of the parents and other stakeholders. However, parent-teacher and alumni meetings are scanty. Each school of the university has its own alumni association. These alumni associations are regularly conducting Alumni Meetings at their respective campuses. A global alumni network, Amritians is also in existence, which brings together all 15000 plus AMRITA alumni across campuses and schools worldwide. This network has its website, www.amritians.in. Amritian meetings are also held at various cities in India, USA, Singapore, Middle East. An officer for alumni relations has been recruited at University HQ. Various activities include facilitating visits to the campus as Guest Lecturer / Visiting Faculty, Campus Recruiter, Explore industry-academia collaboration avenues like research, projects, consultancy, etc., and mentoring of juniors regarding their careers as Honorary Alumni Mentor (HAM). Distinguished Amrita Alumnus Awards for Academics & Research, Industry and Entrepreneurship have been constituted and awarded.

In each campus, there is an office of student welfare & activities. The Professor/Faculty in charge of Students Welfare regularly meets parents of students with academic backlogs or disciplinary issues. Formal Parent teacher meetings are regularly held at some schools like nursing.

Additionally, twice or thrice during the semester, after the mid-term evaluations, progress reports are created and sent to the parents. Class advisors and counselors contact the parents of low-performing students, whenever deemed appropriate.

- Around 15% of teachers and faculty on consolidated pay basis. This has been rectified.
- Provident Fund facility is not available to faculty. Provident Fund scheme has been made available to faculty.
- Lack of sanctioned research activities in some departments. There is a concerted effort by faculty in all departments to engage in research activities as career advancement and promotions are closely linked to this. Also, there is a compulsory requirement for every faculty

member irrespective of cadre to have a publication in a reputed journal or conference, preferably journal with impact factor and/or Scopus listing or conference indexed in Scopus every year, has been mandated.

- Research projects and consultancy across departments not commensurate with available facilities.

All facilities are being optimally utilized and shared. There is sharing of resources and expertise too across campuses and programmes. For example, the animal house at Kochi campus is being used by biotechnology researchers at Amritapuri campus. The nano facility at Kochi campus is used by science researchers at Amritapuri, Coimbatore and Bangalore campuses. There are inter-disciplinary project teams drawn from various campuses applying for grants and facilities. For example, the biomedical engineering centre and biosensor research labs at Coimbatore campus were started as part of TIFAC CORE in Biomedical Technology at Amritapuri campus. This has brought together engineers and researchers from across various disciplines like Biotechnology, Chemical Engineering, Mechanical Engineering, Electronics & Communications Engineering, Endocrinology, and Computer Science.

- Self financing courses not attracting socio-economically disadvantaged students.

For engineering programmes, scholarships to the tune of Rs. 50,000/- are provided for meritorious students to attract socially disadvantaged students.

- Absence of RTI and Gender Harassment Cells.

University Women's Cell has been set up to address women's harassment & grievance redressal. This consists of senior women professors from various campuses. The Chancellor of the University, Sri Mata Amritanandamayi Devi, a world renowned humanitarian leader is very concerned about women's empowerment and upliftment. As per her direction, the Mata Amritanandamayi Math, the trust managing the university, has set up 6000 Women Self-Help Groups to provide free vocational training to over 100,000 women from impoverished agricultural families. There is also a pension scheme for the benefit of destitute women and widows. This scheme has 69,000 beneficiaries. Thus, through the strong focus on such social service programmes, there is constant gender sensitization occurring throughout the university.

Office of the Registrar takes care of all RTI requests.

Recommendations for Quality Enhancement of the Institution

- More courses at the both at U.G. and P.G. level relevant to global opportunities and local needs to be introduced.

The university has made tremendous progress in this regard – from 96 degrees programs existing in 2008, the university now has over 150

programs. Programmes have been introduced in various areas, where is a paucity of manpower in India and abroad like nanosciences, e-learning, clinical research, cyber security systems and networks. Additionally with the need of qualified manpower for research, Ph.D programmes have taken off in a big way at AMRITA in all disciplines. Today, there are close to 500 persons pursuing Ph.D at AMRITA.

- Well qualified senior faculty members need to be introduced in basic science departments.

This has been rectified. A large number of faculty members are having doctoral qualification in basic sciences departments. This includes senior professors. Almost all others are working towards Ph.D.

- Integration of various programmes and disciplines for research and advancement may be given due consideration.

University has always been promoting inter-disciplinary courses and activities. Several programmes, which integrate disciplines, are offered like M.Tech Nanosciences & Technology, M.Tech Nanotechnology, M.Tech. Biomedical Engineering, M.Sc. Bioinformatics, B.Sc. Optometry etc. Some of the Interdisciplinary research activities include inter-disciplinary project teams of researchers working on problems like adaptive insulin pump project, which draws researchers from medical, biotechnology and engineering schools and Virtual Labs, which draws researchers from sciences, biotechnology, engineering, computer sciences, etc.

- Reservation policy as laid down by various regulatory bodies may be adopted both for admission and recruitments.

Regulatory bodies have not laid down any norms for reservation for deemed and private universities. However we are pro-actively providing reservation for SC/ST candidates for admission.

- Organizational structure and operational guidelines to be standardized.

As a distributed university with multiple campuses, to a certain extent, administration is decentralized. Organizational structure also reflects the multi-campus, multi-disciplinary character of the university. Operational guidelines, procedures and policies have been put in place for admissions, recruitment, academics, research, purchase, finance and other activities.

- Transport facility to be provided to staff and students beyond normal working hours.

This is being provided. For example, at Coimbatore campus, there is a bus in the evening, past 6 pm, which goes to various parts of the city. The campuses also make special arrangements, on a need basis, for faculty and students working on special assignments.

- More industrial exposure to Engineering and management programmes to be provided.

All management students (MBA) have to go for a compulsory internship at the end of the first year. Students are going to reputed companies including multi-national companies like Tata Consultancy Services, Infosys, ICICI Bank, Hindustan Unilever, Ponds etc.

Almost 200 undergraduate final year engineering students go for a full semester internship in foreign universities, national agencies like ISRO, DRDO etc., or companies like Infosys, Cisco, Honeywell, and Tata Elxsi. Others go for internships during their summer or winter vacation. As a policy, university provides strong encouragement and support for such activities by offering “fast track” courses – a provision for B.Tech. final year students to complete their final semester courses during the winter vacation.

- All the libraries need augmentation; more budget, working space, books and journals.

The university has made it a point to continuously invest in the budget allocation for library resources, over Rs. 6 crores in the past five years, as is evident in the graph below. Additionally, it may be noted that the university recently spent an additional amount of Rs. 90 lacs, towards access to digital resources (such as Science Direct) – and these are available in all our campuses.

- In schools such as Dental, Nursing, & Pharmacy, more specialized courses to be introduced. However, care should be taken that such courses and their nomenclature are in accordance with concerned regulatory bodies.

Several specialized courses have been introduced in the last 5 years. The nomenclature of all these courses are in line with the concerned regulatory bodies, i.e DCI, INC and PCI. The course which have been introduced include

- PharmD
- Dental Mechanics
- MDS in following specializations
 - Conservative Dentistry & Endodontics
 - Oral & Maxillofacial Pathology & Microbiology
 - Oral & Maxillofacial Surgery
 - Oral Medicine and Radiology
 - Orthodontics & Dentofacial Orthopedics
 - Paediatric Dentistry
 - Periodontics
 - Prosthodontics
 - Public Health Dentistry

Nursing school is in the process of introducing certificate programmes in various specialties like operation room nursing, critical care nursing, oncology nursing, emergency nursing, neonatal nursing etc

- Students may be allowed to use laptops and other equipments to follow e-learning, especially in Health Science Centre.
This has been allowed
- Separate Departments for Oral Implantology and Forensic Odontology may be started for effective implementation of 5-year BDS programme.
Oral Implantology department is now functioning in school of dentistry. Forensic Odontology is a division under the Oral Pathology department
- School of Ayurveda has potential to undertake advanced research in the field of herbal medicines, which should be exploited
The school has recently received approval from the Apex body, CCIM, to start 9 new PG programs – this will enable the school to make progress in undertaking advanced research. Additionally, the school is also collaborating with the school of biotechnology for expanding research activities in various areas
- Inter-disciplinary research involving different schools may be given much more emphasis
Some of the Interdisciplinary research activities include interdisciplinary project teams of researchers working on problems like adaptive insulin pump project, which draws researchers from medical, biotechnology & engineering schools, and Virtual Labs, which draws researchers from sciences, biotechnology, engineering, computer sciences etc.
- A mechanism for periodic and formal interaction with parents may be established
An office of Student welfare is actively engaged in providing such interactions in each campus.
- More scholarships and financial support to the students from deprived sections
A list is available of the significant support provided over the past five years.
- Short term diploma/ certificate add-on, value based courses including dual-degree programmes may be introduced.
This has been rectified. Value Added courses like Cisco Certified Network Administration (CCNA), Red Hat Certified Engineer (RHCE), Tally ERP, CFD, and CNC programming using Edge CAM are some of the certificate courses.

Dual Degree, Twinning and collaborative programmes have commenced with various foreign universities like Vrije University, Netherlands; State University of New York (SUNY), Buffalo; KTH-

Royal Institute of Technology, Stockholm; University of New Mexico; Polytechnic University of Catalonia (UPC), Barcelona etc.

- A perspective plan for futuristic growth and development be prepared and systematically followed and implemented.

For preparation of perspective plan, a three tier system has been formulated. Departmental HODs sit with their faculty members and evolve a departmental plan of action for the next five years outlining their future plans in terms of academic & research goals and milestones, faculty development, infrastructural and space requirements etc supported by budgets. The departmental/centre plans are consolidated by the School Head, who formulates a perspective plan for the school. The Campus director also participates in the formulation of the perspective plan for each school. These are collated by the University senior administration to create a university level perspective plan with budgetary provisions.