

National Institute of Technology Karnataka, Surathkal

Equity Action Plan under TEQIP-III

Preamble:

It is a well-known fact that the students joining the UG (B.Tech) and PG (M.Tech) programs in NITK are drawn from diverse economic, cultural, linguistic and social backgrounds. As compared to students from privileged backgrounds, students from disadvantaged communities suffer from the handicap of having studied in vernacular medium and inadequate prior preparation for technical study (Analytic & Problem solving skills). The intense levels of competition for each GPA point often leaves many students from financial and socially challenged backgrounds at a great disadvantage when compared to their more fortunate brethren.

It has been recognized that improvement in transition levels in the first year of undergraduate study is the first step in improving the quality of technical human resource produced by the institute. Unless the fundamentals are well instilled, it is difficult for a student to appreciate the complexities and nuances of the technical/ scientific discipline and work towards becoming a successful scientist or technologist. Several industry bodies (such as the Confederation of Industry, CII) at the national level have been highlighting the fact that engineering graduates being produced by the vast majority of institutions are virtually unemployable because they lack technical, managerial and language skills. A first step towards making students employable is to ensure that students acquire the necessary foundation in fundamental courses so they can assimilate advanced topics easily.

Further, it is a matter of concern that the Post Graduate (PG) students of NITK are not able to perform as well as the Undergraduate (UG) students in various activities including participation in technical and student festivals, securing internships in leading companies and universities and campus placements. The reputation of NITK as a leading institution of higher technical education has largely been built on the achievements of its UG students. Some of the reasons for this are listed below.

- Most of our PG students have graduated from Engineering Colleges in the private sector. These institutes are often affected by serious deficiencies of equipment and poorly qualified/ motivated faculty members and staff. Consequently, their understanding of critical subjects is deficient. This affects their performance in the PG program and often results in their graduating with low CGPAs which affects their internship and placement prospects. Thus there is an urgent need to supplement their understanding of fundamental topics with correctly designed short term courses taught by academics as well as industry experts. A properly designed series of short term courses with properly designed laboratory exposure can improve their technical competence as well as confidence levels and make it easier for them to be productive employees in their industry assignments.
- Many of our UG and PG students have completed their school education in vernacular medium and hence are diffident about expressing themselves in the English language. There is an urgent need to improve their grasp over the English language (both spoken language

Page 16

skills as well as mastery over the written language). Their inability to express themselves with clarity results in relatively poor performance in course work/ project work, presentation/dissertation and interviews. It also puts them at a disadvantage when compared to students from more affluent/ urban backgrounds who have studied in the English medium.

- While the vast majority of our UG students are able to find at least one opening (many get multiple job offers) from the placement cell in NITK, it is observed that PG placement levels are very poor. In many specializations across engineering disciplines, it is observed that only 30%-50% of the class gets placed. Therefore, there is a need to attract more startup companies and SMEs/ MSMEs to our placement program and motivate them to recruit our PG students.

A number of steps have to be taken to address these deficiencies so that the quality of students graduating from various courses can be improved. These range from making efforts to enhance the teaching-learning environment with a view to strengthen the grasp of fundamentals, steps to improve language proficiency, steps to enhance confidence and self-assurance levels. With a view to mitigate the effect of some of these problems, the TEQIP cell along in close coordination and support of the with the SC/ ST cell proposes to conduct activities as per the action plan specified in this document. The inputs (aimed at both UG and PG students) provided by these activities will be designed to,

1. Improve grasp of fundamental topics in the relevant technical discipline (UG and PG students).
2. Provide preferential coverage of topics/ courses (with laboratory exposure) with high employability potential. This component will be designed suitable so as to enable both industry and academic experts to share their knowledge, insight and experience with students.(UG and PG students).
3. Enhance English Language and Communication Skills. This module will be designed to bring about a quantitative change in their spoken as well as written language skills.(UG and PG students).
4. Improve Communication Skills. Several programs will be conducted to focus on developing team building, communication and presentation skills.(UG and PG students).
5. Imparting professional counseling. Programs designed to improve the confidence level and professional etiquette of the participants will be conducted for the benefit of all needy students.(UG and PG students).
6. Conduction of programs to impart value based education and life skills.(UG and PG students).

Peer mentoring activity initiated during TEQIP-II has been very successful in NITK. It was in operation from January 2013 to December 2016 with support from TEQIP-II. Several batches of needy students have benefited from this. Pro-active measures to assist the first year students in their academic programs have resulted in the improvement of transition rate of first year B.Techstudents to nearly 98% in 2018 from 83% (in 2010). The Institute has a SC/ST cell which works for the betterment of SC/ST and academically weak students. TheTEQIP-III cell will work in close co-ordination with the SC/ ST cell to develop an effective Equity Assurance Program (EAP) which will address all of the above stated goals.



Page 2/6

Activities envisaged to be carried out under EAP:

I. Peer mentoring (to support goal 1 above): Every department teaching first year classes will be requested to provide supplementary inputs to needy first year students through the medium of peer mentoring. The department will identify about six-eight meritorious and committed senior students per first year class (class size is approximately 70-75) who can work as mentors. These mentors will work closely with the teacher teaching the class and will be mandated to provide additional supplementary inputs, solve additional problems, suggest additional laboratory experiments, share their insight and provide counselling to the incoming first year students. In order to encourage and motivate talented senior students to engage in this activity, it is desirable that some incentives be provided. A sum of Rs. 400 (Rupees Four hundred only) will be paid per hour of engagement to each senior student (mentor) participating in the mentoring program as honorarium. This will serve as a good incentive to the mentoring student and will also allow the department to impose a system of checks and balances in order to enforce accountability.

II. Providing preferential coverage of topics/ courses (with laboratory exposure) with high employability potential (to support goal 2 above): All departments will be requested to identify and ensure preferential coverage of topics with high employability potential. This component will be designed so as to enable both industry and academic experts to share their knowledge, insight and experience with students. This activity will be targeted at PG students with the aim of improving their placement opportunities.

III. Language and Communication training (to support goals 3 and 4 above): It has been observed that many students require assistance to improve their language and communication skills. A peer mentoring program with the help of senior UG students and Master's students/ Research scholars supplemented by external resource persons will be started to provide these inputs. The faculty members teaching courses on language and technical communication from the School of Management Department in NITK will be in charge of this activity. The aim of this exercise will be to bring about a comprehensive improvement in the effectiveness of communication among students.

IV. Professional Counselling and Imparting of Human values (to support goals 5 and 6 above): The TEQIP cell in coordination with the SC/ ST cell will identify suitable resource persons and organizations specializing in this domain to conduct programs and provide mentoring/ support to students. The aim of this exercise is to enable and motivate our students to work for creating a just, equitable and caring society through empowerment of the marginalized and underprivileged, based on the principles of humanism, equality and social justice. We will seek assistance from Centre for Research and Education for Social Transformation (CREST) and other similar organizations. CREST was launched as an autonomous institution on April 1, 2008 by the Government of Kerala. It is the successor institution of Centre of Excellence which was established in 2002 by the Indian Institute of Management Kozhikode (IIMK). This institute has conducted a number of workshops for improving the confidence and competence levels of students belonging to marginalized communities during TEQIP-II period. This activity will be carried out to small groups of students (about 60 in number) during summer and winter breaks)

R. K. K.

Page 3/6

These activities will be initiated from the even semester starting in (January 2019) of the academic year 2018-19 till the end of the project period.

Budgetary Allocation:

Name of the activity:

1. Peer mentoring activities to support B.Tech students of first year.

Expected expenditure:

Name of the department	No. of 1 st year sections to be engaged under peer mentoring program	Approximate number of mentors required	Number of sessions per mentor per week	Expenditure on Honorarium to be paid to mentors (assuming 10 hours of engagement per semester @Rs. 400 per hour)
Mathematics and Computational Sciences	12	72	01	Rs. 2,88,000
Electronics and Communication	06	36	01	Rs. 1,44,000
Electrical and Electronics	06	36	01	Rs. 1,44,000
Computer Science and Engineering	06	36	01	Rs. 1,44,000
Mechanical Engineering Department	06	36	01	Rs. 1,44,000
Civil Engineering/ Applied Mechanics	06	36	01	Rs. 1,44,000
Physics	06	36	01	Rs. 1,44,000
Chemistry	06	36	01	Rs. 1,44,000

Total allocation required: Rs. 12,96,000 (Rupees Twelve Lakhs and Ninety thousand only)

2. Name of the activity: Providing preferential coverage of topics/ courses (with laboratory exposure) with high employability potential

Expected expenditure:

Number of departments	Average number of programs per department	Average Budgetary allocation per program
14	02	Rs. 1,00,000

Total allocation required: Rs. 28,00,000 (Rupees Fourteen lakhs only)

Rahul

Page 4/6

3. Name of the activity: Language and Communication training (to be conducted by the School of Management)

Expected expenditure:

Name of the department	No. of 1 st year sections to be engaged under peer mentoring program	Approximate number of mentors required	Number of sessions per mentor per week	Expenditure on Honorarium to be paid to mentors (assuming 10 hours of engagement per semester @Rs. 400 per hour)
School of Management	12	72	01	Rs. 2,88,000

Additional Expenditure incurred on engagement of external resource persons in addition to student mentors

Name of the department	No. of external resource persons	Honorarium per person per day	Number of sessions per resource person per week	Expenditure on Honorarium to be paid to mentors (assuming 10 hours of engagement per semester @Rs. 3000 per day)
School of Management	02	Rs. 3000	01	Rs. 60,000

Total allocation required: Rs. 3,48,000 (Rupees Three lakh and forty eight thousand only)

4. Name of the activity: Imparting professional counselling and value based education.

Number of programs per semester of one week duration	Estimated expenditure per program	Expenditure incurred
02	Rs. 3,00,000	Rs. 6,00,000

Total allocation required: Rs. 6,00,000 (Rupees Six Lakhs only)

Total estimated expenditure on EAP component under TEQIP-III at NITK, Surathkal: Rs.50,44,000 (Rupees Fifty Lakhs and Forty fourthousand only)

The Equity Action plan has been drawn up in consultation with faculty members of various departments at NITK with the participation of the coordinator of the SC/ ST cell. All stake holders namely faculty members, student mentors, external resource persons and student participants will be involved in this activity.

hkh

Page 5/6

The Equity Action Plan (EAP) supported by TEQIP-III will is designed to support students to emerge as world class technologists/ scientists and good human beings in accordance with the vision and mission statements of the institute. It is expected that this will further strengthen the academic quality at NITK, Surathkal and will enable the institute to meet the goals articulated in the vision-mission statements.

K. Sampat
31/10/18


31-10-2018

Coordinator TEQIP-III
NITK Surathkal
P.O. Srinivasnagar - 575025

Page 6/6