



DR. SUDHIR CHANDRA SUR INSTITUTE OF TECHNOLOGY AND SPORTS COMPLEX

540, Dum Dum Road, Suremath, Kolkata- 700074, West Bengal



Employee's Training Policy (W.e.f.2021-22)

Revised and Approved by BOG
Dated on 03/07/2021
Under Agenda No. 3

Ref. No: <u>DSCSITSE/ POLY/2021-22/17</u>	Compiled By: <u>Amrita</u> HR Dept. Dr. Sudhir Chandra Sur Institute of Technology & Sports Complex 540, Dum Dum Road, Kolkata-700074 (HR Admin)	Checked By: <u>[Signature]</u> (IQAC Convener)	Approved By: <u>[Signature]</u> (Principal)
Issue No- <u>4</u>			

Dr. Sudhir Chandra Sur Institute
of Technology & Sports Complex
540, Dum Dum Road, Kolkata-700074

Coordinator, IQAC
Dr Sudhir Chandra Sur Institute
of Technology and Sports Complex
540, Dum Dum Road, Kolkata -700074

PRINCIPAL
Dr. Sudhir Chandra Sur Institute
of Technology & Sports Complex
540 Dum Dum Rd. Kolkata-74

Policies for Employee's Training

INTRODUCTION:

With today's quickly changing technology landscape, as well as ever-increasing global connectedness and competitiveness, the role of technical education in economic development has become increasingly important and difficult. Furthermore, because of rapid technical advancements, worries about sustainability, environmental degradation, resource depletion, and inclusive growth have grown in importance.

For organizations seeking well-rounded engineers and professionals who confront global difficulties, the need for well-qualified engineers/professionals is more vital with complex problems that influence the quality of life of everyone, everywhere.

In addition, issues about aligning educational curricula and training with national demands are becoming a primary priority.

We have seen a dramatic expansion in the number of technical institutes in our country over the last few decades. However, the focus on increasing the quality of education across such a broad range of subjects

There has been a lack of institutions. In the country, there are numerous technical institutions where many teachers are working and are being recruited. Around 30,000 instructors are being replaced now, according to estimates. In these institutions, new people are recruited every year. Technical institutes supply the necessary technical manpower to suit the country's needs. Teachers in these institutions enable the most important aspect of the information-knowledge shift.

Teaching professionals or teachers begin their careers as soon as they complete their postgraduate or research degrees and progress through their careers. There is currently no training that equips them to take on these challenges.

Another important consideration is that the teaching profession in technical education no longer draws the finest academic performance, and it is frequently the final option. There is almost no method or opportunity to encourage academically outstanding persons to pursue teaching careers and to train them to provide high-quality education. It goes without saying that such a downward trend creates a vicious cycle that continues to operate, resulting in further deterioration of educational quality.

A faculty member who completes his or her education on time and enters the academic profession often works for 30-35 years altogether. The first deliverable, '**outputs**,' can be measured in a short period of time from the commencement of an academic career. The second deliverable, '**outcomes**,' is visualized over a medium period, say 10-15 years, and the third, '**impacts**,' is imagined over a long period of time, say beyond 20-25 years.

A faculty member must produce high-quality outputs in the short term so that they can lead to meaningful outcomes for the disciplines in the medium term, which will have a long-term impact on the nation. To make an academic career meaningful, a faculty member must design excellent teaching, learning, and implementation initiatives.

Indeed, understanding of practice, i.e., how it is applied, aids in becoming a subject expert and, as a result, competent enough to teach. This problem is either barely addressed or completely ignored in the field of technical education.

Janda
PRINCIPAL
Dr. Sudhir Chandra Sur Institute
of Technology & Sports Complex
540, Dum Dum Rd. Kolkata-74



As a result, some methods for providing such exposure to technical teachers must be developed. Providing them with significant R&D, sponsored projects, consultation, and other opportunities gives such a channel to some extent, but sufficient training and exposure is essential.

As a result, having such skill and leadership development programmes for new professionals entering the teaching profession, as well as sustaining such efforts, is critical to better fulfil expectations and succeed in meeting global issues.

There is still another significant difficulty for today's technical educators. On the one hand, they must keep up with the latest developments in their fields or cutting-edge technologies to be considered 'world-class,' and on the other hand, they must develop the ability to creatively visualize indigenous needs and find appropriate solutions that are both useful and user-friendly. It takes proper training and practice to create such expertise and a culture of creative invention. Teachers can only carry out meaningful work and effectively assist pupils if they develop the skills of proper need analysis, meaningful literature review, problem framework, and creative problem solving.

Teachers must master the art of creating a coherent lesson plan and engaging classroom engagement as a prerequisite for effective classroom interaction. This is a fundamental area of instructional expertise. Teachers must also understand suitable pedagogical strategies, varied modes of learning by students, and effective forms of evaluation of the desired learning outcomes to be successful. These abilities must be emphasized in their education.

Each faculty member is responsible for determining the relative speed of activities during their tenure. The faculty member initially has reservations about student engagement, institutional development, and teaching-learning activities. While the faculty gets more acquainted with student development activities and enhanced competency in teaching-learning and institutional development, the technology, and its applicability to industry at the national and international levels usually improves dramatically. As a result, a teacher must effectively contribute to the professional grooming of students, institutional development, and industrial relevance.

Because of the increasing use of ICT technologies in the current teaching-learning process, in information seeking, and in knowledge sharing, a demand for new domains of 'Teacher Training' has arisen. There is a flood of new software, online platforms, e-modes for teaching and learning, e-sources of information, and so on, and the teacher must learn how to use these tools wisely to avoid becoming lost in the muck and becoming obsolete.

Given the foregoing scenario, the need to improve the quality of technical education and make it more relevant to current needs is becoming increasingly urgent, requiring work on the part of both monitoring agencies and stakeholders.

Dr. Sudhir Chandra Sur Institute of Technology and Sports Complex is deeply worried about this problem and has prepared to launch several efforts to address it.

Our **Academic Council** have taken the responsibilities to explore methods for implementing the Training Policy for Technical Teachers as per their Training Need Analysis (TNA) as a first step in this approach.

PRINCIPAL
Dr. Sudhir Chandra Sur Institute
of Technology & Sports Complex
540, Dum Dum Rd. Kolkata-74

TRAINING NEED ANALYSIS (TNA):

Training needs analysis is a systematic procedure for determining which type of training is required and providing information on how to implement the training. It's also known as a tool for identifying new abilities, knowledge, and attitudes that employees need to develop to improve their performance.

The Training Needs Analysis (TNA) assists organizations in determining the skills and training gaps in their existing personnel to efficiently fulfil current and future jobs. The Management carefully considers the Analysis when designing the correct Training programme to fulfil the skill and training requirements of the employees to increase productivity and, ultimately, achieve the organization's goals and objectives.

ROLE OF TRAINING NEEDS ANALYSIS (TNA):

Every organization's management wants their Faculties & Staff to perform better and realize their full potential. Employees must have full skills and competences to accomplish their assigned work to meet the organization's goals and increase production.

The role of training requirements analysis in DSCSITSC is to assess the gap between an employee's present and desired performance and to offer information on which employees require training:

What type of education is required?

How can the Institute create a successful training programme for these employees?

What effect will this training have on the employee's performance?

What will these training programmes cost and how much will they require in terms of resources?

REQUIREMENT OF TRAINING NEEDS ANALYSIS:

A training needs analysis is always considered as the initial step in assisting employees in improving their production at work.

Understanding the Institute's performance improvement needs is a requirement of training needs analysis.

To link the improvement in performance to the required skills, talents, and competencies.


Employees must attend a course work or skill set training session to determine the course work they must do.

Design an effective training programme to close the gap between the Institute's current production and the desired output.

TRAINING NEEDS ANALYSIS METHODS AND PROCESS

The method of training requirements analysis is chosen based on the Employee's job type and the analysis that must be conducted to determine skill gaps. In the academic environment, there are a few popular training demand analysis methods:

Direct observation- The Head of the department watch the Employee's working styles in a variety of settings. HOD can learn about performance disparities by using this observation. The observation comprises looking at the technical methods used to accomplish the job, as well as


PRINCIPAL
Dr. Sudhir Chandra Sur Institute
of Technology & Sports Complex
540, Dum Dum Rd. Kolkata-74

the functional components of the job and the Employee's conduct. It provides both qualitative and quantitative feedback on the Employee's present performance.

Interviews- An interview is a face-to-face discussion regarding how a Faculty/Staff does his or her work. It's a good technique to get information regarding production gaps by talking to each Faculty/Staff or a group of Faculties/Staffs. The interview can take place in a professional or informal environment. The interview can take place in person or over the internet.

Focus groups-Focus groups are a type of brainstorming session used to identify talent gaps among Faculties/Staffs. Employees in the organization are encouraged to debate and talk about strategies to improve their work performance. The management listens intently to this talk and analyses it to determine the organization's training needs.

Assessments/surveys—Surveys are a quick and easy approach to find out where a department's performance is lacking. Faculties & Staff are given a well-designed questionnaire to fill out to determine their training needs. The survey may include a mix of open-ended and closed-ended questions, as well as rating and projective questions. Faculties & Staff can submit answers anonymously to boost the survey's credibility.

Stake Holders Feedback- In most Academic Institutions, Stake Holders feedback is used to identify performance flaws. The Stake Holder's immediate input identifies the exact job area that need improvement.

Others: There are a few additional methods of determining training needs, such as consulting with people in key positions within the industries, Employers, Academicians, studying relevant literature in the work area, and using reports, records, and work samples.


TRAINING NEED ANALYSIS PROCESS:

Our organization uses several levels of training requirements assessments depending on the job profile of our employees. In all types of training needs analysis, however, there is a set process that must be followed. The training needs analysis process is broken down into four steps:

Step 1: Assessing Performance Gaps: To discover performance gaps, the existing and desired operating results of employee performance are compared. The discrepancy between the institution's required and actual outcome is referred to as a performance gap.

Step 2: Determine the source of the problem: Root cause analysis is a method of determining the root reason of performance discrepancies. Skills, resources, motivation, and information such as feedback are the four areas in which the issues are classified. Using root cause analysis, it is determined which areas are contributing to poor performance and which areas require improvement.

Step 3: Needs Analysis: To create and implement the appropriate intervention to remedy the performance difficulties, a detailed analysis is conducted. This stage addresses a specific need


PRINCIPAL
Dr Sudhir Chandra Sur Institute
of Technology & Sports Complex
540, Dum Dum Rd, Kolkata-74

for improvement based on the categories found in the root cause analysis. This analysis involves a job analysis, task analysis, skill analysis, and motivational analysis of the target audience for the training.

Stage 4- Recommendations: An acceptable training solution is proposed in this step. It determines the type of training programme that a firm should use to boost overall outcome.

SCHEDULE OF THE TRAINING:

A schedule for the period July to June is constructed, considering the above factors. The committee decided that it would be too difficult to motivate the faculty to attend training on non-duty days without providing them with additional compensation. It is also decided that shorter sessions spread throughout the year would allow the faculty members to attend in the training.

Longer sessions will be conducted in between the Semester's break for two weeks. Employees are motivated to take training through online from ATAL, Swayam, NPTEL, Coursera like MOOC Courses throughout the year.

BROAD OBJECTIVES OF THE TRAINING POLICY RECOMMENDED BY ACADEMIC COUNCIL:

The Academic Council discussed the training needs of teachers at various stages of their careers and visualized two distinct types of training programmes: a **Faculty Induction Program (FIP)** to be provided shortly after inductee teachers are hired, and an **In-Service Training Program (ITP)** to address specific requirements at various stages of their teaching careers.

The Committee proposed the following broad objectives for the new teacher training policy:

- To begin, clearly define the training needs at all career levels and for various kinds of teachers, considering their status, the expectations of a good teacher, and the realities of technical education in the country. This will naturally characterize the training requirements now of induction and throughout the academic career.
- At various levels, dictate the form and substance of the training programme.

TRAINING NEEDS DURING THE FACULTY INDUCTION PROGRAM (FIP)

In this phase of **Faculty Induction Training (FIP)**, in addition to general academic and domain-specific requirements, teaching skills and leadership development will be required. This will necessitate both didactic and guided exposure to best practices and demonstrative instances.

Following extensive consideration, the Academic Council has determined that the following requirements must be addressed in the training:

- A general overview of the current situation and issues in technical education, as well as the range of responsibilities and expectations.
- Fundamental knowledge of the teaching-learning process, learning psychology, and successful pedagogical strategies.



PRINCIPAL
Dr. Sudhir Chandra Sur Institute
of Technology & Sports Complex
540 Dum Dum Rd Kolkata-74

- Initiatives to improve competency in communication skills in many media important to the technical profession, as well as training for producing lesson plans and successful instructional processes.
- Instilling a holistic mindset, professional values, and ethical behaviors.
- Access to appropriate ICT tools and aids for successful teaching and learning, as well as resources for lifelong self-learning.
- Instruction on the proper application of various forms of student evaluation.
- Training in creative problem-solving, research methods, and project management for R&D projects, among other things.
- Guided exposure to best teaching practices, learning methodologies, lab creation, and practical class structure, among other things.
- Training in non-teaching and non-research areas, such as administrative procedures, financial procedures, and legal implications, etc.

The Council deliberated at length on the different aspects of this program, including the contents, time duration, structured way of delivery, assessments etc., and suggests the following:

- This component of the Training Program for inductee teachers can be kept during the inductee teachers' one-year probationary period following their selection.
- Due to the high number of new teachers, the training can be done via Massive Open Online Courses (MOOCs) followed by contact programmes during the summer and winter breaks.
- Induction training might be carried out across two semesters. In the first term, the total contact hours recommended for the training would be in the region of 450-480 hours. Following that, the second term will include on-the-job training and exposure to industrial/field techniques.

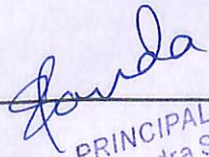
IN-SERVICE TRAINING NEEDS AT VARIOUS LEVELS

At all levels of the teaching career, continuous knowledge upgrading through appropriately structured refresher courses will be required. In the field of specialization, these will primarily be subject-specific.

It will also require that these teachers participate in MOOCs in a phased manner, as discussed in the FIP, as well as provide the necessary training modules to prepare in-service teachers for the responsibilities that will be expected of them in their next professional cadres, as well as for specialized inputs such as Intellectual Property Rights (IPR) issues, sustainable development, action research, curricular review, infrastructure development, and so on.

Details of the In-service Training Programs at Various Stages of Teaching Career:

Stage 1 – Faculty Induction Program (already described above)


PRINCIPAL
Dr. Sudhir Chandra Sur Institute
of Technology & Sports Complex
540, Dum Dum Rd Kolkata-74

Stage 2 – During Lecturer/ Assistant Professorship – having experience of 5-10 years

- Refresher Modules for knowledge updating, newer developments and thrust areas in the concerned fields.
- Training for research guidance, sponsored project planning and conduction, consultancy etc.
- Training for lab development and preparing manuals.
- Training on IPR issues, patenting, technology transfer/dissemination and ethical issues in R & D.
- Training on organization of conferences, workshops, symposia etc.
- Training in basic principles of education technology through MOOCs

Stage 3 – During Associate Professorship – having an experience of 10-15 years

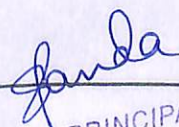
- Refresher Modules for knowledge updating, newer developments and thrust areas in the concerned fields.
- Training in curriculum development, resource material development and best practices in teaching and research through MOOCs.

Stage 4 – During Professorship/HOD-around 20-30 years

- Refresher Modules for knowledge updating, newer developments and thrust areas in the concerned fields.
- Training courses in Institutional Management and promotion of Entrepreneurship development
- Training in leadership; preparing vision, mission, and strategy by involving all stakeholders.
- Training on collaborative research with industry, institutions, government agencies and NGOs.
- Planning for departmental growth, motivation, and efficiency.
- Removal of obsolescence and planning for continuous growth of the departments and the institution.
- Effective interaction with monitoring and collaborating agencies.
- Facilitating a value-based ethical environment in the institutional handling disciplinary issues.
- Liaison with governmental monitoring/ regulatory bodies.

BROAD CONTENTS OF THE INSTRUCTIONAL MODULES TO BE DELIVERED DURING THE TRAINING

SI No	Courses	Content	Expected Outcomes
1	Study Skill Strategies to Teach the Learners	Pedagogical content knowledge- Methods & Resources. Expression clarity & Structure. Comprehension. Planning for Instruction.	Enhance teaching study skills strategies and dictionary skills, and deals with different techniques of note taking and note making.

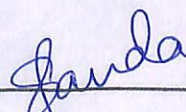


PRINCIPAL
Dr Sudhir Chandra Sur Institute
of Technology & Sports Complex
540, Dum Dum Rd. Kolkata-74

		Involvement, Pace & Individual attention. Learning theories & Delivery of Content.	
2	Training Faculty To Use Technology In The Classroom	Orientation –Notebook Use And Maintenance e Laptop Project Presentation Introduction To Microsoft Office Software Online Classroom Products Electronic Communication. Digitizing Media- • Effective Use of a Digital Camera and Scanner • Digitizing Video	Expert to use the technology in the classroom. Familiarization of the MS Office Software. Faculty members viewed online classroom components such as syllabus posting, class notes posting, discussion groups, online testing, and grade posting.
3	Orientation towards Technical Education & Curriculum Aspects	Overview of technical education- the present scenario and emerging challenges; excellence in technical education – criteria for quality education. • Domains of Learning-Cognitive, Affective and Psychomotor as per revised Bloom’s Taxonomy; Cognitive process dimension and knowledge dimension; program objectives and learning outcomes at different levels. • Psychology of learning and motivation; principles of instruction and learning; understanding the teaching learning process. • Four pillars of learning proposed by UNESCO- learning to know; learning to do; learning to be and learning to live together. • Interpreting the curriculum and its characteristics; curriculum and instruction; curricular and extra-curricular modes of student-teacher interaction; alternative	Analyze the issues and challenges in the domain of technical education, especially concerning quality and excellence. Formulate learning outcomes at different levels in all domains of learning and explain the application of cognitive process and knowledge dimensions. • Apply the concepts, principles and processes of instruction and learning to ensure effective implementation of the curriculum.

Sandha
PRINCIPAL
Dr. Sudhir Chandra Sur Institute
of Technology & Sports Complex
540, Dum Dum Rd. Kolkata-74

		<p>modes of learning; curriculum implementation, monitoring, and evaluation.</p> <ul style="list-style-type: none"> • Need for correlating knowledge to professional practice, research & development. 	
4	Professional Values, Ethics, Ecology & Sustainable Development	<ul style="list-style-type: none"> • Understanding the essential complementarities of values and skills. • Understanding the human reality correctly and the inherent interconnectedness and order in the whole existence. • Guru-Shishya Parampara-relationship. • Developing a holistic perception of human happiness; prosperity; life goals, needs and relationships; ethical human behavior Sarvanana Sukhino Bhavantu. • Mentoring and counselling; personality development. • Understanding the ecology and basic parameters of sustainable development. • Salient values and attitudes for professional excellence and personality development; social responsibility as good citizens and as technical professionals. 	<ul style="list-style-type: none"> • Develop an adequate appreciation of the essential complementarities of values and skills and a better understanding of the human reality vis-à-vis co-existence with the rest of nature. • Comprehend the prime basis of values, relationships and holistic perception and their significance in the profession. • Demonstrate ethical and responsible professional behavior in the performance of his or her duties and roles.
5	Communication Skills, Modes, and Knowledge Dissemination	<p>Basic concepts, models, verbal, and non-verbal and written communication; the importance of communication skills in the teaching-learning process and in knowledge dissemination; barriers in communication.</p> <ul style="list-style-type: none"> • Different modes of communications and respective media. • Application of principles of communication to improve the instructional process and for effective professional interaction 	<ul style="list-style-type: none"> • Develop requisite competence in communication skills and the use of various modes of knowledge dissemination needed by a technical teacher. • Communicate effectively and clearly in the language of instruction, both orally and in writing, using correct grammar, in various contexts related to



PRINCIPAL

 Dr. Sudhir Chandra Sur Institute
 of Technology & Sports Complex
 540, Dum Dum Rd. Kolkata-74



		<p>with peers, superiors, and subordinates.</p> <ul style="list-style-type: none">• Proficiency in oral communication; logical discussion and presentation; use of dialogue mode: right pronunciation and command of the language.• Various modes of written communication- research papers, articles, technical reports, project proposals/reports, thesis, manuals etc. Learning to write minutes, summary of deliberation, executive summary etc. in an effective manner, Nontechnical communication, official correspondence, file notes etc.• Introduction to modern media & methods, appropriate use of Educational Technology (ET) and audiovisual aids.	<p>teaching-learning and assessment.</p>
6	Instructional Planning and Delivery	<ul style="list-style-type: none">• Interpretation of learning outcomes; a clear grasp of the subject matter; learning outcome objectives.• Preparation and effective implementation of the lesson plan for systematic presentation in the classroom.• Effective chalkboard work; the right pace of delivery; use of interactive mode; frequent recapitulation and summing up the key points.• Correlating lecture inputs effectively with tutorial exercises, home assignments and laboratory work as well as indicating relevance to prevailing practices.• Supplementing with brief handouts/ class-notes and references for detailed study.	<ul style="list-style-type: none">• Develop requisite learning materials and methodologies that are appropriate to the level of students and the subject content, accomplishment of learning outcomes and development of the competencies in the students as targeted in the program of study, applying the principles related to:<ol style="list-style-type: none">i. Learning and instructionii. Instructional planning and deliveryiii. Practicum in the engineering classroom• Organize and deliver class/ laboratory/ workshop based and

Janda



		<ul style="list-style-type: none">• Appropriate instructional strategies and suitable teaching methods and media for effective instruction and learning by students appropriate to the subject matter/ course content.• Feedback mechanisms for continuous improvement in the teaching-learning process.	industry/ service sector-oriented instruction and learning to promote students' overall ability, personality, and social development.
7	Technology Enabled Learning and Life-long Self-learning	<ul style="list-style-type: none">• Suitable online and offline techniques and tools for the assessment of appropriate learning outcomes.• Effective use of library facilities, use of research journals and classified research material.• Need for lifelong learning through own experience and by interaction through seminars, workshops, conference and refresher courses etc.; continuous updating of knowledge.	<ul style="list-style-type: none">• Integrate information and communication technologies in preparing and delivering of teaching-learning online and offline, print and non-print instructional learning material and activities for instructional management and Professional development purposes.• Engage in the continuous professional development of self through developing lifelong learning skills.
8	Effective Modes of Student Assessment and Evaluation	<ul style="list-style-type: none">• Clear identification of outcome expectations.• Concepts, principles, characteristics, and process of student evaluation in the process of education.• Assessment tests and performance measures, rubrics, etc. to assess cognitive, psychomotor, and affective learning outcomes using scientific principles of evaluation.• Valid and reliable schemes and tools for student assessment; effective design of question paper.• Evaluation through written tests, quizzes, objective questions, viva-voce through home assignments and open book examination.	<ul style="list-style-type: none">• Evaluate student progress in learning the subject and mastering the related competencies.• Devise and use suitable online and offline techniques and tools for assessment of appropriate learning outcomes.

Sanda
PRINCIPAL
Dr. Sudhir Chandra Sur Institute
of Technology & Sports Complex
540, Dum Dum Rd Kolkata-74

		<ul style="list-style-type: none"> • Evaluation through projects and case studies. • Mechanism for project and thesis evaluation. • Relevance of alternative modes of evaluation. • Student self-assessment tools. • Analysis, interpretation, and reporting of test data 	
9	Creative Problem Solving, Innovation and Meaningful R&D	<ul style="list-style-type: none"> • Introduction to the creative problem-solving process, needs analysis, problem formulation, innovative concept generation, feasibility analysis, detailed design etc. • Hunting for innovative solutions; design and development. • Understanding different research designs including methodologies and their appropriateness to problems, action research proposal; problem identification, literature review, research instruments appropriate to the research problem, steps of analysis and synthesis, presentation of results and conclusions etc.; action research report. • Guidelines for developing a research field for oneself. • R&D through teamwork. 	Develop an understanding of creative problem-solving processes, research methodology and action research, including familiarity with the reference sources and their use.
10	Miscellaneous Aspects (Institutional Management & Administrative Procedures)	<ul style="list-style-type: none"> • Familiarization with the institutional vision framework and administrative procedures; financial and purchase procedure; relevant legal matters etc. • Modes of interaction with external organizations. • Feedback from alumni and prospective employers, etc. for continuous improvement. 	<ul style="list-style-type: none"> • Describe the purpose and meaningfulness of institutional vision, missions; administrative, financial, purchase and management processes in institutional functioning. • Relate to alumni and employers for continuous development and improvements.

Sanda
 PRINCIPAL
 Dr. Sudhir Chandra Sur Institute
 of Technology & Sports Complex
 540, Dum Dum Rd. Kolkata-74

RECOMMENDED FDP & STTP DEVELOPMENT RESOURCES:

AICTE STTP-SFURTI

STTP-SFURTI intends to conduct faculty and student trainings through financial assistance from AICTE to enable faculty members and students in the field of technical education to introspect and learn techniques that can help prepare faculty and students to impart their research work in the development of small-scale business for the nation.

AICTE- NATIONAL INITIATIVE FOR TECHNICAL TEACHERS TRAINING (AICTE - NITTT)

To train the Inductee Teachers in AICTE approved / recognized institutions, National Initiative for Technical Teachers Training (for Inductee Teachers) has been launched. It imparts training to the Inductee Teachers in three phases. The first phase of the training programme for the Inductee Teachers shall be conducted in Massive Open Online Courses (MOOCs) mode for eight modules on the SWAYAM platform through the NITTT portal www.nittt.ac.in followed by one-month industrial internship (second phase) and then mentor-based training (third phase).

AICTE-QUALITY IMPROVEMENT PROGRAM

The main objective of the programme is to upgrade the qualification of the faculty members of the degree and polytechnic level institutions in the country. Financial assistance @Rs. 15000/- PM and Rs. 5000/ PM are given to Ph.D/ M.Tech Scholars. Presently 114 QIP centers are operational throughout the country.

AICTE-QUALITY IMPROVEMENT PROGRAMME (FOREIGN UNIVERSITY)

Scheme provides scholarships to the faculty who fulfils eligibility criteria and obtains admission in the Doctoral Degree programme leading to award of PhD degree in any of the enlisted top 500 universities/institutes (based on the QS ranking, the Times ranking and the Shanghai ranking) in the world.

AICTE- TECHNICAL UNIVERSITY JOINT TRAINING PROGRAMS FOR TEACHERS

The objective of the AICTE – University training programs is to conduct training for faculty members to prepare them for being successful in a knowledge society.

AICTE- TECHNICAL UNIVERSITY JOINT TRAINING PROGRAMS FOR LIBRARIANS

The objective, of AICTE – Technical University Training program for Librarians, is to conduct training for Librarians to prepare them for being successful and affective in a knowledge society.

It provide a dynamic and quality user centered library and information services that enhance

teaching, learning and research while inculcating life-long learning skills and fostering human development.

ICTE-PROFESSIONAL DEVELOPMENT SCHEME

The scheme enables meritorious faculty to interact at International Level Conferences, both within and outside India, Seminars, and Symposia.

AICTE-INAE- DISTINGUISHED VISITING PROFESSORSHIP SCHEME

AICTE and INAE distinguished visiting Professor scheme envisages promotion of industry-institute interaction.

AICTE – ISTE ORIENTATION/ REFRESHER PROGRAMME

The objective is to conduct AICTE-ISTE Induction/ Refresher Programmes for the teaching faculty working in technical institutions. Total 100 Refresher programme & 50 Orientation programme with the funding of Rs. 300000 per programme.

AICTE-DISTINGUISHED CHAIR PROFESSOR

The Emeritus Professor (Distinguished Practicing Engineer) Fellowship intends to utilize the expertise of highly qualified and experienced superannuated Engineers who have made undoubtable, unchallengeable, unparalleled and exceptional contribution to the society in their respective fields in any discipline in engineering for the benefit of students/faculty of host institutes & of institutes located in the adjoining areas.

ICTE-LEADERSHIP IN TEACHING EXCELLENCE (AICTE-LITE)

AICTE's Leadership in Teaching Excellence (LITE) is a national programme aims to bring modern software engineering knowledge through proven online teaching-learning methods to 100,000 teachers and 2.4 Crore students in India.

TEACHING RESOURCES FROM THE ARM UNIVERSITY PROGRAM

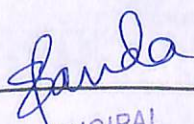
The Arm University Program provides academically rigorous and industry relevant teaching materials as part of its flagship Education Kit given free-of-charge to academics (faculty) expressly for the purposes of education. The aim is to provide faculty of Technical Institutions approved by AICTE with an opportunity to further expand the scope of their existing lecture notes with teaching materials written around state-of-the-art micro-controller development platforms based on Arm. The teaching materials have been developed by academics for use by academics in a university or college engineering curriculum.

IEEE INFORMATION FOR RESEARCH

Effectively Discover and Use IEEE Information to Further Your Research.

IEEE RESOURCES - DIGITAL LIBRARY

IEEE Resources for Engineers, Scientists and Technology workers.



PRINCIPAL
Dr. Sudhir Chandra Sur Institute
of Technology & Sports Complex
540, Dum Dum Rd. Kolkata-74

SWAYAM

World's Largest Online Free E-Learning Platform Portal designed to achieve the three cardinal principles of Education Policy viz., Access, Equity and Quality.

NPTEL

NPTEL provides E-learning through online Web and Video courses in Engineering, Science and humanities streams. The mission of NPTEL is to enhance the quality of Engineering education in the country by providing free online courseware.

COURSERA

Coursera Inc. is a U.S.-based massive open online course provider founded in 2012 by Stanford University computer science professors Andrew Ng and Daphne Koller. Coursera works with universities and other organizations to offer online courses, certifications, and degrees in a variety of subjects.

ATAL FDP

The Objective of ATAL FDP: To set up an Academy which will plan and help in imparting quality technical education in the country; To support technical institutions in fostering research, innovation and entrepreneurship through training; To stress upon empowering technical teachers & technicians using Information & Communication Technology; To utilize SWAYAM platform and other resource for the delivery of trainings; To provide a variety of opportunities for training and exchange of experiences. Such as workshops, Orientations, learning communities, peer mentoring and other faculty development programmes; To support policy makers for incorporating training as per requirement.

VIRTUAL LABS

Objectives of the Virtual Labs to provide remote access to Labs in various disciplines of Science and Engineering. These Virtual Labs would cater to students at the undergraduate level, post graduate level as well as to research scholars.

TALK TO TEACHER

A-VIEW is an award winning indigenously built multi-modal, multimedia e-learning platform that provides an immersive e-learning experience that is almost as good as a real classroom experience developed by Amrita e-Learning Research Lab.

SPOKEN TUTORIAL

The Spoken Tutorial project is the initiative of the 'Talk to a Teacher' activity of the National Mission on Education through Information and Communication Technology (ICT), launched by the Ministry of Human Resources and Development, Government of India.

CEC

Annually CEC organises Video Competition and Prakriti. Prakriti is an annual film festival on environment, human rights & development. Video Competition is an annual competition meant to nurture within media centres and other educational institutes in the country.

E-YANTRA

e-Yantra is an initiative to incorporate Robotics into engineering education with the objective of engaging students and teachers through exciting hands-on application of math, computer science, and engineering principles.

DIGITAL LIBRARY INFLIBNET

The UGC-Infonet Digital Library Consortium was formally launched in December 2003 by Honorable Dr. A P J Abdul Kalam, the President of India soon after providing the Internet connectivity to the universities in the year 2003 under the UGC-Infonet programme.

QUANTUM & NANO COMPUTING

The Quantum-Nano Centre is a multidisciplinary Centre at Dayalbagh Educational Institute, Agra set up under MHRD National Mission on Education through ICT, with partners as IIT Kanpur, IIT Delhi and IIT Madras, besides several international collaborators.

ERP MISSION

The ERP mission is to Implement, maintain, improve, and support the County's integrated financial, procurement, human resource and payroll information systems.

ISLERS

This project is aimed to develop an automatic Indian Sign Language education and recognition platform for hearing impaired students of India. The system can substantially help in the primary/vocational/higher education of hearing-impaired students and people of India. The framework is proposed to be extended to 14 different languages of India with extensive interactive features in the audio-visual mode.

OSCAR++

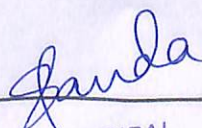
Project OSCAR (Open-Source Courseware Animations Repository) provides a repository of web-based interactive animations and simulations, that we refer to as learning objects (LOs). These learning objects span topics in science and engineering at the college level, and math and science at the school level. Students and teachers can view, run, and download these learning objects.

FOSSEE

FOSSEE project is part of the National Mission on Education through ICT with the thrust area being "Adaptation and deployment of open-source simulation packages equivalent to proprietary software, funded by MHRD, based at the Indian Institute of Technology Bombay (IITB).

E-KALPA

This project on 'Creating Digital-learning Environment for Design' also called 'e-kalpa' is sponsored by the Ministry of Human Resources, Government of India as part of the National Mission in Education through Information and Communication Technology.



PRINCIPAL
Dr. Sudhir Chandra Sur Institute
of Technology & Sports Complex
540, Dum Dum Rd. Kolkata-74

PEDAGOGY PROJECT

This project is an experiment to systematically design and develop learner-centric curricula, suitable for outcome-based learning for 4 year degree programmes in six major engineering disciplines. This project is NOT, yet another attempt to develop content, although each curriculum document is expected to include around 80 pages of course notes and 120-125 self-assessment problems and solutions.

VIRTUAL LEARNING ENVIRONMENT

VLE, an online environment of e-resources caters to several disciplines taught at undergraduate and postgraduate level. It is an initiative of Institute of Life-Long Learning, University of Delhi. Conceived in 2012, VLE today boasts state of art material that addresses emerging needs of a diverse student body, not only of Delhi University but other universities as well. Drawing from several successful Moodle models, the multi-media interactive contents loaded on VLE are categorized discipline-wise.

AAKASH EDUCATIONAL PORTAL

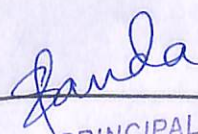
This project envisions empowerment of teachers, through workshops conducted for thousands of teachers at one go, using a unique blend of technology and an innovative pedagogy. Thousands have experienced the effectiveness of this approach, and of the resulting open-source contents.

OSS FOR MATHS EDU

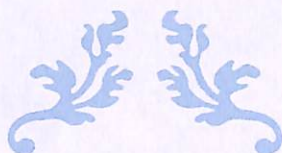
Project consists of organizing four workshops (of 5 days each) for popularization of Open-Source Mathematical Software at the National level in the educational field. The aim of the workshops will be to familiarize the participants to Mathematical Software for teaching and learning of Mathematics.

SOS TOOLS

Software and simulation packages are useful tools for the analysis of systems and solving problems by the students of Science, Social Science, Engineering, Management, and related disciplines.



PRINCIPAL
Dr. Sudhir Chandra Sur Institute
of Technology & Sports Complex
540, Dum Dum Rd. Kolkata-74



DR. SUDHIR CHANDRA SUR DEGREE ENGINEERING COLLEGE

540, Dum Dum Road, Suremath, Kolkata- 700074, West Bengal



Employee's (Faculty & Staff) Training Policy (W.e.f.2018-19)

Approved by BOG

Dated on 03/7/2018

Under Agenda No. 3

Ref. No:	Compiled By:	Checked By:	Approved By:
DSDEC/POLY/ 2018-19/17	Amrita Chatterjee HR Dept. Dr. Sudhir Chandra Sur Degree Engineering College 540, Dum Dum Road, Kolkata-700074	[Signature] (IQAC Convener)	[Signature] (Principal)
Issue No- <u>3</u>			

Coordinator, IQAC
Dr. Sudhir Chandra Sur Degree
Engineering College
540, Dum Dum Road, Kolkata -700074

Principal
Dr. Sudhir Chandra Sur Degree
Engineering College
540, Dum Dum Road, Suremath
Kolkata - 74



Policies for Employee's Training

INTRODUCTION:

With today's quickly changing technology landscape, as well as ever-increasing global connectedness and competitiveness, the role of technical education in economic development has become increasingly important and difficult. Furthermore, because of rapid technical advancements, worries about sustainability, environmental degradation, resource depletion, and inclusive growth have grown in importance.

For organizations seeking well-rounded engineers and professionals who confront global difficulties, the need for well-qualified engineers/professionals is more vital with complex problems that influence the quality of life of everyone, everywhere.

In addition, issues about aligning educational curricula and training with national demands are becoming a primary priority.

We have seen a dramatic expansion in the number of technical institutes in our country over the last few decades. However, the focus on increasing the quality of education across such a broad range of subjects

There has been a lack of institutions. In the country, there are numerous technical institutions where many teachers are working and are being recruited. Around 30,000 instructors are being replaced now, according to estimates. In these institutions, new people are recruited every year. Technical institutes supply the necessary technical manpower to suit the country's needs. Teachers in these institutions enable the most important aspect of the information-knowledge shift.

Teaching professionals or teachers begin their careers as soon as they complete their postgraduate or research degrees and progress through their careers. There is currently no training that equips them to take on these challenges.

Another important consideration is that the teaching profession in technical education no longer draws the finest academic performance, and it is frequently the final option. There is almost no method or opportunity to encourage academically outstanding persons to pursue teaching careers and to train them to provide high-quality education. It goes without saying that such a downward trend creates a vicious cycle that continues to operate, resulting in further deterioration of educational quality.

A faculty member who completes his or her education on time and enters the academic profession often works for 30-35 years altogether. The first deliverable, '**outputs**,' can be measured in a short period of time from the commencement of an academic career. The second deliverable, '**outcomes**,' is visualized over a medium period, say 10-15 years, and the third, '**impacts**,' is imagined over a long period of time, say beyond 20-25 years.

A faculty member must produce high-quality outputs in the short term so that they can lead to meaningful outcomes for the disciplines in the medium term, which will have a long-term impact on the nation. To make an academic career meaningful, a faculty member must design excellent teaching, learning, and implementation initiatives.

Indeed, understanding of practice, i.e., how it is applied, aids in becoming a subject expert and, as a result, competent enough to teach. This problem is either barely addressed or completely ignored in the field of technical education.

Principal

1 of 17
Dr. Sudhir Chandra Sur Degree
Engineering College
540, Dum Dum Road, Suremath
Kolkata - 74



As a result, some methods for providing such exposure to technical teachers must be developed. Providing them with significant R&D, sponsored projects, consultation, and other opportunities gives such a channel to some extent, but sufficient training and exposure is essential.

As a result, having such skill and leadership development programmes for new professionals entering the teaching profession, as well as sustaining such efforts, is critical to better fulfil expectations and succeed in meeting global issues.

There is still another significant difficulty for today's technical educators. On the one hand, they must keep up with the latest developments in their fields or cutting-edge technologies to be considered 'world-class,' and on the other hand, they must develop the ability to creatively visualize indigenous needs and find appropriate solutions that are both useful and user-friendly. It takes proper training and practice to create such expertise and a culture of creative invention. Teachers can only carry out meaningful work and effectively assist pupils if they develop the skills of proper need analysis, meaningful literature review, problem framework, and creative problem solving.

Teachers must master the art of creating a coherent lesson plan and engaging classroom engagement as a prerequisite for effective classroom interaction. This is a fundamental area of instructional expertise. Teachers must also understand suitable pedagogical strategies, varied modes of learning by students, and effective forms of evaluation of the desired learning outcomes to be successful. These abilities must be emphasized in their education.

Each faculty member is responsible for determining the relative speed of activities during their tenure. The faculty member initially has reservations about student engagement, institutional development, and teaching-learning activities. While the faculty gets more acquainted with student development activities and enhanced competency in teaching-learning and institutional development, the technology, and its applicability to industry at the national and international levels usually improves dramatically. As a result, a teacher must effectively contribute to the professional grooming of students, institutional development, and industrial relevance.

Because of the increasing use of ICT technologies in the current teaching-learning process, in information seeking, and in knowledge sharing, a demand for new domains of 'Teacher Training' has arisen. There is a flood of new software, online platforms, e-modes for teaching and learning, e-sources of information, and so on, and the teacher must learn how to use these tools wisely to avoid becoming lost in the muck and becoming obsolete.

Given the foregoing scenario, the need to improve the quality of technical education and make it more relevant to current needs is becoming increasingly urgent, requiring work on the part of both monitoring agencies and stakeholders.

Dr. Sudhir Chandra Sur Degree Engineering College is deeply worried about this problem and has prepared to launch several efforts to address it.

Our **Academic Council** have taken the responsibilities to explore methods for implementing the Training Policy for Technical Teachers as per their Training Need Analysis (TNA) as a first step in this approach.

Principal
Dr. Sudhir Chandra Sur Degree
Engineering College
540, Dum Dum Road, Suremath
Kolkata - 74



TRAINING NEED ANALYSIS (TNA):

Training needs analysis is a systematic procedure for determining which type of training is required and providing information on how to implement the training. It's also known as a tool for identifying new abilities, knowledge, and attitudes that employees need to develop to improve their performance.

The Training Needs Analysis (TNA) assists organizations in determining the skills and training gaps in their existing personnel to efficiently fulfil current and future jobs. The Management carefully considers the Analysis when designing the correct Training programme to fulfil the skill and training requirements of the employees to increase productivity and, ultimately, achieve the organization's goals and objectives.

ROLE OF TRAINING NEEDS ANALYSIS (TNA):

Every organization's management wants their Faculties & Staff to perform better and realize their full potential. Employees must have full skills and competences to accomplish their assigned work to meet the organization's goals and increase production.

The role of training requirements analysis in DSEC is to assess the gap between an employee's present and desired performance and to offer information on which employees require training:

What type of education is required?

How can the Institute create a successful training programme for these employees?

What effect will this training have on the employee's performance?

What will these training programmes cost and how much will they require in terms of resources?

REQUIREMENT OF TRAINING NEEDS ANALYSIS:

A training needs analysis is always considered as the initial step in assisting employees in improving their production at work.

Understanding the Institute's performance improvement needs is a requirement of training needs analysis.

To link the improvement in performance to the required skills, talents, and competencies.


Employees must attend a course work or skill set training session to determine the course work they must do.

Design an effective training programme to close the gap between the Institute's current production and the desired output.

TRAINING NEEDS ANALYSIS METHODS AND PROCESS

The method of training requirements analysis is chosen based on the Employee's job type and the analysis that must be conducted to determine skill gaps. In the academic environment, there are a few popular training demand analysis methods:

Direct observation- The Head of the department watch the Employee's working styles in a variety of settings. HOD can learn about performance disparities by using this observation. The observation comprises looking at the technical methods used to accomplish the job, as well as the functional components of the job and the Employee's conduct. It provides both qualitative and quantitative feedback on the Employee's present performance.


Principal
Dr. Sudhir Chandra Sur Degree
Engineering College
540, Dum Dum Road, Suremath
Kolkata - 74



Interviews- An interview is a face-to-face discussion regarding how a Faculty/Staff does his or her work. It's a good technique to get information regarding production gaps by talking to each Faculty/Staff or a group of Faculties/Staffs. The interview can take place in a professional or informal environment. The interview can take place in person or over the internet.

Focus groups-Focus groups are a type of brainstorming session used to identify talent gaps among Faculties/Staffs. Employees in the organization are encouraged to debate and talk about strategies to improve their work performance. The management listens intently to this talk and analyses it to determine the organization's training needs.

Assessments/surveys—Surveys are a quick and easy approach to find out where a department's performance is lacking. Faculties & Staff are given a well-designed questionnaire to fill out to determine their training needs. The survey may include a mix of open-ended and closed-ended questions, as well as rating and projective questions. Faculties & Staff can submit answers anonymously to boost the survey's credibility.

Stake Holders Feedback- In most Academic Institutions, Stake Holders feedback is used to identify performance flaws. The Stake Holder's immediate input identifies the exact job area that need improvement.

Others: There are a few additional methods of determining training needs, such as consulting with people in key positions within the industries, Employers, Academicians, studying relevant literature in the work area, and using reports, records, and work samples.

TRAINING NEED ANALYSIS PROCESS:

Our organization uses several levels of training requirements assessments depending on the job profile of our employees. In all types of training needs analysis, however, there is a set process that must be followed. The training needs analysis process is broken down into four steps:

Step 1: Assessing Performance Gaps: To discover performance gaps, the existing and desired operating results of employee performance are compared. The discrepancy between the institution's required and actual outcome is referred to as a performance gap.

Step 2: Determine the source of the problem: Root cause analysis is a method of determining the root reason of performance discrepancies. Skills, resources, motivation, and information such as feedback are the four areas in which the issues are classified. Using root cause analysis, it is determined which areas are contributing to poor performance and which areas require improvement.

Step 3: Needs Analysis: To create and implement the appropriate intervention to remedy the performance difficulties, a detailed analysis is conducted. This stage addresses a specific need for improvement based on the categories found in the root cause analysis. This analysis

Principal
Dr. Sudhir Chandra Sur Degree
Engineering College
540, Dum Dum Road, Suremath
Kolkata - 74



involves a job analysis, task analysis, skill analysis, and motivational analysis of the target audience for the training.

Stage 4- Recommendations: An acceptable training solution is proposed in this step. It determines the type of training programme that a firm should use to boost overall outcome.

SCHEDULE OF THE TRAINING:

A schedule for the period July to June is constructed, considering the above factors. The committee decided that it would be too difficult to motivate the faculty to attend training on non-duty days without providing them with additional compensation. It is also decided that shorter sessions spread throughout the year would allow the faculty members to attend in the training.

Longer sessions will be conducted in between the Semester's break for two weeks. Employees are motivated to take training through online from ATAL, Swayam, NPTEL, Coursera like MOOC Courses throughout the year.

BROAD OBJECTIVES OF THE TRAINING POLICY RECOMMENDED BY ACADEMIC COUNCIL:

The Academic Council discussed the training needs of teachers at various stages of their careers and visualized two distinct types of training programmes: a **Faculty Induction Program (FIP)** to be provided shortly after inductee teachers are hired, and an **In-Service Training Program (ITP)** to address specific requirements at various stages of their teaching careers.

The Committee proposed the following broad objectives for the new teacher training policy:

- To begin, clearly define the training needs at all career levels and for various kinds of teachers, considering their status, the expectations of a good teacher, and the realities of technical education in the country. This will naturally characterize the training requirements now of induction and throughout the academic career.
- At various levels, dictate the form and substance of the training programme.

TRAINING NEEDS DURING THE FACULTY INDUCTION PROGRAM (FIP)

In this phase of **Faculty Induction Training (FIP)**, in addition to general academic and domain-specific requirements, teaching skills and leadership development will be required. This will necessitate both didactic and guided exposure to best practices and demonstrative instances.

Following extensive consideration, the Academic Council has determined that the following requirements must be addressed in the training:

- A general overview of the current situation and issues in technical education, as well as the range of responsibilities and expectations.
- Fundamental knowledge of the teaching-learning process, learning psychology, and successful pedagogical strategies.

Principal
Dr. Sudhir Chand 5 of 17 Degree
Engineering College
540, Dun Dum Road, Suremath
Kolkata - 74



- Initiatives to improve competency in communication skills in many media important to the technical profession, as well as training for producing lesson plans and successful instructional processes.
- Instilling a holistic mindset, professional values, and ethical behaviors.
- Access to appropriate ICT tools and aids for successful teaching and learning, as well as resources for lifelong self-learning.
- Instruction on the proper application of various forms of student evaluation.
- Training in creative problem-solving, research methods, and project management for R&D projects, among other things.
- Guided exposure to best teaching practices, learning methodologies, lab creation, and practical class structure, among other things.
- Training in non-teaching and non-research areas, such as administrative procedures, financial procedures, and legal implications, etc.

The Council deliberated at length on the different aspects of this program, including the contents, time duration, structured way of delivery, assessments etc., and suggests the following:

- This component of the Training Program for inductee teachers can be kept during the inductee teachers' one-year probationary period following their selection.
- Due to the high number of new teachers, the training can be done via Massive Open Online Courses (MOOCs) followed by contact programmes during the summer and winter breaks.
- Induction training might be carried out across two semesters. In the first term, the total contact hours recommended for the training would be in the region of 450-480 hours. Following that, the second term will include on-the-job training and exposure to industrial/field techniques.

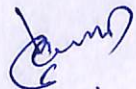
IN-SERVICE TRAINING NEEDS AT VARIOUS LEVELS

At all levels of the teaching career, continuous knowledge upgrading through appropriately structured refresher courses will be required. In the field of specialization, these will primarily be subject-specific.

It will also require that these teachers participate in MOOCs in a phased manner, as discussed in the FIP, as well as provide the necessary training modules to prepare in-service teachers for the responsibilities that will be expected of them in their next professional cadres, as well as for specialized inputs such as Intellectual Property Rights (IPR) issues, sustainable development, action research, curricular review, infrastructure development, and so on.

Details of the In-service Training Programs at Various Stages of Teaching Career:

Stage 1 – Faculty Induction Program (already described above)


Principal
Dr. Sudhir Chandra Sur Degree
Engineering College
540, Dum Dum Road,
Kolkata - 74



Stage 2 – During Lecturer/ Assistant Professorship – having experience of 5-10 years

- Refresher Modules for knowledge updating, newer developments and thrust areas in the concerned fields.
- Training for research guidance, sponsored project planning and conduction, consultancy etc.
- Training for lab development and preparing manuals.
- Training on IPR issues, patenting, technology transfer/dissemination and ethical issues in R & D.
- Training on organization of conferences, workshops, symposia etc.
- Training in basic principles of education technology through MOOCs

Stage 3 – During Associate Professorship – having an experience of 10-15 years

- Refresher Modules for knowledge updating, newer developments and thrust areas in the concerned fields.
- Training in curriculum development, resource material development and best practices in teaching and research through MOOCs.

Stage 4 – During Professorship/HOD-around 20-30 years

- Refresher Modules for knowledge updating, newer developments and thrust areas in the concerned fields.
- Training courses in Institutional Management and promotion of Entrepreneurship development
- Training in leadership; preparing vision, mission, and strategy by involving all stakeholders.
- Training on collaborative research with industry, institutions, government agencies and NGOs.
- Planning for departmental growth, motivation, and efficiency.
- Removal of obsolescence and planning for continuous growth of the departments and the institution.
- Effective interaction with monitoring and collaborating agencies.
- Facilitating a value-based ethical environment in the institutional handling disciplinary issues.
- Liaison with governmental monitoring/ regulatory bodies.

BROAD CONTENTS OF THE INSTRUCTIONAL MODULES TO BE DELIVERED DURING THE TRAINING

SI No	Courses	Content	Expected Outcomes
1	Study Skill Strategies to Teach the Learners	Pedagogical content knowledge- Methods & Resources. Expression clarity & Structure. Comprehension. Planning for Instruction.	Enhance teaching study skills strategies and dictionary skills, and deals with different techniques of note taking and note making.

Principal
Dr. Sudhir Chandra Sur Degree
Engineering College
540, Dum Dum Road, Suremath
Kolkata - 74



		Involvement, Pace & Individual attention. Learning theories & Delivery of Content.	
2	Training Faculty To Use Technology In The Classroom	Orientation –Notebook Use And Maintenance e Laptop Project Presentation Introduction To Microsoft Office Software Online Classroom Products Electronic Communication. Digitizing Media- • Effective Use of a Digital Camera and Scanner • Digitizing Video	Expert to use the technology in the classroom. Familiarization of the MS Office Software. Faculty members viewed online classroom components such as syllabus posting, class notes posting, discussion groups, online testing, and grade posting.
3	Orientation towards Technical Education & Curriculum Aspects	Overview of technical education- the present scenario and emerging challenges; excellence in technical education – criteria for quality education. • Domains of Learning-Cognitive, Affective and Psychomotor as per revised Bloom’s Taxonomy; Cognitive process dimension and knowledge dimension; program objectives and learning outcomes at different levels. • Psychology of learning and motivation; principles of instruction and learning; understanding the teaching learning process. • Four pillars of learning proposed by UNESCO- learning to know; learning to do; learning to be and learning to live together. • Interpreting the curriculum and its characteristics; curriculum and instruction; curricular and extra-curricular modes of student-teacher interaction; alternative	Analyze the issues and challenges in the domain of technical education, especially concerning quality and excellence. Formulate learning outcomes at different levels in all domains of learning and explain the application of cognitive process and knowledge dimensions. • Apply the concepts, principles and processes of instruction and learning to ensure effective implementation of the curriculum.



		<p>modes of learning; curriculum implementation, monitoring, and evaluation.</p> <ul style="list-style-type: none">• Need for correlating knowledge to professional practice, research & development.	
4	Professional Values, Ethics, Ecology & Sustainable Development	<ul style="list-style-type: none">• Understanding the essential complementarities of values and skills.• Understanding the human reality correctly and the inherent interconnectedness and order in the whole existence.• Guru-Shishya Parampara-relationship.• Developing a holistic perception of human happiness; prosperity; life goals, needs and relationships; ethical human behavior Sarvanana Sukhino Bhavantu.• Mentoring and counselling; personality development.• Understanding the ecology and basic parameters of sustainable development.• Salient values and attitudes for professional excellence and personality development; social responsibility as good citizens and as technical professionals.	<ul style="list-style-type: none">• Develop an adequate appreciation of the essential complementarities of values and skills and a better understanding of the human reality vis-à-vis co-existence with the rest of nature.• Comprehend the prime basis of values, relationships and holistic perception and their significance in the profession.• Demonstrate ethical and responsible professional behavior in the performance of his or her duties and roles.
5	Communication Skills, Modes, and Knowledge Dissemination	<p>Basic concepts, models, verbal, and non-verbal and written communication; the importance of communication skills in the teaching-learning process and in knowledge dissemination; barriers in communication.</p> <ul style="list-style-type: none">• Different modes of communications and respective media.• Application of principles of communication to improve the instructional process and for effective professional interaction	<ul style="list-style-type: none">• Develop requisite competence in communication skills and the use of various modes of knowledge dissemination needed by a technical teacher.• Communicate effectively and clearly in the language of instruction, both orally and in writing, using correct grammar, in various contexts related to



		<p>with peers, superiors, and subordinates.</p> <ul style="list-style-type: none">• Proficiency in oral communication; logical discussion and presentation; use of dialogue mode: right pronunciation and command of the language.• Various modes of written communication- research papers, articles, technical reports, project proposals/reports, thesis, manuals etc. Learning to write minutes, summary of deliberation, executive summary etc. in an effective manner, Nontechnical communication, official correspondence, file notes etc.• Introduction to modern media & methods, appropriate use of Educational Technology (ET) and audiovisual aids.	teaching-learning and assessment.
6	Instructional Planning and Delivery	<ul style="list-style-type: none">• Interpretation of learning outcomes; a clear grasp of the subject matter; learning outcome objectives.• Preparation and effective implementation of the lesson plan for systematic presentation in the classroom.• Effective chalkboard work; the right pace of delivery; use of interactive mode; frequent recapitulation and summing up the key points.• Correlating lecture inputs effectively with tutorial exercises, home assignments and laboratory work as well as indicating relevance to prevailing practices.• Supplementing with brief handouts/ class-notes and references for detailed study.	<ul style="list-style-type: none">• Develop requisite learning materials and methodologies that are appropriate to the level of students and the subject content, accomplishment of learning outcomes and development of the competencies in the students as targeted in the program of study, applying the principles related to:<ol style="list-style-type: none">i. Learning and instructionii. Instructional planning and deliveryiii. Practicum in the engineering classroom• Organize and deliver class/ laboratory/ workshop based and

10 of 17
Principal

Dr. Sudhir Chandra Sur Degree
Engineering College
540, Dum Dum Road, Suremath
Kolkata - 74



		<ul style="list-style-type: none">• Appropriate instructional strategies and suitable teaching methods and media for effective instruction and learning by students appropriate to the subject matter/ course content.• Feedback mechanisms for continuous improvement in the teaching-learning process.	industry/ service sector-oriented instruction and learning to promote students' overall ability, personality, and social development.
7	Technology Enabled Learning and Life-long Self-learning	<ul style="list-style-type: none">• Suitable online and offline techniques and tools for the assessment of appropriate learning outcomes.• Effective use of library facilities, use of research journals and classified research material.• Need for lifelong learning through own experience and by interaction through seminars, workshops, conference and refresher courses etc.; continuous updating of knowledge.	<ul style="list-style-type: none">• Integrate information and communication technologies in preparing and delivering of teaching-learning online and offline, print and non-print instructional learning material and activities for instructional management and Professional development purposes.• Engage in the continuous professional development of self through developing lifelong learning skills.
8	Effective Modes of Student Assessment and Evaluation	<ul style="list-style-type: none">• Clear identification of outcome expectations.• Concepts, principles, characteristics, and process of student evaluation in the process of education.• Assessment tests and performance measures, rubrics, etc. to assess cognitive, psychomotor, and affective learning outcomes using scientific principles of evaluation.• Valid and reliable schemes and tools for student assessment; effective design of question paper.• Evaluation through written tests, quizzes, objective questions, viva-voce through home assignments and open book examination.	<ul style="list-style-type: none">• Evaluate student progress in learning the subject and mastering the related competencies.• Devise and use suitable online and offline techniques and tools for assessment of appropriate learning outcomes.

11 of 17

Principal
Dr. Sudhir Chandra Sur Degree
Engineering College
540, Dum Dum Road, Suremath
Kolkata - 74



		<ul style="list-style-type: none">• Evaluation through projects and case studies.• Mechanism for project and thesis evaluation.• Relevance of alternative modes of evaluation.• Student self-assessment tools.• Analysis, interpretation, and reporting of test data	
9	Creative Problem Solving, Innovation and Meaningful R&D	<ul style="list-style-type: none">• Introduction to the creative problem-solving process, needs analysis, problem formulation, innovative concept generation, feasibility analysis, detailed design etc.• Hunting for innovative solutions; design and development.• Understanding different research designs including methodologies and their appropriateness to problems, action research proposal; problem identification, literature review, research instruments appropriate to the research problem, steps of analysis and synthesis, presentation of results and conclusions etc.; action research report.• Guidelines for developing a research field for oneself.• R&D through teamwork.	Develop an understanding of creative problem-solving processes, research methodology and action research, including familiarity with the reference sources and their use.
10	Miscellaneous Aspects (Institutional Management & Administrative Procedures)	<ul style="list-style-type: none">• Familiarization with the institutional vision framework and administrative procedures; financial and purchase procedure; relevant legal matters etc.• Modes of interaction with external organizations.• Feedback from alumni and prospective employers, etc. for continuous improvement.	<ul style="list-style-type: none">• Describe the purpose and meaningfulness of institutional vision, missions; administrative, financial, purchase and management processes in institutional functioning.• Relate to alumni and employers for continuous development and improvements.

12 of 17

Principal
Dr. Sudhir Chandra Sur Degree
Engineering College
540, Dum Dum Road, Sumermath
Kolkata - 74



RECOMMENDED FDP & STTP DEVELOPMENT RESOURCES:

AICTE STTP-SFURTI

STTP-SFURTI intends to conduct faculty and student trainings through financial assistance from AICTE to enable faculty members and students in the field of technical education to introspect and learn techniques that can help prepare faculty and students to impart their research work in the development of small-scale business for the nation.

AICTE- NATIONAL INITIATIVE FOR TECHNICAL TEACHERS TRAINING (AICTE - NITTT)

To train the Inductee Teachers in AICTE approved / recognized institutions, National Initiative for Technical Teachers Training (for Inductee Teachers) has been launched. It imparts training to the Inductee Teachers in three phases. The first phase of the training programme for the Inductee Teachers shall be conducted in Massive Open Online Courses (MOOCs) mode for eight modules on the SWAYAM platform through the NITTT portal www.nittt.ac.in followed by one-month industrial internship (second phase) and then mentor-based training (third phase).

AICTE-QUALITY IMPROVEMENT PROGRAM

The main objective of the programme is to upgrade the qualification of the faculty members of the degree and polytechnic level institutions in the country. Financial assistance @Rs. 15000/- PM and Rs. 5000/ PM are given to Ph.D/ M.Tech Scholars. Presently 114 QIP centers are operational throughout the country.

AICTE-QUALITY IMPROVEMENT PROGRAMME (FOREIGN UNIVERSITY)

Scheme provides scholarships to the faculty who fulfils eligibility criteria and obtains admission in the Doctoral Degree programme leading to award of PhD degree in any of the enlisted top 500 universities/institutes (based on the QS ranking, the Times ranking and the Shanghai ranking) in the world.

AICTE- TECHNICAL UNIVERSITY JOINT TRAINING PROGRAMS FOR TEACHERS

The objective of the AICTE – University training programs is to conduct training for faculty members to prepare them for being successful in a knowledge society.

AICTE- TECHNICAL UNIVERSITY JOINT TRAINING PROGRAMS FOR LIBRARIANS

The objective, of AICTE – Technical University Training program for Librarians, is to conduct training for Librarians to prepare them for being successful and affective in a knowledge society.

It provide a dynamic and quality user centered library and information services that enhance

Principal
13 of 17 Degree
Dr. Sudhir Choudhury
Engineering College
540, Dum Dum Road, Surermath
Kolkata - 74



teaching, learning and research while inculcating life-long learning skills and fostering human development.

ICTE-PROFESSIONAL DEVELOPMENT SCHEME

The scheme enables meritorious faculty to interact at International Level Conferences, both within and outside India, Seminars, and Symposia.

AICTE-INAE- DISTINGUISHED VISITING PROFESSORSHIP SCHEME

AICTE and INAE distinguished visiting Professor scheme envisages promotion of industry-institute interaction.

AICTE – ISTE ORIENTATION/ REFRESHER PROGRAMME

The objective is to conduct AICTE-ISTE Induction/ Refresher Programmes for the teaching faculty working in technical institutions. Total 100 Refresher programme & 50 Orientation programme with the funding of Rs. 300000 per programme.

AICTE-DISTINGUISHED CHAIR PROFESSOR

The Emeritus Professor (Distinguished Practicing Engineer) Fellowship intends to utilize the expertise of highly qualified and experienced superannuated Engineers who have made undoubtable, unchallengeable, unparalleled and exceptional contribution to the society in their respective fields in any discipline in engineering for the benefit of students/faculty of host institutes & of institutes located in the adjoining areas.

ICTE-LEADERSHIP IN TEACHING EXCELLENCE (AICTE-LITE)

AICTE's Leadership in Teaching Excellence (LITE) is a national programme aims to bring modern software engineering knowledge through proven online teaching-learning methods to 100,000 teachers and 2.4 Crore students in India.

TEACHING RESOURCES FROM THE ARM UNIVERSITY PROGRAM

The Arm University Program provides academically rigorous and industry relevant teaching materials as part of its flagship Education Kit given free-of-charge to academics (faculty) expressly for the purposes of education. The aim is to provide faculty of Technical Institutions approved by AICTE with an opportunity to further expand the scope of their existing lecture notes with teaching materials written around state-of-the-art micro-controller development platforms based on Arm. The teaching materials have been developed by academics for use by academics in a university or college engineering curriculum.

IEEE INFORMATION FOR RESEARCH

Effectively Discover and Use IEEE Information to Further Your Research.

IEEE RESOURCES - DIGITAL LIBRARY

IEEE Resources for Engineers, Scientists and Technology workers.



SWAYAM

World's Largest Online Free E-Learning Platform Portal designed to achieve the three cardinal principles of Education Policy viz., Access, Equity and Quality.

NPTEL

NPTEL provides E-learning through online Web and Video courses in Engineering, Science and humanities streams. The mission of NPTEL is to enhance the quality of Engineering education in the country by providing free online courseware.

COURSERA

Coursera Inc. is a U.S.-based massive open online course provider founded in 2012 by Stanford University computer science professors Andrew Ng and Daphne Koller. Coursera works with universities and other organizations to offer online courses, certifications, and degrees in a variety of subjects.

ATAL FDP

The Objective of ATAL FDP: To set up an Academy which will plan and help in imparting quality technical education in the country; To support technical institutions in fostering research, innovation and entrepreneurship through training; To stress upon empowering technical teachers & technicians using Information & Communication Technology; To utilize SWAYAM platform and other resource for the delivery of trainings; To provide a variety of opportunities for training and exchange of experiences. Such as workshops, Orientations, learning communities, peer mentoring and other faculty development programmes; To support policy makers for incorporating training as per requirement.

VIRTUAL LABS

Objectives of the Virtual Labs to provide remote access to Labs in various disciplines of Science and Engineering. These Virtual Labs would cater to students at the undergraduate level, post graduate level as well as to research scholars.

TALK TO TEACHER

A-VIEW is an award winning indigenously built multi-modal, multimedia e-learning platform that provides an immersive e-learning experience that is almost as good as a real classroom experience developed by Amrita e-Learning Research Lab.

SPOKEN TUTORIAL

The Spoken Tutorial project is the initiative of the 'Talk to a Teacher' activity of the National Mission on Education through Information and Communication Technology (ICT), launched by the Ministry of Human Resources and Development, Government of India.

CEC

Annually CEC organises Video Competition and Prakriti. Prakriti is an annual film festival on environment, human rights & development. Video Competition is an annual competition meant to nurture within media centres and other educational institutes in the country.

Principal
15 of 17
Dr. Sudhir C. Sur Degree
Engineering College
540, Dum Dum Road, Suremat
Kolkata - 74



E-YANTRA

e-Yantra is an initiative to incorporate Robotics into engineering education with the objective of engaging students and teachers through exciting hands-on application of math, computer science, and engineering principles.

DIGITAL LIBRARY INFLIBNET

The UGC-Infonet Digital Library Consortium was formally launched in December 2003 by Honorable Dr. A P J Abdul Kalam, the President of India soon after providing the Internet connectivity to the universities in the year 2003 under the UGC-Infonet programme.

QUANTUM & NANO COMPUTING

The Quantum-Nano Centre is a multidisciplinary Centre at Dayalbagh Educational Institute, Agra set up under MHRD National Mission on Education through ICT, with partners as IIT Kanpur, IIT Delhi and IIT Madras, besides several international collaborators.

ERP MISSION

The ERP mission is to Implement, maintain, improve, and support the County's integrated financial, procurement, human resource and payroll information systems.

ISLERS

This project is aimed to develop an automatic Indian Sign Language education and recognition platform for hearing impaired students of India. The system can substantially help in the primary/vocational/higher education of hearing-impaired students and people of India. The framework is proposed to be extended to 14 different languages of India with extensive interactive features in the audio-visual mode.

OSCAR++

Project OSCAR (Open-Source Courseware Animations Repository) provides a repository of web-based interactive animations and simulations, that we refer to as learning objects (LOs). These learning objects span topics in science and engineering at the college level, and math and science at the school level. Students and teachers can view, run, and download these learning objects.

FOSSEE

FOSSEE project is part of the National Mission on Education through ICT with the thrust area being "Adaptation and deployment of open-source simulation packages equivalent to proprietary software, funded by MHRD, based at the Indian Institute of Technology Bombay (IITB).

E-KALPA

This project on 'Creating Digital-learning Environment for Design' also called 'e-kalpa' is sponsored by the Ministry of Human Resources, Government of India as part of the National Mission in Education through Information and Communication Technology.

Principal
16 of 17
Dr. Sudhakar Chandra Sur Degree
Engineering College
540, Dum Dum Road, Saranath
Kolkata - 74



PEDAGOGY PROJECT

This project is an experiment to systematically design and develop learner-centric curricula, suitable for outcome-based learning for 4 year degree programmes in six major engineering disciplines. This project is NOT, yet another attempt to develop content, although each curriculum document is expected to include around 80 pages of course notes and 120-125 self-assessment problems and solutions.

VIRTUAL LEARNING ENVIRONMENT

VLE, an online environment of e-resources caters to several disciplines taught at undergraduate and postgraduate level. It is an initiative of Institute of Life-Long Learning, University of Delhi. Conceived in 2012, VLE today boasts state of art material that addresses emerging needs of a diverse student body, not only of Delhi University but other universities as well. Drawing from several successful Moodle models, the multi-media interactive contents loaded on VLE are categorized discipline-wise.

AAKASH EDUCATIONAL PORTAL

This project envisions empowerment of teachers, through workshops conducted for thousands of teachers at one go, using a unique blend of technology and an innovative pedagogy. Thousands have experienced the effectiveness of this approach, and of the resulting open-source contents.

OSS FOR MATHS EDU

Project consists of organizing four workshops (of 5 days each) for popularization of Open-Source Mathematical Software at the National level in the educational field. The aim of the workshops will be to familiarize the participants to Mathematical Software for teaching and learning of Mathematics.

SOS TOOLS

Software and simulation packages are useful tools for the analysis of systems and solving problems by the students of Science, Social Science, Engineering, Management, and related disciplines.

Principal
Dr. Sudhir Chandra Sur Degree
Engineering College
540, Dum Dum Road, Sreemathy
Kolkata - 74



PEDAGOGY PROJECT

This project is an experiment to systematically design and develop learner-centric curricula, suitable for outcome-based learning for 4 year degree programmes in six major engineering disciplines. This project is NOT, yet another attempt to develop content, although each curriculum document is expected to include around 80 pages of course notes and 120-125 self-assessment problems and solutions.

VIRTUAL LEARNING ENVIRONMENT

VLE, an online environment of e-resources caters to several disciplines taught at undergraduate and postgraduate level. It is an initiative of Institute of Life-Long Learning, University of Delhi. Conceived in 2012, VLE today boasts state of art material that addresses emerging needs of a diverse student body, not only of Delhi University but other universities as well. Drawing from several successful Moodle models, the multi-media interactive contents loaded on VLE are categorized discipline-wise.

AAKASH EDUCATIONAL PORTAL

This project envisions empowerment of teachers, through workshops conducted for thousands of teachers at one go, using a unique blend of technology and an innovative pedagogy. Thousands have experienced the effectiveness of this approach, and of the resulting open-source contents.

OSS FOR MATHS EDU

Project consists of organizing four workshops (of 5 days each) for popularization of Open-Source Mathematical Software at the National level in the educational field. The aim of the workshops will be to familiarize the participants to Mathematical Software for teaching and learning of Mathematics.

SOS TOOLS

Software and simulation packages are useful tools for the analysis of systems and solving problems by the students of Science, Social Science, Engineering, Management, and related disciplines.

Principal
Dr. Sudhir Chandra Sur Degree
Engineering College
540, Dum Dum Road, Sreemathy
Kolkata - 74