

# ENGINEERING EDUCATION AND TRAINING

## A FACT FILE

Some introspection:

*Are our institutes producing engineers and managers with required capability to the changing Indian economy?*

*Are our institutes producing hotshot managers required for today's industry?*

*What needs to be done to make the engineering education to bring out graduates with the managerial capabilities and more responsive to the changing environment?*

*What needs to be done to bring out graduates who are very intelligent and analytical, extremely ambitious and in a hurry to fly?*

*Above all what needs to be done to raise their confidence and rate them very high?*

Let us ponder for a positive solution:

Engineering in any field plays a vital role in creating product quality. Hence it is important to consider Quality Skills as part of our engineering education. Our colleges and universities have international reputation for excellence. To maintain this reputation and improve upon it, institutions should address to the inclusion of Quality and Skills Training as co- curriculum since soft skills would blend the culture of the emerging graduates. There can be elective subjects like "Total Quality Management"(TQM), Human Resource Development with soft skills etc.

There is no doubt that the fundamental themes like Total Quality Management, Globalisation, Business Ethics, Teamwork, Interpersonal Skills, Corporate culture and change, with Decision Making, Negotiation, Leadership Skill, Communication Skill, Time Management, Participation, Front office Management, and Perfecting written and spoken English etc, must be marked for co-curriculum in engineering education

As of now the college teaching faculty and the students could be given the opportunity to learn the basics of the above mentioned subjects by participation in training sessions, workshops, monthly quality forums etc., in which various experts faculty from different disciplines would drive their point through lectures, role playing etc.

Though the courses are aimed to improve the professional standards of the students now, it is hoped the learning ability of the students in general would continuously improve the standard of the course content and in the near future the student's goal would be to pass down a better and improvised course to the next semester's students.

If you really want to see your students as hotshot managers, then their degrees should be weighed accordingly by the business world. Kindly give them the opportunity and a conducive environment.

Many graduates who are out even from some meritorious colleges have their own shortcomings. Some of them are listed down below:

- Lack of breadth
- Insensitive to organisational realities
- Unrealistic Approaches
- Too much self centered
- Poor communication skill- both oral and writing
- Interpersonal skill in all three directions is not up to the expected level
- Time management appears to have been out of their subject.
- Commitment and teamwork are above normal but needs direction.
- Regarding character, increasing adverse behavioral problems from social circles.

Engineering Institutions through a change of approach can certainly change the above negative qualities of the out going graduates with positive ones.

Ten basic courses listed below are essential in the present industrial climate. “Statistics for Management”, the one course least favoured among student community, is considered as one of the important requirement in our view. More micro modules are available depending upon the requirement of the participants.

1. Fundamentals of Total Quality Management (TQM)	-- 10 Hours
2. ISO – 9000 and other ISO Standards	-- 10 Hours
3. Human Resource Management with skills development	-- 15 Hours
4. Marketing Management	-- 10 Hours
5. Financial Management	-- 10 Hours
6. Management Accounting and Business Policy	-- 10 Hours
7. Statistics for Management with use of Seven Tools	-- 10 Hours
8. Communication Skill, Attitude and etiquette	-- 20 Hours
9. Interview Skill and Techniques	-- 10 Hours
10. Business Correspondence and Communicating in English	-- 10 Hours
11. Personality Development and Spoken English	-- 10 Hours
12. Weekly quiz programmes on management basics	-- 10 Hours
13. Effective Teambuilding Skill	-- 10 Hours
14. Industrial Ergonomics	-- 05 Hours
15. Educational Picnics for Teambuilding Skills	-- 2 + 2 ( 4)
<b>Total for 14 courses lasting for two years</b>	<b>-- 150 Hours</b>

Micro module like Quality Circle, Kaizen, and similar courses are covered between 3 and 6 Hours each.

When asked about completing the course in one academic year, more than 80% of the 62 students of various colleges around Chennai, preferred for stretching for two full years with 150 Hrs, covering all courses.

## Making the Instruction Process Effective:

These courses suggested above could be undertaken beyond the classroom to complement the instructional process. Though these are co-curricular activities pertaining to technical courses, other disciplines also may adopt them with minor changes to suit their needs.

External guest lectures as co-curricular activities have been one of the popular method. Next to guest lectures, conducting workshops, students' seminars and paper contests, quiz programmes fetch a lot for the students. Educational tours also benefit them in a greater way.

## What do the participants gain after taking the Skills courses?

1. Students and other participants will be able to Develop and Implement our chain solutions that are taught in a systematic way and in short durations.
2. They will be able to put the Technology, Tool and the Person to right and efficient use.
3. Having gained best and brighter ideas, they will thrive in today's energetic up-beat and ever changing environment.
4. Will gain a rare satisfaction of being a part of an elated team of positive thinkers.
5. Will develop a clear vision for innovative approach with a strong commitment for excellence.
6. In short they will be able to solve any problem to the highest satisfaction of the seekers and do so for their own projects.

## Who We Are telling you all this?

nmcQC, as we are known to Chennaites is one of the popular consultants in providing dynamic solutions that help industry and Institutions as well.

We as an organisation with a clear vision, has been a vital link between B to B and B to C and promotes complete business skills essential for today's environment.

We are as nearer to you as is your Telephone. Kindly do not hesitate to call us to know more about this suggestion.