

BOS-Curriculum framing process – The entire process with flow chat and along with responsibilities

The college was granted autonomy by the UGC with effect from the academic year 2014-2015. Thus during the current academic year (2015-2016), students of first and second years follow the course curriculum approved by the Board of Studies of the respective Departments, while the students of third and fourth years continue to follow the curriculum prescribed for the affiliated colleges under Osmania University. However, in both cases, the curricula comply with the requirement of attaining the Program outcomes (POs) and Program Specific Outcomes (PSOs).

The process of identification of curriculum gaps involves a phase wise process which is done in each academic year.

- **Phase 1. Faculty knowledge domain**

The faculty handling the existing course individually provides general information on the quality of the course; strategic directions for the course; satisfaction of the course meeting with the curriculum. He/she analyses the present curriculum and updates the current industry / societal requirements. A draft curriculum gap report is prepared.

- **Phase 2. Assessment of delivery of the program and quality of the program through in program students and exiting students**

An in-program student survey is conducted to measure the degree to which current students believe they are achieving program-level learning outcomes; overall satisfaction with program; overall satisfaction with program delivery. An exit student survey is conducted for the exiting students to measure quality of the program and satisfaction with curriculum and overall program delivery. These surveys are conducted by the class coordinators to assess the delivery of the program and quality of the program. The gaps in the teaching learning process are identified in this phase.

- **Phase 3. Curriculum mapping with POs and PSOs**

The course mapping with Pos and PSOs is made by Class Assessment committee which clearly identifies the curriculum gaps. The curriculum map will identify the deficiencies in attainment of PO's and PSO's

- **Phase 4. Departmental staff meeting to consolidate the identified curriculum gaps in all the above phases**

A departmental staff meeting to be conducted to consolidate the identified curriculum gaps in all the above phases. The suggestions will be recorded for the entire program and are forwarded to

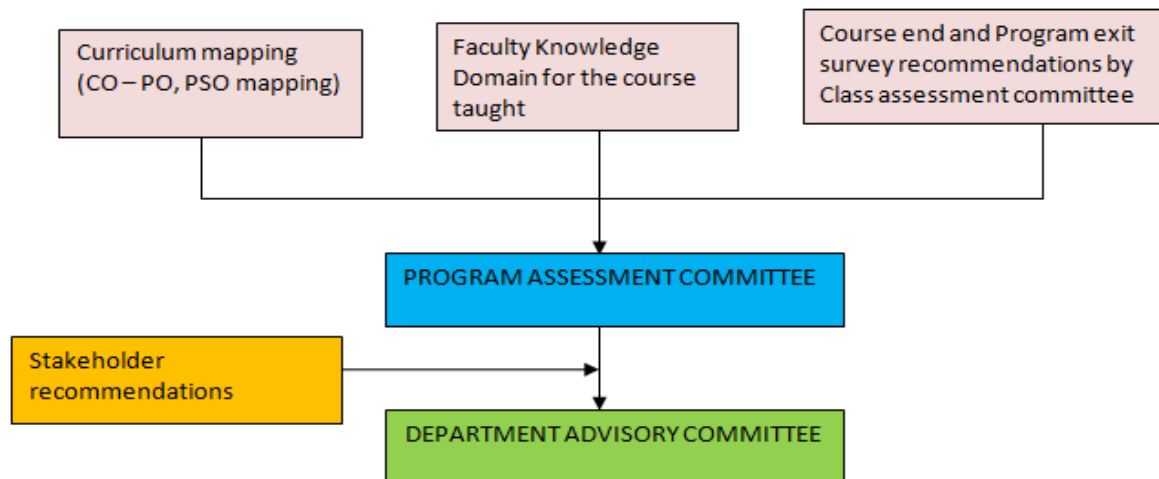
the Program Assessment committee.

- **Phase 5. Draft proposal finalization by Program Assessment committee**

Program Assessment committee conducts a curriculum development workshop in series of sessions with the academic experts on the suggestions consolidated by Departmental staff meeting. They finalize the draft proposal for finalization of the development plan in due consideration with the considerations from Employer survey report.

- **Phase 6. Approval from Department Advisory committee**

Department Advisory committee will then finalize the draft proposal of Program Assessment committee and recommends the action plan for bridging the curriculum gaps



A.Civil Engineering

Curriculum gaps:

The identified curriculum gaps are given below:

- a. Inadequacy of the syllabus to reflect the industry needs
- b. Communication skills and moral values
- c. Lack of exposure to the latest technological developments

Actions for bridging curriculum gaps:

In order to address the above gaps in curriculum, the following measures have been adopted:

1. Design of new courses / Modification of existing curriculum
 - a. Introduction of Advanced topics in surveying such as remote sensing, GIS, GPS, total station
 - b. Addition of new experiments in surveying laboratory with total station and GPS.

- c. Introduction of a course, “Building Planning and Drawing” by integration of Building Technology and Services and Building Drawing courses.
 - d. Modification of “Engineering Materials and construction” subject to “Building Materials and construction” subject through more emphasis for buildings.
 - e. Introduction of analysis of trusses in the subject ,”Engineering Mechanics- I” and analysis of vibrations in the subject ,”Engineering Mechanics- II”
 - f. Introduction of new courses on Human values and ethics, technical skills and soft skills through finishing school
2. Introduction of bridge course subjects for improving the subject knowledge on par with regular engineering students for lateral entry students.
 - a. Bridge course subjects such as Engineering Mechanics, English lab and Computer Programming lab were made mandatory for lateral entry students as the entry level requirements of lateral entry students do not match with the program curriculum.
 3. Student development programs to improve technical, communication skills and ethics
 - a. Professional practice schools for effective training of the students and enabling them to acquire the necessary skills for the industry
 - b. Workshops, seminars and tech fests to update the knowledge of the students.
 - c. Industrial visit to expose students, to the current trends in technology & innovation.
 4. Introduction of new and updated Software (beyond prescribed syllabus).
 - a. STAAD PRO
 - b. ARC GIS 10.3
 - c. AutoCAD 3 D
 - d. B_EST
 - e. MS EXCEL
 - f. ETABS

B. Computer Science Engineering and Information Technology

The following were the gaps identified with the existing course syllabi.

S. No	Gap Identified
1	Communication Skills
2	Industry Readiness
3	Career Guidance
4	Multidisciplinary projects
5	Ethics Values

Action taken to bridge identified gaps:

S. No	Delivery Details	Description
1	QEEE	Online courses are conducted for courses like CA, OS, DBMS, SE and DAA in association with IIT Madras
2	MECR	Microsoft Empowered Classrooms (MECR) by Microsoft offered online course on Design and Analysis of Algorithms and Theory of Computation for 3 rd year students. 80 students certified in DAA in 2014-15.
3	NPTEL	Students are made to enroll and complete online NPTEL certification courses typically on topics relevant to basic core courses with exposure to relevant tools and technologies. During the academic year 2017-18, 128 students of III Sem have completed certification course in "Programming data structures in Python", 125 students of IV Sem have completed certification course in "Internet of things", 73 Students of V Sem have completed certification course in "Database Management Systems" and 36 students of VI Sem have completed certification course in "Cloud computing". During the academic year 2018-19, 86 students of I Sem have completed certification course in "Joy of computing using Python", 132 students of III Sem have completed certification course in Programming data structures in Python, 132 students of V Sem have completed certification course in "Database Management Systems", 140 students of IV Sem have completed certification course in "Design and analysis of Algorithms" and 13 students of VI Sem have completed certification course in "Block chain technology".
4	Finishing School	An initiative offered for the overall development of the students to improve their communication, aptitude, attitude and Technical skills
5	Technical Training	In house faculty takes additional classes to improve the core subject knowledge by training the student to solve complex problems.
6	Value Added Courses	Vasavi College of Engineering has registered as a CISCO Local Academy with CISCO Academy Training Centre (CATC). The objective of this local Academy is to train students in networking leading to the award of CCNA (Cisco Certified Network Associate). The CISCO lab course is included in the regular timetable for the 2/4 & 3/4

		students to have hands- on experience on routers etc.
7	Technical Seminars and Mini Projects	<ul style="list-style-type: none"> • Students of B.E. II year give technical seminars on latest technologies which is not included in the curriculum to improve the communication and presentation skills and also get awareness of latest technologies. • Students of B.E. I, II and III year work on Mini Projects (initiative not included in the curriculum) related to PPS, Data Structures, JAVA, DAA, OS, MP, DBMS, WPS, CN and SE courses. This helps them in improving their programming and team work skills. • Students of B.E. III year also work on projects related to Windows apps, PHP and IoT Projects. This helps them to develop and implement their innovative ideas and be eligible for internships in reputed organizations
8	Hackathon/Appathon	Application development contests are organized and participated by the students to raise the competition spirit for an improvised learning.
9	Workshops/Expert Sessions	To meet the market demands, the department organizes workshops and encourages students to participate outside the college in the niche areas of interests of the industry. Sessions are regularly organized by inviting experts from industry, academia and alumni community.
10	Coding Platforms	Motivating students to participate in challenging coding platforms like Sphere Online Judge (SPOJ), Hackerearth and Hackerrank. Department regularly organizes coding contests to encourage students to excel in programming skills.
11	Certification Courses	Certification courses are offered by Microsoft in the area of Windows App development and EMC ² in the area of Storage Management & Cloud Computing and Pega Systems in the area of Business Process Management.

C. Electronics & Communications Engineering

Actions for bridging curriculum gaps:

the following measures have been adopted:

1. Design of new courses / Modification of existing curriculum
 - a. Introduction of Advanced topics in Microprocessors and Microcontrollers, Communications systems courses, Control systems, Microwave Engineering, VLSI design and EDA Lab
 - b. Addition of new experiments in Communication lab Microwave Engineering lab
 - c. Introduction of new courses Electronic Materials & Devices, Simulation Lab for Signals and Systems Basic circuits lab and Electronic workshop, Introduction to Communication Systems, Basic Thermodynamics, Telemetry and Telecontrol, Computer Networks Lab and Sensors and systems lab
 - d. Introduction of new courses on Human values and ethics, technical skills and soft skills through finishing school
2. Introduction of bridge course subjects for improving the subject knowledge on par with regular engineering students for lateral entry students.
 - a. Bridge course subjects such as Linear Algebra and Vector Calculus, English lab and Computer Programming are made mandatory for lateral entry students as the entry level requirements of lateral entry students do not match with the program curriculum.
3. Student development programs to improve technical, communication skills and ethics
 - a. Professional practice schools for effective training of the students and enabling them to acquire the necessary skills for the industry
 - b. Workshops, seminars and tech fests to update the knowledge of the students.
4. Introduction of new and updated Software (beyond prescribed syllabus).
 - a. Mat Lab
 - b. NI Lab View
 - c. Simulink
 - d. Multisim
 - e. Proteus
 - f. AWR

D.Electrical & Electronics Engineering

1. Design of new courses / Modification of existing curriculum
 - a. Introduction of new courses on Human values and ethics, technical skills and soft skills through finishing school
2. Introduction of bridge course subjects for improving the subject knowledge on par with regular engineering students for lateral entry students.
 - a. Bridge course subjects such as Engineering Mechanics, English lab and Computer Programming lab were made mandatory for lateral entry students as the entry level requirements of lateral entry students do not match with the program curriculum.

3. Student development programs to improve technical, communication skills and ethics
 - a. Professional practice schools for effective training of the students and enabling them to acquire the necessary skills for the industry
 - b. Workshops, seminars and tech fests to update the knowledge of the students.
 - c. Industrial visit to expose students, to the current trends in technology & innovation.

F. Mechanical Engineering

Based on identified changes in terms of courses, data on future, current industry need, program outcomes, program specific outcomes, the administrative bodies like BOS and DAC take appropriate action to revise the curriculum. Curricular gaps are identified with the help of the following.

S. No.	Process used to identify the curricular gaps
1.	Teacher knowledge domain
2.	Student feedback, and employer feedback
3.	Discussion with industry
4.	Alumni feedback
5.	Academic peer groups

In addition to the syllabus prescribed , the respective teachers try to highlight the advances in their area of specialization and the following facilities and activities help us in the attainment of the POs and PSOs.

- Digital Library
- Seminars
- Tech fests
- NPTEL courses
- Guest lectures
- Internship
- QEEE virtual classes by IIT faculty
- Assignments
- Mini projects
- Technical Magazines and journals
- Technical paper presentation contest
- Workshops / Conferences

1	Industry experts	Guest lectures are organized to benefit the students.
2	QEEE	Live interaction with IIT faculty are organized for students
3	NPTEL	Video lectures from IIT faculty are organized for students
4	Finishing school	Improvement of communication, quantitative aptitude and soft skills
5	Value added courses	Training on Software tools such as UG, CATIA, LS-Dyna, Hyper mesh are organized at regular intervals.

6	Industrial visit	Students visit large industries to study the machines, products, processes and get exposure to industrial environment.
7	Digital library	Technical Magazines and journals, Books and digital library facility is available
8	Students are encouraged to participate in technical paper presentation contest and project exhibitions	
9	Students are encouraged to participate in Internships , Mini projects & Workshops / Conferences	