



MKSSS's Cummins College of Engineering for Women
(An Autonomous Institute affiliated to Savitribai Phule Pune University, Pune)
AY 2022 - 2023

Action Taken Report

Curriculum Development of the College involves conducting several surveys to improve the quality of the program curriculum and course contents. The participants for the survey are the stakeholders - Faculty, Industry / Employers, Students and Alumni. Actions taken are based on their feedback taken for the academic year 2022-23. Department Advisory Board / Board of Studies / Academic Council / Governing Body meeting was held on 05/08/2022 and the committee consisting of Industry representative, Alumni and faculty from various departments, after having discussions with the above members, their suggestions / recommendations and actions taken are reported as follows:

Students Feedback	
Recommendations	Action Taken
More Hands-on Projects should be included in the curriculum.	The Second year and Third year curriculum includes mini projects. Students have to design, develop, implement, test and deploy the system as per scope of the mini project. Such mini projects offer an opportunity for students to demonstrate the skills that they have acquired in the laboratory course. Most final year students work on problem statements supported by industry for their Project work in the curriculum.
Lateral entry (Diploma admitted) students need information about exam assessment, various processes in the department and activities being conducted in college.	An Orientation Session was arranged for Diploma (Lateral Entry) students where they were informed about the college, process of examination and assessment, different activities conducted in the department and College, Central library, accessing online resources of the library etc. Moreover, a dedicated Mentor for the Diploma students has been assigned.

<p>Sessions on skill development, career building should be included in the curriculum.</p>	<p>The audit courses have been introduced which include skill development and Career Building.</p>
<p>More Industrial visits for subjects should be arranged.</p>	<p>The Industrial visits were arranged as per the program course requirements collectively in first and second semester. Students get exposure to industry processes through industry experts sessions, during industrial visits. During AY 2022 -23, 26 industrial visits have been arranged across all programmes.</p>
<p>Students expressed desire to undertake Internship.</p>	<p>Internships have been added in the 7th semester of Final Year since AY 2023 -2024.</p>
<p>More courses based on Finance must be included in the Curriculum.</p>	<p>There are courses added in the Curriculum which are related to Banking, Personal Finance, Law for Engineers etc.</p>
<p>More exposure to real life applications are needed.</p>	<p>Real life applications and case studies are being covered through organizing industry expert sessions in various domains of programs. Such expert sessions help students to understand real life applications of the respective course, current technological trends and future trends etc. During AY 2022 -23, a total of 85 experts/guest lecture sessions were arranged across all programmes.</p>
<p>To Introduce courses like Blockchain, DevOps.</p>	<p>Subjects Blockchain & DevOps are included in the TY (IT) curriculum as follows:</p> <ul style="list-style-type: none"> ● 20PEIT801 Introduction to DevOps ● 20PEIT502 Blockchain Architecture Design and Use cases.



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Teachers Feedback	
Recommendations	Action Taken
Courses on Ethics and behavior can be added.	A course on Professional Ethics and Etiquettes is added as an audit course for all second year students in their first semester of SY. Professional and Societal Awareness for Engineers, this course is added in the second semester of the third year, for all Computer Engineering students.
NEP Guidelines to be followed in the curriculum design.	From 2023-24, a new syllabus is framed based on the NEP guidelines.
Internship can be taken in the eighth semester.	Internships have been added in the 7 th semester of Final Year since AY 2023 -2024
Increase more industry tie ups for designing the curriculum.	Following courses have been designed using the tie-ups with Industry : <ul style="list-style-type: none">● 20IT404- Human Computer Interaction (Veritas)● 20PEIT802B- Unified Communication (Avaya India)● 20OE601- Design Thinking (IBM India) A Minor degree program - Information Security Management has been designed under the guidance of experts from ISCube, Cyber Resilient Group & Unisoft.

<p>Exposure to Sustainable Approach considering multidisciplinary aspects should be considered.</p>	<p>Verticals related to Sustainable Engineering are included under multidisciplinary Minor courses giving exposure to energy conservation, Data Science, Green Manufacturing etc.</p>
<p>Looking at the present needs in Industry, Excel programming and such skills are recommended.</p>	<p>A Lab course based on Excel programming has been added to the curriculum.</p>
<p>Curriculum improvement should be adaptive by Time and Technology.</p>	<p>Program electives and open elective courses of program are adaptive to technological changes of syllabus. Accordingly, Honors Major and Minor programs as also a big basket of Electives have been offered to the students in the A.Y. 2022-23.</p>
<p>Project based learning should be adapted in most of the courses if possible.</p>	<p>Project based learning as Continuous Assessment for 25 Marks has been included in TY course DSP.</p>
<p>More Alumni should be involved in designing of curriculum</p>	<p>Board of studies and DAB committee consist of Alumni member, those are involved in curriculum design. Also, Alumni feedbacks have been taken to improve curriculum.</p>



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Alumni Feedback	
Curriculum should focus on Entrepreneurship Development. About 45% alumni feel that there is room for improvement in this area.	Entrepreneurship Development is made a core course.
Introduce course - Personal Finance Planning.	Course - 20HS701 Economics and Personal Finance (EPF) has been added in the seventh semester. Guest lectures are organized for Financial Awareness. Moreover, the college has SWAYAM-NPTEL local chapter, SPOC informs students biannually about various courses conducted across all disciplines.
Concepts like GitHub should be introduced.	Latest topics like GitHub are introduced to the students in the DevOps Course (Third Year B.Tech) along with many other advanced topics.
Introduce course - Micro services, how an application works end to end, etc	Course - Honors - Full Stack Development has been added which spans over 3 semesters - 5, 6 & 8. The course covers front-end, server side programming.
Introduce course - System Design	The following course(s) have been introduced newly / shifted to third year from final year, so that it will help the students for internships, projects: <ul style="list-style-type: none">● 20IT602 Cloud Computing

	<ul style="list-style-type: none"> ● 20IT603 Object Oriented Software Engineering ● 20IT801 Distributed Systems ● 20PEIT 801C Design Patterns along with its lab.
<p>Java, Python should be included in the curriculum considering the recent industry trends.</p>	<p>Following laboratory courses have been added explicitly to make the curriculum as per the industry trends.</p> <ul style="list-style-type: none"> ● 20ES05 Fundamentals of Programming Language - 2 (Java) ● 20IT301L Data Structures Lab (Java) ● 20IT305L Object Oriented Analysis and Design Lab (Java) ● 20IT503L Machine Learning Laboratory (Python) ● 20PEIT501L Artificial Intelligence (Python) ● 20PEIT601L Natural Language Processing (Python)
<p>Stress management and Inter personal skills can be added.</p>	<p>The courses have been introduced to make the students aware about stress management & interpersonal skills.</p> <ul style="list-style-type: none"> ● 20AC301 Yoga, Meditation & ● 20AC501 Self Expression
<p>More involvement of Alumni should be there in curriculum formation and placement guidance.</p>	<p>Department has active involvement of alumni in curriculum development as BOS members. They are invited for activities like expert sessions, workshops, and discussion with students. Alumni are invited to give exposure to recent technologies and trends.</p>

<p>There should be more focus on soft skills.</p>	<p>More courses like soft skills, leadership skills are included in the new NEP structure. Employability Enhancement Program 2022-23 and Garnishing Talent 2022-23 has benefitted around 800 students across all programs.</p>
<p>Hands-on projects should be included in every course.</p>	<p>Project-based learning is included in DSP. Open-ended Assignments (OEA) and mini-projects are included in the laboratory courses.</p>
<p>Students should get more interaction with the industry. An internship should be made mandatory.</p>	<p>Industrial visits are regularly organized and 26 visits have been arranged in the A.Y 2022-23 across all the Programmes. Internships have been implemented in the 7th Sem of Engineering. About 85 Guest lectures from Industry experts, academicians, Resource persons have been arranged across all Branches.</p>
<p>Students should be encouraged to take up higher education.</p>	<p>Sessions on Higher education and research opportunities have been organized.</p>



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Employers Feedback	
Recommendations	Action Taken
Internship / Project should be at least 6 months.	Internships have been added in the 7 th semester of Final Year since AY 2023-24. Option of 2,3,4,5 and 6 months Internship were provided.
Number of Open Elective courses in the program should be increased	There are a total of four Open Elective courses in the structure of the program, two in third year and two in the Final year. Students can choose any two courses from the total 20 Open elective courses being offered.
In the Final year open elective courses, courses having a multidisciplinary approach should be added.	As per the suggestion, following open electives are offered : OE-III :Cyber Physical Systems [20OE801], Quantum Computing & Wireless Networks [20OE802 IV], Autonomous Robots are added in the Final year. While designing the course on Computer Vision, the syllabus of ML was considered - A course 'Automotive Electronics' was added as Open Elective II in T.Y Sem. II. - Automotive Communication Protocols are included in this course
Additional efforts can be taken to enhance students ability to use different hardware/software tools.	Additional workshops were conducted for students in which students get hands-on experience on various tools e.g. Tableau for data visualization, MATLAB, Proteus for simulating analog/digital circuits. Apart from laboratory experiments, open ended assignments are also given to the students. Students explore different hardware

	and software tools to complete these Assignments.
Subjects involving User interface design, design thinking, DevOps should be included	The following subjects have been added in the course. <ul style="list-style-type: none"> • 20OE601- Design Thinking (IBM India) • 20PEIT801- Introduction to DevOps
Based on the latest trends in industry, courses should be included in the syllabus.	Honors and Minors courses are included as per industry trends.
The course Deep Learning from Data Science honors program should include basic concepts of machine learning.	Basic concepts of Machine Learning are covered through Second Year semester -4 course 20CE403 Machine Learning with Python.
Inclusion of Technologies like Digital Twinning, Predictive Analytics should be introduced.	The mentioned topics have been included in the courses of Industrial IOT and Process Data Analytics respectively.
Regarding building Automation Syllabus, more topics on BMS with various topics should be included.	Some topics related to BMS are already included in the syllabus. More exposure to BMS verticals will be given through practical/tutorial assignments.

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