

SDM College of Engineering & Technology, Dharwad – 580002
Department of Chemical Engineering

Minutes of 15th BOS meeting (2021-22) held on 2nd July 2021

Program: UG Chemical Engineering

Online platform: Cisco WebEx meet

Meeting of Board of Studies of Chemical Engineering was held on 2nd July 2021 from 10.00 A.M. to 12.00 A.M. in the Dept. of Chemical Engineering to discuss and finalize scheme & syllabus of B.E. Chemical Engineering Program for the academic year 2020-21.

Link: <http://meet.google.com/jbh-sxzs-ndc>

Agenda

- i. **Syllabus revision/updating up to 10% change** in the current curriculum for III, IV, V and VI Semester according to 175 credits scheme.
- ii. Complete syllabus revision for VII and VIII semester according to 175 credits scheme.
- iii. **Revised CO-PO mapping according to unit wise syllabus of the subjects.**

Chairman of the B.O.S. – UG-Chemical, Dr. Lokeshwari N welcomed all the BOS members and briefed the committee about the changes to be made in UG scheme and curriculum to align with AICTE, VTU, Belagavi and SDMCET guidelines.

Chairman briefed about the per BOS meet held on 21st June 2021 and was discussed to have minimal correction in courses, avoid major changes like inclusion or exclusion of courses. General open electives are included under open elective categories from the current academic year. The 18-batch scheme and syllabus of 175 credits to be implemented for 4th year was discussed.

Agenda 1: Syllabus revision/updating up to 10% change in the current curriculum for III, IV, V and VI Semester according to 175 credits scheme. The following suggestions were made by the members

- Title of the Program Core “Technical Chemistry” in III semester can be rephrased to “Materials Chemistry”. (Dr. Puttaswamy C.T)
- “Transport Phenomena” elective in VI semester can be offered as a core subject. (Dr. G.P.Desai)
- Uniformity to be maintained in contact hours of the subjects as the question paper pattern is unit wise and there is a choice in each unit.

The scheme and syllabus of the 2nd and 3rd year was approved by the BOS members

Agenda 2: Complete syllabus revision for VII and VIII semester according to 175 credits scheme. The following suggestions were made by the members

- Advance Bioprocess Engineering can be offered as an open elective instead of Program elective in VIII semester. (Dr. Umesh B. Deshannavar)
- Title of the elective “Scale up in Chemical Process” Offered in VIII semester can be rephrased to “pilot Plant and Scale up in Chemical process”. (Dr. Puttaswamy C.T)
- Title of the elective “Sugar Technology” offered in VIII semester can be rephrased so as to highlight the importance of Co-generation power plant and Fermentation. (Dr. Puttaswamy C.T)
- Unit I of “Sugar Technology” can be rephrased as “Overview of Sugar Industry” (SYA)
- Contents of Fed batch fermentation reactors can be included. (Dr. Puttaswamy C.T)
- Under Co-generation unit, Carbon capturing and compressed biogas from press mud can be included. (Dr. Puttaswamy C.T)
- Availability of the reference books for “Environment Impact Assessment” to be checked. (Dr. Puttaswamy C.T)
- Prerequisite of “Advance Bioprocess Engineering” to be changed if “Biochemical Engineering” to be offered as an open elective. (Dr. G.P.Desai)
- Topic on Green Solvents to be added in Unit II of “Green Technology” elective in VIII semester. (Dr. Puttaswamy C.T)
- Prerequisites need not be mentioned for elective subjects. (Dr. Puttaswamy C.T)

The scheme and syllabus of 4th Year was approved by BOS members.

Agenda 3: Revised CO-PO mapping according to unit wise syllabus of the subjects

- In few subjects like CRE-II, Projects, the CO-PO mapping revised was approved by the BOS members

General comments were opined by external members on the above-mentioned agendas held on 2nd July 2021 in the BOS meet:

- Dr. Puttaswamy C.T briefed about the online internships opportunities for Chemical Engineering students. Internships can be taken up in data Analytics and Simulation.
- Dr. Umesh B. Deshannavar suggested motivating students to take internship offered by IChE. He further said about the Internship offered by “Petronas” in the field of Machine Learning and Artificial Intelligence”.

Chairman, Dr. Lokeshwari N thanked all the members for their valuable inputs and suitable corrections in scheme and curriculum. The approved scheme and syllabus are attached here with.



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Minutes of 14th BOS meeting (2020-21) held on 14th July 2020

Program: UG Chemical Engineering

Online platform: Cisco WebEx meet

Meeting of Board of Studies of Chemical Engineering was held on 14th July 2020 from 9.30 A.M. to 12.30 noon in the Dept. of Chemical Engineering to discuss and finalize scheme & syllabus of B.E. Chemical Engineering Program for the academic year 2020-21.

Members of BOS joined the meeting virtually through Cisco **WebEx meet**.

Chairman of the B.O.S. – UG-Chemical, Dr. Lokeshwari N welcomed all the BOS members. The following points were discussed and approval was taken in the meeting.

- Below mentioned Agenda of 14th BOS meet was briefed.
 - i. Syllabus revision for V and VI Semester according to 175 credits scheme.
 - ii. 10% change in current curriculum for higher semesters III, IV (175 Credits scheme), VII to VIII semester (200 Credits scheme).
 - iii. Reframing of COs and Multilevel mapping.
- Chairman of BOS briefed the committee about the changes to be made in UG scheme and curriculum to align with AICTE, VTU Belagavi and our college guidelines.
- The 18-batch scheme and syllabus of 175 credit to be implemented for 2nd and 3rd year and 200 credit scheme and syllabus for 4th year were discussed and approved by BOS members.
- Year wise distribution of 175 credits for 18 batch scheme: 1st Year= 40 credits; 2nd Year =49 credits; 3rd Year=49 credits and 4th year =37 credits.
- Unit wise syllabus is to be adopted for both the schemes as per college guidelines. Each course will have 5 units and each unit will have 9-12 Hrs. for 4 credit courses and 7-9 Hrs. for 3 credit courses.
- The two courses 18UCHC304 (Chemical Engineering drawing) and 18UCHC601 (Chemical Equipment Design-II) were not changed to unit wise and retained as before.

- The COs of all the courses were reframed and mapped to PO and PSOs according to the modified unit wise syllabus.
- The scheme of the 3rd year was discussed and approved by BOS members. 18UHUC500 (MEPIP) course was shifted to 5th semester at college level. 18UCHC501(Mass Transfer-1) was brought to 5th semester. The 18UCHL506 (Minor Project-1) of 1 credit and 18UHUL507 (Soft skills/aptitude) of 1 credit is introduced in 5th semester at college level.
- 18UCHL604 (Minor Project-2) of 2 credit and 18UHUL605 (Soft skills/aptitude) of 1 credit is introduced in 6th semester at college level.
- The college has introduced 3 Program electives and 2 open electives each of 3 credits in 18 schemes of 3rd year.
- The new electives introduced in 18 schemes for 3rd year by the program were 18UCHE510 (Air Pollution and Control Engineering), 18UCHE609 (Drug and Pharmaceutical Technology), 18UCHE610 (Food Engineering), 18UCHE612 (Advance waste water treatment) and 18UCHE613 (Biology for Engineers).
- The scheme for the 4th year was discussed and approved by BOS members. As per college guidelines 2 program elective and 1 open elective in the 4th year. 18UCHL703 (Major Project-1) of 2 credits and 18UCHL704 (Internship) of 2 credits are introduced in 7th semester.
- 18UCHE706 (Biochemical Engineering) was brought as elective in 7th semester. 18UCHE708 (Process Instrumentation), 18UCHE709 (Instrumental Method of analysis), 18UCHE710 (Nuclear Engineering) are introduced as open electives in 7th semester. 18UCHE806 (Solid waste management), 18UCHE807 (Green Technology) and 18UCHE808 (Environmental Impact Assessment) are introduced as open electives in 8th semester.

The above modified scheme was approved by BOS members

- The chairman briefed about the second-year syllabus under the 18 batch schemes of 175 credit, with 10% change.
- In 18UCHC301 (Technical chemistry), one chapter on Nano Technology was introduced. In 18UCHL305 (Particulate Technology Lab), 18UCHL306 (Technical analysis Lab) and 18UCHL406 (Fluid Mechanics Lab) list of experiments was written

instead of the name of the equipment. In 18UCHC403 (Pollution Control Engineering), Case studies of different industries was introduced.

- The chairman briefed about the 3rd year syllabus which was complete change for 18 Scheme for the approval.
- Dr. Puttswamy suggested to include the noise pollution in 18UCHE510 (Air pollution and control engineering) and advance biological treatment can be included in 18UCHE612 (Advance waste water treatment)
- The chairman briefed about the 4th year syllabus of 200 credit schemes with 10% change for the approval. Discussed and approved by BOS members.
- In 15UCHE709 (Novel separation technique) new sub topic of Ligand chromatography, membrane modules and gaseous diffusion was introduced. In 15UCHE803 (Solid waste management) new sub topic of Industrial solid waste management with case studies was introduced. In all the Laboratory courses list of experiments were written instead of the name of the equipment.

General comments were opined by external members on the above-mentioned agendas held on 14th July 2020 in the BOS meet:

- Dr Puttswamy C. T suggested that Biology for engineers can be made as open elective
- Mr. Vinay Konaje and Mr. Ashvinikumar K Kulkarni suggested that Industry live based projects can be given to students during their summer vacations
- All external members suggested that Internship can be spread from 2 weeks to 4 weeks and students can opt for it after 4th semester and 6th semester and present the report in 7th semester for the evaluation
- All external members suggested that in 8th semester only one course can be retained, so that students can concentrate more on the project work and seminars.
- Dr. Puttswamy C. T suggested that students to be motivated to take NPTEL courses relevant to chemical engineering and allied branches and provide suitable rewards in the credits
- Dr. Umesh B. Deshannavar suggested that Bright Students can be offered with 4 credit inter disciplinary course and encourage to have additional B.E Honors degree.

Chairman, Dr. Lokeshwari N thanked all the members for their valuable inputs and suitable corrections in scheme and curriculum.

Following members were present in the meeting.

Above mentioned suggestions will be incorporated in the curriculum and same will be sent to all the members for their perusal.




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Agenda and approvals and minutes of BOS meet (2019-20) held on 24th May 2019

Sl.No	Agenda	Approvals/ Remarks
1	Minor Revision of Vision and mission statements of the department.	Revised mission statements proposed by DUGC were Approved
2	Framing of Scheme for 2018-19 batch students as per the direction of AICTE, VTU and college for 175 Credits.	New scheme proposed by DUGC were Approved with changes New Scheme is given in BOS report
3	Syllabus revision for III and IV Semester according to the above said scheme.	New syllabus for III and IV Semester proposed by DUGC were Approved With minor changes. Detail syllabus is given in BOS report
4	10% change in current curriculum for higher semester V to VII semester.	The 10% change in current curriculum for V to VIII semester proposed by DUGC were Approved with minor changes Detail syllabus is given in BOS report
5	Reframing of COs and Multilevel mapping	Revised COs and Co to PO Mapping proposed by DUGC were Approved Detail of CO and Mapping is given in BOS report


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- Following points were discussed for individual subjects

Course Code	Course Title	III Semester Subject Wise suggestions
18UHC301	Chemical Process Calculations	PO1 to be included for CO1.
18UHC302	Fluid Mechanics	PO1 to be included for CO1. To show more number of the experiments in the syllabus content
18UHL306	Chemical/Basic Analysis Laboratory	Title can be changed to Technical Analysis Lab

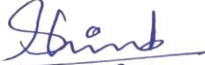
Course Code	Course Title	IV Semester Subject Wise suggestions
18UHC401	Chemical Engineering Thermodynamics	Thermodynamics I and II are clubbed as Chemical Engineering Thermodynamics for 04 credits (3-2-0).
18UHL405	Computer Applications and Numerical Methods Laboratory	PO 5 to be included.

Course Code	Course Title	V Semester Subject Wise suggestions
15UHC501	Mass Transfer – II	POs to be changed.
15UHC502	Chemical Equipment Design	POs to be changed.
15UHC503	Chemical Plant Utilities and Safety	POs to be changed. Syllabus content is modified.
15UCHE506	Process Instrumentation	CO to PO mapping modified.

Course Code	Course Title	VI Semester Subject Wise suggestions
15UCHC600	Management, Entrepreneurship and Protection of Intellectual Property Rights	POs can be deleted. Pos 6,8,10 and 12 to be included. CO to PO mapping modified.
15UCHC601	Chemical Process Integration	CO to PO mapping modified.
15UCHC602	Process Equipment Design and Drawing	No drawing in the exam, but sketch has to be included in the exam. QP pattern modified
15UCHL603	Mass Transfer Laboratory	CO3 to be modified.
15UCHE606	Petroleum and Petrochemicals	PO15 need not be included. Other POs can be added. PO 12 to be deleted in CO 6. Cos reframed. CO to PO mapping modified.
15UCHE607	Catalyst Technology	PO 15 to be deleted. COs reframed. CO to PO mapping modified.
15UCHE609	Polymer Science and Technology	PO15 to be deleted. CO to PO mapping modified.

Course Code	Course Title	VII Semester Subject Wise suggestions
15UCHC700	Process Dynamics and Control	PO10 to be deleted.
15UCHC701	Chemical Technology	PO 15 to be deleted. COs and POs to be modified. Co reframed. CO to PO mapping modified.
15UCHC702	Biochemical Engineering	CO to PO mapping modified.
15UCHL704	Process Control Laboratory	PO 9 to be added and POs to be revised for Cos.
15UCHL705	Computer Applications in Chemical Engineering and Simulation Laboratory	PO 5 to be added.
15UCHE708	Process Modeling and Simulation in Chemical Engineering	PO 5 to be added.

Course Code	Course Title	VIII Sem Subject wise Suggestions
15UCHC800	Process Engineering Economics and Management	Syllabus content modified. CO to PO mapping changed.
15UCHE805	Sugar Technology	PO 5, 15 to be deleted. CO to PO mapping modified.


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Minutes of BoS Meeting (2018-19)

Date: 2019, May 24

HoD and Chairman BoS welcomed all the BoS Members and introduced to the Dean Academic Program

Dean, Academics first welcomed all and said that all the scheme and structure given by AICTE/VTU is followed in common at central level and thanked the External BoS members for sparing their valuable time.

- The approvals of previous BOS (2018-19) were briefed.
- Pre-BOS meet was conducted in the department on 18th May 2019 in order to discuss the above mentioned agenda.
- Dean Academics first explained all the scheme and structure given by AICTE/VTU to be followed commonly at the central level.
- College has decided to have common scheme and structure standard format for all the departments.
- There is liberty to change the LTP schedule for the department and BOS.
- Internship is newly introduced for 4 weeks during vacation.
- Projects have been introduced at the 4th semester level itself to bring the practice of understanding and mini and major projects at 5th, 6th and final year level.
- Soft skill and aptitude are commonly introduced in 5th and 6th semester
- Technical seminar and independent study is introduced at 8th semester
- 200 credits has been reduced to 175 credits.
- BOS members commented that for independent study they can make use of MOOCs, NPTEL course and students can be encouraged to register for such courses.
- They also opined that there are many emerging platforms that can be introduced by alumnus
- The BOS members suggested that the evaluation of internship can be at 8th semester, but Dean Academics said that in our autonomy system, the student get sufficient time in summer vacation after 4th and 6th semester and hence can be evaluated easily.
- Open book test can also be given, along with assignments to the students.
- BOS member (Alumnus) opined that he shall help to train the students in the area of Internet of Things, Project management, Data science and Machine learning.

Experts' comments on Vision and Mission

- BOS members approved the vision and mission changes as per the NBA suggestions given.

Experts' comments on Scheme

Second year

- BOS members said the scheme for 3rd and 4th can be approved.
- In the 4th semester they asked about the guidelines for evaluation for Introductory project and it was opined that proper rubrics can be framed.

Third Year

- BOS members suggested various open electives.
- Concept of *Drawing* can be modified to *Sketching* for the subject Chemical Equipment Design and it was approved.
- BOS members opined soft skill training to be done centrally or at department level, hence the college guidelines were given, where the CIE will be evaluated by the staff of chemical engineering and the course will be taught by the expert from the college.
- BOS members appreciated and accepted the changes that will make students to go bold and work in a team.

Fourth Year

- BoS members opined to make Novel Separation Techniques subject to be Program elective and rather than an Open elective.
- Numerical or Statistical methods can be given as an open elective.
- Solid Waste Management, Alternative energy sources , Industrial safety , Materials science can be opted as open electives.
- Unit operations in Process Industries can be offered as open elective.
- Biology for Engineers can be an open elective.
- Plant utilities and safety can be renamed as Plant utilities and Industrial safety.


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Summary of BOS meet (2017-18) held on 18th May 2018

Sl.No	Agenda	Approvals	Remarks
1	To finalize VII and VIII sem scheme and syllabus for the year 2018-19.	Approved	Details enclosed with BOS
2	10% change in syllabus for III to VI sem.	Approved with some changes	Details enclosed with BOS
3	To finalize vision and mission statements of Chemical Engg department.	Approved	Details enclosed with BOS
4	To finalize Program Educational Objectives (PEOs) and Course Outcomes (COs).	Approved with some changes	Details enclosed with BOS

Meeting of pre-BOS by DUGC was held on 16th May 2018 and approved for these changes. The detailed syllabus for the approval of BOS was submitted by the course instructors and it was discussed and approval was given with changes requested by the course instructors. The detailed syllabus approved by pre-BOS is enclosed in the BOS report.



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- The approvals of previous BOS (2016-17) were briefed.
- Pre-BOS meet was conducted in the department on 16th May 2018 in order to discuss the above mentioned agenda.
- Dean Academics addressed on Course Teacher Assessment (CTA) and said that the activities should make sure that the students are continuously engaged in studies.
- Following points were discussed

III Sem

1. Technical Chemistry(15UCHC300)

- In the 2nd chapter “Inorganic Polymers”, the sub topic “Boron-based polymers-polycarboranes and polymeric boron nitride” can be replaced by “Silicon –based polymers”.
- Contact hours across the course can be made uniform if questions are to be set chapter wise.
- 5th chapter “Organic Reactions and their Mechanisms”, can be replaced by “Spectroscopy” chapter.

2. Fluid Mechanics (15UCHC302)

- CO2 and CO3 are reframed.

3. Basic Analysis Lab (15UCHC306)

- Few experiments are combined and some additional experiments are included.
- The experiment “Estimation of total loss of ignition for cement sample” is deleted.

IV Sem

1. Pollution Control Engineering (15UCHC404)

- In the 1st chapter Air, water and soil pollution management through waste minimization is deleted.
- Noise pollution chapter can be clubbed with air pollution chapter.
- Contact hours across all the chapters can be evenly distributed.

V Sem

1. Chemical Equipment Design (15UCHC502)

- CO 4 is modified.
- Chapter 2 and 3 i.e.Design of Pressure Vessels and Design of Reaction Vessels can be clubbed.
- Sub topic “Supports” in different chapters can be generalized.
- Reference books list is reorganized.

2. Chemical Plant Utilities and Safety (15UCHC503)

- Chapters can be clubbed to reduce number of chapters.

3. Environmental Engineering lab. (15UCHC505)

- Experiment on Bomb Calorimeter can be deleted as it is included in basic Analysis Lab of III Sem.

4. Energy Technology and Management (15UCHC507)

- A chapter on Fuel Cells can be added.
- Contents of “Fuels” chapter can be reduced.
- Statistics on energy generation and utilization can be added as a sub-topic in Energy management chapter.
- Contact hours for “Energy from Oceans” can be reduced.

VI Sem

1. Process Equipment Design and Drawing (15UCHC602)

- Design of Double pipe heat exchanger can be replaced with design of Fermenter.
- COs 2, 3 and 4 are modified.

2. Mass Transfer Lab (15UCHC603)

- Experiments on Packed column/ Plate column distillation, Rotary / Vacuum dryers, Holdup studies in packed columns and Tray dryer can be deleted.

3. Chemical Reaction Engineering Lab (15UCHC604)

- New experiments on i) CSTR in series and ii) RTD studies on spouted bed reactor can be added.

4. Catalyst Technology (15UCHC607)

- Chapters can be clubbed in order to reduce the number of chapters.
- COs are modified.

5. Polymer Science and Technology (15UCHC609)

- COs can be reframed.

VII Sem

- Subject codes to be changed from 11UCHC... to 15UCHC...
- Elective on “Advanced waste water treatment to be added.
- Professional and core open electives can be given.

VIII Sem

- Subject codes of 11UCHC800 and 11UCHC801 can be interchanged.
- Catalyst Technology elective can be replaced by Bioreactor Design.

1. Chemical Technology(15UCHC701)

- Rubber Industry chapter can be deleted.
- Contact hours to be made uniform.

2. PEOs of the Chemical Engineering Department

- PEO I and II are reframed and IV can be replaced by old PEO.

➤ The following points were suggested in the BOS meeting by the external members

- COs of each course can be reduced to 3 to 4 but not more than 6.
- Care to be taken to see that all COs should be attended by all students while framing IA question papers.
- Contact hours across all the chapters can be evenly distributed.
- Minimum and maximum contact hours can be fixed for the chapters.

➤ All the necessary correction were made and the contents of the following subjects were modified to maintain uniform contact hours.

- IV semester; Mass Transfer- I (15UCHC403)
- V semester; Chemical Plant Utilities and Safety (15UCHC503)
- VII semester; Chemical Technology; (15UCHC701)
- Vsemester; Energy Technology and Management (15UCHE507)
- III semester; Particulate Technology (15UCHC303)
- IV semester; Pollution Control Engineering (15UCHC404)
- V semester; Mass Transfer – II(15UCHC501)
- V semester; Chemical Equipment Design(15UCHC502)
- VI semester: Chemical Process Integration (15UCHC601)



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