



Department of Biotechnology
NPTEL/SWAYAM Courses for
Minor Engineering in Biochemical Engineering
(Applicable for 2020 admitted students onwards)

S.N.	Title of course	Link	No of weeks	Credits
1	Indoor Air Pollution: Sources, Effects, Monitoring, Control	https://nptel.ac.in/courses/105106491	12	3
2	Enhanced Oil Recovery Techniques	https://nptel.ac.in/courses/103105460	12	3
3	Statistics for Biomedical Engineers	https://onlinecourses.nptel.ac.in/noc24_bt70/preview	12	3
4	Biochemistry	https://onlinecourses.nptel.ac.in/noc24_cy06/preview	12	3
5	Biochemistry - IITM	https://onlinecourses.nptel.ac.in/noc24_bt12/preview	12	3
6	Experimental Biochemistry	https://onlinecourses.nptel.ac.in/noc24_cy13/preview	12	3
7	Applied Environmental Microbiology	https://onlinecourses.nptel.ac.in/noc24_ce04/preview	12	3
8	Chemical Engineering Thermodynamics	https://onlinecourses.nptel.ac.in/noc23_ch24/preview https://onlinecourses.nptel.ac.in/noc23_ch12/preview	12	3
9	Heat transfer	https://onlinecourses.nptel.ac.in/noc23_ch06/preview	12	3
10	Fundamental of Fluid Mechanics for Chemical and Biomedical Engineers	https://onlinecourses.nptel.ac.in/noc23_ge23/preview	12	3
11	Chemical Engineering Fluid Dynamics and Heat Transfer	https://onlinecourses.nptel.ac.in/noc23_ch32/preview	12	3
12	Aspects Of Biochemical Engineering	https://onlinecourses.nptel.ac.in/noc23_bt08/preview	12	3
13	Unit operations of particulate matter	https://onlinecourses.nptel.ac.in/noc23_ch27/preview	12	3
14	Introduction To Process Modeling In The Membrane Separation Process	https://onlinecourses.nptel.ac.in/noc23_ch18/preview	4	1
15	Waste to Energy Conversion	https://onlinecourses.nptel.ac.in/noc23_ch05/preview	8	2
16	Electrochemical Technology in Pollution Control	https://onlinecourses.nptel.ac.in/noc23_ch13/preview	8	2
17	Two phase flow and heat transfer	https://onlinecourses.nptel.ac.in/noc23_me24/preview	4	1

18	Inverse Methods in Heat Transfer	https://onlinecourses.nptel.ac.in/noc23_me32/preview	12	3
19	Convective Heat Transfer	https://onlinecourses.nptel.ac.in/noc23_me23/preview	4	1
20	Biostatistics and Mathematical biology	https://swayam.gov.in/nd1_noc20_ce34/preview	12	3
21	Fundamentals of food process Engineering	https://swayam.gov.in/nd1_noc20_ag01/preview	12	3
22	Principles Of Downstream Techniques In Bioprocess	https://swayam.gov.in/nd1_noc20_bt25/preview	12	3
23	Industrial Biotechnology	https://swayam.gov.in/nd1_noc20_bt21/preview	12	3
24	Heat exchangers: Fundamentals and design analysis	https://swayam.gov.in/nd1_noc20_me52/preview	12	3
25	Mechanical Unit Operations	https://swayam.gov.in/nd1_noc20_ch27/preview	12	3
26	Chemical Reaction Engineering-I	https://swayam.gov.in/nd1_noc20_ch25/preview	12	3
27	Fluid mechanics	https://swayam.gov.in/nd1_noc20_ce59/preview	8	2
28	Technologies For Clean And Renewable Energy Production	https://swayam.gov.in/nd1_noc20_ch37/preview	8	2
29	Numerical methods and Simulation Techniques for Scientists and Engineers	https://nptel.ac.in/courses/115/103/115103114/	8	2
30	Chemical Process Control	https://swayam.gov.in/nd1_noc20_ch28/preview	8	2
31	Chemical Process Safety	https://swayam.gov.in/nd1_noc20_ch38/preview	12	3

Note:

1. Students can secure minimum 3 credits in each semester (It is not mandatory but just for the convenience of students so that they can secure 20 credits before seventh semester)
2. Students cannot choose the courses they have studied as part of the regular curriculum (160 credits).
3. In case, any open elective matches with the subjects given in the above list, student can choose such subject only when he/she has not opted that elective in regular curriculum
4. In case, NPTEL is not offering any course listed above, BoS chairman can suggest an alternative course being offered by NPTEL during that time.
5. The list of courses will be updated time to time based on the courses announced by NPTEL and same will be informed to the students before deadline by the concerned faculty coordinators.
6. Students of B.Tech Chemical Engineering are not eligible to pursue this minor engineering course.