

# JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR

B.Tech. List of SWAYAM Courses as Electives for Academic Year 2023-24

R20 Regulations - B.Tech. III Year II Semester

## Professional Elective-II

S.No.	Discipline	Title of Course	Duration	Link to access course
1	Civil Engineering	Experimental Stress Analysis	12 weeks	<a href="https://onlinecourses.nptel.ac.in/noc21_me02/preview">https://onlinecourses.nptel.ac.in/noc21_me02/preview</a>
2	Civil Engineering	Geotechnical Engineering II Foundation Engineering	12 weeks	<a href="https://onlinecourses.nptel.ac.in/noc23_ce83/preview">https://onlinecourses.nptel.ac.in/noc23_ce83/preview</a>
3	Civil Engineering	Environmental Impact Assessment	12 weeks	<a href="https://onlinecourses.nptel.ac.in/noc22_ar07/preview">https://onlinecourses.nptel.ac.in/noc22_ar07/preview</a>
4	EEE	Operation and Planning of Power Distribution Systems	12 Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_ee41/preview">https://onlinecourses.nptel.ac.in/noc24_ee41/preview</a>
5	EEE	Power Quality	12 Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_ee60/preview">https://onlinecourses.nptel.ac.in/noc24_ee60/preview</a>
6	EEE	Smart Grid: Basics to Advanced Technologies	12 Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_ee37/preview">https://onlinecourses.nptel.ac.in/noc24_ee37/preview</a>
7	Mechanical Engineering	Power Plant System Engineering	12 Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_me57/preview">https://onlinecourses.nptel.ac.in/noc24_me57/preview</a>
8	Mechanical Engineering	Fundamentals of Combustion	12 Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_me34/preview">https://onlinecourses.nptel.ac.in/noc24_me34/preview</a>
9	Mechanical Engineering	Mechanical Behaviour of Materials (Part – I)	12 Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_mm20/preview">https://onlinecourses.nptel.ac.in/noc24_mm20/preview</a>
10	ECE	Introduction to Embedded System Design	12 Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_cs33/preview">https://onlinecourses.nptel.ac.in/noc24_cs33/preview</a>
11	ECE	Biomedical Signal Processing	12 Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_ee49/preview">https://onlinecourses.nptel.ac.in/noc24_ee49/preview</a>
12	ECE	Industrial Automation and Control	12 Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_ee56/preview">https://onlinecourses.nptel.ac.in/noc24_ee56/preview</a>
13	ECE	Multirate DSP	12 Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_ee22/preview">https://onlinecourses.nptel.ac.in/noc24_ee22/preview</a>
14	CSE, CSD	Advanced Computer Architecture	12 weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_cs06/preview">https://onlinecourses.nptel.ac.in/noc24_cs06/preview</a>
15	CSE, CSD	Computer Vision and Image Processing - Fundamentals and Applications	12 weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_ee38/preview">https://onlinecourses.nptel.ac.in/noc24_ee38/preview</a>
16	AI & DS	Data Analytics with Python	12Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_cs20/preview">https://onlinecourses.nptel.ac.in/noc24_cs20/preview</a>
17	AI & DS	Introduction to Internet of Things	12Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_cs35/preview">https://onlinecourses.nptel.ac.in/noc24_cs35/preview</a>
18	AI & DS	Computer Vision and Image Processing – Fundamentals And Applications	12Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_ee38/preview">https://onlinecourses.nptel.ac.in/noc24_ee38/preview</a>

19	CSE (AI & ML)	Advanced Robotics	12Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_me24/preview">https://onlinecourses.nptel.ac.in/noc24_me24/preview</a>
20	CSE (AI & ML)	Artificial Intelligence for Investments	12Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_mg06/preview">https://onlinecourses.nptel.ac.in/noc24_mg06/preview</a>
21	CSE (AI & ML)	Computer Vision and Image Processing – Fundamentals And Applications	12Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_ee38/preview">https://onlinecourses.nptel.ac.in/noc24_ee38/preview</a>
22	CSE (AI)	Advanced Robotics	12Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_me24/preview">https://onlinecourses.nptel.ac.in/noc24_me24/preview</a>
23	CSE (AI)	Introduction to Internet of Things	12Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_cs35/preview">https://onlinecourses.nptel.ac.in/noc24_cs35/preview</a>
24	CSE (AI)	Computer Vision and Image Processing – Fundamentals and Applications	12Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_ee38/preview">https://onlinecourses.nptel.ac.in/noc24_ee38/preview</a>
25	CSE (DS)	Predictive Analytics-Regression and Classification	12Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_ec08/preview">https://onlinecourses.nptel.ac.in/noc24_ec08/preview</a>
26	CSE (DS)	Introduction to Internet of Things	12Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_cs35/preview">https://onlinecourses.nptel.ac.in/noc24_cs35/preview</a>
27	CSE (DS)	Computer Vision and Image Processing – Fundamentals and Applications	12Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_ee38/preview">https://onlinecourses.nptel.ac.in/noc24_ee38/preview</a>
28	CSE (IOT)	Introduction to Machine Learning.	12Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_cs51/preview">https://onlinecourses.nptel.ac.in/noc24_cs51/preview</a>
29	CSE (IOT)	Cloud Computing	12 Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_cs17/preview">https://onlinecourses.nptel.ac.in/noc24_cs17/preview</a>
30	CSE (IOT)	An Introduction to Artificial Intelligence	12Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_cs08/preview">https://onlinecourses.nptel.ac.in/noc24_cs08/preview</a>
31	AI & ML	Advanced Robotics (Instead of Robotics Process Automation)	12Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_me24/preview">https://onlinecourses.nptel.ac.in/noc24_me24/preview</a>
32	AI & ML	Modern Computer Vision (Instead of Computer Vision)	12Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_ee21/preview">https://onlinecourses.nptel.ac.in/noc24_ee21/preview</a>
33	IT	Machine Learning for Engineering and science applications	12 weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_cs38/preview">https://onlinecourses.nptel.ac.in/noc24_cs38/preview</a>
34	IT	Computer Vision And Image Processing – Fundamentals And Applications	12 weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_ee38/preview">https://onlinecourses.nptel.ac.in/noc24_ee38/preview</a>
35	IT	Compiler Design	12 weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_cs18/preview">https://onlinecourses.nptel.ac.in/noc24_cs18/preview</a>
36	CSE (Cyber Security)	Cloud Computing	12 weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_cs17/preview">https://onlinecourses.nptel.ac.in/noc24_cs17/preview</a>
37	Food Technology	Cooling Technology: Why and how utilized in Food Processing and allied Industries	12 Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_ag01/preview">https://onlinecourses.nptel.ac.in/noc24_ag01/preview</a>
38	Food Technology	Novel Technologies for Food Processing and Shelf- Life Extension	12 Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_ag03/preview">https://onlinecourses.nptel.ac.in/noc24_ag03/preview</a>

**Note:**

1. Student registration for the above courses shall be only through the institution, it is mandatory for the student to share necessary information with the institution.

2. The institution shall select the courses to be permitted for credit transfer as per the list given in the table. However, while selecting courses the institution would essentially avoid the courses offered or already studied as part of the curriculum as it may otherwise lead to duplication and repetition of the same course.
3. A student is permitted to opt for any Professional Elective Course offered by his/her own department.
4. The institution shall designate a faculty member as a Mentor for each course to guide the students from registration till completion of the credit course. Student pursuing MOOC course through SWAYAM shall acquire the required credits only after successful completion of the course and submitting a certificate issued by the competent authority.

### Open Elective-II

S.No	Offered by the Department	Offered to the students of the departments	Title of Course	Duration	Link to access course
1	Civil Engineering	All Engg. disciplines other than Civil Engineering	Introduction to Environmental Economics	12 weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_hs41/preview">https://onlinecourses.nptel.ac.in/noc24_hs41/preview</a>
2	EEE	All Engg. disciplines other than EEE	Basic Principles of Energy Management & Energy Audit	12 Weeks	<a href="https://onlinecourses.swayam2.ac.in/nou24_es05/preview">https://onlinecourses.swayam2.ac.in/nou24_es05/preview</a>
3			Dynamical System and Control	12 Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_ma16/preview">https://onlinecourses.nptel.ac.in/noc24_ma16/preview</a>
4			Fuzzy Sets, Logic and Systems & Applications	12 Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_ee32/preview">https://onlinecourses.nptel.ac.in/noc24_ee32/preview</a>
5	Mechanical Engineering	All Engg. disciplines other than Mechanical Engineering	Entrepreneurship Essentials	12 Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_ge15/preview">https://onlinecourses.nptel.ac.in/noc24_ge15/preview</a>
6	ECE	All Engg. disciplines other than ECE/EEE	Principles of Signals and Systems	12 Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_ee36/preview">https://onlinecourses.nptel.ac.in/noc24_ee36/preview</a>
7			Digital Signal Processing and its Applications	12 Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_ee16/preview">https://onlinecourses.nptel.ac.in/noc24_ee16/preview</a>
8	CSE,CSD, CSE (Cyber Security), IT & Allied	All Engg. disciplines other than CSE, CSD, CSE (Cyber Security) IT & Allied	Introduction to Machine Learning	12 weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_cs51/preview">https://onlinecourses.nptel.ac.in/noc24_cs51/preview</a>
9			Data Analytics with Python	12 Week	<a href="https://onlinecourses.nptel.ac.in/noc24_cs20/preview">https://onlinecourses.nptel.ac.in/noc24_cs20/preview</a>
10			Introduction to Internet of Things	12weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_cs35/preview">https://onlinecourses.nptel.ac.in/noc24_cs35/preview</a>
11			AnIntroductiontoArtificialIntelligence	12weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_cs08/preview">https://onlinecourses.nptel.ac.in/noc24_cs08/preview</a>

12	Food Technology	All Engg. disciplines other than Civil Engineering	Food Microbiology and Food Safety	15 weeks	<a href="https://onlinecourses.swayam2.ac.in/cec24_ag01/preview">https://onlinecourses.swayam2.ac.in/cec24_ag01/preview</a>
13	IT	All Engg. disciplines other than CSE, IT & allied	Cloud Computing	12 weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_cs17/preview">https://onlinecourses.nptel.ac.in/noc24_cs17/preview</a>
14			Data Analytics with Python	12 weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_cs20/preview">https://onlinecourses.nptel.ac.in/noc24_cs20/preview</a>
15			Privacy and Security in Online Social Media	12 weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_cs04/preview">https://onlinecourses.nptel.ac.in/noc24_cs04/preview</a>
16	Mathematics	All Engg. disciplines	Advanced Engineering Mathematics	12weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_ma03/preview">https://onlinecourses.nptel.ac.in/noc24_ma03/preview</a>
17			Computational Mathematics with Sage Math	12 weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_ma15/preview">https://onlinecourses.nptel.ac.in/noc24_ma15/preview</a>
18			Financial Mathematics	12 weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_me09/preview">https://onlinecourses.nptel.ac.in/noc24_me09/preview</a>
19	Physics	All Engg. disciplines	Advanced NMR Techniques in Solution and Solid-State	12 Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_ph22">https://onlinecourses.nptel.ac.in/noc24_ph22</a>
20			Applied Thermodynamics	12 Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_me03">https://onlinecourses.nptel.ac.in/noc24_me03</a>
21			Atomic and Molecular Physics	12 Weeks	<a href="https://onlinecourses.nptel.ac.in/noc24_ph04">https://onlinecourses.nptel.ac.in/noc24_ph04</a>

**Note:**

1. Student registration for the above courses shall be only through the institution, it is mandatory for the student to share necessary information with the institution.
2. While opting the courses listed above, the institution would essentially avoid the courses offered or already studied as part of the curriculum as it may otherwise lead to duplication and repetition of the same course.
3. A student is permitted to opt for any Open Elective Course other than open elective offered by his/her own department.
4. The institution shall designate a faculty member as a Mentor for each course to guide the students from registration till completion of the credit course. Student pursuing MOOC course through SWAYAM shall acquire the required credits only after successful completion of the course and submitting a certificate issued by the competent authority.

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