
MGM University

Vision

- To ensure sustainable human development which encourages self-reliant and self-content society.
- To promote activities related to community services, social welfare and also Indian heritage and culture.
- To inculcate the culture of non-violence and truthfulness through vipassanna meditation and Gandhian Philosophy.
- To develop the culture of simple living and high thinking

Mission

- To impart state of art education and technical expertise to students and give necessary training to teachers to create self-reliant society for future.
- To encourage students to participate in Indian and International activities in sports, literature, etc. so that future generation becomes base for free and liberal society
- To educate students in areas like Management, Finance, Human relations to inculcate philosophy of simple living and high thinking value of simple economic society.
- To inculcate culture of non-violence and truthfulness through Vipassana.

To sustain activities of Indian culture (viz. classical dance, music and fine arts) through establishing institutes like Mahagami, Naturopathy, etc.

विद्यापीठ गीत

अत्त दिप भव भव प्रदिप भव,
 स्वरूप रूप भव हो
 ज्ञान सब्ब विज्ञान सब्ब भव,
 सब्ब दिप भव हो
 अत्ताहि अत्त नो नाथो,
 अत्ताहि अत्त नो गति
 अत्त मार्गपर अप्रमादसे है तुझे चलना
 सब्ब का कल्याण हो,
 वो कार्यकुशल करना
 सब्ब का उत्तम मंगल, पथप्रदर्शक हो
 अत्त दिप भव भव प्रदिप भव,
 स्वरूप रूप भव हो
 ज्ञान सब्ब विज्ञान सब्ब भव,
 सब्ब दिप भव हो
 बुद्धमं शरनं गच्छामि :
 धम्मं शरनं गच्छामि :
 संघं शरनं गच्छामि :

Jawaharlal Nehru Engineering College (JNEC) at a Glance

Jawaharlal Nehru Engineering College is a premier institute of engineering that has carved a niche for itself in the field of technical education in a very short span of time. The college has made its presence felt in the world of technical education. JNEC is a conducted college of MGM University, Chhatrapati Sambhajinagar from the academic year 2020-21.

Unique in its structure, methods and goals, the college is strongly rooted in the philosophy of training and research that enhances the relationship between knowledge and its application and seeks to promote the creation of an ideal society. The college also provides facilities for research leading to Ph. D. through its Research Center. JNEC provides a congenial atmosphere for diligent academic pursuits. This has been reflected through the results. Most of our students are among the toppers in various engineering disciplines.

Vision

To create self-reliant, continuous learner & competent technocrats imbued with human values.

Mission

- Imparting quality technical education to the students through participative teaching –learning process.
- Developing competence amongst the students through academic learning and practical experimentation.
- Inculcating social mindset and human values amongst the students.

Programs offered at JNEC

Undergraduate Programmes	Postgraduate Programmes	PhD Programmes	PG Diploma Programmes	Certificate Programmes
B. Arch. - Architecture	M. Arch. - General Architecture	Ph. D. Architecture		
B. Tech. Artificial Intelligence & Data Science	M. Arch. - Environmental Architecture	Ph. D. Chemical Engineering		
B. Tech. Chemical Engineering	M. Tech. Digital Transformation	Ph. D. Civil Engineering		
B. Tech. Civil Engineering	M. Tech. Electrical Power Systems	Ph. D. Electrical Engineering		
B. Tech. Civil Engineering with Computer Applications	M. Tech. Mechanical Engineering	Ph. D. Electronics Engineering		
B. Tech. Civil Engineering (Construction Technology)	M. Tech. Structural Engineering	Ph. D. Mechanical Engineering		
B. Tech. Computer Science & Engineering	M. Tech. VLSI & Embedded Systems	Ph. D. Computer Science & Engineering		
B. Tech. Electrical & Computer Engineering	Master of Computer Applications - MCA	Ph. D. Computer Applications		
B. Tech. Electronics & Computer Engineering				
B. Tech. Mechanical Engineering				
B. Tech. Mechanical & Mechatronics Engineering (Additive Manufacturing)				
B. Tech. Robotics & Artificial Intelligence				

Eligibility –**1. Maharashtra State Candidate.**

(i) The Candidate should be an Indian National and having domicile of Maharashtra state and/or born in Maharashtra state.

(ii) Passed HSC or its equivalent examination with Physics and Mathematics as compulsory subjects along with one of the Chemistry or Biotechnology or Biology or Technical Vocational subject or Computer Science or Information Technology or Informatics Practices or Agriculture or Engineering Graphics or Business Studies, and obtained at least 45% marks (at least 40% marks, in case of Backward class categories and Persons with Disability candidates belonging to Maharashtra State only) in the above subjects taken together and the candidate should have appeared in MGMU-CET 2022/ MHT-CET 2022/ PERA CET 2022/ JEE (Main) Paper-I 2022 and should obtain non zero score in MGMU-CET 2022/ MHT-CET 2022/ PERA CET 2022/ JEE (Main) Paper-I 2022. However, preference shall be given to the candidate obtaining non-zero positive score in MGMU-CET 2022 over the candidates who obtained non-zero score in MHT-CET 2022/ PERA CET 2022.

OR

(ii) Passed Diploma in Engineering and Technology and obtained at least 45% marks (at least 40% marks, in case of Backward class categories and Persons with Disability candidates belonging to Maharashtra State only).

2. All India Candidates –

(i) The Candidate should be an Indian National.

(ii) Passed HSC or its equivalent examination with Physics and Mathematics as compulsory subjects along with one of the Chemistry or Biotechnology or Biology or Technical Vocational subject or Computer Science or Information Technology or Informatics Practices or Agriculture or Engineering Graphics or Business Studies , and obtained at least 45% marks (at least 40% marks, in case of Backward class categories and Persons with Disability candidates belonging to Maharashtra State only) in the above subjects taken together and candidate should have appeared in MGMU-CET 2022/ MHT-CET 2022/ PERA CET 2022/

JEE (Main) Paper-I 2022 and should obtain non-zero score in MGMU-CET 2022/ MHT-CET 2022/ PERA CET 2022/ JEE (Main) Paper-I 2022. However, preference shall be given to the candidate obtaining non-zero positive score in JEE Mains Paper-I over the candidates who obtained non-zero score in MGMU-CET 2022/ MHT-CET 2022/ PERA CET 2022.

OR

(ii) Passed Diploma in Engineering and Technology and obtained at least 45% marks (at least 40% marks, in case of Backward class categories and Persons with Disability candidates belonging to Maharashtra State only)

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Name of Faculty: Engineering and Technology

Name of the College/Institute/Department/School: JNEC Name of the Programme: Engineering

Programme Type (UG/PG): UG

Duration: 4 Years

First Year - Semester I (Group A)												
Course Category	Course Code	Course Title	Nature of Course	No. of Credits	Teaching (Contact hrs/week)		Evaluation Scheme (Marks)			Minimum Passing (Marks)		
					L	P	Internal	External	Total	Internal	External	Total
BSC	APS21BSL101	Single and Multivariable Calculus	Theory	4	4	-	60	40	100		16	40
BSC	APS21BSL102	Engineering Physics	Theory	3	3	-	60	40	100		16	40
ESC	APS21ESL101	Python Programming	Theory	2	2	-	60	40	100		16	40
ESC	APS21ESL102	Engineering Graphics	Theory	2	2	-	60	40	100		16	40
AEC	MGM54AEL101	Communicative English	Theory	1	1	-	30	20	50		8	20
VSEC	APS21VSP101	Engineering Exploration	Practical	2	-	4	60	40	100		16	40
BSC	APS21BSP101	Engineering Physics Lab	Practical	1	-	2	30	20	50		8	20
ESC	APS21ESP101	Python Programming Lab	Practical	1	-	2	30	20	50		8	20
ESC	APS21ESP102	Engineering Graphics Studio	Practical	2	-	4	30	20	50		8	20
ESC	APS21ESP103	Recent Trends in Integrated Technology	Practical	1	-	2	30	20	50		8	20
AEC	MGM54AEP101	Communicative English Lab	Practical	1	-	2	30	20	50		8	20
CCA	MGM82CCP101 MGM82CCP102 MGM82CCP103	NCC / Yoga / Sports	Practical	2	-	4	30	20	50		8	20
Total				22	12	20	510	340	850	0	136	340

Note:

Nature of Course : L- Lecture, P-Practical, S-Seminar, J-Project, I-Internship, D-Dissertation,

Course Category: MM-Major Mandatory, ME-Major Elective, MI-Minor, OE-Generic / Open electives, VSC-Vocational skill course, SEC-Skill Enhancement course, AEC-Ability Enhancement course, IKS-Indian

Knowledge system, VEC-Value Education course, OJT-On Job Training / Internship / Apprenticeship, FP-Field project, CEP-Community engagement and service, CC-Co – curricular course, RM-Research methodology, RP-Research project

First Year- Semester II (Group A)												
Course Category	Course Code	Course Title	Nature of Course	No. of Credits	Teaching (Contact hrs/ week)		Evaluation Scheme (Marks)			Minimum Passing (Marks)		
					L	P	Internal	External	Total	Internal	External	Total
BSC	APS21B SL103	Linear Algebra and Differential Equations	Theory	4	4	-	60	40	100	-	16	40
BSC	APS21B SL104	Engineering Chemistry	Theory	3	3	-	60	40	100	-	16	40
ESC	APS21E SL103	Engineering Mechanics	Theory	2	2	-	60	40	100	-	16	40
ESC	APS21E SL104	Building Programming logic in C	Theory	1	1	-	30	20	50	-	8	20
PCC	APS21P CL101	Basics of Electrical and Electronics Engineering	Theory	2	2	-	60	40	100	-	16	40
IKS	APS21IK L1XX	Indian Knowledge System	Theory	2	2	-	60	40	100	-	16	40
VSE C	APS21V SP102	Workshop Practices	Practical	2	-	4	60	40	100	-	16	40
BSC	APS21B SP102	Engineering Chemistry Lab	Practical	1	-	2	30	20	50	-	8	20
ESC	APS21E SP104	Engineering Mechanics Lab	Practical	1	-	2	30	20	50	-	8	20
ESC	APS21E SP105	Building Programming logic in C Lab	Practical	1	-	2	30	20	50	-	8	20
PCC	APS21P CP101	Electrical and Electronics Technology Lab	Practical	1	-	2	30	20	50	-	8	20
CC A	MGM82 CCP104 MGM73 CCP105 MGM73 CCP106	NSS/ Fine Art/ Visual Art	Practical	2	-	4	30	20	50	-	8	20
Total				22	14	16	540	360	900	0	144	360

Note:

Nature of Course : L- Lecture, P-Practical, S-Seminar, J-Project, I-Internship, D-Dissertation,

Course Category: MM-Major Mandatory, ME-Major Elective, MI-Minor, OE-Generic / Open electives, VSC-Vocational skill course, SEC-Skill Enhancement course, AEC-Ability Enhancement course, IKS-Indian Knowledge system, VEC-Value Education course, OJT-On Job Training / Internship / Apprenticeship, FP-Field project, CEP-Community engagement and service, CC-Co – curricular course, RM-Research methodology, RP-Research project

Level 4.5 Award of UG certificate with 40 credits and an additional 4-credits core NSQF course / internship OR continue with major and minor

First Year - Semester I (Group B)												
Course Category	Course Code	Course Title	Nature of Courses	No. of Credits	Teaching (Contact hrs/week)		Evaluation Scheme (Marks)			Minimum Passing (Marks)		
					L	P	Internal	External	Total	Internal	External	Total
BSC	APS21BS L101	Single and Multivariable Calculus	Theory	4	4	-	60	40	100	-	16	40
BSC	APS21BS L104	Engineering CHEMISTRY	Theory	3	3	-	60	40	100	-	16	40
ESC	APS21ES L101	Python Programming	Theory	2	2	-	60	40	100	-	16	40
ESC	APS21ES L103	Engineering Mechanics	Theory	2	2	-	60	40	100	-	16	40
AEC	MGM54A EL101	Communicative English	Theory	1	1	-	30	20	50	-	8	20
PCC	APS21PC L101	Basics of Electrical and Electronics Engineering	Theory	2	2	-	60	40	100	-	16	40
VSEC	APS21VS P102	Workshop Practices	Practical	2	-	4	60	40	100	-	16	40
BSC	APS21BS P102	Engineering Chemistry Lab	Practical	1	-	2	30	20	50	-	8	20
ESC	APS21ES P101	Python Programming Lab	Practical	1	-	2	30	20	50	-	8	20
ESC	APS21ES P104	Engineering Mechanics Lab	Practical	1	-	2	30	20	50	-	8	20
AEC	MGM54A	Communicative	Pract	1	-	2	30	20	50	-	8	20

	EP101	English Lab	Practical										
PCC	APS21PC P101	Electrical and Electronics Technology Lab	Practical	1	-	2	30	20	50	-	8	20	
CCA	MGM82C CP101 MGM82C CP102 MGM82C CP103	NCC / Yoga / Sports	Practical	2	-	4	30	20	50	-	8	20	
Total				23	14	18	570	380	950	0	88	64	
First Year - Semester II (Group B)													
Course Category	Course Code	Course Title	Nature of Course	No. of Credits	Teaching (Contact hrs/week)		Evaluation Scheme (Marks)			Minimum Passing (Marks)			
					L	P	Internal	External	Total	Internal	External	Total	
BSC	APS21BS L103	Linear Algebra and Differential Equations	Theory	4	4	-	60	40	100	-	16	40	
BSC	APS21BS L102	Engineering Physics	Theory	3	3	-	60	40	100	-	16	40	
ESC	APS21ES L102	Engineering Graphics	Theory	2	2	-	60	40	100	-	16	40	
IKS	APS21IK L1XX	Indian Knowledge System	Theory	2	2	-	60	40	100	-	16	40	
ESC	APS21ES L104	Building Programming logic in C	Theory	1	1	-	30	20	50	-	8	20	
VSEC	APS21VS P101	Engineering Exploration	Practical	2	-	4	60	40	100	-	16	40	
BSC	APS21BS P101	Engineering Physics Lab	Practical	1	-	2	30	20	50		8	20	
ESC	APS21ES P102	Engineering Graphics Studio	Practical	2	-	4	30	20	50		8	20	
ESC	APS21ES P105	Building Programming	Practical	1	-	2	30	20	50		8	20	

		logic in C Lab										
ESC	APS21ES P103	Recent Trends in Integrated Technology	Pract ical	1	-	2	30	20	50		8	20
CCA	MGM82C CP104 MGM73C CP105 MGM73C CP106	NSS/ Fine Art/ Visual Art	Pract ical	2	-	4	30	20	50		8	20
Total				21	12	18	480	320	800	0	128	320

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Second Year- Semester III												
Course Category	Course Code	Course Title	Nature of Course	N o. of Credits	Teaching (Contact hrs/ week)		Evaluation Scheme (Marks)			Minimum Passing (Marks)		
					L	P	Internal	External	Total	Internal	External	Total
PCC	ECE21P CL201	Network Analysis	Lecture	2	2	-	60	40	100	-	16	40
PCC	ECE21P CP201	Network Analysis lab	Practical	1	-	2	30	20	50	-	8	20
PCC	ECE21P CL202	Analog and Digital Electronics circuits	Lecture	2	2	-	60	40	100	-	16	40
PCC	ECE21P CP202	Analog and Digital Electronics lab	Practical	1	-	2	30	20	50	-	8	20
PCC	ECE21P CL203	Computer Organization & Architecture	Lecture	2	2	-	60	40	100	-	16	40
PCC	ECE21P CP204	Object Oriented Programming lab	Practical	1	-	2	30	20	50	-	8	20
EEM C	ECE21H SL205	Business Management & Financial Accounting	Lecture	2	2	-	60	40	100	-	16	40
CEP/ FP	ECE21F PJ206	Electrical safety	Practical	2	-	4	30	20	50	-	8	20
MD M		Refer MGMU MDM Basket	Lecture	2	2	-	60	40	100	-	16	40
OE		Refer MGMU Open Elective Basket	Lecture	2	2	-	30	20	50	-	8	20
OE		Refer MGMU Open Elective Basket	Lecture	2	2	-	30	20	50	-	8	20
VEC	MGM56 VEL102	Constitution of India	Lecture	2	2	-	30	20	50	-	8	20
Total				21	16	10	510	340	850	-	-	-

Note:

Nature of Course : L- Lecture, P-Practical, S-Seminar, J-Project, I-Internship, D-Dissertation,

Course Category: PCC-Program Core Course, PEC-Program Elective Course, MDM-Multidisciplinary Minor, OE-

Open Elective, EEMC-Entrepreneurship/Economic/Management Course, VSEC-Vocational Skill and Skill

Enhancement Course, AEC-Ability Enhancement Course, IKS-Indian Knowledge System, VEC-Value Education

Course, OJT-On Job Training / Internship / Apprenticeship, FP-Field Project, CEP-Community Engagement and

Service, CC-Cocurricular course, RM-Research Methodology, RP-Research Project

Second Year- Semester IV												
Course Category	Course Code	Course Title	Nature of Course	N o. of Credits	Teaching (Contact hrs/ week)		Evaluation Scheme (Marks)			Minimum Passing (Marks)		
					L	P	Internal	External	Total	Internal	External	Total
PCC	ECE21P CL251	Electrical Machines	Lecture	2	2	-	60	40	100	-	16	40
PCC	ECE21P CP251	Electrical Machines Lab	Practical	1	-	2	30	20	50	-	8	20
PCC	ECE21P CL252	Electrical Power Systems	Lecture	2	2	-	60	40	100	-	16	40
PCC	ECE21P CP252	Electrical Power Systems Lab	Practical	1	-	2	30	20	50	-	8	20
PCC	ECE21P CL253	Data Structures	Lecture	2	2	-	60	40	100	-	16	40
PCC	ECE21P CP253	Data Structures Lab	Practical	1	-	2	30	20	50	-	8	20
VSEC	ECE21V SP254	Repair & Maintenance of home appliances	Practical	2	-	4	30	20	50	-	8	20
EEMC	ECE21H SL255	Entrepreneurship Development	Lecture	2	2	-	60	40	100	-	16	40
AEC		Refer MGMU AEC Basket	Lecture	2	2	-	30	20	50	-	8	20
MDM		Refer MGMU MDM Basket	Lecture	2	2	-	60	40	100	-	16	40
OE		Refer MGMU Open Elective Basket	Lecture	2	2	-	30	20	50	-	8	20
VEC	MGM21 VEL101	Environment Studies	Lecture	2	2	-	30	20	50	-	8	20
Total				21	16	10	510	340	850	-	-	-

Note:

Nature of Course : L- Lecture, P-Practical, S-Seminar, J-Project, I-Internship, D-Dissertation,
Course Category: PCC-Program Core Course, PEC-Program Elective Course, MDM-Multidisciplinary Minor, OE-Open Elective, EEMC-Entrepreneurship/Economic/Management Course, VSEC-Vocational Skill and Skill Enhancement Course, AEC-Ability Enhancement Course, IKS-Indian Knowledge System, VEC-Value Education Course, OJT-On Job Training / Internship / Apprenticeship, FP-Field Project, CEP-Community Engagement and Service, CC-Cocurricular course, RM-Research Methodology, RP-Research Project

THIRD YEAR

Semester V									
SN	Course Code	Course Title	Teaching Scheme			Evaluation Scheme			Credits
			L	T	P	CA	MS	ESE	
1	BEET3101	Power System Analysis	3	1	0	20	20	60	4
2	BEET3102	Control System Engineering	3	0	0	20	20	60	3
3	BEET3103	Microcontroller and Applications	3	0	0	20	20	60	3
4	BEEEVT3104	Elective II A) Power Plant Engineering B) Electrical Materials C) Analog and Integrated Circuits D) Open Elective	2	0	0	20	20	60	2
5	BEET3105	Engineering Economics	2	0	0	0	0	60	2
6	BEET3106	Foreign Language	1	0	0	0	0	50	1
7	BEEL3107	Control System Lab	0	0	2	60	0	40	1
8	BEET3108	Microcontroller and Applications Lab	0	0	2	60	0	40	1
9	BEETL3109	Computer Programming and Simulation Lab	0	0	2	60	0	40	1
10	BEEIT31010	Industrial Internship (2 weeks)	0	0	0	0	0	0	1
		Total	14	1	6	260	80	470	19
Semester VI									
SN	Course Code	Course Title	Teaching Scheme			Evaluation Scheme			Credits
			L	T	P	CA	MS	ESE	
1	BEET3201	Power Electronics	3	1	0	20	20	60	4
2	BEET3202	Electromagnetic Engineering	3	0	0	20	20	60	3
3	BEET3203	Electrical Machine Design	3	0	0	20	20	60	3
4	BEET3204	Elective III A) Energy Conservation and Auditing B) Industrial Management C) Computer Networks D) Open Elective	2	0	0	20	20	60	2
5	BEET3205	Industrial Automation	3	0	0	20	20	60	3
6	BEET3206	Constitutional Literacy	2	0	0	0	0	50	1
7	BEEL3207	Power Electronics Lab	0	0	2	60	0	40	1
8	BEET3208	Electrical Machine Design Lab	0	0	2	60	0	40	1
9	BEEL32009	Industrial Automation Lab	0	0	2	40	0	60	1
10	BEEPR32010	Project Part -I	0	0	2	0	0	60	1
		Total	16	1	8	260	100	550	20