

The MIT logo is rendered in a bold, dark red, sans-serif font.

MAEER'S

Arts, Commerce
& Science College

Affiliated to Savitribai Phule Pune University

Accredited by NAAC with "A" Grade

A photograph of a modern, white, multi-story college building with large arched windows and a sign that reads "MIT Arts, Commerce & Science College".

MIT Arts, Commerce
& Science College

Academic Year

2024-25

B.Sc. (Data Science)

(As per National Education Policy- 2020)

About Us

MIT Arts, Commerce and Science College established by Prof. (Dr.) Vishwanath Karad in 2007 under the aegis of Maharashtra Academy of Engineering and Educational Research (MAEER) Pune, affiliated with Savitribai Phule Pune University and recognised by the Government of Maharashtra has emerged as a prominent institute emphasizing on quality education, research opportunities and exposure to advancing academic innovation and engaging students, staff, alumni, and other stakeholders to achieve its educational goals. Located in a peaceful and nurturing environment, the college is Equipped with top- notch infrastructure with latest technological advancements and excellent library facilities for seamless academic activities. Research and academic programmes are driven by our highly qualified and experienced faculty members who foster in-depth knowledge and practical skills through active learning, field visits, expert guidance, training programs, research support, and continuous assessment. We have the Training and Placement Cell who facilitates the process of campus placement, strives to help students in improving communication and employment- seeking skills and assist to explore the various job opportunities thus leading to best placements amongst educational institute in Pune.

Awards, Affiliations and Recognition:

- ❖ MIT ACSC College is Accredited by NAAC with a CGPA of 3.21 on a Four point scale at 'A' Grade.
- ❖ Affiliated to Savitribai Phule Pune University and recognised by the Government of Maharashtra.
- ❖ Our educational institution in Pune, Maharashtra, has received the Education Excellence Award for achieving outstanding placements amongst other regional institutions.
- ❖ We are proud to have received the Best College Award in Rural Area for two consecutive years (2015-16 & 2016-17) from Savitribai Phule Pune University. We recognise our commitment to providing quality education in underserved areas.
- ❖ Our efforts towards student development have been acknowledged with the University Level Best College Award for 2017-18 by Savitribai Phule Pune University, underscoring our dedication to nurturing well-rounded individuals.
- ❖ We are ranked among the top colleges in India by India Today MDRA Best Colleges Ranking for 2018, 2019, 2020, and 2022, attesting to our reputation for excellence in education.
- ❖ MITACSC has secured the 3rd position in the prestigious TOP 10 EMERGING COLLEGES 2022, recognizing colleges established in or after 2010 for outstanding performance. The college is proud of its accomplishments and advancements and is committed to owning its promising future.

MIT ACSC offers a wide range of Undergraduate and Postgraduate programs:

Undergraduate Programs

- ❖ B.Com. (Bachelor of Commerce)
- ❖ BBA (Bachelor of Business Administration)
- ❖ BBA (International Business)
- ❖ BBA (Computer Application)
- ❖ BCA (Science)
- ❖ B.Sc. (Artificial Intelligence & Machine Learning)
- ❖ B.Sc. (Data Science)
- ❖ B.Sc. (Animation)
- ❖ B.Sc. (Computer Science)
- ❖ B.Sc. (Cyber & Digital Science)
- ❖ B.Sc. (Information Technology)
- ❖ B.Sc. (Industrial Mathematics with Computer Application)

Postgraduate Programs

- ❖ M.Sc. (Computer Science)
- ❖ M.Sc. (Data Science)
- ❖ M.Sc. (Information Technology)
- ❖ M.Sc. (Computer Application)
- ❖ M.Sc. (Industrial Mathematics with Computer Application)
- ❖ M.Sc. (Cyber & Digital Science)

Ph.D.

- ❖ Ph.D. - Mathematics

B.Sc.

(Data Science)

About the Course

Welcome to the B.Sc.(Data Science) programme! This programme is designed to empower students with knowledge and skills required to thrive in an era of data science and technology.

By choosing B.Sc. (Data Science) Programme, students enter into the dynamic field of data science and data analytics. Students will engage and build strong foundations in mathematics, statistics, computer science and ethical data practices. This programme not only equips students with technical expertise but also fosters a mindset of continuous learning, adaptability and ethical leadership.

As you navigate this syllabus, consider it a roadmap to your future in data science. Welcome to the world where data becomes insight and insight drives innovation.

Job prospects after B.Sc (Data Science)

- To produce outstanding IT professionals who can apply the theoretical knowledge into practice in the real world and develop standalone live projects themselves
- To provide opportunity for the study of modern methods of data processing and its applications.
- To develop among students the programming techniques and the problem- solving skills through programming.
- To prepare students who wish to go on to further studies in Data Science and related subjects.

Why choose MIT ACSC?

- Students are provided with opportunities to develop and hone core competency in the field of computer science and encourage them to make a mark in the much sought after IT industry.
- Learn Machine Learning, Soft Computing, Cloud Computing, Big Data Analytics, Mobile Technologies, and Web Framework (NodeJS,ExpressJS).
- Mandatory 6 months Industrial training & IT project in the curriculum.
- Opportunities to work as a Software Developer, System Integrator, Data Scientist and System Analyst.
- Opportunities to get higher education in – M.tech, M.Phil & Ph.D.
- 100 % Placement Assistance

Eligibility



Higher Secondary School Certificate (10+2) Science Stream with Mathematics or its equivalent examination.

OR

Three Years Diploma Course after S.S.C. (10th standard) of the Board of Technical Education conducted by the Government of Maharashtra or its equivalent.

How to Apply?



An eligible student has to apply through the college application form for the entrance examination conducted by college. Admissions will be offered to the students on the basis of their Entrance Exam score.



Program Structure

B.Sc. (Data Science)

FY B.Sc. (DS): SEM 1 | Level 4.5

Course Code	Course Type	Course Name	Teaching Scheme Hrs/Week		Examination Scheme and Marks			Credits		
			TH	PR	CE	EE	Total	TH	PR	Total
U24/DS1ST1	Subject 1	Statistics for Data Science	03	--	20	30	50	2	--	2
U24/DS1SP1		Practical Course based on Statistics for Data Science	--	04	20	30	50	-	2	2
U24/DS1ST2	Subject 2	Python Programming-I	03	--	20	30	50	2	--	2
U24/DS1SP2		Practical Course based on Python Programming-I	--	04	20	30	50	-	2	2
U24/DS1ST3	Subject 3	Website Designing Using HTML, CSS and Bootstrap	03	--	20	30	50	2	--	2
U24/DS1SP3		Practical based on Website Designing Using HTML, CSS and Bootstrap	--	04	20	30	50	2	2	2
U24/DS1OET1	Generic/Open Elective	From College Basket	03	--	20	30	50	2	--	2
U24/DS1SECT1	Skill Enhancement Courses	Computational Mathematics	03	--	20	30	50	2	--	2
U24/DS1IKST1	Indian Knowledge System	Indian Science, Engineering & Technology (Past, Present, Future)	03	--	20	30	50	2	--	2
U24/DS1AECT1	Ability Enhancement Courses	Language Communication-I	03	--	20	30	50	2	--	2
U24/DS1VECT1	Value Education Course	Environmental Science-I	03	--	20	30	50	2	--	2
Total			24	12	220	330	550	16	6	22

FY B.Sc. (DS): SEM 2 | Level 4.5

Course Code	Course Type	Course Name	Teaching Scheme Hrs/Week		Examination Scheme and Marks			Credits		
			TH	PR	CE	EE	Total	TH	PR	Total
U24/DS2ST1	Subject1	Mathematics for Data Science	3	--	20	30	50	2	--	2
U24/DS2SP1		Practical Course based on Mathematics for Data Science	--	4	20	30	50	--	2	2
U24/DS2ST2	Subject2	Python Programming-II	3	--	20	30	50	2	--	2
U24/DS2SP2		Practical Course based on Python Programming-II	--	4	20	30	50	--	2	2
U24/DS2ST3	Subject3	Database Management System	3	--	20	30	50	2	--	2
U24/DS2SP3		Practical Course based on Database Management System	--	4	20	30	50	--	2	2
U24/DS2GOT1	GE/OE	From College Basket	--	4	20	30	50	--	2	2
U24/DS2SECT1	Skill Enhancement Course (SEC)	Probability Distributions	3	--	20	30	50	2	--	2
U24/DS2AECT1	Ability Enhancement Course (AEC)	Language Communication-II	3	--	20	30	50	2	--	2
U24/VECT1	Value Education Course (VEC)	Environmental Science-II	3	--	20	30	50	2	8	2
U24/DS2CCT1	Co-Curricular Courses (CC)	Yoga Education-2/ NSS-2/ Health and Fine Arts-2/ Sports-2/ Culture-2 /NCC-2	3	--	20	30	50	2	--	2
Total			21	16	220	330	550	14	16	22

Program Structure

B.Sc. (Data Science)

SY B.Sc. (DS): SEM 3 | Level 5

Course Code	Course Type	Course Name	Teaching Scheme Hrs/Week		Examination Scheme and Marks			Credits		
			TH	PR	CE	EE	Total	TH	PR	Total
U24/DS3MJCT1	Major Core	Fundamental of Data Science	3	--	20	30	50	2	--	2
U24/DS3MJCT2		Data Structure-I	3	--	20	30	50	2	--	2
U24/DS3MJCP1		Practical Course based on Data Structure-I	--	4	20	30	50	--	2	2
U24/DS3VSCT1	Vocational Skill Courses	Inferential Statistics	3	--	20	30	50	2	--	2
U24/DS3FP	Field Project	Field Project based on Fundamental of Data Science	--	2	20	30	50	--	2	2
U24/DS3MNT1	Minor	Subject 2: Programming in JAVA-I Subject 3: Web Technology-I	3	--	20	30	50	2	--	2
U24/DS3MNP1		Subject 2: Practical Course based on Programming in JAVA-I Subject 3: Practical Course based on Web Technology-I	--	4	20	30	50	--	2	2
U24/DS3OET1	Generic/Open Elective	From College Basket	3	--	20	30	50	2	--	2
U24/DS3IKST1	Indian Knowledge System	Computing in Ancient India	3	--	20	30	50	2	--	2
U24/DS3AECT1	Ability Enhancement Courses	Hindi-1/ Marathi-1/ Sanskrit-1	3	--	20	30	50	2	--	2
U24/DS3CCT1	Co-Curricular Courses	From College Basket	3	--	20	30	50	2	--	2
Total			24	10	220	330	550	16	6	22

SY B.Sc. (DS): SEM 4 | Level 5

Course Code	Course Type	Course Name	Teaching Scheme Hrs/Week		Examination Scheme and Marks			Credits		
			TH	PR	CE	EE	Total	TH	PR	Total
U24/DS4MJCT1	Major Core	Machine Learning-I	3	--				2	--	2
U24/DS4MJCT2		Data Structure-II	3	--	20	30	50	2	--	2
U24/DS4MJCP1		Practical Course based on Machine Learning-I	--	4	20	30	50	--	2	2
U24/DS4VSCT1	Vocational Skill Courses	Practical Course based on Data Structure-II	--	4	20	30	50	--	2	2
U24/DS4CEP	Community Engagement/Field Project	Community Engagement Program	--	2	20	30	50	--	2	2
U24/DS4MNT1	Minor	Subject 2: Programming in JAVA-II Subject 3: Web Technology-II	3	--	20	30	50	2	--	2
U24/DS4MNP1		Subject 2: Practical Course based on Programming in JAVA-II Subject 3: Practical Course based on Web Technology-II	--	--	20	30	50	--	2	2
U24/DS4OET1	Generic/Open Elective	From College Basket	--	4	20	30	50	--	2	2
U24/DS4SECT1	Skill Enhancement Courses	Categorical Data Analysis	3	--	20	30	50	2	--	2
U24/DS4AECT1	Ability Enhancement Courses	Hindi-2/ Marathi-2/ Sanskrit-2	3	--	20	30	50	2	--	2
U24/DS4CCT1	Co-Curricular Courses	From College Basket	3	--	20	30	50	2	--	2
Total			18	14	220	330	550	12	10	22

Program Structure

B.Sc. (Data Science)

TY B.Sc. (DS): SEM 5 | Level 5.5

Course Code	Course Type	Course Name	Teaching Scheme Hrs/Week		Examination Scheme and Marks			Credits		
			TH	PR	CE	EE	Total	TH	PR	Total
U24/DS-MJCT-501	Major Core	Machine Learning-II	3	--	20	30	50	2	--	2
U24/DS-MJCT-502		NoSQL Databases	3	--	20	30	50	2	--	2
U24/DS-MJCT-503		Python Frameworks for Web Applications	3	--	20	30	50	2	--	2
U24/DS-MJCT-504		Computer Networking	3	--	20	30	50	2	--	2
U24/DS-MJCP-505		Practical Course based on Machine Learning-II	--	4	20	30	50	--	2	2
U24/DS-MJCP-506		Practical Course based on Data Visualization tools	--	4	20	30	50	--	2	2
U24/DS-MNRT-507	Major Elective (Choose A or B)	A.Full Stack Web Development -I B.Data Analytics using R	3	--	20	30	50	2	--	2
U24/DS-MNRP-508		A.Practical Course based on Full Stack Web Development B.Practical Course based on Data Analytics Using R	--	4	20	30	50	--	2	2
U24/DS-VSCP-509	Vocational Skill Courses	Practical Course based on Python Framework for Web Applications	3	--	20	30	50	2	--	2
U24/DS-CEP-510	Field / Community Engagement Project	Capstone Project based on Data Science	--	2	20	30	50	--	2	2
U24/DS-MNRT-511	Minor	Subject 2: Object Oriented Software Engineering Subject 3: Software Testing	3	--	20	30	50	2	--	2
Total			21	14	220	330	550	14	8	22

TY B.Sc. (DS): SEM 6 | Level 5.5

Course Code	Course Type	Course Name	Teaching Scheme Hrs/Week		Examination Scheme and Marks			Credits		
			TH	PR	CE	EE	Total	TH	PR	Total
U24/DS-MJCT-601	Major Core	Deep Learning-I	2	--	20	30	50	2	--	2
U24/DS-MJCT-602		Data Visualization tools	2	--	20	30	50	2	--	2
U24/DS-MJCT-603		Artificial Intelligence	2	--	20	30	50	2	--	2
U24/DS-MJCT-604		Data Security and Privacy	2	--	20	30	50	2	--	2
U24/DS-MJCP-605		Practical Course based on Deep Learning-I	--	4	20	30	50	--	2	2
U24/DS-MJCP-606		Practical Course based on Nosql Databases	--	4	20	30	50	--	2	2
U24/DS-MNRT-607	Major Elective (Choose A or B)	A.Full Stack Web Development -II B.HR and Financial Analytics	2	--	20	30	50	2	--	2
U24/DS-MNRP-608		A.Practical Course based on Full Stack Web Development-II B.Practical Course based HR and Financial Analytics	--	4	20	30	50	--	2	2
U24/DS-VSCP-609	Vocational Skill Courses	Practical Course based on Artificial Intelligence	--	3	20	30	50	2	--	2
U24/DS-CEP-610	On Job Training	On Job Training	--	2	20	30	50	--	4	4
Total			10	17	220	330	550	12	10	22

Program Structure

B.Sc. (Data Science)

FY B.Sc. (DS): SEM 7 | Level 5.5

Course Code	Course Type	Course Name	Teaching Scheme Hrs/Week		Examination Scheme and Marks			Credits		
			TH	PR	CE	EE	Total	TH	PR	Total
U24/DS-MJCT-701	Major Core	Deep Learning-II	5	--	40	60	100	4	--	4
U24/DS-MJCT-702		Design and Analysis of Algorithm	5	--	40	60	100	4	--	4
U24/DS-MJCT-703		Cloud Computing	3	--	20	30	50	2	--	2
U24/DS-MJCT-704		Practical Course based on Deep Learning-II	--	4	20	30	50	--	2	2
U24/DS-MJCP-705		Practical course based on Design and Analysis of Algorithm	--	4	20	30	50	--	2	2
U24/DS-MJCP-706	Major Elective (Choose A or B)	A.Natural Language Processing B.Computer Vision	3	--	20	30	50	2	--	2
U24/DS-MNRT-707		A.Practical course based on Natural Language Processing B.Practical Course Based on Computer Vision	--	4	20	30	50	--	2	2
U24/DS-MNRP-708	Research Methodology	Research Methodology	5	--	20	30	50	4	--	4
Total			21	12	220	330	550	16	6	22

FY B.Sc. (DS): SEM 8 | Level 5.5

Course Code	Course Type	Course Name	Teaching Scheme Hrs/Week		Examination Scheme and Marks			Credits		
			TH	PR	CE	EE	Total	TH	PR	Total
U24/DS-MJCT-801	Major Core	Data Mining and Warehousing	5	--	40	60	100	4	--	4
U24/DS-MJCT-802		Big Data Analytics	5	--	40	60	100	4	--	4
U24/DS-MJCT-803		Optimization Techniques	3	--	20	30	50	2	--	2
U24/DS-MJCT-804		Practical course based on Data Mining and Warehousing,	--	4	20	30	50	--	2	2
U24/DS-MJCP-805		Practical course based on Big Data Analytics	--	4	20	30	50	--	2	2
U24/DS-MJCP-806	Major Elective (Choose A or B)	A.Social Media Analytics B.Healthcare Data Analytics	5	--	20	30	50	2	--	2
U24/DS-MNRT-807A		A.Practical course based on Social Media Analytics B.Practical course based on Healthcare Data Analytics	4	--	20	30	50	--	2	2
U24/DS-MNRP-808	On Job Training	On Job Training	--	2	20	30	50	--	4	4
Total			22	10	220	330	550	12	10	22

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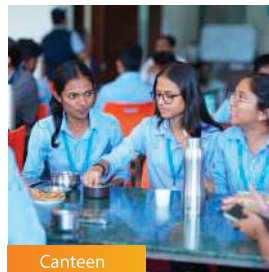
College Campus



Computer Lab



Class Room



Canteen



Play Ground



Computer Lab



Indoor Sports



Class Room



Computer Lab



Library



Garden



Class Room



Play Ground



Electronics Lab



Laboratory



Laboratory



Class Room



Indoor Sports

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