Chowgule Education Society's

Parvatibai Chowgule College of Arts and Science

(Autonomous)

Accredited by NAAC with Grade 'A+'

Best Affiliated College-Goa University Silver Jubilee Year Award

PROSPECTUS

MASTER OF SCIENCE (M.Sc.)

2025-26

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Introduction

Chowgule Education Society's, Parvatibai Chowgule College of Arts and Science, Margao-Goa, founded in 1962, is an Autonomous institution of higher education within the Goa University system since 2014. This premier educational institution has been accredited by the National Assessment and Accreditation Council (NAAC) at Grade A+.

Since becoming autonomous the College introduced the Choice Based Credit System (CBCS) in all its undergraduate and postgraduate educational programmes. Besides the CBCS, the revision of the programmes was done by taking into account the employability issues. The College is presently involved in strengthening its outcome-based education and evolving it further so as to meet the needs of the present-day generation.

The College is directed by its mission and vision to seek higher distinctions and impart quality education with innovative curriculum, appropriate teaching-learning-evaluation methodologies, twenty-first century technologies and better infrastructure.

Under the choice-based credit system the College offers core courses and elective courses in each of its educational programmes both at the undergraduate and postgraduate levels. Its postgraduate programmes are governed by Autonomy Ordinances (AO), AO-5 for master's degree programmes and AO-9 for postgraduate diploma programmes.

The postgraduate degree programmes (2 years) offered by the College on self-financed basis are:

1. Master of Arts in Child Psychology and Child Development
2. Master of Arts in English
3. Master of Arts in Geography
4. Master of Science in Analytical Chemistry
5. Master of Science in Geoinformatics
6. Master of Science in Information Technology
7. Master of Science in Life Science

The postgraduate degree programmes are two-years-four-semesters full time programmes carrying a minimum of 80 credits and the postgraduate diploma programmes are one-year-two-semesters full time programmes carrying a minimum of 40 credits. The courses are conducted using a range of teaching-learning-evaluation methodologies evolved conceptually and through the use of ICT processes. For instance the outcome-based-education followed by many teaching departments is a conceptually evolved methodology, whereas the flipped classroom has evolved as a result of the use of ICT and LRMS. The aim of excellence has been a driving force for innovative developments in learning programmes at the College.

A student's learning is evaluated in the courses through continuous assessments using various evaluation methodologies and through a comprehensive semester-end examination. The evaluation is done not only to determine a student's grasp of the subject-knowledge in the course but also to determine the extent of other skills acquired such as critical-thinking, analysing, out-of-the-box thinking, oral and written communication, referencing, etc. The performances of a student in the various courses are graded and a CGPA (Cumulative Grade-Point Average) is calculated so as to ascertain the student's overall performance in the programme.

This prospectus provides information, in a nutshell, on these above-listed programmes for the benefit of students who are deciding about taking admission to any of these programmes.

How to apply for admission:

For all postgraduate degree programmes, apply online
http://apply.chowgules.ac.in
Complete the online admission form as per instructions provided therein.

For further details and queries:
Email: **sfpadmission@chowgules.ac.in**

Master of Science in Analytical Chemistry

(M.Sc. in Analytical Chemistry)

(Self-Financed)

Programme Code: PGMP–CHE

Duration: Two Years (Four Semesters)

Objectives of the Programme:

Analytical Chemistry forms the basis of research not only in the field of Chemistry but also in many other branches of Sciences. Thus, it provides the scope for recruitment of students in research fields as Research Scholars, Research Associates and Project Assistants. Pharmaceutical industries look for skillful analytical chemists. Goa being a center for many multinational pharmaceutical companies, Analytical Chemistry is a potential field for providing employment.

Analytical Chemistry, being an experimental science, addresses the students training needs by focusing on practical works as to help them to acquire expertise in performing experiments and to handle sophisticated instruments. The data obtained needs statistical analysis to establish authenticity in the fields like environmental science, space chemistry and biotechnology. There are immense potentialities for post graduates to undertake advanced research or be employed in industries as skilled chemists.

The course gives an introduction to all branches of chemistry including basic analytical methods. It provides a sound background in understanding fundamental concepts, good laboratory practices, data management and analysis with extrapolation of results; design of experiment, planning a safe working practice including evaluation of hazards and environmental effects; achieve a common research goal working in a small team; self-led practical-based research, especially on characterization based on analytical instrumentation methods like spectroscopy, chromatography and many more with appreciation of issues in each of these fields on the current research.

Eligibility and Selection Procedure:

Admission to the two year, four semesters, fulltime course leading to the degree in Master of Science in Analytical Chemistry is open to any candidate completing B.Sc. Examination, scoring minimum 55% pass percentage with 6 Units Chemistry along with Analytical Chemistry as one of the courses. The selection of the candidate for PG is purely on merit, based on the performance of the student at T.Y.B. Sc. University Examination.

Total Number of Seats (including reserved seats): 20

Credits Required to complete the Programme:80

Course Structure M.Sc. Analytical Chemistry

Courses	Sem I	Sem II	Sem III	Sem IV	Total
Discipline Specific Course (DSC)	16	16			32
Discipline Specific Electives (DSE)	4	4	8		16
Generic Electives (GE)			4		4
Research Specific Electives (RSE)			8	4	12
Discipline Specific Dissertation (DSD) / Internship (I)				16	16
Total	**20**	**20**	**20**	**20**	**80**

Course Information (a)

Semester I (20 credits)

Course Code	Course Type	Course Title	Credits
PGMP-CHE-DSC-401	Discipline Specific Core (DSC)	General Inorganic Chemistry	4
PGMP-CHE-DSC-402	Discipline Specific Core (DSC)	General Physical Chemistry	4
PGMP-CHE-DSC-403	Discipline Specific Core (DSC)	Fundamentals of Organic Chemistry	4
PGMP-CHE-DSC-404	Discipline Specific Core (DSC)	Laboratory Course in Physical Chemistry	2
PGMP-CHE-DSC-405	Discipline Specific Core (DSC)	Laboratory Course in Organic Chemistry	2
	Total Credits for Discipline Specific Core subjects		**16**
	Discipline Specific Elective (DSE)	Discipline Specific Elective I	2
	Discipline Specific Elective (DSE)	Discipline Specific Elective II	2
	Total Credits for Discipline Specific Elective subjects		**4**
Total Minimum Credits for Semester I – 20			
	List of Discipline Specific Electives I and II		
PGMP-CHE-DSE-401	Reaction Mechanisms in Organic Chemistry		2
PGMP-CHE-DSE-402	Topics in Physical Chemistry		2
PGMP-CHE-DSE-403	Diffraction Methods		2

Semester II (20 credits)

Course Code	Course Type	Course Title	Credits
PGMP-CHE-DSC-406	Discipline Specific Core (DSC)	Spectroscopy in Chemistry	4
PGMP-CHE-DSC-407	Discipline Specific Core (DSC)	Fundamentals of Chemical Analysis	4
PGMP-CHE-DSC-408	Discipline Specific Core (DSC)	Spectral Methods of Analysis	4
PGMP-CHE-DSC-409	Discipline Specific Core (DSC)	Laboratory Course in Analytical Chemistry	2
PGMP-CHE-DSC-410	Discipline Specific Core (DSC)	Laboratory Course in Inorganic Chemistry	2
	Total Credits for Discipline Specific Core subjects		**16**
	Discipline Specific Elective (DSE)	Discipline Specific Elective III	2
	Discipline Specific Elective (DSE)	Discipline Specific Elective IV	2
	Total Credits for Discipline Specific Elective subjects		**4**
Total Minimum Credits for Semester II – 20			
	List of Discipline Elective III and IV:		
PGMP-CHE-DSE-404	Topics in Inorganic Chemistry		2
PGMP-CHE-DSE-405	Reagents in Organic Synthesis		2
PGMP-CHE-DSE-406	Bio analytical Chemistry		2

Semester III (20 credits)

Course Code	Course Type	Course Title	Credits
	Discipline Specific Elective (DSE)	Discipline Specific Elective V	2
	Discipline Specific Elective (DSE)	Discipline Specific Elective VI	2
	Discipline Specific Elective (DSE)	Discipline Specific Elective VII	2
	Discipline Specific Elective (DSE)	Discipline Specific Elective VIII	2
	Total Minimum Credits for Discipline Specific Elective subjects		**8**
	Discipline specific research Electives (DSRE)	Research Specific Elective-I	4
	Discipline specific research Electives (DSRE)	Research Specific Elective-II	4
	Total Minimum Credits for Discipline Specific Research Elective subjects		**8**
	Generic Elective (GE)	Generic Elective I *(From other Department)*	2

		Generic Elective II *(From other Department)*	2
	Total Minimum Credits for Generic Elective subjects		**4**
Total Minimum Credits for Semester III – 20			
	List of Discipline Specific Electives V VI VII and VIII		
PGMP-CHE-DSE-501	Calibrations and Validation		2
PGMP-CHE-DSE-502	Methods of Analysis		2
PGMP-CHE-DSE-503	Advanced NMR Spectroscopy		2
PGMP-CHE-DSE-504	Separation Techniques		2
PGMP-CHE-DSE-505	Quality Assurance and Quality Control in Analytical Chemistry		2
PGMP-CHE-DSE-506	Chemometrics		2
	List of Discipline Specific Research Electives I and II		
PGMP-CHE-DSRE-501	Research Methodology & Academic writing		4
PGMP-CHE-DSRE-502	Experiments in Analytical Chemistry		4
PGMP-CHE-DSRE-503	Experiments on Analytical Instrumentation		4
	List of Generic Elective (For M.Sc. Chemistry Students)		
	To be opted from other PG departments		4
	List of Generic Elective I and II (To be offered by M.Sc. CHEMISTRY)		
PGMP-CHE-GE-501	Food chemistry and Nutrition		2
PGMP-CHE-GE-502	Environmental Chemistry		2
PGMP-CHE-GE-503	Advance Applied Chemistry		2

Semester IV (20 Credits)

Course Code	Course Type	Course Title	Credits
	Discipline specific research Electives (DSRE)	Research Specific Elective-III	2
	Discipline specific research Electives (DSRE)	Research Specific Elective-IV	2
	Total Minimum Credits for Discipline Specific Research Elective subjects		**4**
PGMP-CHE-DSR/I-501	Discipline Specific Research or Internship		**16**
Total Minimum Credits for Semester IV – 20			
	List of Discipline Specific Research Elective subjects III and IV		
PGMP-CHE-DSRE-504	Synthesis of Inorganic Materials		2
PGMP-CHE-DSRE-505	Catalysis		2
PGMP-CHE-DSRE-506	Applied Organic Chemistry		2
PGMP-CHE-DSRE-507	Nanomaterials		2

For additional information contact:

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Master of Science in Geoinformatics

(M.Sc. in Geoinformatics)

(Self-Financed)

Programme Code: PGMP-GIS

Duration: Two Years (Four Semesters)

Objective of the Programme:

The aim of M.Sc in Geoinformatics is to develop students with strong practical and theoretica lknowledge of diverse disciplines in geospatial technology and professional skills through various activities and initiatives of the department enabling them to acquire software skills and knowledge in order to improve their employability. The programme also includes courses which guide the students towards improving research writing skills. The students undertake and work on live projects in national research institutes like NRSC, IIRS & NIO to get hands-on experience. The main focus is on research, entrepreneurship, teaching and geospatial skills.

Eligibility and Selection Procedure:

A graduate with a minimum score of 50% (CGPA of 5.3 and above in case of CBCS) in the final Examination of any B.Sc. programme or M.A. with Geography from a recognized University/Institute is eligible. Students with courses related to earth science may also apply; however, their selection will be based on their performance in the Aptitude Test in Geography, conducted by the department.

Total Number of Seats (including reserved seats): 20

Credits required for completing the programme: 80

Sr. No.	Nature of Courses	Credits Required
1	Discipline Specific Core	32
2	Discipline Specific Elective	16
3	Generic Elective	04
4	Research Specific Elective	12
5	Project /Internship	16
Total		**80**

Course Structure - M.Sc. in Geoinformatics

PGM-GIS	Odd Semester	Even Semester
Part One	**First Semester**	**Second Semester**
	Discipline Specific Core - 16	Discipline Specific Core – 16
	Discipline Specific Elective - 04	Discipline Specific Elective – 04
	Total First Semester Credits =20	**Total Second Semester Credits = 20**
Part Two	**Third Semester**	**Fourth Semester**
	Research Specific Elective - 12	Project - 16
	Generic Elective 04	
	Discipline Specific Elective 04	Discipline Specific Elective 04
	Total Third Semester Credits = 20	**Total Fourth Semester Credits = 20**

Course Information (a)

Course Code	Course Title	Credits (2+2=4)
SEMESTER I		
PGMP-GIS-DSC-401	Basics of GIS and GPS	**4**
PGMP-GIS-DSC-402	Basics of Remote Sensing and Photogrammetry	**4**
PGMP-GIS-DSC-403	Advanced of Geostatistics	**4**
PGMP-GIS-DSC-404	Advanced Digital Cartography	**4**
PGMP-GIS-DSE-401	Principles of Computer and Programming	**4**
PGMP-GIS-DSE-402	Applications of GIS Techniques in Entrepreneurship	**4**
SEMESTER II		
PGMP-GIS-DSC- 405	Spatial Analysis & Modeling	**4**
PGMP-GIS-DSC-406	Advanced Remote Sensing and GIS	**4**
PGMP-GIS-DSC-407	Digital Image Processing	**4**
PGMP-GIS-DSC-408	Field techniques and Report writing	**4**
PGMP-GIS-DSE- 403	Programming & Customization	**4**
PGMP-GIS-DSE-404	GIS for Business and Service Planning	**4**
SEMESTER III		
PGMP-GIS-DSE-501	Applications of GIS in Urban and Regional Planning	**4**
PGMP-GIS-RSE- 501	Advanced Research Methodology	**4**
PGMP-GIS-RSE-502	Research Applications in Resource Management	**4**
PGMP-GIS-RSE-503	Research Applications in Agriculture and Soil	**4**
PGMP-GIS-GE-501	WEB GIS and development of web Application	**4**
SEMESTER IV		
PGMP-GIS-I-501	Project/ Internship	**16**
Elective subject		
PGMP-GIS-DSE-502	Applications of GIS in Disaster Management/Agriculture/Urban Planning/Tourism etc. (Online)	**4**

For additional information contact:

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Master of Science in Information Technology

(M.Sc. in Information Technology)

(Self-Financed)

Programme Code: PGMP-IT

Duration: Two Years (Four Semesters)

Objective of the Programme:

The aim of M.Sc. in Information Technology is to provide the students with strong theoretical and practical knowledge of different disciplines in Information Technology and to develop their skills in software development and research so that they become competent to join the IT industry or academic organizations.

MSc IT curriculum includes Discipline Specific Core (DSC) courses in Operating Systems and Networks, Advanced Database Management Systems, Machine Learning, and Design & Analysis of Algorithms etc. The Discipline Specific Elective (DSE) courses include Data Mining, Cloud Computing, Web Development Frameworks, Mobile Application Development to name a few. MSc IT will also has Discipline Specific Research Electives (DSRE) such as Research Methodology, Data Analytic, Neural Network and Deep Learning, and Natural Language Processing etc.

Apart from regular lectures, presentations and assignments, the department also organizes workshops and lectures on recent technologies delivered by industry professionals. Student's projects and assignments undergo rigorous verification & validation by faculty and industry experts. The students undertake and work on live projects through FOSS (Free Open Source Software) Club to get hands-on experience.

Fourth Semester of MSc IT is entirely for Industrial Internship or Dissertation work. The department placement team and well connected alumni network facilitate students appear the selection process of various IT companies in Goa and neighboring states. After successful completion of their internships most students get absorbed in the same companies as regular employees. NIC Goa, IMMO Tech, Creative Capsule, Anant Infomedia, 3D Systems, OPSPL, Numadic, Spintly, BigDev are names of some companies worth mentioning where our students did their internships from and continue to excel.

Eligibility and Selection Procedure:

Candidates with B.Sc. (Computer Science) / B.C.A. /B. Voc (Software Development)/ Equivalent degree with a minimum score of 55% at degree level are eligible. Candidates with a score of 60% and above at P.G.D.C.A. and at least a minimum 50% at B.Sc. (Computer Science) /B.C.A. /Equivalent are also eligible to apply.

OR

B. Sc. in Mathematics/Physics/Statistics/Electronics with minimum score of 55% at Degree level. Such candidates will be required to complete bridge courses. (For details about Bridge Courses refer to the link: https://node01.chowgules.ac.in/pub/webassets/admission/prospectus/2024/Bridge%20Courses%20for%20MSc%20IT.pdf)

OR

Bachelor degree in Science with 55% at Degree level and PGDCA with a minimum of 60% and above.

NOTE: Apart from the eligibility conditions mentioned aobve, selection of candidates will be done on merit on the basis of their performance at the Admission Ranking Test for MSc IT conducted by the College.

Total Number of Seats (including reserved seats): 20

Credits required for completing the programme: 80

Sr. No.	Nature of Courses	Credits Required
1	Discipline Specific Core (DSC) Theory Courses	22
2	Discipline Specific Core (DSC) Laboratory	10
3	Discipline Specific Elective (DSE) Courses	16
4	Discipline Specific Research Elective (DSRE) Courses	12
5	Generic Elective	04
6	Industrial Project or Dissertation	16
	Total Credits Required	**80**

Course Structure - M.Sc. in Information Technology

PGMP-IT	Odd Semester	Even Semester
Part One	**First Semester**	**Second Semester**
	Core Theory Courses Credits - 12	Core Theory Courses Credits - 10
	Core Laboratory Courses Credits - 04	Core Laboratory Courses Credits - 06
	Elective Courses Credits - 04	Elective Courses Credits - 04
	Total First Semester Credits = 20	**Total Second Semester Credits = 20**
Part Two	**Third Semester**	**Fourth Semester**
	Discipline Elective Courses Credits - 08	Industrial Project or Dissertation Credits - 16
	Research Elective Courses Credits- 12	
	Generic Elective- 04	
	Total Third Semester Credits = 24	**Total Fourth Semester Credits = 16**

Course Information (a)

Sr. No.	Course Titles	Course Code	Course Credits
	CORE COURSES		
	Semester I		
1	Advanced Data Structures and Algorithms	PGMP-IT-DSC-401	4
2	Operating Systems and Networks	PGMP-IT-DSC-402	4
3	Machine Learning	PGMP-IT-DSC-403	4
4	Data Structures and Algorithms Lab	PGMP-IT-DSC-404	2
5	Operating Systems and Networks Lab	PGMP-IT-DSC-405	2
	Semester II		
6	Design and Analysis of Algorithms	PGMP-IT-DSC-406	4
7	Advanced Database Management Systems	PGMP-IT-DSC-407	4
8	Software Architecture, Design Patterns and Frameworks	PGMP-IT-DSC-408	2
9	Design and Analysis of Algorithms Lab	PGMP-IT-DSC-409	2
10	Advanced Database Management Systems Lab	PGMP-IT-DSC-410	2
11	Software Architecture, Design Patterns and Frameworks Lab	PGMP-IT-DSC-411	2

Course Information (b)

Sr. No.	Course Titles	Course Code	Course Credits
	SEMESTER 1: DISCIPLINE SPECIFIC ELECTIVES I		
1	Cloud Computing	PGMP-IT-DSE-401	4
2	Software Quality Assurance and Testing	PGMP-IT-DSE-402	4
3	Computer Graphics	PGMP-IT-DSE-403	4
4	Compiler Design	PGMP-IT-DSE-404	4
	SEMESTER 2: DISCIPLINE SPECIFIC ELECTIVES II		
5	Web Development Frameworks	PGMP-IT-DSE-405	4
6	Mobile Application Development	PGMP-IT-DSE-406	4
7	Agile Methodology and DevOps	PGMP-IT-DSE-407	4
8	Cryptography and Network Security	PGMP-IT-DSE-408	4
	SEMESTER 3: DISCIPLINE SPECIFIC ELECTIVES III & IV		
9	Data Mining	PGMP-IT-DSE-501	4
10	Information Retrieval	PGMP-IT-DSE-502	4
11	Information Security	PGMP-IT-DSE-503	4
12	Parallel and Distributed Computing	PGMP-IT-DSE-504	4
13	Soft Computing	PGMP-IT-DSE-505	4
14	Digital Image Processing	PGPM-IT-DSE-506	4
	SEMESTER 3: DISCIPLINE SPECIFIC RESEARCH ELECTIVES I &II		
15	Research Methodology	PGMP-IT-DSRE-501	6
16	Data Analytic	PGMP-IT-DSRE-502	6
17	Modeling and Simulation	PGMP-IT-DSRE-503	6
18	Blockchain Technologies	PGMP-IT-DSRE-504	6
19	Natural Language Processing	PGMP-IT-DSRE-505	6
20	Neural Networks and Deep Learning	PGMP-IT-DSRE-506	6
	SEMESTER 3: GENERIC ELECTIVE		
21	**To be opted from other PG Departments**		4
	Electives for Students of other PG Programmes		
22	Programming using Python	PGMP-IT-GE-501	4
23	Introduction to Web designing	PGMP-IT-GE-502	4
24	Content Management System	PGMP-IT-GE-503	4
25	Education Technology	PGMP-IT-GE-504	4
	SEMESTER 4: INTERNSHIP / DISSERTATION		
26	Industrial Internship	PGPM-IT-DSI-501	16
27	Dissertation	PGPM-IT-DSR-501	16

For additional information contact:

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ANNEXURE-A
(Details of Bridge Courses for Non-Computer Science Graduates)

Non-Computer Science candidates who wish to apply for M.Sc. IT programme in 2025-2026 shall have to undergo the Bridge course(s) through self-study using content identified from existing MOOCs courses or any other suitable resources. The syllabus and suggested links to MOOCs are mentioned below.

List of Bridge Courses and their Syllabus
Bridge courses need to be completed prior to the Admission Raking Test by Non-Computer science graduates.
1. Programming and Simple Linear Data Structures (Theory: 40 Marks, Practical 60 Marks)

2. Fundamentals of Operating Systems (Theory: 50 Marks)

3. Database Management Systems (Theory: 40 Marks, Practical:60 Marks)

4. Mathematical Foundation of Computer Science (Theory: 50 Marks)

Mode of conduct: Self-Study via MOOCs as suggested below or any other suitable resources.
To be qualified for the MSc IT degree, candidates are required to pass the test in the individual theory and laboratory components of the Bridge course (40% marks to be obtained in theory and lab separately) conducted by the College.
The evaluation of the Bridge course shall be done by the teaching faculty of MSc IT. A candidate must pass the Bridge course(s) with minimum 40% mark.

The content of the Bridge course(s) will consist of the fundamentals in the following topics

1. Programming and Simple Linear Data Structures:
(Theory:40 Marks, Practical:60 Marks)
Introduction to Algorithms, Flow charts, Assembly language and high-level language
Programming in C: Tokens, Identifiers, Data Types, Sequence Control, Subprogram Control, Arrays, Structures, Union, String, Pointers, Functions
Data Structures: Abstract data types, Linear Data Structures: stacks, queues, and their applications. Linked Lists: singly linked list.
Basic sorting algorithms: bubble sort, selection sort, insertion sort

2. Fundamentals of Operating Systems:
(Theory: 50 Marks)
Introduction to Operating Systems
Processes and Threads, Interprocess Communication,
Concurrency and Synchronization, Deadlock
CPU Scheduling
Memory Management, Virtual Memory
File System Processes and Threads

3. Database Management Systems:
(Theory: 40 Marks, Practical: 60 Marks)
Introduction to RDBMS, Relational model
Structured Query Language (SQL), Introduction, Intermediate SQL,
Relational Algebra.Selection, Projection, Union, Set Difference, Cartesian product
Entity-Relationship Model
Relational Database Design

4. Mathematical Foundation for Computer Science:

(Theory: 50 Marks)

Set Theory: Concepts of sets – Union, Intersection, Cardinality.
Elementary counting; permutations and combinations.
Fundamentals of logic: Propositional and Predicate Logic, Predicates and Quantifiers, Rules of Inference.
Relations and Functions: Cartesian Product, Relations and their types.
Functions, Types of Functions, Operations on Functions
Number Systems: Decimal, Binary, Octal, Hexadecimal, conversions
Boolean Algebra, Boolean Expression, Boolean Functions.

Suggested Links to MOOCs courses

Course Name	Organized By	Link
Programming and Data Structure	Dr. P.P. Chakraborty, Department of Computer Science and Engineering, IIT Kharagpur.	https://nptel.ac.in/courses/106105085
Operating Systems Fundamentals	Prof Santanu Chattopadhyay, IIT Kharagpur	https://nptel.ac.in/courses/106105214
Database Management Systems	Prof Partha Pratim Das, IIT Kharagpur	https://nptel.ac.in/courses/106105175
Discrete Mathematics	Prof. Kamala Krithivasan, Department of Computer Science and Engineering, IIT Madras	https://nptel.ac.in/courses/106106094

Master of Science in Life Sciences

(M.Sc. – Life Sciences)

(Self-Financed)

Programme Code: PGMP-LS

Duration: Two years (Four semesters)

Objective of the Programme:

The M.Sc in Life Sciences Programme is a first of its kind to be offered in the state of Goa. Embark on a transforming journey with our M.Sc. Life Sciences programme, which is precisely designed to provide students with a thorough understanding of essential disciplines such as Cell and Molecular Biology, Advanced and Applied Microbiology, Animal Behaviour and Biochemistry. Explore specialised fields such as Cell signaling and regulation, Developmental Biology, Plant and Animal Physiology, Animal and Plant Biotechnology, Bioinformatics, Immunology, Molecular biology and Genetic engineering, Genomics and Proteomics and Cytogenetics, while sharpening practical skills through hands-on activities and online tools. Our innovative curriculum includes elective courses ranging from Fermentation Technology, Marine Biology, Human genetics, Industrial biotechnology, Economic botany and zoology to Nanobiotechnology, guaranteeing a well-rounded learning experience. Additionally, there will be a dedicated emphasis on core research. Obtain an opportunity to pursue required internships in reputed biopharmaceutical companies, pathology laboratories and research institutes, culminating in a dissertation or internship project. Join us as we explore the most recent discoveries in life sciences through guest lectures, while also developing analytical skills and a desire to discover. The programme will provide opportunities to students to pursue careers in academia, research, pharmaceutical and healthcare industries and enrol for Ph.D. Programmes.

Eligibility and Selection Procedure:

A graduate of the B.Sc Programme in Botany/ Zoology/ Biotechnology/ Biochemistry/ Microbiology from a recognised University/Institute with a minimum score of 50% (CGPA of 5.3 and above in case of CBCS) is eligible to apply.
Selection of the candidates will be done on merit based performance at admission entrance test.

The admission entrance test holds a total weightage of 100 marks. The test comprises of two sections which are as follows:

- Section I- General aptitude and logical reasoning -30 marks
- Section II-Subject specific domains of Life Sciences (i.e. Botany, Zoology, Biotechnology, Biochemistry and Microbiology) - 70 marks

A candidate has to score a minimum of 30% independently in section I and II of the entrance test to qualify and obtain a ranking on the merit list.

Total Number of seats (including reserved seats): 20

Credits required for completing the programme:
2 years degree: 80

Sr. No.	Component	Credits Required
		2 years degree
1	Discipline specific core (DSC) courses	32
2	Discipline specific elective (DSE) courses	16
3	Generic electives (GE)	04
4	Research specific elective (RSE)	12
5	Discipline specific dissertation (DSD)/	16
	Total Credits Required	**80**

Course structure for M.Sc.in Life Sciences

Semester	Course Code	Course title (4 credits/course)	Nomenclature	Total Credits (80 credits)
I	PGMP-LS-C-1	Cell and Molecular Biology	DSC	16 credits (4 DSC's) + 4 credits (1 DSE) = **20 credits**
	PGMP-LS-C-2	Advanced and Applied Microbiology		
	PGMP-LS-C-3	Biochemistry		
	PGMP-LS-C-4	Developmental Biology		
	PGMP-LS-E-1	Instrumentation and Techniques	DSE	
	PGMP-LS-E-2	Toxicology		
	PGMP-LS-E-3	Fermentation technology		
	PGMP-LS-E-4	Animal Behaviour		
II	PGMP-LS-C-5	Cell signalling and Regulation	DSC	16 credits (4 DSC's) + 4 credits (1 DSE) = **20 credits**
	PGMP-LS-C-6	Immunology		
	PGMP-LS-C-7	Plant and Animal Physiology		
	PGMP-LS-C-8	Cytogenetics		
	PGMP-LS-E-5	Bioinformatics and Bioethics	DSE	
	PGMP-LS-E-6	Marine Biology		
	PGMP-LS-E-7	Pharmacology		
	PGMP-LS-E-8	Biostatistics		
III	PGMP-LS-E-9	Animal Biotechnology	DSE	8 credits (2 DSE's) + 4 credits (Generic elective) + 8 credits (Research specific electives) = **20 credits**
	PGMP-LS-E-10	Plant tissue culture		
	PGMP-LS-E-11	Nanobiotechnology		
	PGMP-LS-E-12	Human Genetics		
	PGMP-LS-E-13	Industrial Biotechnology		
	PGMP-LS-E-14	Molecular biology and Genetic engineering		
	PGMP-LS-E-15	Genomics and Proteomics		
	PGMP-LS-E-16	Economic Botany and Zoology		
IV	-	Research specific elective	RSE	4 credits (RSE) + 16 credits (DSD/I) = **20 credits**
	-	Discipline specific Dissertation/ Internship	DSD/I	

For additional information contact:

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Campus Discipline and a Conducive Environment

The College is making concerted efforts to provide relevant education of global standards in a disciplined and conducive environment. For this purpose the College follows policies pertaining to the Library, Academic Integrity and Avoidance of Plagiarism, Prevention of Sexual Harassment, Information Technology and Information Systems Security, Intellectual Property Rights. These policies are available on the college website. Students are required to abide by these policies. These policies and following regulations are some building blocks of this environment and all students are required to take note of them and follow them.

Computers Usage Rules

College encourages students to use laptops and to bring their personal laptops to the class. Students can also use the Computer Lab. Users must be fully aware of the usage rules and the IT protocol of the College. Disciplinary action will be taken against violators.

Vehicle Parking Rules

The College is not responsible for the safety of vehicles parked at the vehicle parking area of the college.

Persons must vacate the parking space after parking the vehicles. The college is also NOT responsible if the vehicle is towed away if parked in 'No Parking Area'.

Stand against Ragging

The College strictly follows the anti-ragging policy of Goa University. Whoever directly or indirectly commits, participates in, abets or instigates others to violation shall be suspended/expelled/rusticated and shall be liable to pay a fine.

Important Note

The Principal may amend the admission rules at his discretion. The Principal's decision in all matters related to admission shall be final.

Apply online

http://apply.chowgules.ac.in






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