PREFACE

The present Academic Bulletin aims at giving a brief overview of the course structure as well as regulations for the various post graduate programmes offered in the University. We feel that this will enable the students to choose their electives according to their interest in the topic. The details of the faculty in each department along with their specialisations are also given in the text. As was done earlier, the informations are grasped faculty wise and departments within each faculty.

Due to some technical reasons, we were able to bring out this issue very late. We were not able to incorporate some recent changes since the data was compile much earlier. Clarifications regarding any detail which is not included in the bulletin can be obtained from the concerned Head of the department. Further it may be noted that the rules and regulations are subject to changes, depending on subsequent decisions taken by the academic bodies.

The Academic Bulletin Committee is thankful to all the Directors of Schools/ Heads of Departments and University authorities for extending all sort of Co-operation in bringing out this bulletin. We would also like place on record our appreciation to Smt. K Jayalakshmi & Sri. K G Kiran Kumar who had rendered administrative help to bring out this bulletin.

Dr. C K Anandan

Dr. P Radhakrishnan

Dr. C G Nandakumar

Dr. R S Chakravarthi

Dr. K R Muraleedharan Nair (Convenor)

REGULATIONS FOR POST GRADUATE PROGRAMMES IN THE DEPARTMENTS/SCHOOLS OF THE COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY

1. SCOPE

1.1 These Regulations shall apply to all post graduate programmes conducted by the Departments/Schools of the Cochin University of Science and Technology excluding Ph. D., M. Phil and P.G. Diploma and Certificate Courses.

1.2 The provisions herein supersede all other Regulations unless otherwise provided.

2. DEFINITIONS

2.1. Academic Committee means the committee constituted by the Vice-Chancellor under this Regulation to monitor the running of the programme.

2.2. Core course means a course that the student admitted to a particular programme must successfully complete to receive the Degree and which cannot be substituted by any other course.

2.3. Elective course means a course, which can be substituted by equivalent courses from the same or other Departments/Schools.

2.4. Audited course will not accrue any credit..

2.5. Department/School means Departments/Schools instituted in the University as per Statutes and Act.

2.6. Levels of courses in these Regulations will generally mean:

First Level : for undergraduate programmes

Second Level : for all post graduate programmes (Master's Degree except M. Tech)

Third Level : M. Tech. courses

2.7. Semester and course credit system shall be followed.

3. ELIGIBILITY FOR ADMISSION

As per the Regulations prescribed by the University from time to time.

4. ADMISSION

As per the Regulations prescribed by the University from time to time.

5. COURSE REGISTRATION

5.1 Every department/School shall have Faculty Members as Students' Advisors. Each student at the time of seeking admission will be assigned to an Advisor by the Departmental Council. He/She will advise the student about the academic programme and counsel on, the choice of courses depending on the student's academic background and objective. The student shall then register for the courses he plans to take for the semester before the classes begin.

The Department offering any course shall prescribe the maximum number of students that can be admitted taking into consideration the facilities available. In any department preference shall be given to those students for whom the course is a core-course if the demand for registration is beyond the maximum prescribed. Every student has to complete the prescribed prerequisites for the course before registration. The student can drop out if he feels that he has registered for more courses than he can handle within 20 days after the commencement of classes.

5.2 The University shall make available to all students a Bulletin listing all the courses offered in every semester specifying the credits, pre requisites, list of topics the course intends to cover, the instructor who is giving the course, the time and place of the classes for the courses and examination schedule. Each course shall have a code consisting of three characters denoting the Department and four digits of which first digit indicating the level of the course, second indicating the Semester and third

and the fourth digits the serial number of the course. However, in such departments having more than 1 Masters programme of same level, the first 2 characters denote department and the third, the course of study.

6. COURSE STRUCTURE

6.1 Core courses should generally be offered by the Department/School concerned. Normally no course shall have more than four credits except in cases where only project/dissertation including seminars are involved in which case the minimum credit shall be sixteen.

6.2 Total number of credits for the core courses shall not exceed 60 for M.A. / M.Sc., 80 for MCA / MBA, 40 for M. Tech. and shall not be less than 48 for M.A. / M.Sc., 72 for MCA /MBA Programmes/ MIB and 36 for M. Tech.

6.3 The department council shall make recommendations on the core and elective courses including the detailed syllabus for each programme offered by the department to the University and approved by the concerned Board of Studies, Faculty and Academic Council. The Department Council shall have the freedom to design and introduce new electives and/or audited courses, to modify / redesign existing electives and to replace any existing electives with new or modified / redesigned electives to facilitate better exposure and training for the students. Prior approval from the Board of Studies and Academic Council is not required for such modifications in the electives, but shall be done only with the approval of the Academic Committee. Such changes shall be brought to the notice of the concerned bodies in the next meeting.

6.4 The general structure of the programme shall be as given below:

	MA/M Sc	MBA Full Time Programmes	MBA * Part Time	MCA
Programme duration	4 sem	4 sem	6 sem	6 sem
Accumulated minimum credits Required for successful Completion of the programme	72	87	87	108
Minimum attendance required	75 %	75 %	75 %	75 %

Note: * MBA (PT) programme has 6 semesters with the same content as the full time programme with 4 semesters

Each semester shall have a minimum of 90 working days and one credit shall be given for one-hour lecture or 3 hours of practical work per week. No regular student shall register for more than 24 credits and less than 16 credits per semester. In case of MBA (PT) students the minimum and maximum credits per semester will be 12 and 18 respectively.

6.5 Credit-based system to be made more versatile, whereby every student may take about 25% of his/her course curriculum outside the parent department (Optional subjects) and the Core subjects which may constitute about 75% in the parent department.

In order to improve the soft skills of the students, a course on ‘Communicative English’ will be offered as a non-credit course to all students of the University, whether UG or PG

7. EVALUATION

7.1 The evaluation scheme for each semester contains two parts, an internal assessment and an external examination. Equal weightage shall be given for the internal and external examinations. However all practical examinations will be internally evaluated as per the procedures laid down by the concerned Department council.

7.2 The existing rules shall apply for the conduct of all external semester end examinations relating to all courses coming under these regulations.

7.3 The system of separate minimum for external / internal examinations be dispensed with, to ensure uniformity except for management programmes in SMS.

8. GRADE CARD

8.1 The University under its seal shall issue to the students a grade card on completion of each semester. The grade card shall contain the following:

a) Title of the courses taken as Core, Elective and Audit (an Audit course shall be listed only if the student has passed it).

b) The credits associated with and grades awarded for each course.

c) The number of credits (Core and Elective separately) earned by the student and the grade point average.

d) The total credits (Core and Elective) earned by the student till that semester.

8.2 The following grading system be adopted for all the courses. The following grades will be awarded based on the overall performance in each subject.

Range of marks	Grades	Weightage
90% and above	S – Outstanding	10
[80 – 90)	A – Excellent	9
[70 – 80)	B – Very Good	8
[60 – 70)	C – Good	7
[50 – 60)	D – Satisfactory	6
Below 50%	F – Failed	0

where [X-Y) means X is included and Y is excluded.

Overall performance at the end of the semester will be indicated by Grade point Average (GPA) calculated as follows:

$$GPA = \frac{G1C1 + G2C2 + G3C3 + \ldots\ldots GnCn}{C1+C2+C3+\ldots\ldots\ldots\ldots\ldots\ldots Cn.}$$

Where 'G' refers to the grade weightage and 'C' refers to the credit value of corresponding course undergone by the student.

At the end of the final semester Cumulative Grade Point Average (CGPA) will be calculated based on the above formula.

Classification for the Degree/Diploma will be given as follows:

Classification	CGPA
First Class with distinction	8 and above
First Class	6.5 and above
Second Class	6 and above

8.3 The Grade Card issued at the end of the final semester shall contain the details of all the courses taken which shall include the titles of the courses, the credits associated with each course, the CGPA and the class in which the student is placed. The rank shall be awarded based on CGPA corrected to the second decimal.

8.4 Those who fail any Core or Elective course shall be given two additional chances for appearing for the semester-end examination within a period of two years after the completion of the course. However, the marks obtained by the continuous assessment during the semester can be improved only by repeating the course. Students can repeat the course after obtaining permission from the Departmental Council.

9. DEPARTMENT COUNCIL

9.1 Every postgraduate programme conducted in the Departments shall be monitored by the Department Council subject to these regulations the Department council shall design courses, prescribe the mode of conducting the courses and evaluating the students and teachers.

10 ACADEMIC COMMITTEE

10.1 There shall be an Academic committee constituted by the Vice-Chancellor to monitor and co-ordinate the working of the credit and semester system.

10.2 The committee shall consist of:

a) The Pro-Vice-Chancellor — Chairman
b) The Registrar — Secretary
c) The Controller of Examinations
d) One Teacher from each Dept. with Post Graduate course

10.3 A senior professor nominated by the Vice-Chancellor from among the members of the committee shall be the Vice chairman of the committee.

10.4 The term of the office of the committee shall be two years, but the committee once constituted shall continue in office until a reconstituted committee assumes office.

11. TRANSITORY PROVISION

Notwithstanding anything contained in these regulations, the Vice-Chancellor shall, for a period of one year from the date of coming into force of these regulations, have the power to provide by order that these regulations shall be applied to any programme with such modifications as may be necessary.

12. REPEAL

The Regulations now in force in so far as they are applicable to programmes offered in the University Departments and to the extent they are inconsistent with these Regulations are hereby repealed. In the case of any inconsistency between the existing regulations and the regulations relating to the Credit and Semester System in their application to any course offered in a University Department, the later shall prevail.

REGULATIONS FOR M. TECH PROGRAMMES IN THE DEPARTMENTS / SCHOOLS OF THE COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY

The following regulations are made applicable to all regular M. Tech programs in the university with effect from Academic Year 2003-2004. Only relevant excerpts of the regulations are included here. However, these regulations are not applicable to M Tech programmes in Recognised Institutions.

1. M. Tech Programme

The M. Tech course in the university is a four semester programme with a total duration of two calendar years; where in the first two semesters will include lecturers, laboratory work and seminar. The student will devote the third and fourth semesters on a project work related to a relevant area of the specialization either in the Department or in an industrial / research / academic institution outside the university.

1.1. Mode of Evaluation

1.1.1. A student would be considered to have progresses satisfactorily at the end of a semester if he / she has a minimum of 75 % attendance.

1.1.2. The student shall be evaluated continuously throughout the semester and marks shall be awarded on the basis of tests and assignments as detailed below:

20 marks are awarded for the various assignments given by the teacher.

There shall be two class tests and one end semester exam.

The first class test carries a maximum of 20 marks and is on portions of syllabi covered till then.

The second class test carries a maximum of 20 marks and is on portions covered till then from the first class test.

The end semester examination is for maximum marks of 40 and carries questions from entire syllabi of the course.

1.1.3. There can be a supplementary examination for each subject, conducted within a week of the last examination of the end semester examination. This will be based on the recommendations of the Departmental Council, on receiving specific application from students and based on the merit of the case. Such examination shall carry questions from the entire portions and be awarded only 75 % of the marks scored. It shall be one of the three tests that have fetched the least marks.

1.1.4. The pass minimum in a subject is 50 %. If a candidate fails to secure 50 % he / she is failed in the subject and has to repeat the subject in the next possible chance.

1.1.5. A pass in the course will entitle the student to acquire the credit value allotted for that particular course (For credit values please refer to the course structure)

1.1.6. A student shall acquire a minimum of 36 credits in the first two semesters before he / she register for third semester. A student shall complete his / her M. Tech programme in 8 (Eight) consecutive semesters by acquiring the total credit requirements (72) as specified for the award of the degree.

1.1.7. A sponsored candidate who wishes to go back to take up professional employment after completing II semester course shall obtain permission from the Head of the Department, for the choice of their place of project work at the commencement of the III semester. Such permission may be granted only on merit basis on the recommendation of the Departmental Council and on the production of a certificate from the Head of that institution to effect that the student is permitted to carry out project work at the establishment / institution where he / she proposed to do the work.

1.1.8. Project evaluation be done at the end of III and IV semesters. At the end of III semester students have to submit a progress report of his / her project work which will be presented before the examination committee of the Department. Marks be awarded based on the evaluation by the committee. At the end of the IV semester the student has to submit the project dissertation. He / she be assessed by the Departmental Examination Committee based on his / her presentation of the project work.

1.2. Classification

The following grading system be adopted for all the courses. The following grades will be awarded based on the overall performance in each subject.

Range of marks	Grades	Weightage
90% and above	S – Outstanding	10
[80 – 90)	A – Excellent	9
[70 – 80)	B – Very Good	8
[60 – 70)	C – Good	7
[50 – 60)	D – Satisfactory	6
Below 50%	F – Failed	0

Where [X-Y) means that X is included and Y is excluded

Overall performance at the end of the semester will be indicated by Grade point Average (GPA) calculated as follows:

$$GPA = \frac{G1C1 + G2C2 + G3C3 + \ldots\ldots GnCn}{C1+C2+C3+\ldots\ldots\ldots\ldots\ldots\ldots Cn.}$$

Where 'G' refers to the grade weightage and 'C' refers to the credit value of corresponding course undergone by the student.

At the end of the final semester Cumulative Grade Point Average (CGPA) will be calculated based on the above formula.

Classification for the Degree/Diploma will be given as follows:

Classification	**CGPA**
First Class with distinction	8 and above
First Class	6.5 and above
Second Class	6 and above

1.6 Declaration of Result

The final marks are reported to the University for Tabulation and declaration of results. The university shall issue mark lists at the end of each semester.

1.7. Review of Question Papers and Valuation of Answer Books.

At the end of each semester, question papers set for class test and end semester examination and scheme of valuation of answer books be reviewed by the Departmental Council. The review report may be placed in the Board of Studies for scrutiny.

1.8. Grievance Cell

The Departmental Council will act as a grievance cell where complaints from the students on the conduct of class test, semester examination and valuation methodology can be examined. The student shall make such complaints within a week of the examination, to the Head of the Department in writing for scrutiny by the grievance cell.

1.9. Revision of Regulation and Curriculum.

The University may, from time to time, revise, amend or change the Regulations, Schemes of Examinations and Syllabus. In the case of students already undergoing the course, the change will take effect from the beginning of the following academic year after the changes are introduced and shall cover the part of the course that remains to be completed.

These regulations take precedence over existing M. Tech Regulations in so far as inconsistencies are observed.

Members of the Academic Committee (2009-2011)

1. Pro Vice Chancellor : Chairman
2. Registrar : Secretary
3. Controller of Examination
4. Dr. K P Vijayakumar : Vice Chairman
   Department of Physics
5. Dr. Ammini Joseph, School of Environmental Studies
6. Dr. K Vanaja, Department of Hindi
7. Ms. Brinda Bala Sreenivasan, Department of Culture & Heritage
8. Dr. V S Sebastian, School of Legal Studies
9. Dr. A Ramachandran, School of Industrial Fisheries
10. Dr. H S Ram Mohan, Department of Atmospheric Sciences
11. Dr. C H Sujatha, Department of Chemical Oceanography
12. Dr. Rosamma Philip, Department of Marine Biology, Microbiology & Biochemistry
13. Dr. K R Baiju, Department of Marine Geology & Geophysics
14. Sri. P K Saji, Department of Physical Oceanography
15. Dr. S Prathapan, Department of Applied Chemistry
16. Dr. C S Paulose, Department of Biotechnology
17. Dr. R S Chakravarthi, Department of Mathematics
18. Dr. K Muraleedharan Nair, Department of Statistics
19. Dr. M Bhasi, School of Management Studies
20. Dr M Meera Bai, Department of Applied Economics
21. Dr. B Kannan, Department, of Computer Applications
22. Dr. Sumam Mary Idiula, Department of Computer Sciences
23. Dr. C K Aanandan, Department of Electronics
25. Prof. Sunil K Narayanankutty, Department of Polymer Science & Rubber Technology
26. Dr. C G Nandakumar, Department of Ship Technology
27. Prof. P Radhakrishnan, International School of Photonics
27. Dr. G Madhu, School of Engineering
28. Dr. Sheenu Thomas, Centre of Excellence in Laser & Optical Sciences

ACADEMIC CALENDAR 2009-10 (PG)

Sl. No.	Events	Semesters					
		I 2009 Admn.	II 2009 Admn.	III 2008 Admn.	IV 2008 Admn.	V 2007 Admn.	VI 2007 Admn.
1.	**Reopening/ Commencement of Classes**	01.07.09 FN	07.12.09 FN	01.07.09 FN	01.12.09 FN	01.07.09 FN	01.12.09 FN
2.	**Onam Vacation**	29.08.09 FN to 07.09.09 AN	--	29.08.09 FN to 07.09.09 AN	--	29.08.09 FN to 07.09.09 AN	--
3.	**Reopening**	08.09.09 FN	--	08.09.09 FN	--	08.09.09 FN	--
4.	**Christmas Vacation**	--	19.12.09 FN to 28.12.09 AN	--	19.12.09 FN to 28.12.09 AN	--	19.12.09 FN to 28.12.09 AN
5.	**Reopening**	--	29.12.09 FN	--	29.12.09 FN	--	29.12.09 FN
6.	**End of Semester Classes**	30.10.09 AN	19.03.10 AN	23.10.09 AN	19.03.10 AN	23.10.09 AN	19.03.10 AN
7.	**Commencement of Examination**	23.11.09	13.04.10	10.11.09	07.04.10	11.11.09	08.04.10
8.	**Summer Vacation**	--	01.05.10 FN to 30.06.10 AN	--	01.05.10 FN to 30.06.10 AN	--	01.05.10 FN to 30.06.10 AN

DETAILS OF COURSES OFFERED IN THE FACULTY OF ENVIRONMENTAL STUDIES

SCHOOL OF ENVIRONMENTAL STUDIES

M.Sc. (Environmental Technology)

Stream I – Environmental Engineering

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
ENV/ENB 2101	Environmental Biology	C	3	AJ	As for admission to M.Sc. Env.Tech
ENV/ENB 2102	Chemistry of the Environment	C	3	SY	do
ENV/ENB 2103	Physical Processes in the Environment	E	3	MVH	do
ENV/ENB 2104	Environmental Microbiology	C	3	ISB	do
ENV/ENB 2105	Environmental Chemistry Lab	C	2	SY	do
ENV/ENB 2106	Environmental Microbiology Lab	C	2	ISB	do
ENV/ENB 2107	Environmental Physics & Geology Lab	E	1	MVH	do
ENV/ENB 2108	Chemo metrics & Good Laboratory Practices	E	2	VSA	do

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
ENV/ENB 2201	Advanced methods in Environmental Analysis	C	2	SY	As for admission to M. Sc. Env Tech
ENV/ENB 2202	Environmental Engineering	C	3	GF	do
ENV/ENB 2203	Environmental Toxicology	C	3	SR	do
ENV/ENB 2204	Environmental Management and law	E	3	MVH	do
ENV/ENB 2205	Environmental Engineering Lab	C	2	GF	do
ENV/ENB 2206	Chemical Methods in Environmental Analysis Lab	C	2	SY	do
ENV/ENB 2207	Environmental Toxicology & Biochemistry Lab	C	1	SR	do
ENV/ENB 2208	Environmental Modelling	E	2	VSA	do
ENV/ENB 2209	Flow and particle mechanics	C	2	VSA	do

SEMESTER III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
ENV 2301	Principles of Chemical Engineering	C	2	GF	As for admission to M.Sc. Env. Tech
ENV 2302	Unit operations and processes in water and waste water treatment	C	3	GF	Do
ENV 2303	Fundamental Engineering designs and drawings	C	3	GF	Do
ENV 2304	Geo informatics and resource management	E	3	MVH	Do
ENV 2305	Solid waste treatment and air quality	C	2	GF	Do
ENV 2306	Water treatment technology	E	2	VSA	Do
ENV 2307	Environmental Engineering Designs & Drawings Lab - I	C	2	GF	Do
ENV 2308	Environmental Engineering and Management Lab - II	C	3	GF	Do

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
ENV 2401	Project (Major)	C	14		
ENV 2402	EIA - Case Study report & Viva Voce Examination (Internal)	E	2		

Stream 2: Environmental Biotechnology

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
ENV/ENB 2101	Environmental Biology	C	3	AJ	As for admission to M.Sc. Env.Tech
ENV/ENB 2102	Chemistry of the Environment	C	3	SY	do
ENV/ENB 2103	Physical Processes in the Environment	E	3	MVH	do
ENV/ENB 2104	Environmental Microbiology	C	3	ISB	do
ENV/ENB 2105	Environmental Chemistry Lab	C	2	SY	do
ENV/ENB 2106	Environmental Microbiology Lab	C	2	ISB	do

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
ENV/ENB 2201	Advanced methods in Environmental Analysis	C	2	SY	As for admission to M. Sc. Env Tech
ENV/ENB 2202	Environmental Engineering	C	3	GF	do
ENV/ENB 2203	Environmental Toxicology	C	3	SR	do
ENV/ENB 2204	Environmental Management and law	E	3	MVH	do
ENV/ENB 2205	Environmental Engineering Lab	C	2	GF	do
ENV/ENB 2206	Chemical Methods in Environmental Analysis Lab	C	2	SY	do
ENV/ENB 2207	Environmental Toxicology & Biochemistry Lab	C	1	SR	do
ENV/ENB 2208	Environmental Modelling	E	2	VSA	do
ENV/ENB 2209	Flow and particle mechanics	C	2	VSA	do

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
ENB 2301	Applied Environmental Microbiology	E	3	ISB	As for Admission to M.Sc. Env Tech
ENB 2302	Environmental Biotechnology	C	3	AD	do
ENB 2303	Eco-Toxicology	C	3	SR	do
ENV 2304	Biodiversity and Conservation	C	3	AJ	do
ENV 2305	Bioremediation	C	3	AD	do
ENV 2306	Microbial Technology Lab	C	2	AD	do
ENV 2307	Eco-Toxicology Lab	C	1	SR	do
ENV 2308	Ecology and Biodiversity Lab	E	2	AJ	do

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
ENV 2401	Project (Major)	C	14		
ENV 2402	EIA - Case Study report & Viva Voce Examination (Internal)	E	2		

Details of Faculty

Sl.No.	Name & Designation	Specialisation	Communication
1	Dr. Mrs. Suguna Yesodharan Reader & Director (SY)	Environmental Chemistry & Photo Catalysis	Ph:0484-2604889(R) 0484-2577311 (O) suguna@cusat.ac.in, sugunayasodharan@gmail.com
2	Dr. Mrs. Ammini Jospeh, Professor, (AJ)	Algology, Environmentat Biology	0484-2577311 (O) amij@cusat.ac.in
3	Dr. I. S. Bright Singh Professor and Dean (ISB)	Environmental Microbiology	Ph:0484-2381120 bsingh@md3.vsnl.net.in www.ncaah.org
4	Dr. Mrs. Rajathy Sivalingam Reader (SR)	Physiology & Toxicology	Ph:0484-2577311, 2577246 (R) rajkumar@cusat.ac.in
5	Dr. M. V. Harindranathan Nair Sr. Lecturer (MVH)	Environmental Physics, Environmental Management & Remote Sensing	Ph:0478-2563616
6	Mr. M Anand, Senior Lecturer (AD)	Environmental Biotechnology	Ph: 9447254921 anandm@cusat.ac.in
7	Dr. V Sivanandan Achari, Lecturer (VSA)	Environmental Chemistry, Environmental Modelling	Ph.9847952318 vsachari@cusat.ac.i

M. TECH (MARINE BIOTECHNOLOGY)

SEMESTER I

Course Code	Paper	C/E	Credits	Pre requisites
CAH 3101	Introduction to Marine Sciences	C	3	Minimum 60% Marks or equivalent CGPA in any one of the following from any recognised Indian or foreign University. 1) B.Tech/BE in Chemical Engineering, Biochemical Engineering, Industrial Biotechnology, Leather Biotechnology, Chemistry/Biotechnology, Biomedical Engineering, B.Pharma, Chemical Technology; 2) M Sc in Biotechnology, Marine Biotechnology, Life Sciences, Botany/Zoology/Biochemistry, Microbiology/Genetics, Biophysics, Microbial Genetics and Bioinformatics, Marine Biology/Aquatic Biology & Fisheries/ Environmental Biotechnology/Mariculture

CAH 3102	Dynamics & Techniques in Marine Productivity & Biodiversity	C	3	Do
CAH 3103	Introduction to Aquaculture & Marine Biotechnology	C	3	Do
CAH 3104	Marine Genomics, Proteomics & Bioinformatics	C	3	Do
CAH 3105	Marine Bio prospecting	C	3	Do
CAH 3106	Bioprocess technology	E	1	Do
CAH 3107	Advanced molecular Biology - Practical	C	2	Do
CAH 3108	Bioprocess Technology Practical	C	2	Do

SEMESTER II

Course Code	Paper	C/E	Credits	Pre requisites
CAH 3201	Finfish and Shellfish Immunology	C	3	Do
CAH 3202	High health brood stock development	C	3	Do
CAH 3203	Disease diagnosis and management	C	3	Do
CAH 3204	Aquaculture environment management	C	3	Do
CAH 3205	Aquaculture Medicine	C	3	Do
CAH 3206	Organic Aquaculture	E	1	Do
CAH 3207	Anatomy and physiology of cultivable Finfish and Shellfishes	E	1	Do
CAH 3208	Finfish and Shellfish Immunology	C	2	Do
CAH 3209	Disease diagnosis and Management	C	2	Do

SEMESTER III & IV

Course Code	Paper	C/E	Credits	Pre requisites
CAH 3301	Full time project in an R & D lab of a biotech industry	C	30	Do
	Submission of a write up on marine biotechnology industry and an hour presentation	C	10	

DETAILS OF COURSES OFFERED IN THE FACULTY OF HUMANITIES

DEPARTMENT OF HINDI

MA (Hindi)

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
HIN 2101	Ancient and post medieval poetry	C	4	NM / MS	Graduate Level Hindi
HIN 2102	Fiction	C	4	KV / PAS	Graduate Level Hindi
HIN 2103	Functional Hindi	C	4	RS / KV	Graduate Level Hindi
HIN 2104	History of Hindi Literature (Ancient and Medieval Period)	C	3	PAS / MS / RS / KA	Graduate Level Hindi
HIN 24__	Elective	E	3	PAS / MS / RS / KV / NM	Graduate Level Hindi

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
HIN 2201	Bhakti Poetry	C	4	RS / NGD / NM	Graduate Level Hindi
HIN 2202	Essay Sketches and other Prose forms	C	4	PAS / NGD / KV	Graduate Level Hindi
HIN 2203	Development and Structure of Hindi	C	4	KV / NGD /KA	Graduate Level Hindi
HIN 2204	Modern Poetry - I	C	3	NGD / RS / KV / MS	Graduate Level Hindi
HIN 23__	Elective	E	3	PAS / MS / NM / NGD / RS / KV	Graduate Level Hindi

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
HIN 2301	Modern Poetry II	C	4	NGD / RS / MS / NM	Graduate Level Hindi
HIN 2302	Drama and Theatre	C	4	MS / RS / PAS	Graduate Level Hindi
HIN 2303	History of Literature – Modern Period	C	4	KA / RS / KV	Graduate Level Hindi
HIN 2304	Indian Poetics	C	3	NGD / RS	Graduate Level Hindi
HIN 23__	Elective	E	3	PAS / MS / NM / PGD / RS / KV	Graduate Level Hindi

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
HIN 2401	Modern Poetry – III	C	4	MS / NM	Graduate Level Hindi
HIN 2402	Indian Literature	C	4	PAS / RS / KV	Graduate Level Hindi
HIN 2403	Western Poetics	C	4	RS / KV / NM	Graduate Level Hindi
HIN 2404	General Linguistics	C	3	KA / NGD	Graduate Level Hindi
HIN 24__	Elective	E	3	PAS / MS / NM / RS / KV / NGD	Graduate Level Hindi

List of Electives Offered

1 Comparative Literature
2 Spoken Hindi
3 Creative Writing
4 Malayalam Literature
5 Feminist Literature
6 Marxian Aesthetics and Progressive literature
7 Theatre Studies with special reference to Indian Theatre
8 Folk Literature
9 Dalit Literature
10 Hindi Literature
11 Aesthetic Study of Literature
12 Translation Studies
13 One Act Plays
14 Modern Short Story
15 Contemporary Short Story
16 Dimensions of Poetry teaching
17 Official Language Management
18 Poetic Diction
19 Narratology
20 Progressive Literature
21 Indian Culture
22 Special Author: Tulasidas
23 Special Author: Kabir
24 Special Author: Surdas
25 Special Author: Bharatendu Harichandra
26 Special Author : Premchand
27 Special Author : Jayashankar Prasad
28 Special Author : Hazari Prasad Dwivedi
29 Special Author : Suryakant Tripathi Nirala
30 Special Author : Mahadevi Varma
31 Special Author: Ajney
32 Special Author : Mukthibodh
33 Special Author : Yashpal
34 Special Author : Nagarjun
35 Special Author : Phaneeswarnath Renu
36 Special Author : Mohan Rakesh
37 Special Author : Nirmal Varma
38 Special Author : Sarveswardayal Saxena
39 Special Author : Bhishma Sahini
40 Special Author : Harishankar Parsayi
41 Special Author : Dhoomil
42 Kavyang – Chand aur Alankar

Details of Faculty

Sl.No.	Name & Designation	Specialisation	Communication
1	Dr. N. Mohanan (NM) Professor & Head of the Department	Modern Literature	0484-2609302 enmohan@cusat.ac.in
2	Dr. P. A. Shemim Aliyar (PAS) Professor	Modern Drama and Theatre Studies Comparative Literature, Translation	0484-2556575 shamali@cusat.ac.in
3	Dr. M. Shanmughan (MS) Professor	Modern Poetry and fiction	0484-2575954 shanmughanpulappatta@cusat.ac.in
4	Dr. R. Sasidharan (RS) Professor	Modern Hindi Drama, Theatre and Criticism	0484-2540352 rsd@cusat.ac.in
5	Dr. N G Devaki (NGD) Professor	Comparative Literature-Ancient & Modern Poetry, Computer aided Language learning and Functional Hindi	0484-2576263
6	Dr. K. Vanaja (KV) Reader	Criticism Comparative Literature	0484-2332783 vanaja@cusat.ac.in
7	Dr. K. Ajitha Reader	Modern Drama and Theatre Comparative Study	0484 - 2575845 ajiravi@cusat.ac.in

DEPARTMENT OF CULTURE AND HERITAGE

M.A. (TRANSLATION) – GERMAN

Semester I

Course Code	Title of Paper	C/E	Credit	Faculty	Prerequisite
DCH 2101	Modern German – Course – I	C	4	AAM	
DCH 2102	Communicative English – Course I	C	4	BBS	Graduate Level
DCH 2103	Translation – Course I	C	4	MVP/AAM	German
DCH 2104	Linguistics – Course I	C	4	MVP	
DCH 2105	Elective	E	3		

Semester II

Course Code	Title of Paper	C/E	Credit	Faculty	Prerequisite
DCH 2201	Modern German – Course II	C	4	AAM	
DCH 2202	Communicative English – Course II	C	4	MVP/BBS	Graduate Level
DCH 2203	Translation of Journalistic Texts & Simple Texts	C	4	AAM	German
DCH 2204	Linguistics – Course II	C	4	MVP	
DCH 2205	Elective	E	3		

Semester III

Course Code	Title of Paper	C/E	Credit	Faculty	Prerequisite
DCH 2301	Advanced German – Course III	C	4	AAM	
DCH 2302	Communicative English - Course III Business Correspondence Essay Writing	C	4	MVP/BBS	Graduate Level
DCH 2303	Translation (Adopted Scientific Texts) – Course III	C	4	AAM	German
DCH 2304	Theory of Translation I	C	4	MVP	
DCH 2305	Elective	E	3		

Semester IV

Course Code	Title of Paper	C/E	Credit	Faculty	Prerequisite
DCH 2401	Advanced German – Course IV	C	4	AAM	
DCH 2402	Technical Translation – Course IV	C	4	AAM	Graduate Level
DCH 2403	Natural Language Processing & Machine Translation	C	4	MVP	German
DCH 2404	Theory of Translation II	C	4	MVP	
DCH 2405	Project	C	3		

Details of Faculty

Name & Designation	Specialisation	Communication
Sri.A. Achutha Menon (AAM) Senior Lecturer in German	German Language, Literature, Translation	achutan_ambady@cusat.ac.in
Smt. Brinda Bala Sreenivasan (BBS) Lecturer in English	English Language, Literature, Translation	brindasaju@cusat.ac.in

Electives

1. Culture and Heritage of Kerala
2. Basic Malayalam
3. Basic Sanskrit
4. Linguistics
5. Film Studies
6. Communicative English
7. Communicative German
8. Communicative Russian
9. Comparative Literature and Culture

FACULTY OF LAW
SCHOOL OF LEGAL STUDIES

L L M

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
SLS 2101	Law in Society (Compulsory Course)	C	4	GF	LLB
SLS 2102	Administrative Process: Nature and Scope (Administrative Law - Specialisation)	C	4	VK	LLB
SLS 2103	Centre State Relations (Constitutional Law - Specialisation)	C	4	DR	LLB
SLS 2104	Foundations of Contractual Liability (Commercial Law - Specialization)	C	4	AMV	LLB
SLS 2105	International Human Rights Law (Human Rights and Duties Education - Specialization)	C	4	PSS	LLB
SLS 2106	Right to information & Governmental Accountability (Elective in Administrative Law)	E	4	VK	LLB
SLS 2107	Law of Agency (Elective in Commercial Law)	E	4	AMV	LLB
SLS 2108	Consumer and Public Utility Services (Elective in Consumer Law)	E	4	CL	LLB
SLS 2109	Rights of the Accused under the Domestic and International Laws (Elective in Human Rights & Duties Education)	E	4	PSS	LLB
SLS 2110	Seminar (Compulsory course)	C	1	VSS/VK	LLB
SLS 2111	Clinical Legal Education (Compulsory Course)	C	1	VSS/VK	LLB

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
SLS 2201	Judicial Process (Compulsory Course)	C	4	GF	LLB.
SLS 2202	Administrative Process & Judicial Control (Administrative Law - Specialisation)	C	4	VK	LLB.
SLS 2203	Fundamental Rights & Constitutional Protection (Constitutional Law - Specialisation)	C	4	DR	LLB
SLS 2204	Law of Corporate Governance (Commercial Law - Specialization)	C	4	AMV	LLB
SLS 2205	General Principles of Insurance Law (Commercial Law - Specialization)	C	4	AMV	LLB
SLS 2206	International Refugee & Humanitarial Law (Human Rights and Duties Edn. - Specialization)	C	4	PSS	LLB
SLS 2207	Elective in Administrative Law	E	4	VK	LLB
SLS 2208	Elective in Constitutional Law	E	4	CL	LLB
SLS 2209	Elective in Consumer Law	E	4	CL	LLB

SLS 2210	Elective in Human Rights and Duties Education	E	4	PSS	LLB
SLS 2211	Seminar (Compulsory Course)	C	1	VSS/VK	LLB
SLS 2212	Clinical Legal Education (Compulsory Course)	C	1	VSS/VK	LLB

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
SLS 2301	Legal education and Research Methodology (Compulsory Course)	C	4	DR	LLB
SLS 2302	Public Authorities : Liabilities & Control (Administrative Law - Specialisation)	C	4	VK	LLB
SLS 2303	Parliamentary Government (Constitutional Law - Specialisation)	C	4	DR	LLB
SLS 2304	Banking Law (Commercial Law - Specialization)	C	4	AMV	LLB
SLS 2305	Human Rights & Indian Legal System (Human Rights & Duties Edn. Specialisation)	C	4	PSS	LLB
SLS 2306	Elective in Administrative Law	E	4	VK	LLB
SLS 2307	Elective in Criminal Law	E	4	GF	LLB
SLS 2308	Elective in Consumer Law	E	4	GF	LLB
SLS 2309	Elective in Human Rights and Duties Education	E	4	PSS	LLB
SLS 2310	Elective Course in Dissertation	E	2	DR/VSS/AMV/ VK/PSS	LLB
SLS 2311	Seminar (Compulsory Course)	C	1	VSS/VK	LLB
SLS 2312	Clinical Legal Education (Compulsory Course)	C	1	VSS/VK	LLB

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
SLS 2401	Public Corporations (Administrative Law - Specialisation)	C	4	VK	LLB
SLS 2402	Emergency & Defence Power (Constitutional Law - Specialisation)	C	4	DR	LLB
SLS 2403	Science, Technology & Human Rights (Human Rights & Duties Edn. - Specialisation)	C	4	PSS	LLB
SLS 2404	Elective in Administrative Lae	E	4	VK	LLB
SLS 2405	Elective in Consumer Law	E	4	GF	LLB
SLS 2406	Elective in IP Laws	E	4	SGB	LLB
SLS 2407	Elective Course in Dissertation	E	14	DR/VSS/AMV/ VK/PSS	LLB
SLS 2408	Seminar (Compulsory Course)	C	1	VSS/VK	LLB

Details of Faculty

Sl.No.	Name & Designation	Specialisation	Communication
1	Dr. D. Rajeev (DR) (Reader & Director)	Administrative Law, Constitutional Law	sls@cusat.ac.in drajeev@cusat.ac.in Ph: 0484-2576070
2	Dr. N.S. Gopalakrishnan (NSG) (Professor)	Commercial Law, Criminal Law & IP Law	nsg@cusat.ac.in Ph:0484-2577542
3	Dr. A.M. Varkey (AMV) (Reader)	Maritime Law, Commercial Law, Consumer Law	sls@cusat.ac.in Ph:0484-2686040
4	Dr. N.S. Soman (NSS) (Reader)	Criminal Law, Constitutional Law & Human Rights Law	nssoman@yahoo.co.in 0484-2440084
5	Dr. V.S. Sebastian (VSS) (Sr. Lecturer)	Commercial Law	sebastian@cusat.ac.in Ph: 0484-2576187
6	Dr. Valsamma Paul (VP) (Lecturer)	Administrative Law, Environmental Law & Labour Law	sls@cusat.ac.in Ph: 0484-2577818
7	Smt. P. S. Seema (PSS) Lecturer	Criminal Law, Constituional Law, Human Rights Law	pss.sls@yahoo.nic.in Ph: 0484-2233411
8	Smt. Vani Kesari A (VK) (Lecturer)	Administrative Law Constitutional Law	vanikesaria@gmail.com Ph : 0484-2543744
9	Dr. Sarita Bhat (SGB) Department of Biotechnology CUSAT	Microbial Biotechnology	sarit@cusat.ac.in Ph: 9846033486 Res : 2423129

DETAILS OF COURSES OFFERED IN THE FACULTY OF MARINE SCIENCES

SCHOOL OF INDUSTRIAL FISHERIES

M.Sc (Industrial Fisheries)

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
SIF 2101	Taxonomy And Bionomics of Commercial And Cultivable Fin And Shell Fishes	E	3	GF	Graduate in Life Science/ Fishery science
SIF 2102	Fish And Environment	E	3	BMK	Graduate in Life Science/ Fishery science
SIF 2103	Fishing Craft And Gear Materials	C	3	HK	Graduate in Life Science/ Fishery science
SIF 2104	Fishing Gear And Their Fabrication	E	3	HK	Graduate in Life Science/ Fishery science
SIF 2105	Fish Process Biochemistry	E	3	SM, JM	Graduate in Fishery Science/Life Science/ Chemical Science
SIF 2106	Fundamentals of Fish Preservation	E	3	JM, SM	Graduate in Fishery Science/Life Science/ Chemical Science
SIF 2107	Managerial Economics	C	3	KT, RK	Graduate in Science/ Social Science
SIF 2108	Ecological Economics	E	3	KT, RK	Graduate in Science/ Social Science
SIF 2109	Management Accounting And Finance Management for Fisheries	C	3	AR,MS	Graduate in Science/ Social Science
SIF 2110	Computer Applications (Practical)	E	2	GF	
SIF 2111	Statistics (Practical)	E	2	GF	
SIF 2112	Taxonomy and Bionomics of Commercial and Cultivable Fin and Shellfishes (Practical)	E	1	BMK	
SIF 2113	Fish and Environment (Practical)	E	1	BMK	
SIF 2114	Fish Process Biochemistry (Practical)	E	1	SM, JM	
SIF 2115	Fundamentals of Fish Preservation (Practical)		1	JM, SM	

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
SIF 2201	Capture Fisheries and Fish Population Dynamics	C	3	GF	SIF 2101
SIF 2202	Oceanic and Deep Sea Fisheries	E	3	GF	SIF2101/ Seminar
SIF 2203	Fishing Craft Technology	C	3	HK, Guest	SIF 2103 / SIF 2104
SIF 2204	Freezing and Canning Technology of Fish	C	3	JM, SM	SIF 2105 / SIF2106
SIF 2205	Instrumental Techniques in Fish Product Analysis	C	3	SM, JM	Consent of the teacher
SIF 2206	Economics of Fisheries Production	C	3	KT, RK	SIF 2107/ SIF 2108
SIF 2207	Aquaculture Economics	E	3	RK, KT	SIF 2107/ SIF 2108
SIF 2208	Organization Management	E	3	AR,MS	Graduate in Science/ Social science
SIF 2209	Capture Fisheries And Fish Population Dynamics (Practical)	C	1	BMK	
SIF 2210	Fishing Craft Technology (Practical)	C	1	HK	
SIF 2211	Freezing & Canning Technology Fish (Practical)	C	1	JM, SM	
SIF 2212	Economics of Fisheries Production (Field study)	C	1	RK, KT	

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
SIF 2301	Breeding And Seed Production Technology of Fin & Shell Fish	C	3	BMK	SIF 2201
SIF 2302	Fish Genetics And Hybridization	E	3	BMK	SIF 2201
SIF 2303	Fishing Gear Technology	C	3	HK	SIF 2203
SIF 2304	Inland Fishing Gear, Their Design And Operation	E	3	HK	SIF 2203/ consent of the teacher
SIF 2305	Fishery Products Technology	C	3	SM, JM	SIF 2204
SIF 2306	Value – Added Fishery Products	E	3	JM, SM	Consent of the teacher
SIF 2307	Economics of Fish Marketing	E	3	RK, KT	Graduate Science / Social Science/Consent of the teacher
SIF 2308	Fisheries and Rural Development	E	3	RK, KT	Graduate Science / Social Science/ Consent of the teacher
SIF 2309	Operation Management For Fisheries Industry	C	3	AR,MS	SIF 2109/SIF 2208/ Consent of the teacher
SIF 2310	Decision Tools and Management Techniques	E	3	GF	Graduate in Science/ Social Science
SIF 2311	Breeding and Seed Production Technology of Fin and Shell Fish (Practical)	C	1	BMK	
SIF 2312	Fishing Gear Technology (Practical)	C	1	HK	
SIF 2313	Fishery Products Technology (Practical)		1	SM, JM	

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
SIF 2401	Management of Fish and Shrimp Grow Out Systems	C	3	BMK	SIF 2301
SIF 2402	Ecology of Culture Systems and Environmental Impacts of Aquaculture	E	2	BMK	Graduate in Life Science/ Fishery Science
SIF 2403	Fishing Operation, Seamanship and Navigation	E	3	HK & GF	Consent of the teacher
SIF 2404	Quality Assurance and Food Safety in Seafood Industry	C	3	JM, SM	SIF 2305
SIF 2405	Seafood Quality Systems - Emerging Trends	E	3	SM, JM	Consent of the teacher
SIF 2406	Economics of Fisheries Management	C	3	RK, KT	SIF 2206/SIF 2307/ Consent of the teacher
SIF 2407	Fisheries and Tourism Development	E	3	KT, RK	Consent of the teacher
SIF 2408	Marketing Management for Fishery Products	C	3	AR, MS	SIF 2309/ Consent of the teacher
SIF 2409	Total Quality Management	E	3	GF	Consent of the teacher
SIF 2410	Management of Fish And Shrimp Grow Out Systems (Practical)	C	1	BMK	
SIF 2411	Ecology of Culture Systems and Environmental Impacts of Aquaculture (Practical)	C	1	BMK	
SIF 2412	Quality Assurance and Food Safety in Seafood Industry (Practical)	C	1	SM, JM	
SIF 2413	Marketing Management for Fishery Products (Field Study) Dissertation & Viva-voce	E	5	MS	
SIF 2414	Implant Training	C	1	SM, JM	
SIF 2415	Dissertation	C	3	All Faculty	
SIF 2416	Viva-voce	C	1		

Details of Faculty

Sl.No.	Name & Designation	Specialization	Communication
1	Dr. Ramakrishnan Korakandy (RK) Professor	Fisheries Economics & Management	r.korakandy@cusat.ac.in Ph: 0484 2310178
2	Dr. Saleena Mathew (SM) Professor & Director	Biochemistry and Fish Processing Technology	smathew@cusat.ac.in reubro@md2.vsnl.net.in Ph: 0484 2323110
3	Dr. B. Madhusoodana Kurup (BMK) Professor	Aquaculture & Fisheries Biology	madhukurup@hotmail.com Ph: 0484 2800424
4	Dr.A Ramachandran (AR) (Professor)	Fisheries Management	rahul_rama@hotmail.com Ph : 0484-2356133 9447062400
5	Dr. K. T. Thomson (KT) Reader	Fisheries Management & Environmental Economics	thomsonkt@rediffmail.com Ph: 0484 2333142
6	Dr. M. Harikrishnan (HK) Reader	Industrial Fisheries & Fishery Biology	mahadevhari@hotmail.com Ph: 9447327804
7	Sri. John Mohan, (JM) Sr. Lecturer	Fish Processing Technology	john mohan@cusat.ac.in Ph: 0484 2805142
8	Dr. Mini Sekharan N. (MS) Lecturer	Fisheries Management Ornamental Fish Marketing	minisekharan@yahoo.com Ph : 9895752269

DEPARTMENT OF ATMOSPHERIC SCIENCES

M.Sc. Meteorology

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
ATM 2101	Geophysical Fluid Dynamics	E	4		Graduate Level Mathematics / Physics
ATM 2102	Atmospheric Physics	C	4	HSR	-do-
ATM 2103	Introduction to the Ocean	E	4		-do-
ATM 2104	Advanced Mathematics	E	3	GF	-do-
ATM 2105	Numerical Methods	E	3	GF	-do-
ATM 2108	Meteorological Instruments	C	2	KRS	-do-
ATM 2106	Observational Techniques (*Practical*)	C	2	KRS	-do-
ATM 2107	Computer Programming I (*Practical*)	C	2	IK	COT

Semester II

Course Code	Course Title	C/E	Credit	Faculty	Pre-requisites
ATM 2201	Synoptic Meteorology	C	4		ATM 2102
ATM 2202	World Climatology	C	4	HSR	COT
ATM 2203	Dynamic Meteorology I	C	4	BC	ATM 2101
ATM 2204	Cloud Physics & Atmospheric Electricity	E	3		ATM 2102
ATM 2205	Remote Sensing	C	4	KRS	COT
ATM 2206	Meteorological Computations I (*Practical*)	C	2	BC	ATM 2101
ATM 2207	Computer Programming II (Practical)	C	2	IK	ATM 2107

Semester III

Course Code	Course Title	C/E	Credit	Faculty	Pre-requisites
ATM 2301	Tropical Meteorology	C	4		ATM 2201
ATM 2302	Dynamic Meteorology II	C	4	CAB	ATM 2203
ATM 2303	Satellite Meteorology	E	2	KRS	ATM 2205
ATM 2304	Air - Sea Interaction	E	3		ATM 2102, ATM 2103
ATM 2305	Middle Atmosphere	E	3	VM	-do-
ATM 2306	Meteorological Analysis (*Practical*)	C	2		ATM 2201
ATM 2307	Meteorological Computations II (*Practical*)	C	2	VM	ATM 2203

Semester IV

Course Code	Course Title	C/E	Credit	Faculty	Pre-requisites
ATM 2401	Numerical Weather Prediction	C	4	BC	ATM 2302
ATM 2402	Agricultural Meteorology	E	3	HSR	COT
ATM 2403	Hydrometeorology	E	3	HSR	COT
ATM 2404	Atmospheric Chemistry	E	3		COT
ATM 2405	Atmospheric Boundary Layer	E	3	CAB	ATM 2103, ATM 2203
ATM 2406	Air Pollution Meteorology	E	3	KRS	COT
ATM 2407	Dissertation Evaluation and Viva- Voce	C	6	All	

M.Tech (Atmospheric Sciences)

Semester I

Course Code	Course Title	C/E	Credit	Faculty	Pre-requisites
ATM 3101	Large Scale Atmospheric Circulations	C	4	KMK	M.Sc. in Mathematics/ Physics/Oceanography/ Meteorology
ATM 3102	Atmospheric Physics	E	4	HSR	Graduate Level Mathematics/Physics
ATM 3103	Tropical Meteorology	E	4		do
ATM 3104	Atmospheric Dynamics I	E	4	BC	do
ATM 3105	Remote Sensing Applications	E	4	KRS	ATM 2205
ATM 3106	Applied Statistics	E	4	GF	
ATM 3107	Advanced Mathematics	E	4	GF	COT
ATM 3108	Lab Course I (*Practical*)	C	2	IK	
ATM 3109	Meteorological Analysis(*Practical*)	E	2		
ATM 3110	Satellite Meteorology	E	2	KRS	ATM 2205
ATM 3111	Middle Atmosphere	E	3	VM	

Semester II

Course Code	Course Title	C/E	Credit	Faculty	Pre-requisites
ATM 3201	Atmospheric Modelling	C	4	BC	ATM 3104
ATM 3202	Climate Dynamics	C	4	KMK	-do-
ATM 3203	Mesoscale Meteorology	C	4		-do-
ATM 3204	Atmospheric Dynamics II	E	4	CAB	-do-
ATM 3206	Air Pollution Meteorology	E	3	KRS	
ATM 3207	Agricultural Meteorology	E	3	HSR	COT
ATM 3208	Hydrometeorology	E	3	HSR	
ATM 3209	Lab Course II (*Practical*)	C	2	IK	
ATM 3210	Boundary Layer Meteorology	E	3	CAB	

III Semester

Course Code	Course Title	C/E	Credit	Faculty	Pre-requisites
ATM 3301	Project Progress and Mid Term Evaluation	C	16		

IV Semester

Course Code	Course Title	C/E	Credit	Faculty	Pre-requisites
ATM 3401	Project Dissertation Evaluation and Viva-Voce	C	20		

Details of Faculty

Sl.No.	Name & Designation	Specialisation	Communication
1.	Dr. K. R. Santosh (KRS) Reader & Head	Remote Sensing	santosh@cusat.ac.in 0484 2336786/2863815
2.	Dr. H. S. Ram Mohan (HSR) Professor	Hydrometeorology, Agricultural Meteorology	hsrammohan@cusat.ac.in 0484 2349986/2374164
3.	Dr. K. Mohan Kumar (KMK) Professor	Stratosphere-Troposphere Interactions, Middle Atmosphere	kmk@cusat.ac.in 0484 2340995/2863817
4.	Dr. C. A. Babu (CAB) Reader	Boundary Layer Meteorology	babuca@cusat.ac.in 0484 2863813/0480 2881651
5.	Baby Chakrapani (BC) Lecturer, Sel. Grade	Numerical Modeling of Atmospheric and Ocean Processes	bcpani@cusat.ac.in 0487 2428620/0484 2863803
6.	Dr. V. Madhu (VM) Lecturer	Middle Atmospheric Dynamics, Tropical Meteorology	madhuv@cusat.ac.in 9495424310/04842863814
7.	Ignatius Kunjumon (IK) Lecturer	Computer Applications	ik@cusat.ac.in 9495428946

DEPARTMENT OF CHEMICAL OCEANOGRAPHY

M.Sc. (Hydrochemistry)

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
COD 2101	Concepts in Theoretical Chemistry	C	4	NC	Graduate in Chemistry
COD 2102	Stereochemistry and Reaction Mechanism	C	4	SM	- do -
COD 2103	Coordination Chemistry	C	4	JC, CHS	- do -
COD 2104	Quantitative Chemical Analysis (Practical)	C	2	SM	- do -
COD 2105	Analytical Techniques (Practical)	C	2	CHS	- do -

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
COD 2201	Thermodynamics and Surface Phenomena	C	4	NC	Graduate in Chemistry
COD 2202	General Chemical Oceanography	C	4	SM/NC/ JC	Chemistry as one of the subsidiaries in B.Sc
COD 2203	Water Quality Analysis (Practical)	C	2	CHS	- do -
COD 2204	Separation and Synthetic Methods (Practical)	C	2	SM	Graduate in Chemistry

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
COD 2301	Solution Chemistry	C	4	NC	Graduate in Chemistry
COD 2302	Chemistry of Natural Products	C	4	SM	- do -
COD 2303	Physico-chemical Methods (Practical)	C	2	NC	- do -
COD 2304	Instrumentation Techniques (Practical)	C	2	SM	- do -

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
COD 2401	Dissertation	C	14		
	Viva Voce	C	2		

The following elective papers (4 Credits) will be offered by the Department

1. Analytical techniques in seawater analysis
2. Instrumentation methods in Chemistry - 1
3. Instrumentation methods in Chemistry - 2
4. Aquatic pollution and impact assessment
5. Aquatic chemical resources
6. Water management
7. Atmospheric chemistry

Elective papers will be given Code No. that is in continuation to the code number of Core Papers in the respective semesters.

Details of Faculty

Sl.No	Name & Designation	Specialisation	Communication
1	Dr. N. Chandramohanakumar (NC) Professor & Head	Chemical Oceanography, Analytical Techniques, Theoretical & Physical Chemistry	0484- 2537140 chandramohan@cusat.ac.in
2	Dr. Jacob Chacko, (JC) Professor	Chemical Oceanography, Analytical Techniques, Coordination Chemistry	0484 - 2540699 jchacko@cusat.ac.in
3	Dr. S. Muraleedharan Nair (SM) Reader	Chemical Oceanography, Analytical Techniques, Organic Chemistry	0484- 2345357 muralis@cusat.ac.in
4	Dr. C. H. Sujatha,(CHS) Sr. Lecturer	Chemical Oceanography, Analytical Techniques, Inorganic Chemistry	0484- 2304722 drchsujatha@yahoo.co.in

DEPARTMENT OF MARINE BIOLOGY AND MICRO BIOLOGY AND BIOCHEMISTRY

M.Sc. (Marine Biology)

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
MBO 2101	Marine Biology-I	C	4	SBN, AKJ	——
MBO 2102	Cytology & Genetics	C	4	AVS, AMH	——
MBO 2103	Biochemistry-I	C	4	BP	——
MBO 2107	Marine Biology-I (Practical)	C	2	SBN, AKJ	——
MBO 2108	Biochemistry -I (Practical)	C	2	BP	——

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
MBO 2201	Marine Microbiology	C	4	AVS, RP	—-
MBO 2202	Biochemistry-II	E	4	BP	MBO-2103
MBO 2203	Planktonology	E	4	SBN, AKJ	MBO-2101
MBO 2204	Principles of Biotechnology	E	4	AVS, RP, AMH	MBO-2102, MBO-2103
MB0 2207	Instrumentation (Practical)	C	2	AVS, RP, AMH	—-
MBO 2208	Marine microbiology (Practical)	C	2	AVS, RP, AMH	—-
MBO 2209	Biological Oceanography	E	2	SBN, AMH	—-

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
MBO-2301	Fish & Fisheries	C	4	AKJ	MBO-2101
MBO-2302	General Animal Physiology	C	4	AMH	—-
MBO-2303	Marine Pollution	C	4	RP, SBN	MBO-2101
MBO-2304	Marine Biotechnology	E	4	AMH, RP, AVS	MBO-2204
MBO-2305	Marine Botany	E	4	AVS, SBN	MBO-2101
MBO-2306	Fish & Fisheries (Practical)	C	2	AKJ	—-
MBO-2307	Physiology & Cytology (Practical)	C	2	AMH, AVS, RP	—-

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
MBO-2401	Fish Pathology	C	4	RP, AMH	MBO-2101
MBO-2402	Aquaculture	C	4	AKJ	MBO-2101
MBO-2403	Marine Ecology	C	4	SBN	MBO-2101
MBO-2404	Dissertations	C		All teachers	—-
MBO-2405	Marine Ecology & Aquaculture (Practical)	C	2	AKJ, SBN	—-
MBO-2406	Field Trip (Practical)	C	2		—-

Details of Faculty			
Sl.No.	**Name & Designation**	**Specialisation**	**Communication**
1	Dr. Babu Philip (BP) Professor	Marine Biochemistry	Phone-0428-206019 babuphilip@cusat.ac.in
2	Dr. A.V. Saramma (AVS) Reader	Microbiology	Phone-0484-2408789 saramma@cusat.ac.in
3	Dr. Rosamma Philip (RP) Sr. Lecturer	Marine Microbiology	Phone-0484-2303632 rose@cusat.ac.in
4	Dr. Aneykutty Joseph (AKJ) Professor & Head of the Department	Aquaculture	Phone-0484-2393564 aneykuttyj@yahoo.co.in
5	Dr. S. Bijoy Nandan (SBN) Reader	Marine Ecology	Phone-9446022880 bijoynandan@yahoo.co.in
6	Dr. A.A. Mohammed Hatha (AMH) Reader	Fish Pathology	Phone-0484-2505099 mohammedhatha@cusat.ac.in hatha@gmail.com

DEPARTMENT OF MARINE GEOLOGY AND MARINE GEOPHYSICS

M.Sc. (Marine Geology)

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
MGO 2101	Mineralogy	C	3		
MGO 2102	Igneous & Metamorphic Petrology	C	3		
MGO 2103	Structural Geology	C	3		
MGO 2104	Invertebrate & Micro Paleontology	C	3		
MGO 2105	Mineralogy (Practical)	C	1		
MGO 2106	X-ray Mineralogy (Practical)	C	1		
MGO 2107	Petrology (Practical)	C	1		
MGO 2108	Structural Geology (Practical)	C	1		
MGO 2109	Paleontology (Practical)	C	1		

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
MGO 2201	Stratigraphy	C	3		
MGO 2202	Groundwater Geology	C	3		
MGO 2203	Economic Geology	C	3		
MGO 2204	Geochemistry	C	3		
MGO 2205	Economic Geology (Practical)	C	1		
MGO 2206	Geological Mapping (Practical)	E	1	CGN	
MGO 2207	Geology in Coastal Zone Management	E	3	PS	
MGO 2208	Paleoceanography & Climate	E	3	GF	
MGO 2209	Geological Exploration Techniques	E	3	KTD	
MGO 2210	Geomorphology	E	3	CGN	

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
MGO 2301	Geology of the Ocean Floor	C	3		
MGO 2302	Sedimentary Geology	C	3		
MGO 2303	Geophysics & Offshore Exploration	C	3		
MGO 2304	Submarine Geomorphology (Practical)	C	1		
MGO 2305	Sedimentology (Practical)	C	1		
MGO 2306	Applied Micropaleontology	E	3		
MGO 2307	Environmental Geology	E	3	ACN	
MGO 2308	Clays and Clay minerals	E	4	KS	
MGO 2309	Geoenvironments of Mangroves	E	3	KS	
MGO 2310	Engineering Geology	E	3	KTD	

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
MGO 2401	Coastal Processes & Evolution	C	3		
MGO 2402	Marine Sediments	C	3		
MGO 2403	Marine Mineral Resources	C	3		
MGO 2404	Coastal Geology (Practicals)	C	1		
MGO 2405	Geochemistry (Practicals)	C	1		
MGO 2406	Project Work	C	4		
MGO 2407	Isotope Geology	E	4	CGN	

M.Sc. (Marine Geophysics)

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
MGP 2101	Electronics for Instrumentation	C	3		
MGP 2102	General Geology	E	3	CGN	
MGP 2103	Applied Physics	E	3	GF	
MGP 2104	Groundwater Geophysics	C	3		
MGP 2105	Structural Geology & Stratigraphy	C	4		
MGP 2106	Electronics (Practicals)	C	2		

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
MGP 2201	Object Oriented Programming in C++	C	3		
MGP 2202	Gravity Prospecting	C	3		
MGP 2203	Magnetic Prospecting	C	3		
MGP 2204	Digital Signal Processing	C	3		
MGP 2205	Geophysical Computation –I (Practicals)	C	2		
MGP 2206	Geology (Practicals)	C	2		
MGP 2207	Radiometric dating	E	3		
MGP 2208	Computer Programming (Practicals)	C	1		

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
MGP 2301	Marine Geology	C	3		
MGP 2302	Seismology & Seismic Prospecting	C	3		
MGP 2303	Well Logging	C	3		
MGP 2304	Sub bottom Sampling Techniques & Shipboard Training (Practicals)	C	2		
MGP 2305	Geophysical Field Work (Practicals)	C	1		
MGP 2306	Geophysical Computations-II (Practicals)	C	2		
MGP 2307	Marine Geology (Practicals)	C	1		
MGP 2308	Marine Mineral Resource	E	3	KTD	

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
MGP 2401	Offshore Exploration	C	3		
MGP 2402	Geodynamics	C	3		
MGP 2403	Project Work	C	6		
MGP 2404	Remote Sensing	E	3	GF	
MGP 2405	Microprocessor & PCBased Instrumentation	E	3	MR	
MGP 2406	Petroleum Geology	E	3	PS	

Details of Faculty

Sl.No.	Name & Designation	Specialisation	Communication
1	Dr. M. Ravisankar (MR) Reader & Head of the Department	Laser Attenuation & Optoelectronic Instrumentation	0484-2577493 ravisankarmurugan@yahoo.com
2	Dr. C.G. Nambiar (CGN) Professor	Geochemistry, Mineralogy, Petrology	0484-2779478 nambiar@cusat.ac.in
3	Dr. P. Seralathan (PS) Professor	Marine Geochemistry, Sedimentology	0484-2577864 pseran@yahoo.com
4	Dr. K. Sajan (KS) Professor	Estuarine and Marine Mineralogy & Geochemistry	0484-2575335 kuriansajan@cusat.ac.in
5	K R Baiju Lecturer	Minerology, Petrology Geochemistry	krbaiju@cusat.ac.in

DEPARTMENT OF PHYSICAL OCEANOGRAPHY

M.Sc. Oceanography

Semester I

Course Code	Paper	Credits	Faculty	Pre requisites
OCE2101	Introductory Physical Oceanography	4	PKS	GLMP
OCE2102	Geophysical Fluid Dynamics	3	CL/Guest	GLMP
OCE2103	Ocean Instrumentation	3	RS	GS
OCE2104	Ocean Observation (Practical)	1	RS	GS
OCE2105	Oceanographic Computations (Practical)	1	ANB	GS

Semester II

Course Code	Paper	Credit	Faculty	Pre-Requisites
OCE2201	Ocean Dynamics	4	CL/Guest	2101, 2102
OCE2202	Ocean-Atmosphere Interaction	4	PKS	2101, 2102
OCE2203	Coastal and Estuarine Oceanography	3	ANB	2101
OCE2204	Dynamical Computations –I (Practical)	2	CL/Guest	2201
OCE2205	Coastal Oceanography (Practical)	2	RS	2203

Semester III

Course Code	Paper	Credit	Faculty	Pre-Requisites
OCE2301	Ocean Remote Sensing	3	CL/Guest	2101
OCE2302	Ocean Modeling	4	CL/Guest	2201
OCE2303	Waves and Tides	3	RS	2101
OCE2304	Computer Applications in Oceanography (Practical)	2	PKS	Student of Oceanography

Semester IV

Course Code	Paper	Credit	Faculty	Pre-Requisites
OCE2401	Project Dissertation	16		

List of Electives

Code	Course Title	Credits	Faculty	Pre requisites
OCE E 01	General Oceanography	2	CL/Guest	GS
OCE E 02	Marine Hazards	2	ANB	GS
OCE E 03	Marine Pollution	2	ANB	GS
OCE E 04	Ocean Optics	2	CL/Guest	2101
OCE E 05	Marine Acoustics	4	CL/Guest	2101
OCE E 06	Coastal Zone Management - I	2	ANB	GS
OCE E 07	Coastal Zone Management - II	2	ANB	E06
OCE E 08	Beach Dynamics	2	RS	2101
OCE E 09	GIS in Oceanography	2	ANB	GS
OCE E 10	Computer Programming in Oceanography (Practical)	2	PKS	GS
OCE E 11	Numerical Methods (Practical)	2	PKS	E10
OCE E 12	Computer Programming in C (Practical)	2	PKS	GS
OCE E 13	Ocean Engineering	4	RS	2101, 2203
OCE E 14	Climate Change	2	ANB	GS
OCE E 15	Estuarine Sediment Dynamics	2	CL/Guest	2203
OCE E 16	Ocean Circulation	2	PKS	2201
OCE E 17	Remote Sensing Applications (Practical)	2	CL/Guest	2301
OCE E 18	Dynamical Computations - II (Practical)	2	CL/Guest	2204
OCE E 19	Marine Remote Sensing applications	4	CL/Guest	GS
OCE E20	Regional Oceanography	3	CL/Guest	2101/E01

GLMP - Graduate Level Mathematics and Physics

GS - Graduate in Science

ANB - Dr. A. N. Balchand

RS - Dr. R. Sajeev

PKS - Sri. P. K. Saji

M Tech. (Ocean Technology)

Semester I

Course Code	Paper	C/E	Credit	Faculty	Pre-Requisites
OCE 3101	Introudctory Oceanography	C	3	CL	BT,ES,MG,MMGP, MP,MM
OCE 3102	Coastal Engineering	C	4	RS	OTS
OCE 3103	Practical – I	C	2	RS	OTS

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
OCE 3201	Advanced Applied Oceanography	C	4	RS	OTS
OCE 3202	Environmental Ocean Technology	C	3	ANB	OTS
OCE 3203	Practical – II	C	2	PKS	OTS

List of Electives

Code	Course Title	Credits	Faculty	Pre requisites
OCE E301	Ocean Dynamics	4	PKS	MO,MMGP,MP,MM,BT
OCE E302	Boundary Layer Dynamics	4	CL	OTS, MM
OCE E303	Marine Pollution	4	ANB	OTS
OCE E304	Ocean Resources	4	ANB	MO, MMGP, MM, MG
OCE E305	Ocean Instrumentation	4	CL	OTS, ME
OCE E306	Integrated Coastal Zone Management	4	RS	OTS
OCE E307	Ocean Acoustics	4	CL	MO, MP
OCE E308	Satellite Oceanography	4	CL	OTS, MM, ES, BT
OCE E309	Ocean Material Technology	4	CL	OTS, BT, BTNASB, BTME
OCE E310	Observational Techniques & Instrumentation	4	CL	MO, MMGP, MP, MM, ME
OCE E311	Oceans & Climate Change	3	ANB	OTS
OCE E312	Numerical Modelling	2	PKS	MO, MM
OCE E313	Ocean Dredging Technology	2	CL	OTS
OCE E314	Deep Sea Submersibles & Exploration	2	ANB	OTS, BTNASB

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
OCE 3301	Project Dissertaion & Mid Term Evaluation	C	18		

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
OCE3401	Project Dissertation, Evaluation and Viva-Voce	C	18		

MO	-	M.Sc. OCEANOGRAPHY	BT	–	B.Tech Civil / Environmental Science
MMGP	–	M.Sc. Marine Geophysics	ES	–	M.Sc. Environmental Science
MM	–	M.Sc. Meteorology	MG	–	M.Sc. Marine Geology
MP	–	M. SC. PHYSICS	ME	–	M. Sc. Electronics
OTS	–	M.Sc. Ocean Technology Students	BTME	-	B.Tech Mechanical Engineering
BTNASB	-	B.Tech Naval Architecture & Ship Building			

Details of Faculty

Sl.No.	Name & Designation	Specialisation	Communication
1	Dr. R. Sajeev (RS) Reader & Head	Coastal Oceanography	Ph. Off: 0484-2363950 Email: rsajeev@cusat.ac.in
2	Dr. A. N. Balchand (ANB) Professor	Environmental Oceanography	Ph. Off: 0484-2363950 Email: anb@cusat.ac.in
3	Shri. P. K. Saji (PKS) Lecturer	Ocean circulation	Ph. Off: 0484-2363950 Email: pksaji@cusat.ac.in

DETAILS OF COURSES OFFERED IN THE FACULTY OF SCIENCE

DEPARTMENT OF APPLIED CHEMISTRY

M. Sc. (Applied Chemistry)

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CHE 2101	Theoretical Chemistry	C	4	SS	BSc Chemistry
CHE 2102	Inorganic Chemistry – I	C	4	MRP	BSc Chemistry
CHE 2103	Organic Chemistry – I	C	3	MN	BSc Chemistry
CHE 2104	Physical Chemistry – I	C	4	CL	BSc Chemistry
CHE 2105	Organic Chemistry (Practicals)	C	2	PAU	BSc Chemistry
CHE 2106	Inorganic Chemistry (Practicals)	C	2	MRP/CL	BSc Chemistry
CHE 2107	Viva - Voce				

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CHE 2201	Analytical Chemistry	C	4	PVM	B. Sc Chemistry
CHE 2202	Inorganic Chemistry – II	C	4	MRP	B. Sc Chemistry
CHE 2203	Organic Chemistry – II (Reactions & Mechanisms)	C	3	PMS	B. Sc Chemistry
CHE 2204	Physical Chemistry – II	C	4	SS	B. Sc Chemistry
CHE 2205	Analytical Chemistry (Practicals)	C	2	GK	B. Sc Chemistry
CHE 2206	Physical Chemistry (Practicals)	C	2	SS	B. Sc Chemistry
CHE 2207	Synthetic Organic Chemistry	C	2	SP	B. Sc Chemistry
CHE 2207	Viva – Voce				

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CHE 2301	Instrumental Methods of Analysis	C	4	GK	B. Sc Chemistry
CHE 2302	Spectroscopy - I	E	2	SS	B. Sc Chemistry
CHE 2303	Chemistry of Natural Products	E	4	PMS	B. Sc Chemistry
CHE 2304	Green Chemistry	E	4	GK	B. Sc Chemistry
CHE 2305	Microbial Technology	E	4	PVM	B. Sc Chemistry
CHE 2306	Industrial Catalysis	E	4	KKMY/SS	B. Sc Chemistry
CHE 2307	Polymers: Chemistry of Modern Materials	E	4	KSK	B. Sc Chemistry
CHE 2308	Instrumental Methods of Analysis (Practical)	E	2	PVM	B. Sc Chemistry
CHE 2309	Drugs: Natural and Synthetic	E	4	SP	B. Sc Chemistry
CHE 2310	Chemistry of Perfumes and Flavors	E	4	PAU	B. Sc Chemistry
CHE 2311	Bio Inorganic Chemistry	E	4	MRP	B. Sc Chemistry
CHE 2312	Spectroscopy - II	E	2	SP	B. Sc Chemistry

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CHE 2401	Dissertation	C	16		The project work, extending to the whole Semester, is carried out at National R &D laboratories.
CHE 2402	Viva – Voce	C			

M.Tech. (Industrial Catalysis)

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CHE 3101	Adsorption and Catalysis	C	4	KSK	M Sc Chemistry
CHE 3102	Catalyst Technology - I	C	4	KKMY	M Sc Chemistry
CHE 3103	Physical Methods in Catalysis - I	C	4	CL/KKMY	M Sc Chemistry
CHE 3104	Chemical Reaction Engineering	E	3	CL	M Sc Chemistry
CHE 3105	Enzyme Catalysis	E	3	CL/KKMY	M Sc Chemistry
CHE 3106	Electro Catalysis	E	3	CL	M Sc Chemistry
CHE 3107	Lab Course	C	2	KKMY/KSK	M Sc Chemistry
CHE 3108	Viva- voce (External)	C			M Sc Chemistry

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CHE 3201	Physical Methods in Catalysis – II	C	4	KSK	M Sc Chemistry
CHE 3202	Catalysis by Metal Complexes	C	4	KKMY	M Sc Chemistry
CHE 3203	Catalyst Technology – II	C	4	KKMY	M Sc Chemistry
CHE 3204	Industrial Catalytic Processes	E	3	KSK	M Sc Chemistry
CHE 3205	Phase Transfer Catalysis	E	3	KSK/CL	M Sc Chemistry
CHE 3206	Polymer supported Catalysis	E	3	CL	M Sc Chemistry
CHE 3207	Lab Course	C	2	KKMY/KSK	M Sc Chemistry
CHE 3208	Viva-Voce (End Semester)	C			M Sc Chemistry

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CHE 3301	Project Progress Evaluation	C	16		M Sc Chemistry

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CHE 3401	Project Dissertation Evaluation and Viva-voce	C	16		M Sc Chemistry

Details of Faculty

Sl.No.	Name & Designation	Specialisation	Communication
1	Dr. K. K. Mohammed Yusuff (KKMY) Professor	Catalysis	0484 2577751 3922422 yusuff@cusat.ac.in
2	Dr. S. Sugunan (SS) Professor	Physical Chemistry	0484 2575682 3922428 ssg@cusat.ac.in
3	Dr. M. R. Prathapachandra Kurup (MRP) Professor	Inorganic Chemistry	0484 2576904 3922423 mrp@cusat.ac.in
4	Dr. K. Girish Kumar (GK) Reader and Head	Analytical Chemistry	0484 2577813 3922427 giri@cusat.ac.in
5	Dr. K. Sreekumar (KS) Reader	Polymer Chemistry/ Catalysis	0484 2421530 3922430 ksk@cusat.ac.in
6	Dr. S. Prathapan (SP) Reader	Organic Chemistry	0484-2577384 3922425 prathapan@cusat.ac.in
7	Dr. Manoj N. (MN) Reader	Organic Chemistry	Manoj.n@cusat.ac.in 0484 2301268, 3922656
8	Dr. P. V. Mohanan (PVM) Lecturer	Analytical Chemistry	0484-2508947 3922429 mohan@cusat.ac.in
9	Dr. P. A. Unnikrishnan (PAU) Lecturer	Organic Chemistry	0484-2555151 3922424 paunni@cusat.ac.in
10	Smt. P. M. Sabura Beegum (PMS) Lecturer	Organic Chemistry	0484-2577539 3922426 pmsabura@cusat.ac.in

DEPARTMENT OF BIOTECHNOLOGY

M.Sc. (Biotechnology)

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
BTG 2101	Biochemistry-I	C	3	SGB	
BTG 2102	Microbiology	C	3	GF	
BTG 2103	Cell Biology	C	3	CSP	
BTG 2104	Molecular Genetics	C	3	PN	
BTG 2105	Molecular Biophysics	C	2	CSP/ GF	
BTG 2106	Virology	E	3	GF	
BTG 2107	Laboratory Techniques - I	C	4	CSP/SGB//PN/ GF	

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
BTG 2201	Enzymology	C	3	GF	
BTG 2202	Biochemistry-II	C	3	SGB/ GF	
BTG 2203	Molecular Biology	C	3	CSP	
BTG 2204	Bioprocess Technology	C	3	SGB	
BTG 2205	Laboratory Techniques-II	C	4	CSP/SGB/ PN/ GF	
BTG 2206	Bioethics, Patenting and IPR	E	3	PN	
BTG 2207	Cell and tissue Culture	E	3	PN	

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
BTG 2301	Recombinant DNA Technology	C	3	CSP	
BTG 2302	Immuno technology	C	3	GF	
BTG 2303	Laboratory Techniques -III	C	4	CSP/SGB/ PN/ GF	
BTG 2304	Molecular Neurobiology	E	3	CSP/ GF	
BTG 2305	Bioinformatics	E	3	GF	
BTG 2306	Industrial Biotechnology	E	3	SGB	
BTG 2307	Plant Biotechnology	E	3	PN	
BTG 2308	Biopharmaceuticals	E	2	CSP/ GF	

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
BTG2401	Project Work Dissertation, Seminar, Comprehensive Viva Voce	C	16	Done at different institutions and industries	

Details of Faculty

Sl.No.	Name & Designation	Specialisation	Communication
1	Dr. C. S. Paulose (CSP) Professor & Head	Molecular Neurobiology	0485-2812428 cspaulose@cusat.ac.in
2	Dr. Sarita G. Bhat (SGB) Senr. Scale Lecturer	Microbial Biotechnology	0484-2421510 sarit@cusat.acin
3.	M. Chandrasekaran (MC) Professor (on LWA)	Microbial Biotechnology	mchandra@cusat.ac.in
5.	Dr. Padma Nambisan (PN) Senr. Scale Lecturer	Plant Biotechnology	padmanambisan @cusat.ac.in

DEPARTMENT OF MATHEMATICS

M.Sc (Mathematics)

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
MAM 2101	Algebra I	C	4	RSC	
MAM 2102	Real Analysis I	C	4	AV/MNN	
MAM 2103	Measure & Integration	C	4	AV	
MAM 2104	Topology I	C	4	MJ	
MAM 2105	Ordinary Differential Equations	C	4	AK	
	Viva Voce	C	-		

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
MAM 2201	Algebra II	C	4	RSC/MNN	
MAM 2202	Functional Analysis I	C	4	MNN/AV	
MAM 2203	Complex Analysis I	C	4	MNN/AV	
MAM 2204	Probability Theory I	C	4	AK/BL	
MAM 2205	Partial Differential Equations	C	4	MJ	
	Viva Voce	C			

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
MAM 2301	Functional Analysis II	C	4	MNN/AV	MAM 2202
MAM 2302	Complex Analysis II	C	4	MNN/AV	MAM 2203
MAM 2303	Operations Research	C	4	BL/AK	
MAM 2350	Elective I	E	4	AK/MJ	
	Viva Voce	C			

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
MAM 2401	Differential Geometry	C	4	MJ/MNN	
	Elective II	E	4	MNN, MJ	
	Elective III	E	4	AV, RSE	
	Elective IV	E	4	AK, BL	
	Viva Voce	C			

*The Elective topics will be decided according to the availability of teachers and hence its course code will be fixed only in the beginning of each Semester.

List of Elective Subjects

No.	Course Title	Pre-Requisite
14	Discrete Mathematics	
15	Algebraic Geometry	
16	Topology II	Topology I
17	Differential Topology	
18	Real Analysis II	
19	Fluid Mechanics I	
20	Graph Theory	
21	Stochastic Processes - I	
22	Number Theory	
23	Theory of Categories	
24	Combinatorics	
25	Applied Algebra	
26	Quality Control and Forcasting Techniques	
27	Lattices and Automata	
28	Formal Languages and Theory of Automata	
29	Coding Theory	
30	Combinatorial designs	
31	Finite Fields, Codes and Cryptosystems	
32	Classical Mechanics	
33	Fluid Mechanics II	Fluid Mechanics I
34	Probability Theory II	MAM 2204
35	Harmonic Analysis	
36	Wavelets	Analysis & Liner Algebra
37	Stochastic Processes - II	Stochastic Processes - I
38	Advanced Mechanics	Classical Mechanics
39	Stability Theory	MAM 2105
40	Universal Algebra	MAM2101,MAM2201
41	Rings and Algebras	MAM2101,MAM2201
42	Lie Algebras	MAM2101,MAM2201
43	Galois Theory of Equations	MAM2101,MAM2201
44	Group Representation Theory	MAM2101,MAM2201
45	Topics in Group Theory	MAM2101,MAM2201
46	Dynamical Systems	MAM2105
47	Coding theory and cryptography	
48	Commutative Algebra	
49	Internet Programming	
50	Theory of Games	
51	Advanced Queeing Theory	
52	Computer Organization	
53	Quality Control	
54	Statistical Forecasting Techniques	
55	Mathematics of Finance-I	
56	Mathematics of Finance – II	
57	Mathematical Finance	

58	Algorithmic Graph Theory
59	Number Theory and Cryptography

Details of Faculty

Sl.No.	Name & Designation	Specialisation	Communication
1	Dr. M. Jathavedan (MJ) Professor	Fluid Mechanics and related topics	mjvedan@cusat.ac.in 0484-2575880
2	Dr. R. S. Chakravarti (RS) Reader & Head	Algebra-Ring Theory	rsc@cusat.ac.in 0484-2575294
3	Dr. A. Vijayakumar (AV) Reader	Graph Theory,Convexity Theory	vijay@cusat.ac.in 0484-2575288
4	Dr. B. Lakshmy (BL) Reader	Mathematical Statistics , Stochastic Processes, Operations Research	luck@cusat.ac.in 0484-2391655
5	Dr. M. N. Narayanan Namboodiri Lecturer (MNN)	Functional Analysis, Operatons Theory	nambu@cusat.ac.in 0484-2778203

DEPARTMENT OF PHYSICS

M.Sc. (Physics)

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
PHY 2101	Mathematical Physics	C	4	RBT	
PHY 2102	Classical Mechanics	C	4	SJ	
PHY 2103	Basic Solid State Physics	C	4	CSK	
PHY 2104	Basic Electronics	C	4	MRA	
PHY 2105	Experiments in General Physics	C	2	MRA/BP/TKM	

Semester II

CourseCode	Paper	C/E	Credits	Faculty	Pre requisites
PHY 2201	Quantum Mechanics I	C	4	MS/VCK	
PHY 2202	Statistical Physics	C	4	SJ/RBT	
PHY 2203	Electrodynamics	C	4	RBT/MS	
PHY 2204	Lasers and Atomic and Molecular Spectroscopy	C	4	MKJ/MJB	
PHY 2205	Experiments in General Physics	C	2	KPV/MKJ/MJB	

Semester III

CourseCode	Paper	C/E	Credits	Faculty	Pre requisites
PHY 2301	Quantum Mechanics II	C	4	MS	Quantum Mechanics I
PHY 2302	Nuclear and Particle Physics	C	4	MKJ	
PHY 2303	Relativity and Astrophysics	C	4	VCK	
PHY 2304	Advanced Practical (Lab Course)	C	2	SJ/MRA/CSK	
	Elective I	E	4		

Semester IV

CourseCode	Paper	C/E	Credits	Faculty	Pre requisites
PHY 2401	Project	C	4		
	Elective II	E	4		
	Elective III	E	4		
	Elective IV	E	4		
PHY 2429	Elective V	E	4		

Elective Courses

Course No.	Course	C/E	Credits	Faculty	Pre requisites
05	Solid State Physics – I	E	4	KPV	
06	Solid State Physics – II	E	4	KPV	
07	Electronics – I	E	4	MRA	
08	Electronics – II	E	4	MRA	
09	Quantum Electronics – I	E	4	MJB	
10	Quantum Electronics – II	E	4	MJB	
11	Industrial Physics – I	E	4	LG/KPV	
12	Industrial Physics – II	E	4	LG/KPV	
13	Advanced Mathematical Physics	E	4	RBT /MS/VCK	
14	Nonlinear Dynamics and Chaos	E	4	MS / VCK	
15	Solar Cells	E	4	KPV	
16	Quantum Field Theory	E	4	MS/RBT/VCK	
17	Modern Optics	E	4	CSK / KPV	
18	Thin Film Physics	E	4	BP	
19	Solid State Devices and Applications	E	4	BP	
20	Physics of Nanostructured Materials	E	4	MRA	
21	Quantum Computation and Information	E	4	MS / VCK	
22	Advanced Magnetism and Magnetic Materials	E	4	MRA	
23	Molecular Physics and Laser Stratoscopy	E	4	MJB/MKJ	
24	Synthesis and Characterization of Materials	E	4	MRA	
25	Quantum Optics	E	4	RBT	
26	Nonlinear Optics	E	4		
27	Remote Sensing	E	4	MRA	
28	Digital Signal Processing	E	4	MRA	
phy 2429	Advanced Practical (Lab Course)	E	4	BP/ MRA/CSK	

Elective Course phy 2429 Advanced Practical (Lab Course) will be offered only in Semester IV. Other Elective Papers will be offered either in Semester III or in Semester IV depending upon the availability of teachers. The Course Code for the Elective Papers will be assigned at the time the course is offered.

Every theory course consists of lectures of **five** hours per week. The internal evaluation consists of student seminars, periodic class tests and a viva – voce at the end of the semester.

Each Lab course consists of **nine** hours per week and duration of practical examination is: phy 2105, phy 2205 and phy 2304 – 4 hours each

Phy 2429 – 6 hours

Project Work has **Five** hours per week. Project report will be evaluated by the supervising guide and another faculty member of the Department nominated by the Department Council. Three copies of the project report should be submitted in advance for evaluation. Project evaluation consists of a Viva – Voce examination also.

Details of Faculty

Sl.No.	Name & Designation	Specialization	Communication
1	Dr. M. Sabir (MS) Professor	Nonlinear Dynamics Quantum Physics	0484-2576020 msr@cusat.ac.in
2	Dr. K.P. Vijayakumar (KPV) Professor	Thin film solar cells, Semiconductor studies	0484-2577103 kpv@cusat.ac.in
3	Dr. Ramesh Babu T. (RBT) Professor	Nuclear Particle Physics, Quantum Optics	0484-2576194 rbt@cusat.ac.in
4	Dr. L. Godfrey, Professor, (LG) (On deputation as PVC, CUSAT)	Experimental Soild State Physics and Astrobiology	0484-2806344 godfrey@cusat.ac.in
6	Dr. T.M. Abdul Rasheed (TMA) Reader (On Leave)	Laser Spectroscopy of Molecules, Overtone Absorption Spectroscopy, Photothermal Studies on thin films	tma@cusat.ac.in
7.	Dr. B. Pradeep (BP) Reader	Thin Film Technology, Compound Semi conducting thin films	0484-2575953 bp@cusat.ac.in
8.	Dr. M.R. Anantharaman (MRA) Professor & Head	Condensed Matter Physics, Polymer Physics, Nano Structured Materials	0484-2576200 mra@cusat.ac.in
9.	Dr. C. Sudha Kartha (CSK) Professor	Holography, Semiconducting thin films	0484-2577103 csk@cusat.ac.in
10.	Dr. S. Jayalekshmi (SJ) Reader	Conducting Polymers, Polymer Thin Films, Lithium battery materials.	0484-2538830 jayalekshmi@cusat.ac.in
11.	Dr. M.K. Jayaraj (MKJ) Reader	Opto-electronic devices and transparent conducting oxides	0484-2575543 mkj@cusat.ac.in
12.	Dr. M. Junaid Bushri (MJB) Reader (On leave)	Semiconducting thin films, nanomaterials	0471-2435271 junaidbusbri@cusat.ac.in
13.	Dr. Titus K Mathew (TKM) Lecturer		

DEPARTMENT OF STATISTICS

M.Sc. (Statistics)

Semester I

Course Code.	Course	C/E	Credits	Faculty	Pre requisites
STA 2101	Mathematical Methods for Statistics	C	4	SMS	
STA 2102	Probability Theory I	C	4	AG	
STA 2103	Probability Distributions	C	4	PGS	
STA 2104	Sampling Theory	C	4	NB	
STA 2105	Elective I	E	4		

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
STA 2201	Statistical Inference-I	C	4	PGS	
STA 2202	Probability Theory - II	C	4	NB	
STA 2203	Stochastic Processes	C	4	KRM	
STA 2204	Practicals – I using SPSS	C	4	SMS	
STA 2205	Elective II	E	4		

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
STA 2301	Statistical Inference -II	C	4	PGS	
STA 2302	Multivariate Analysis	C	4	KRM	
STA 2303	Applied Regression Analysis	C	4	NB	
STA 2304	Practicals – II using MATLAB	C	2	SMS	
STA 2305	Elective III	E	4		

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
STA 2401	Design & Analysis of Experiments	C	4	PGS	
STA 2402	Statistical Quality Assurance	C	4	AG	
STA2403	Practicals – III using SAS Package and Comprehensive Viva – Voce	C	4	SMS	
STA 2404	Elective IV	E	4		
STA 2405	Elective V	E	4		

List of Electives		Faculty
1. Statistical Computing	-	SMS
2. Actuarial Statistics	-	PGS
3. Advanced Distribution Theory	-	KRM
4. Advanced Probability Theory	-	AG
5. Advanced Stochastic Processes	-	NB
6. Bayesian Inference and Decision	-	KRM
7. Demographic Techniques	-	PGS
8. Directional Data Analysis	-	SMS

9. Inference for Stochastic Processes - VKR
10. Multivariate Methods - PGS
11. Operations Research - AG
12. Reliability Modelling and Analysis - KRM
13. Time Series Analysis - NB
14. Survival Analysis - PGS
15. Statistical Forecasting - NB
16. Statistical Genetics - PGS

Electives for other Post Graduate Courses

Course Code	Title of Paper	Credits
STA 2111	Applied Statistics	4
STA 2112	Bio-Statistics	4
STA 2113	Basic Statistics	4
STA 2114	Descriptive Statistics	4
STA 2115	Statistical Methods	4
STA 2116	Statistical Quality Control	4
STA 2117	Statistical Techniques in Economics	4

M.Tech (Engineering Statistics)

Semester I

Course No.	Course	C/E	Credits	Faculty	Pre requisites
STA 3101	Basic Statistics	C	4	VKR	
STA 3102	Reliability & Life Testing	C	4	SMS	
STA 3103	Practical	C	2	KCJ	
STA 3104	Seminar and Viva	C		KCJ	
STA 3105	Simulation Modeling and Analysis	E	4	KCJ	
STA 3106	Statistical Methods for Quality Assurance	E	4	SMS	
STA 3107	Total Quality Management	E	4	KCJ	
STA 3108	Operations Research	E	4	SMS	
STA 3109	Management and Maintenance of Information Systems	E	4	KCJ	
STA 3110	Production Planning & Control	E	4	KCJ	
STA 3111	Manufacturing Processes and Measurements for Quality	E	4	KCJ	

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
STA 3201	Industrial Experimental Design	C	4	AG	
STA 3202	Forecasting and Design	C	4	NB	
STA 3203	Practical - II	C	2	KCJ	
STA 3204	Seminar and Viva	C	-	KCJ	
STA 3205	Methods Engineering	E	4	KCJ	

STA 3206	Engineering Maintainability	E	4	KCJ	
STA 3207	E-commerce	E	4	KCJ	
STA 3208	Software Quality Management	E	4	KCJ	
STA 3209	Multivariate Methods	E	4	VKR	
STA 3210	Statistical Inference	E	4	VKR	

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
STA 3301	Project Progress Evaluation	C	18		

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
STA 3401	Project Dissertation Evaluation and Viva - voce	C	18		

Details of Faculty

Sl.No.	Name & Designation	Specialisation	Communication
1	Dr. K. R. Muraleedharan Nair Professor (KRM)	Characterization of Probability Distributions, Reliability Modelling, Information Theory	0484 - 2332078 krmnair@cusat.ac.in
2	Dr. V. K. Ramachandran Nair Professor (VKR)	Queuing Theory, Probability Distributions, Stochastic Processes and Multivariate Analysis	0482 -2241531 ram@cusat.ac.in
3	Dr. N. Balakrishna (NB) Professor & Head	Stochastic Processes and Inference, Time Series Models, Data analysis, Chaos and nonlinear time series	0484 - 2555497 nb@cusat.ac.in
4	K. C. James (KCJ) Reader	Industrial Engineering, Data Envelopment Analysis Reliability, TQM & ISO 9000	0484-2475767 jamesmech@cusat.ac.in
5	Dr. P. G. Sankaran (PGS) Reader	Distribution Theory, Reliability Theory, Data Analysis	0484 - 2741693 pgsankaran@cusat.ac.in
6	Dr. Asha Gopalakrishnan (AG) Reader	Distribution Theory, Discrete Reliability Theory	0484-2347051 asha@cusat.ac.in
7	Dr. S. M. Sunoj (SMS) Reader	Distribution Theory, Reliability Theory.	0487-2428214 smsunoj@cusat.ac.in

DETAILS OF COURSES OFFERED IN THE FACULTY OF SOCIAL SCIENCES

DEPARTMENT OF APPLIED ECONOMICS

MA (Applied Economics)

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
ECO 2101	Micro Economics I	C	4		
ECO 2102	Macro Economics I	C	4		
ECO 2103	Mathematical Methods for Economic Analysis	C	4		
ECO 2104	Statistics for Economic Analysis	C	4		
ECO 2105	Indian Economy	C	4		

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
ECO 2201	Micro Economics II	C	4		
ECO 2202	Macro Economics II	C	4		
ECO 2203	Econometrics	C	4		
ECO 2204	Financial Institutions & Markets	C	4		
ECO 2205	International Economics	C	4		

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
ECO 2301	Development Economics	C	4		
ECO 2302	Quantitative Optimisation & Techniques	C	4		
ECO 2303	Public Economics	C	4		
ECO 2304	International finance	C	4		
ECO 2305	Environmental Economics	C	4		

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
ECO 2401	Research Methodology	C	4		
ECO 2402	Optional	E	4		
ECO 2403	Optional	E	4		
ECO 2404	Project Report	C	4		
ECO 2405	Comprehensive Viva Voce	C	4		

Optional Papers

1. Advanced Econometrics
2. Agricultural Economics
3. Industrial Economics
4. Kerala Economy
5. Portfolio Management
6. Project Planning & Appraisal
7. Social Exclusion and Inclusive Policy Studies
8. Marketing Management
9. Human Resources Management

Details of Faculty

Sl.No.	Name & Designation	Specialisation	Communication
1	Dr. D. Rajasenan Professor	Econometrics and Resource Economics	0484-2575479 rajasenan@cusat.ac.in
2	Dr. P. Arunachalam Reader	Quantitative Techniques and International Trade	0484-2290376 arunachalam@cusat.ac.in
3	Dr. M. Meera Bai Reader	Industrial Economics and Gender Studies	0484-2575289 meerabai@cusat.ac.in
4	Sri. Manoj P. K. Lecturer	Production Engineering and Management, Accounting and Law, MIS, Financial and Risk Management, Management Science	0484-2645233 (R) 09447664949 (M) manoj_p_K2004@yahoo.co.in
6	Sri. S. Harikumar Professor and Head	Agricultural Economics Enviornmental Economics	0484-2338289 9446578289 vinvij2003@yahoo.com

SCHOOL OF MANAGEMENT STUDIES

MBA (Full Time)

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
SMS 2101	Management Concepts and Organizational Behaviour	C	3		
SMS 2102	Quantitative Methods	C	3		
SMS 2103	Managerial Economics	C	3		
SMS 2104	Business Environment	C	3		
SMS 2105	Business Communication	C	3		
SMS 2106	Financial Accounting	C	3		
SMS 2107	Information Technology for Managers	C	3		
	Managerial Skill Development	C	-		

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
SMS 2201	Organization Effectiveness and Change	C	3		
SMS 2202	Management Science	C	3		
SMS 2203	Human Resource Management	C	3		
SMS 2204	Financial Management	C	3		
SMS 2205	Marketing Management	C	3		
SMS 2206	Management Information System	C	3		
SMS 2207	Research Methodology.	C	3		
SMS 2208	Management Accounting	C	3		

*** Compulsory one-month organizational study during summer vacation.**

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
SMS 2301	Production & Operations Management	C	3		
SMS 2302	Business Law	C	3		
SMS 2303	Environment and Management	C	3		
SMS 2304	Organizational Analysis and Processes	C	3		
SMS 2305	Indian Ethos and Business Ethics	C	3		
SMS 2306	Entrepreneurial Development	C	3		
SMS 2307	Elective – I	E	3		
SMS 2308	Elective – II	E	3		

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
SMS 2401	Business Policy and Strategic Management	C	3		
SMS 2402	Elective III	E	3		
SMS 2403	Elective – IV	E	3		
SMS 2404	Elective – V	E	3		
SMS 2405	Project Report	C	3		
SMS 2406	Viva Voce	C	3		

MIB (Full Time)

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
SMI 2101	Management Concepts and Organisational Behaviour	C	3		
SMI 2102	Human Resources Management	C	3		
SMI 2103	Managerial Economics	C	3		
SMI 2104	Quantitative Methods	C	3		
SMI 2105	Financial and Cost Accounting	C	3		
SMI 2106	Marketing Management	C	3		
SMI 2107	Information Technology for Managers	C	3		
	Managerial Skill Development	C	-		

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
SMI 2201	Accounting for Managerial Decision	C	3		
SMI 2202	Financial Management	C	3		
SMI 2203	International Economics	C	3		
SMI 2204	International Business Environment	C	3		
SMI 2205	International Marketing	C	3		
SMI 2206	E. Business	C	3		
SMI 2207	Export Import Procedures & Documentation	C	3		
SMI 2208	Management Science	C	3		

* Compulsory one-month organizational study during summer vacation.

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
SMI 2301	Operations Management	C	3		
SMI 2302	International Logistics Management	C	3		
SMI 2303	International Finance	C	3		
SMI 2304	Business Communication	C	3		
SMI 2305	International Marketing Research	C	3		
SMI 2306	Elective I	E	3		
SMI 2307	Elective II	E	3		

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
SMI 2401	International Strategic Management	C	3		
SMI 2402	International Business Law	C	3		
SMI 2403	Elective III	E	3		
SMI 2404	Elective IV	E	3		
SMI 2405	Elective V	E	3		
SMI 2406	Project Report	C	3		
SMI 2407	Viva Voce	C	3		

MBA (Part Time)

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
SMP 2101	Management Concepts and Organizational Behaviour	C	3		
SMP 2102	Quantitative Methods	C	3		
SMP 2103	Managerial Economics	C	3		
SMP 2104	Business Environment	C	3		
SMP 2105	Financial Accounting	C	3		

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
SMP 2201	Organization Effectiveness and Change	C	3		
SMP 2202	Information Technology for Managers	C	3		
SMP 2203	Financial Management	C	3		
SMP 2204	Marketing Management	C	3		
SMP 2205	Management Accounting	C	3		

* Compulsory one-month organizational study during summer vacation.

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
SMP 2301	Indian Ethos & Business Ethics	C	3		
SMP 2302	Environment and Management	C	3		
SMP 2303	Organisational Analysis and Processes	C	3		
SMP 2304	Business Communication	C	3		
SMP 2305	Management Science	C	3		

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
SMP 2401	Human Resource Management	C	3		
SMP 2402	Production and Operation Management	C	3		
SMP 2403	Research Methodology	C	3		
SMP 2404	Business Law	C	3		
SMP 2405	Management Information System	C	3		

Semester V

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
SMP 2501	Entrepreneurial Development	C	3		
SMP 2502	Elective I	E	3		
SMP 2503	Elective – II	E	3		
SMP 2504	Elective – III	E	3		

Semester VI

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
SMP 2601	Business Policy and Strategic Management	C	3		
SMP 2602	Elective IV	E	3		
SMP 2503	Elective V	E	3		
SMP 2604	Project Report	C	3		
SMP 2605	Viva – Voce	C	3		

Note: 40% minimum marks required in all papers for internal as well as external examinations in addition to 50% in total for a pass.

I. FINANCE

1. FIANCIAL DERIVATIVES
2. FINANCING OF SMALL BUSINESS
3. CORPORATE RESTRUCTURING
4. INTERNATIONAL FINANCIAL MANAGEMENT
5. INTERNATIONAL ECONOMIC ORGANISATIONS
6. INDUSTRIAL FINANCE
7. MANAGEMENT OF FINANCIAL SERVICES
8. MANAGEMENT CONTROL SYSTEM
9. PROJECTS PLANNING, ANALYSIS AND MANAGEMENT
10. SECURITY ANALYSIS AND INVESTMENT MANAGEMENT
11. WORKING CAPITAL MANAGEMENT
12. CORPORATE TAXATION
13. PORTFOLIO MANAGEMENT
14. FINANCIAL DECISIONS ANALYSIS
15. INTERNATIONAL ACCOUNTING
16. INTERNATIONAL FINANCIAL MARKETS
17. FOREIGN EXCHANGE MANAGEMENT
18. INFRASTRUCTURE FINANCE

II. MARKETING

1. CONSUMER BEHAVIOUR
2. ADVERTISING MANAGEMENT
3. E-COMMERCE (Only for MBA)
4. MARKETING RESEARCH

5. STRATEGIC MARKETING
6. INTERNATIONAL MARKETING **(Only for MBA)**
7. SALES FORCE MANAGEMENT
8. MARKETING OF SERVICES
9. BRAND MANAGEMENT
10. PLANNING AND MANAGING RETAIL BUSINESS
11. SALES PROMOTION MANAGEMENT
12. INDUSTRIAL MARKETING
13. MARKETING FOR NON-PROFIT ORGANIZATIONS
14. MANAGEMENT OF PUBLIC DISTRIBUTION SYSTEM
15. MARKETING OF SOCIAL SERVICES

III. HUMAN RESOURCE

1. STRATEGIC HUMAN RESOURCES MANAGEMENT
2. MANAGEMENT OF INDUSTRIAL RELATIONS
3. MANAGEMENT TRAINING AND DEVELOPMENT
4. LABOUR LEGISLATIONS (Only for MBA)
5. PARTICIPATIVE MANAGEMENT
6. GLOBAL HUMAN RESOURCE MANAGEMENT
7. COMPENSATION MANAGEMENT
8. HUMAN RESOSURCE PLANNING AND DEVELOPMENT
9. ORGANIZATIONAL CHANGE AND INTERVENTION STRATEGIES
10. MANAGING INTERPERSONAL AND GROUP PROCESSES
11. COUNSELING SKILLS FOR MANAGERS
12. MANAGEMENT OF COMPARATIVE INDUSTRIAL RELATIONS
13. MANPOWER DEVELOPMENT FOR TECHNOLOGICAL CHANGE
14. LEGAL FRAMEWORK GOVERNING HUMAN RELATIONS**(Only for MIB)**
15. HUMAN RESOSURCE DEVELOPMENT: STRATGEGIES AND SYSTEMS
16. MANAGEMENT DEVELOPMENT

IV. PRODUCTION AND OPERATIONS MANAGEMENT

1. SUPPLY CHAIN MANAGEMENT
2. PURCHASING AND MATERIALS MANAGEMENT
3. QUALITY MANAGEMENT
4. PRODUCTION PLANNING AND CONTROL
5. APPLIED OPERATTIONS RESEARCH
6. LOGISTICS MANAGEMENT
7. GOAL PROGRAMMING IN MANAGEMENT
8. TRANSPORTATION MANAGEMENT
9. SERVICE OPERATIONS MANAGEMENT
10. WORLD CLASS MANUFACTURING

V. INFORMATION TECHNOLOGY MANAGEMENT

1. ENTERPRISE RESOURCE PLANNING
2. STRATEGIC MANAGEMENT OF INFORMATION TECHNOLOGY

3. DATA BASE MANAGEMENT SYSTEMS
4. MANAGEMENT SUPPORT SYSTEMS
5. BUSINESS PROCESS RE-ENGINEERING
6. SYSTEM ANALYSIS AND DESIGN
7. MANAGEMENT INFORMATION SYSTEM (**(Only for MIB)**
8. THE TELECOMMUNICATIONS FOR BUSINESS
9. SECURITY AND CONTROL INFORMATION SYSTEM
10. MULTIMEDIA MANAGEMENT
11. INTERNET PROGRAMMING FOR E-COMMERCE
12. APPLICATION DEVELOPMENT USING ORCALE

VI <u>INTERNATIONAL BUSINESS</u>

1. EXPORT IMPORT PROCEDURES, DOCUMENTATION AND LOGISTICS **(Only for MBA)**
2. INTERNATIONAL ECONOMIC ORGANISATIONS
3. INDIA'S FOREIGN TRADE POLICY

VII <u>SMALL BUSINESS AND ENTREPRENEURSHIP DEVELOPMENT MANAGEMENT</u>

1. GOVERNMENT BUSINESS INTERFACE
2. SMALL BUSINESS MARKETING
3. FINANCING OF SMALL BUSINESS
4. NEW ENTERPRISE MANAGEMENT
5. SMALL BUSINESS ENVIRONMENT AND MANAGEMENT

VIII <u>HEALTH CARE ADMINISTRATION</u>

1. COMMUNITY HEALTH, EPIDIMEOLOGY & POPULATION MANAGEMENT
2. HEALTH CARE AND SOCIAL POLICY
3. HEALTH SYSTEMS MANAGEMENT
4. HEALTH CARE ECONOMICS AND FINANCE
5. ENVIRONMENTAL HEALTH MANAGEMENT AND SAFETY PLANNING
6. HEALTH AND HOSPTIAL INFORMATION SYSTEMS
7. HEALTH COMMUNICATION ; DEVELOPMENT AND DISSEMINATION

IX <u>PUBLIC SYSTEM MANAGEMENT</u>

1. PUBLIC ENTERPRISE MANAGEMENT
2. FINANCIAL MANAGEMENT IN PUBLIC SYSTEMS
3. ENERGY MANAGEMENT
4. HOTEL MANAGEMENT
5. TOURISM MANAGEMENT
6. DEVELOPMENT ADMINISTRATION

7. WATER RESOURCE MANAGEMENT
8. MARKETING OF SOCIAL SERVICES
9. PLANNING AND MANAGAEMENT OF EDUCATION SYSTEMS
10. MANPOWER POLICY AND PLANNING FOR PUBLIC SYSTEMS
11. MANAGEMENT OF TELECOMMUNICATION SYSTEMS

X RURAL AND URBAN MANAGEMENT

1. COOPERATIVE MANAGEMENT
2. RURAL CREDIT AND FINANCE
3. RURAL RESOSURCES AND DEVELOPMENT
4. RURAL INDUSTRIALISATION
5. PARTICIPATORY DEVELOPMENT IN RURAL AREAS
6. RURAL MARKETING
7. WASTE LAND MANAGEMENT
8. URBANISATION IN INDIA
9. URBAN ORGANISATION AND MANAGEMENT
10. URBAN PLANNING AND STRATEGIES FOR DEVELOPMENT
11. URBAN DEVELOPMENT AND REGIONAL PLANNING

XI TECHNOLOGY MANAGEMENT

1. MANAGEMENT OF SCIENCE AND TECHNOLOGY
2. TECHNOLOGY ACQUISITION AND DIFFUSION
3. TECHNOLOGY FINANCE
4. TECHNOLOGY TRANSFER AND ABSORPTION
5. TECHNOLOGY FORECASTING
6. R & D MANAGEMENT
7. PROGRAMME MANAGEMENT

XII GENERAL MANAGEMENT

1. REGIONAL BLOCKS
2. GOVERNMENT BUSINESS INTERFACE
3. GLOBAL ECONOMY **(Only for MBA)**

MBA (Travel & Tourism)

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
SMT 2101	Tourism Principles & Practices	C	3		
SMT 2102	Economics for Tourism	C	3		
SMT 2103	Accounting & Finance	C	3		
SMT 2104	Quantitative Techniques & Operations Management	C	3		
SMT 2105	Principles of Management	C	3		
SMT 2106	Human Resources Management	C	3		
SMT 2107	I. T. for Managers	C	3		
	Personality Development	-	-		

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
SMT 2201	Research Methodology	C	3		
SMT 2202	Global Tourism Geography	C	3		
SMT 2203	Airline Management	C	3		
SMT 2204	Organisational Behaviour	C	3		
SMT 2205	Business & Tourism Law	C	3		
SMT 2206	Elective I	E	3		
SMT 2207	Elective II	E	3		
SMT 2208	Elective III	E	3		

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
SMT 2301	Entrepreneurial Development	C	3		
SMT 2302	Hospitality & Resort Management	C	3		
SMT 2303	Safety & Security Crisis Management in Travel & Tourism Industry	C	3		
SMT 2304	Management of Travel Agency & Tour Operations	C	3		
SMT 2305	Tourism Marketing	C	3		
SMT 2306	Elective III	E	3		
SMT 2307	Elective IV	E	3		
SMT 2308	Elective V	E	3		
	Soft Skills	-	-		

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
SMT 2401	Business Policy and Strategic Management	C	3		
SMT 2402	Elective VI	E	3		
SMT 2403	Elective VII	E	3		
SMT 2404	Elective VIII	E	3		
SMT 2405	Project Report	C	3		
SMT 2406	Viva Voce	C	3		

Note : 40% Minimum marks required in all papers for internal as well as external examinations in addition to 50% in total for a pass

List of Electives

1) Quality Management
2) Tour Package Management
3) Customer Relationship Management
4) Project Planning, Analysis & Management
5) Destination Management
6) Database Management System
7) Enterprise Resource Planning
8) Marketing Research
9) Markets of Services
10) Advertising Management
11) Industrial Finance
12) Consumer Behaviour
13) Business & Tourism Environment
14) Marketing Management for Tourism
15) Management Information System
16) Cargo Management
17) Logistics & Supply Chain Management

Details of Faculty

Sl.No.	Name & Designation	Specialisation	Communication
1	Dr. P. Sudarsanan Pillai Professor	Business Law, Business & Government, Management of Public Sector	
2	Dr. P. R. Wilson Professor	Financial Management	
3	Dr. K.B. Pavithran Professor & Director	Finance/ Accounting Strategic Management	pavithrankb@cusat.ac.in
4	Dr. C.A. Francis Professor	Marketing Management	cherunilam @ satyam.net.in
5	Dr. G Antony Reader	Marketing and Advertising	antonygregory@yahoo.com
6	Dr. K. Krishnan Nampoothiri Reader	Accounting, Banking, Co-operation, Business Communication, Finance	kknampoothiri @cusat.ac.in
7	Dr. James Manalel Professor	Finance Management, Banking, Management Small Business	Jamesmanalel @cusat.ac.in
8	Dr. Sebastian Rupert Mampilly Professor	HRM/Industrial Relation/ Organisational Behaviour	srmampilly@cusat.ac.in
9	Dr. Sarada S Reader	Organisational Behaviour, HRM	saradarajeevan@cusat.ac.in

10	Dr. M. Bhasi Professor	Operations Management, Information Systems, SCM, Logistics, OR.	mbhasi@cusat.ac.in drbhasi@yahoo.com
11	Dr. Jagathy Raj V. P. Reader	Operation and Systems Management (Logistics, Simultion and Modeling, Technology Management, Supply Chain Management, Enterprise Resource Planning, Operations Research, Business Engineering and BPR,IT & Management)	jagathy @cusat.ac.in jagathy @yahoo.com
12	Dr. Moli P. Koshy Reader	Marketing Management, General Management, Marketing Research Overseas Marketing Research	mollykoshy @cusat.ac.in
13	Dr. D. Mavoothu Reader	HRM & Industrial Relations	mavoothu @ rediffmail.com
14	Shri. Muhammed Aslam M.K. Sr Lecturer	Finance Management & Accounting	
15	Shri. Sam Thomas Lecturer	Finance & Systems	sam@cusat.ac.in
16	Dr.. Zakkariya K. A. Lecturer	Organisational Behaviour, Marketing, International Business	zakkariya @ cusat.ac.in
17	Dr. Manoj Edward Lecturer	Operations Management/ Service Marketing/Quantitative Techniques	manojedw @ cusat.ac.in
18	Dr. Rajitha Kumar S. Reader	Financial Management/ Financial Services/Security Analysis/ Funds Management in Banks	rajithakumar@cusat.ac.in
19	Dr. C.V. Jayamani Professor	Finance	Jayamanicv@cusat.ac.in

DETAILS OF COURSES OFFERED IN THE FACULTY OF TECHNOLOGY

DEPARTMENT OF COMPUTER APPLICATIONS

MCA (Department of Computer Applications)

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CAS 2101	Combinatorics & Graph Theory	C	3		Refer Syllabus
CAS 2102	Programming in C	C	3		"
CAS 2103	Data Structure using C	C	4		"
CAS 2104	Computer Organization	C	4		"
CAS 2105	Discrete Mathematical Structures	C	4		"
CAS 2106	Lab + Viva-voce	C			

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CAS 2201	Computer Graphics	E	3		Refer Syllabus
CAS 2202	Elective	E	3		"
CAS 2203	Computer Algorithms	C	4		"
CAS 2204	Applied Numerical Analysis	C	4		"
CAS 2205	Computer Based Optimization	C	4		"
CAS 2206	Lab + Viva-voce	C			

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CAS 2301	System Software	C	3		Refer Syllabus
CAS 2302	Database Management Systems	E	3		"
CAS 2303	Software Engineering	C	4		"
CAS 2304	Elective	E	4		"
CAS 2305	Object Oriented Programming with C++	C	4		"
CAS 2306	Lab + Viva-voce	C			

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CAS 2401	Operating System	C	4		Refer Syllabus
CAS 2402	Elective	E	3		"
CAS 2403	Elective	E	4		"
CAS 2404	Elective	E	4		"
CAS 2405	Mini Project Work	C	3		"
CAS 2406	Lab + Viva-voce	C			

Semester V

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CAS 2501	Networks and Data Communication	C	4		Refer Syllabus
CAS 2502	Simulation & Modelling	E	3		"
CAS 2503	Elective	E	4		"
CAS 2504	Elective	E	3		"
CAS 2505	Elective	E	3		"
CAS 2506	Seminar	C	3		
CAS 2507	Viva-voce	C			

Semester VI

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CAS 2601	Project Work and Viva-voce	C	16		

Common Electives

E1	Visual Programming	E23	VLSI
E2	Internet and Website Design	E24	Wireless Technologies
E3	Distributed Computing	E25	Artificial Intelligence I
E4	Enterprise Resource Planning	E26	Artificial Intelligence II
E5	Decision Support Systems	E27	Computational Geometry
E6	Performance Evaluation of Computer System	E28	Geographical Information Systems
E7	Windows Programming	E29	Network Administration
E8	Unix Internals	E30	Embedded Technologies
E9	Web Commerce Technologies	E31	Pattern Recognition
E10	Parallel Computing	E32	Software Quality
E11	Security in Computing	E33	Micro Processors
E12	Intelligent Systems	E34	Object Oriented Design
E13	Principles of Concurrent Programming	E35	Cryptography and Data Security
E14	Knowledge Management	E36	Number Theory and Cryptography
E15	Internet Standards and Protocols	E37	Advanced java Programming
E16	Web Animation	E38	Software Testing
E17	Active Server Pages	E39	Software Project Management
E18	Digital Electronics and Logic Design	E40	Number Theory
E19	Artificial Neural Networks	E41	Data Mining
E20	Linux Internals	E42	Applied Probability & Statistics
E21	Computer Architecture	E43	Database Management Systems
E22	Digital Signal Processing	E44	Linux System Programming

Details of Faculty

Sl.No.	Name & Designation	Specialisation	Communication
1.	Mr.A.Sreekumar (ASK) Lecturer (Sel. Grade)	Compiler Design, Operating System, Cryptography Coding Theory	0484 -2576253 (O) 0484-2556057(R) 9495427491 (M) sreekumar@cusat.ac.in
2.	Dr.K.V. Pramod (KVP) Sr.Lecturer & Head	Simulation Modeling, Cryptography Mathematical Morphology	0484-2576253/2577602(O) 0484-2344162(R) 09895044162(M) pramod_k_v@cusat.ac.in pramodkv4@gmail.com
3.	Dr.B.Kannan (BK) Reader	Graph Algorithms, Artificial Intelligence	0484 -2576253 (O) 0485-2824859(R) 09895363612(M) bkannan@cusat.ac.in

4	Mrs. Malathi S. (MS) Lecturer	Software Engineering	0484 -2576253 (O) 0484-3913535 09447325124(M) malathi_s@cusat.ac.in malathisujith@gmail.com
6.	Mr. Ajmal V. S. (AVS) Lecturer (On LWA)	Object Oriented Technology Parallel Processing	0484-2700857(R) ajmalvs@cusat.ac.in

MCA (Cochin University College of Engineering, Kuttanadu)

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CAS 2101	Combinatorics & Graph Theory	C	3		Refer Syllabus
CAS 2102	Programming in C	C	3		"
CAS 2103	Data Structure using C	C	4		"
CAS 2104	Computer Organization	C	4		"
CAS 2105	Discrete Mathematical Structures	C	4		"
CAS 2106	Lab + Viva-voce	C			

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CAS 2201	Computer Graphics	E	3		Refer Syllabus
CAS 2202	Elective	E	3		"
CAS 2203	Computer Algorithms	C	4		"
CAS 2204	Applied Numerical Analysis	C	4		"
CAS 2205	Computer Based Optimization	C	4		"
CAS 2206	Lab + Viva-voce	C			

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CAS 2301	System Software	C	3		Refer Syllabus
CAS 2302	Database Management Systems	E	3		"
CAS 2303	Software Engineering	C	4		"
CAS 2304	Elective	E	4		"
CAS 2305	Object Oriented Programming with C++	C	4		"
CAS 2306	Lab + Viva-voce	C			

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CAS 2401	Operating System	C	4		Refer Syllabus
CAS 2402	Elective	E	3		"
CAS 2403	Elective	E	4		"
CAS 2404	Elective	E	4		"
CAS 2405	Mini Project Work	C	3		"
CAS 2406	Lab + Viva-voce	C			

Semester V

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CAS 2501	Networks and Data Communication	C	4		Refer Syllabus
CAS 2502	Simulation & Modelling	E	3		"

CAS 2503	Elective	E	4		“
CAS 2504	Elective	E	3		“
CAS 2505	Elective	E	3		“
CAS 2506	Seminar	C	3		
CAS 2507	Viva-voce	C			

Semester VI

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CAS 2601	Project Work and Viva-voce	C	16		

Common Electives

E1	Visual Programming	E23	VLSI
E2	Internet and Website Design	E24	Wireless Technologies
E3	Distributed Computing	E25	Artificial Intelligence I
E4	Enterprise Resource Planning	E26	Artificial Intelligence II
E5	Decision Support Systems	E27	Computational Geometry
E6	Performance Evaluation of Computer System	E28	Geographical Information Systems
E7	Windows Programming	E29	Network Administration
E8	Unix Internals	E30	Embedded Technologies
E9	Web Commerce Technologies	E31	Pattern Recognition
E10	Parallel Computing	E32	Software Quality
E11	Security in Computing	E33	Micro Processors
E12	Intelligent Systems	E34	Object Oriented Design
E13	Principles of Concurrent Programming	E35	Cryptography and Data Security
E14	Knowledge Management	E36	Number Theory and Cryptography
E15	Internet Standards and Protocols	E37	Advanced java Programming
E16	Web Animation	E38	Software Testing
E17	Active Server Pages	E39	Software Project Management
E18	Digital Electronics and Logic Design	E40	Number Theory
E19	Artificial Neural Networks	E41	Data Mining
E20	Linux Internals	E42	Applied Probability & Statistics
E21	Computer Architecture	E43	Database Management Systems
E22	Digital Signal Processing	E44	Linux System Programming

DEPARTMENT OF COMPUTER SCIENCE

M.Tech. (Computer & Information Science)

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CSC 3101	Discrete Structures & Graph Theory	C	4		
CSC 3102	Theory of Computation	C	4		
CSC 3103	Design and Analysis of Algorithms	C	4		
	Elective I	E	3		
	Elective II	E	3		

Electives

CSC 3104	Computer Communication & Networking
CSC 3105	Information Retrieval
CSC 3106	Parallel Computer Architecture
CSC 3107	Intelligent Systems

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CSC 3201	Information Management	C	4		CSC 3101
CSC 3202	Graphics & Visual Computing	C	4		CSC 3103
CSC 3203	Seminar	C	1		
	Elective III	E	3		
	Elective IV	E	3		
	Elective V	E	3		

Electives

CSC 3204	Operating System Design	
CSC 3205	Computational Lingusitics	
CSC 3206	Adhoc Networks	CSC 3104

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CSC 3301	Project & Viva Voce	C	18		

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CSC 3302	Project & Viva Voce	C	18		

M.Tech. (Software Engineering)

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CSS 3101	Software Engineering: Principles	C	4		
CSS 3102	Software Project Management	C	4		
CSS 3103	Seminar	C	1		
	Elective I	E	3		
	Elective II	E	3		
	Elective III	E	3		

Electives

CSS 3104	Model Driven - Software Development
CSS 3105	Management & Maintenance of Information Systems
CSS 3106	Human Computer Interaction

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CSS 3201	Business administration & Technical Communication	C	4		
CSS 3202	Software Architecture & Design Patterns	C	4		
CSS 3203	Software Quality Management	C	4		
	Elective III	E	3		
	Elective IV	E	3		

Electives

CSS 3204	Design of Real Time / Embedded Software
CSS 3205	Agent Based Computing
CSS 3206	Data Mining

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CSS 3301	Project and Viva - voce	C	18		

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
CSS 3402	Project and Viva - voce	C	18		

Details of Faculty

Sl.No.	Name & Designation	Specialization	Communication	Intercom No.
1	G. Santhosh Kumar (GSK) Lecturer	Software Engineering	0484-2212221 san@cusat.ac.in	306
2	Dr.Sumam Mary Idicula Reader(SMI)	Artificial Intelligence, Human Computer Interaction	0484-2577605 Sumam@cusat.ac.in	305
3	Dr.K. Poulose Jacob (KPJ) Professor & Head	Computer architecture Computer Communications	0484-2362750, 2352720 kpj@cusat.ac.in	300

DEPARTMENT OF ELECTRONICS

M.Sc (Electronics)

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
ELE 2101	Mathematical and computational Methods	E	3	CKA	B.Sc.(Physics/ Electronics/ Computer)
ELE 2102	Electronics Devices and Circuits	C	3	A/B	B.Sc.(Physics/ Electronics/ Computer)
ELE 2103	Network Analysis	C	3	C	B.Sc.(Physics/ Electronics/ Computer)
ELE 2104	Digital logic design	C	3	B/TT	B.Sc.(Physics/ Electronics/ Computer)
ELE 2105	Electromagnetics	C	3	D	B.Sc.(Physics/ Electronics/ Computer)
ELE 2101L	Computer Laboratory (Computational methods)	E	2	PM/CKA	B.Sc.(Physics/ Electronics/ Computer)
ELE 2102L	Electronics Devices and Circuits laboratory	C	2	A/B	B.Sc.(Physics/ Electronics/ Computer)

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
ELE 2201	Microprocessor	C	3	JK	ELE 2103
ELE 2202	Communication Electronics	C	3	D	ELE 2101
ELE 2203	Digital Signal Processing	C	3	MHS	B.Sc.(Physics/ Electronics/ Computer)
ELE 2204	Control Systems	C	3	C	B.Sc.(Physics/ Electronics/ Computer)
ELE 2205	TV & Video systems	E	3	A	ELE 2101
ELE 2208	Robotics I	E	3	B	ELE 2204
ELE 2209	Microwave Devices	E	3	KV/A	B.Sc.(Physics/ Electronics/ Computer)
ELE 2210	Data Structures	E	3	A	B.Sc.(Physics/ Electronics/ Computer)
ELE 2201 L	Microprocessor Laboratory	C	2	JK	-
ELE 2204 L	Control Systems laboratory	C	2	C	-

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
ELE 2301	Seminar	C	2	A	-
ELE 2302	Microprocessor Systems	C	3	C	ELE 2201
ELE 2303	Computer networks	C	3	B	B.Sc.(Physics/ Electronics/ Computer)
ELE 2304	Artificial Intelligence	E	3	A	ELE 2208
ELE 2305	Robotics II	E	3	JK	ELE 2206
ELE 2308	Wave Guides and Antennas	E	3	PM/C	ELE 2104
ELE 2309	Operating System	E	3	MHS	B.Sc.(Physics/ Electronics/ Computer)
ELE 2310	Microwave Communication	E	3	KV	ELE 2104
ELE 2311	Computer Organization	E	3	D	B.Sc.(Physics/ Electronics/ Computer)
ELE 2312	Computer Graphics	E	2	D	-
ELE 2302L	Microprocessor systems Lab.	C	2	JK	-
ELE 2305L	Robotics laboratory	E	2	B	-
ELE 2310L	Microwave Laboratory	E	2	KV/B	-
ELE 2312L	Computer Laboratory	E	2	MHS	-

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
ELE 2401	Project evaluation and Viva Voce	C	16	-	-

Course Structure for M.Tech. (Electronics)

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
ELE 3101	Microprocessors	C	3	MHS	
ELE 3102	Advanced Digital Signal Processing	C	3	D	
ELE 3103	Digital Communication	C	3	PRSP	
ELE 3111	Digital Design Engineering	E	3	TT	
ELE 3112	VLSI Design	E	3	A	
ELE 3121	Microwave Networks	E	3	PM	
ELE 3122	Microwave Devices and Circuits	E	3	CKA/KV	
ELE 3016 L	Microprocessors Laboratory	C	1	MHS	
ELE 3107 L	Digital Signal Processing Laboratory	C	1	D	
ELE 3116 L	VLSI Laboratory	E	1	MHS	
ELE 3126 L	Microwave Devices & Circuits Laboratory	E	1	PM/CKA	

Semester II

Course Code	Paper	C/E	Credit	Faculty	Pre requisites
ELE 3201	Seminar	C	2	C	
ELE 3202	Neural Networks	C	3	B	
ELE 3203	Fault Tolerant Systems	E	3	A	
ELE 3204	Digital Image Processing	C	3	TT	
ELE 3206	Embedded System Design	E	3	JK	
ELE 3211	Wireless Mobile Communication	C	3	D	
ELE 3213	ATM Networks	C	3	PRSP	
ELE 3221	Antenna Theory	E	3	PM/A	
ELE 3222	Radar Systems	E	3	CKA	
ELE 3206 L	Digital Image Processing Laboratory	C	1	TT	
ELE 3216 L	Digital System Design Laboratory	E	1	JK	
ELE 3217 L	Antenna Laboratory	E	1	PM/A	

Semester III

Course Code	Paper	C/E	Credit	Faculty	Pre requisites
ELE 3301	Project Progress Evaluation	C	18	-	-

Semester IV

Course Code	Name of the Course	C/E	Credit	Faculty	Pre requisites
ELE 3401	Project Dissertation Evaluation	C	18	-	-

Details of Faculty

Sl.No.	Name & Designation	Specialisation	Communication
1.	Dr. K. Vasudevan (KV) Professor& Head	Antennas, Electromagnetics Microwave Devices, Radar Systems, MicrowaveCommunications	0484 - 2424391 vasudevan@cusat.ac.in
2.	Dr. P.R.S. Pillai (PRSP) Professor	Digital CommunicationComputer Networks Underwater AcousticsMicroprocessors	0484-2575046 prsp@cusat.ac.in
3.	Dr. P.Mohanan (PM) Professor	Antennas, Microwave Networks, Microwave Communication	0484 -2344926 drmohan@cusat.ac.in
4.	Dr. Tessamma Thomas (TT) (Professor)	Signal Processing,Image Processing Digital ElectronicsDigital Systems	0484 – 2575273 tess@cusat.ac.in
5.	Dr. C.K. Aanandan (CKA) (Professor)	Microwave Communication Radar Systems and Antennas	0484 – 2575283 anand@cusat.ac.in
6.	Mr. James Kurian (JK) (Professor)	Microprocessor Instrumentation, Robotics	0484 - 2577226 james@cusat.ac.in
7.	Ms. Supriya M.H (MHS) Lecturer	Digital Communication Signal Processing	0484 – 2575471 supriya@cusat.ac.in

***Note**: A,B,C,D are the Contract/Guest Lecturers appointed by the University*

DEPARTMENT OF POLYMER SCIENCE AND RUBBER TECHNOLOGY

M.Tech (Polymer Technology)

Semester I

Course Code	Name of the Course	C/E	Credit	Faculty	Pre requisites
POL 3101	Advanced Polymer Science	C	3	SKN	Graduate in Polymer Science/Chemical Engineering/Chemistry
POL 3102	Applied Mathematics	C	3	GF	- do -
POL 3103	Operations Management & Management Information Systems	E	2	GF	Any graduation except Arts & Humanities
POL 3104	Polymer Materials	E	2	RJ/SJS	Graduate in Science /Engineering
POL 3105	Rubber Processing and Product Manufacture	C	2	SKN/NMM	Graduate in Polymer Science/Chemical Engineering/Chemistry
POL 3106	Speciality Polymers	E	3	JG	- do -
POL 3107	Polymer Technology - Lab I	C	2	JTP	
POL 3108	Review Seminar	C	1	SGS	

SEMESTER II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
POL 3201	Plastics Processing	C	3	RJ/SGS	Graduate in Polymer Science/Chemical Engineering/Chemistry
POL 3202	Advanced Polymer Rheology	C	3	KEG	- do -
POL 3203	Polymer Products Design	C	3	SKN	- do -
POL 3204	Characterisation & Testing	C	3	JTP/SGS	- do -
POL 3205	Introduction to Mould & Die Design	C	2	ETT/JG	- do -
POL 3206	Tyre Technology	E	3	TK	- do -
POL 3207	Polymer Technology Lab. II	C	1		

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
POL 3301	Project Work Report & Viva Voce	C	18		

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
POL 3401	Project Work Report & Viva Voce	C	18		

Details of Faculty

Sl.No.	Name & Designation	Specialisation	Communications
1	Dr. Eby Thomas Thachil Professor & Head (ETT)	Polymer Science / Chemical Engineering	Ph: 0484-2331426 9846311380 ethachil@cusat.ac.in
2	Dr. K.E.George (KEG) Professor	Polymer Technology / Chemical Engineering	Ph: 0484-2577850 9446447851 kegeorge@cusat.ac.in
3	Dr. Rani Joseph (RJ) Professor	Polymer Science / Technology	Ph: 0484-2577850 9446467850 rani@cusat.ac.in
4	Dr. Philip Kurian (PK) Professor	Polymer Science / Technology	Ph: 0484-2575590 9447662790 pkurian@cusat.ac.in
5	Dr. Thomas Kurian (TK) Professor	Polymer Science / Technology	Ph: 0484-2575144 9847872209 tkurian@cusat.ac.in
6	Dr. Sunil.K.Narayanankutty Professor (SKN)	Polymer Science / Technology	Ph: 0484-2551922 9995300093 sunil@cusat.ac.in
7	Ms. Jayalatha Gopalakrishnan Lecturer (JG)	Polymer Technology	9847672916 jayalatha@cusat.ac.in

Department of Ship Technology

M. Tech– (Computer Aided Structural Analysis & Design)

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
DST 3101	Advanced Engineering Mathematics	C	4	Guest faculty	
DST 3102	Computer Aided Design in offshore Engineering	C	4	CBS	
DST 3103	Advanced Structural Analysis	C	4	CGN	
DST 3104	Elective I	E	4	DKK	
DST 3105	Elective II	E	4		

Electives

1	Marine Hydrodynamics	2	Marine Corrosion and Prevention
3	Application of Stochastic Process Theory in Ocean Engineering	4	Stability of Structures
5	Fracture Mechanics	6	Marine Pollution and its effect
7	Pollution Control Techniques	8	Advanced Joining Techniques

Semester II

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
DST 3201	Dynamics of Structures	C	4	Guest Faculty	
DST 3202	Finite Element Methods Applied to Offshore Engineering	C	4	CGN	
DST 3203	Elective III	E	4	DKK	
DST 3204	Elective IV	E	4		
DST 3205	Elective V	E	4		

Electives

1	Ocean Waves and Effects	2	Analysis of Special Structures
3	Design of Offshore Structures	4	Fatigue problems in Ships and Marine Structures
5	Computer Applications in Ship Manoeuvring		

Semester III

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
DST 3301	Project Progress Evaluation	C	18		

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
DST 3401	Project Dissertation Evaluation and Viva Voce		18		

Details of Faculty

Sl.No.	Name & Designation	Specialisation	Communication
1	Dr. Dileep K. Krishnan (DKK) Reader	Ship Manoeuvrability, Resistance and Propulsion	dileep@cusat.ac.in 0484-3942482
2	Dr.K.P.Narayanan (KPN) Reader	Ship structures and Strength	narayanan@cusat.ac.in 0484-2575870
3	Dr. C.G. Nandakumar Reader (CGN)	Structural Analysis Finite Element Method	nandu@cusat.ac.in 9447463475
4	Mr. James Joseph Kattady (KJ) Reader and Head	Marine Engineering, Thermodynamics	
5	Dr. S. K. Pyarilal (SKP) Reader	Ship Design	9846022253
6	Dr. K. Roby (KR)	Naval Architecture Reader	roby@cusat.ac.in Computer Science 0484 - 2575410
7	Mrs. Mariamma Chacko (MC) Reader	Electrical Engineering and Electronics	mariamma@cusat.ac.in 0484-2577226
8	Mr.K.Sivaprasad (KSP) Reader	Ship Building Technology 0484-2575601	sivaprasad@cusat.ac.in
9	Mr.A. Mathiazhagan (AM) Senior Lecturer	Material Science and Corrosion Engineering	alagan@cusat.ac.in 9447434901
10	Dr. C.B. Sudheer (CBS) Lecturer	Production Engineering, Ship Production, CAD/CAM	sudheer@cusat.ac.in 0484 – 2396194

INTERNATIONAL SCHOOL OF PHOTONICS

M.Tech (Opto-electronics & Laser Technology)

Semester I

Course Code	Paper	C/E	Credits	Faculty	Pre requisites
ISP 3101	Modern Optics	C	4	VMN	
ISP 3102	Laser Technology	C	4	VPN	
ISP 3103	Opto-electronics	C	4	MK	
ISP 3104	Industrial Management	C	1	KCJ	
ISP 3105	Lab Course I	C	3	—	
ISP 3106	Communication Technology	E	3	PR	
ISP 3107	Simulation & Modelling	A	-	KCJ	

Semester II

Course Code	Paper	C/E	Credits	Faculty	Prerequisites
ISP 3201	Fiber Optics&Applications	C	4	VMN	
ISP 3202	Lab Course II	C	3	—	
ISP 3203	Mini Project, Seminar etc.	E	1	—	
	Any 3 of the following electives				
ISP 3204	Laser Applications	E	3	VPN	
ISP 3205	Non-Linear Optics etc.	E	3	VPN	Knowledge of electro magnetic theory
ISP 3206				MK	
ISP 3207				PR	
ISP 3208				PR	

Semester III

Course Code	Paper	C/E	Credits	Faculty	Prerequisites
ISP 3301	Project Progress Evaluation	C	18		

Semester IV

Course Code	Paper	C/E	Credits	Faculty	Prerequisites
ISP 3401	Project Dissertation Evaluation and Viva-Voce	C	18		

Details of Faculty

Sl.No.	Name & Designation	Specialisation	Communication
1	Dr. C.P. Girijavallabhan (CPG) Emeritus Professor	Opto-electronics and Laser Spectroscopy	0484-2346869 vallabhan@cusat.ac.in
2	Dr. V.P.N. Nampoori (VPN) Professor and Director	Laser Spectroscopy and Non-linear Optics	0484-2576263 vpnnampoori@cusat.ac.in
3	Dr. V.M. Nandakumaran (VMN) Professor	Non-linear dynamics	0484-2575732 nandak@cusat.ac.in
4	Dr. P. Radhakrishnan (PR) Professor	Laser Technology & Fiber Optics	0484-2604811 radha@cusat.ac.in
5	Mr. M. Kailasnath (MK) Lecturer	Communication	0484-2494347 kailas@cusat.ac.in
6.	Dr. K C James (KCJ)	Industrial Management	9446605183 jamesmch@cusat.ac.in

PROFORMA – A
(For Student Registration)

School / Department of ……..

COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY

Registration Form

Name of Teacher :

Course Code :

Name of the Course :

Number of Credits :

Sl. No.	Name of Student	Semester	C/E	Programme of study	Department	Signature of Student

PROFORMA – B

School / Department of ……..

COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY

I / II / III / IV Semester M.Sc / M.Tech
/ …….....

Name of Student : .....

Sl. No.	Course Code	C/E	Name of Course	No. of Credits	Name of the Teacher & department	Signature of Teacher

Number of Credits (Core) :

Number of Credits (Elective) :

Total Credits :
Student Advisor