



PSG COLLEGE OF TECHNOLOGY

COIMBATORE - 641004



*MSc APPLIED
MATHEMATICS*

INFORMATION BROCHURE

VISION OF THE DEPARTMENT

*STAY AHEAD
AND
BE RELEVANT*



MISSION OF THE DEPARTMENT

The fundamental objective of the department is to develop quality professionals by providing the concept oriented and subject knowledge through high quality teaching supplemented with practical training. Apart from specialized knowledge and skills, the programmes conducted by the department aim to develop the personality of students by inculcating values of honesty, sincerity, team spirit and work culture.



ABOUT THE DEPARTMENT

The Department of Applied Mathematics and Computational Sciences comprises of dedicated faculty members whom are undoubtedly assets worth mentioning. The Department is known for its discipline and the importance it gives to the overall development of the students and to groom them towards becoming as a software professionals & research scientists. The Department has its own library with latest books and journals. Computational Sciences Laboratories are well equipped with the most recent hardwares and softwares.

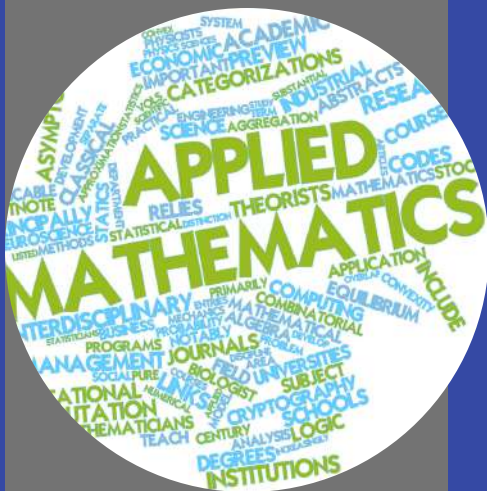
Apart from stressing on consistently good academic performance. The department encourages participation in the co-curricular and extracurricular activities to bring out the latent talents in its students.

The students are provided with ample opportunities to improve their organizational skills and group dynamics. They are also motivated to handle seminars and to participate in group discussions.

The department organizes conferences and workshops at national and international level at the regular intervals.

The Department also encourages the faculty members and students to undertake research activities in various fields of Mathematics and Computing.

MSc Applied Mathematics



The MSc Applied Mathematics programme was started in the year 1975. The objective of this programme is to acquaint the students with various principles of Mathematics and train them to build & administer mathematical models to the problems in science and technology. This programme is also designed to expose the students to the various development and the applications of software, catering to the needs of the industries and R&D sectors.

The programme is a perfect blend of Pure and Applied Mathematics with supporting laboratory courses to strengthen the knowledge of the students

Programme follows meticulously planned curriculum based on Choice - Based Credit System, updated regularly to meet the challenging requirements of the industry.

The programme comprises a mini-project and a major project. The mini - project is to be done during the summer vacation at the end of the second semester. A Six month major project is taken in the final semester at research institutions or software industries, thereby enabling them to have an opportunity to work in challenging environment.

MSc Applied Mathematics alumni are well placed in top - notch industries, reputed academic institutions and research labs.



COURSES OF STUDY

SEMESTER I

- Abstract Algebra
- Numerical Analysis and Differential Equations
- Mathematical Foundations of Computer Science
- Number Theory and Cryptography
- Real Analysis
- Object Oriented Programming
- Professional Communication
- Unix and Object Oriented Programming Lab

SEMESTER II

- Complex Analysis
- Linear Algebra
- Probability and Statistics
- Data Structures and Algorithms
- Data Base Management System
- Elective-I
- Data Structures and Algorithms Lab
- Data Base Management System Lab

SEMESTER III

- Graph Theory
- Optimization Techniques
- Topology and Functional Analysis
- Transforms and its Applications
- Machine Learning
- Elective -II
- Mathematical Computing Lab (R and Python)
- Java Lab
- Mini-Project & Seminar

SEMESTER IV

Project Work : Every student shall undertake a project work during the fourth semester. It shall be undertaken in an industry/research organisation or in the college.



ELECTIVES

- Algebraic Topology
- Artificial Intelligence
- Computational Finance
- Data Mining
- Design and Analysis of Algorithms
- Digital Image Processing and Computer vision
- Epidemic models
- Geometry of locally finite spaces
- Game Theory
- Intelligent Information Retrieval
- Mathematical Modeling
- Operating Systems
- Predictive Analytics
- Statistical Learning
- Stochastic Differential Equations
- Stochastic Models
- Soft Computing



ADMISSION PROCEDURE

Candidates will be selected for admission to the programme based on the marks secured in their Undergraduate Degree Examination and their performance in the interview.

A call letter for interview does not, however, confer any right of admission.

ELIGIBILITY FOR ADMISSION

Candidates for admission to the MSc Applied Mathematics are required to have a pass in BSc (Mathematics / Mathematics with Computer Applications / Applied Science) or an examination of any other University or authority recognized by Anna University equivalent there to. Candidates, who have appeared for the final semester examination in April/May of the academic year 2018-19, are also eligible to apply (However, such candidates if selected for admission will have to produce the final examination mark sheet and the proof of having passed the degree at the time of admission)

The shortlisted candidates have to attend an interview at PSG TECH Campus on 12-06-2019 at 9:00 AM. Candidates from other Universities will have to provide an Eligibility Certificate issued by Anna University, Chennai.

HOW TO APPLY

Application for admission should be made only in the prescribed format. Photo copy of mark sheet, community certificate and relevant certificates should be attached with the application.

Completed application along with a demand draft for ₹ 500/- drawn in favor of "The Principal, PSG College of Technology payable at Coimbatore should reach" The Principal, PSG College of Technology, Coimbatore – 641004" on or before 10th June 2019. Application can also be made online by entering all the particulars including marks along with online payment through net banking/credit card/debit card on or before 10th June 2019.



RESEARCH AREAS

- ARTIFICIAL INTELLIGENCE
- CRYPTOGRAPHY
- CYBER SECURITY
- DATA MINING
- DIGITAL TOPOLOGY
- EPIDEMIC MODELS
- GRAPH THEORY
- IMAGE PROCESSING
- INFORMATION RETRIEVAL
- MACHINE LEARNING
- OPERATIONS RESEARCH
- SOFT COMPUTING
- STOCHASTIC MODELS



INFRASTRUCTURE

The College has a well-equipped state of the art Computer Centre with latest software and hardware. The Department has an Object Computing Lab, Computational sciences Lab, Theoretical Computer Science Lab, Computer System and Design Lab, Data Science Lab, Information Systems Lab, Computational Neuroscience Lab, and Smart and Secure Environment Lab. In addition to the Computer Centre, the college also has a well-equipped TIFAC CORE Centre, CAD / CAM Centre, Virtual Reality Centre, Virtual Instrumentation Centre, DSP Lab in collaboration with Texas Instruments, PSG - Siemens Centre of Excellence in Automation and PSG Cognizant Open Source Lab with state-of-the-art facilities.



PLACEMENTS

The department is known for its high placement in the college. Students have opportunities to pursue their higher studies in reputed institutions like IITs & IIMB. Students have also been placed in the IT companies like ORACLE, IBM, Cognizant, TCS, WIPRO, NALCO, KLA TENCOR, etc.

ALUMNI FEEDBACK

Dr. U DINESH KUMAR
(1988-1990)



**Professor,
Indian Institute of
Management, Bangalore**

It is an ideal programme for research in Mathematics and its applications in computer fields. It broadens the scope for research. It cultivates decision making and analytical skills which helped me grow as a Data Scientist.

N.S.Babu
(1992-1994)



**Finacle - Product Engineer
Associate Vice President - Infosys**

To me good mathematics skill and knowledge creates strong foundation for analytical ability and problem solving skills. In turn, this helps to develop excellent programming and computing skills to solve business problems applying latest computing technologies. This course, Applied Mathematics, offers right combination of mathematics and computer science subjects the industry looking for.

Mr.KANNANTHANGM
(1993-1995)



**Vice President, Database
Administrator, Goldman
Sachs ,USA**

The proficiency of time obtained during the Applied Mathematics programme is exceedingly transferable which opens opportunities for the career in industry or for further advanced study in diverse areas ranging from engineering, energy to finance or scientific research. The combination of the applied nature of the mathematics that is taught, with the masters level of this programme, makes this qualification highly attractive to industries.

Mr.S GNANAPANDITHAN
(1998-2000)



**Cognizant Technology Solutions,
Coimbatore Automation
COE, Technical Architect role for IT
Process and Robotic Process
Automation Solutions.**

"Mathematics is essential in our life where without which nothing can be done. It has been applied in the emerging Science & Technology world. As an Applied Mathematics Alumini, I am proud to explore new things and would like to emphasize that core part of the IT world is Mathematics and we should know how to apply it.

M s. P L YOGA
(2003-2005)



**Data Analytics Head TCS
iON Solutions, Mumbai**

This programme has helped me visualise and analyse problems effectively .It is not just theoretical but it is also dealing with the applications of Mathematics in different areas along with a few basic & advanced computer science courses which satisfies the survival elements.

Mr. C R LOKESH BABU
(2003-2005)



**Senior Product Specialist
Cognizant Technology
Solutions,USA**

Applied Mathematics is an excellent course providing both Mathematics and Computer Science knowledge together. Implementing mathematical problems using programming language helps problem solving in real world.

Dr V. NATARAJAN
(2008-2010)



Post doctoral fellow
University of Bristol, UK

MSc Applied Mathematics programme is perfectly structured in three main aspects: fundamental mathematics essentials, applied mathematics and computer applications thus bridging the gap between pure and applied mathematics, allowing a student to adjust well to a challenging industrial environment.

Ms. RETHIKA
(2007-2009)



Scientist
ISRO, Bengaluru

At ISRO, I am working in India's prestigious Satellite Navigation Project known as NavIC. In this project, I have Designed and Developed Novel Ionospheric models which best suit for Indian Region and Implemented the algorithm which generates ionospheric corrections as an operational software. This was achievable only because of my knowledge gained on both mathematics and computer science through a single programme of Applied Mathematics at PSG.

Dr. Rubell Marion
Lincy George
(2008-2010)



NIT Calicut, Kerala

The programme and interaction with the eminent faculty in the department evoked my interest towards research and also equipped me with all the necessary tools in both mathematics and computer programming.

Ms. S MANAVATHI
(2016-2018)

Ms. S SAHANA
(2016-2018)

Ms. L SWETHA
(2016-2018)



**Business Development Manager
at LetzConnect Technologies**

M.Sc Applied Mathematics at PSG is one of the oldest courses of its kind. The department of AMCS has faculty who are not just knowledgeable but also inspire the students to aim and work to their full potential. The carefully framed curriculum offers a niche set of subjects which focus on strengthening the basics and core concepts, while also making the student adept at applying these concepts and programming. With the plethora of electives offered, the course can be effectively customised for the researcher or the tech enthusiast.



**Software Quality
Engineer at KLA-Tencor
Software PVT LTD.**

I couldn't have asked for a better Post Graduation course. MSc Applied Mathematics offers excellent training in pure and applied mathematics, thereby enabling students to broaden their scope and help them achieve great heights in their respective careers. The professors of AMCS department take utmost care of their students and are highly approachable.



**Data Scientist
Waterwerx Operations
PVT LTD.**

This course helped me to explore various perspective of mathematics involving the practical knowledge. It also has a strong computer background which helped me in getting through the real world competitions. The projects done during the course is helpful to choose our work domain and gain good knowledge out of it. This programme provides extreme opportunities to know yourself and about the subject.

STUDENTS FEEDBACK

**Mr. A Gomathi
Shankar**



**Intern at IIT Madras
Chennai.**

The programme has provided me an educational experience on both Mathematics and Computer science that helped me a lot for my Higher education.

I accomplished this programme because of my teachers commitment towards excellent teaching, a well designed curriculum and a supportive environment. My department has maintained high level of academic and behavioral expectations making every classroom minute count and efforts to realise my full potential!

**Ms.Dhanu Mathyaa
Sridhar**



**Intern at Cyber Security
Works,IIT Madras Research
Park.**

This programme builds up the path with wide computational and mathematical knowledge in research field and in various domain that leads to career growth of the students.

Mr. M Hariharasudhan



**Intern at Inventors of
Zero,Coimbatore**

I feel this programme prepared me very well for the interdisciplinary nature of my current project work in AI and helped me to think in abstract manner and break problems into small pieces without losing focus of the big picture. I really appreciate the faculties because they train our mind in a good way and sharpens the way we think.

PSG INSTITUTIONS

PSG Sarva Jana Higher Secondary School	1924	PSG Institute of Management	1994
PSG Industrial Institute	1926	PSG College of Nursing	1994
PSG Polytechnic College	1939	PSG Science and Technology Entepreneurial park(STEP)	1998
PSG Middle School, Vedapatti	1941	PSG College of Physiotherapy	1999
PSG Primary School, Peelamedu	1943	PSG College of Pharmacy	2001
PSG College of Arts & Science	1947	PSG Centre of Advertising & Communication	2002
PSG College of Technology	1951	PSG Driving School	2002
PSG Rural Health Centre, Vedapatti	1961	PSG Public Schools	2002
PSG & Sons' Charities Metallurgy and Foundary	1974	PSG High Schools,Vedapatti	2005
PSG Institute of Medical Science & Research	1985	PSG Institute of Advanced Studies	2006
PSG Rural Health Centre, Neelambur	1985	PSG Childrens School	2008
PSG Industrial Training Centre	1986	PSG Hospitals,Karadivavi	2012
PSG Hospitals	1989	PSG Vishnugranthi	2013
PSG Centre for Sponsored Research and Consultancy	1989	PSG Institute of Technology and Applied Research	2014
PSG Centre for Non-formal & Continuing Education	1989	PSG Centre for Academic & Research Excellence	2015
PSG Urban Health Centre	1993	PSG Software Technologies	2017



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