

ABOUT THE INSTITUTE

Vellore Institute of Technology (VIT) is a renowned private deemed university located in Vellore, Tamil Nadu, India. Established in 1984, VIT has grown into a leading institution known for its academic excellence, diverse programs, and focus on research and innovation. It offers a wide range of undergraduate, postgraduate, and doctoral programs in various fields, including engineering, management, science and humanities. In Engineering and Technology, VIT stands 212th best in the World and the 9th best in India (as QS World University Ranking 2023). Also based on the same survey, eight subjects of VIT are within the top 500 in the world. It is ranked as the 8th best university and 11th best research institution. VIT is accredited with an 'A++' Grade by NAAC and has consistently been ranked among the top engineering and private universities in India by various ranking bodies. The institute emphasizes a holistic learning experience, combining rigorous academics with ample opportunities for extracurricular activities, research, and industry collaborations. VIT's sprawling campus provides a vibrant and conducive environment for students to learn, grow, and excel in their chosen fields. Hack-a-thon, Make-a-thon, Math-a-thon, Stat-a-thon as part of curriculum exercise which kindles the interest and the curiosity of students, which motivates them to be better problem solvers, last module in every subject being handled by the industrial experts, making the students contextualize the concepts they study in the classroom, are a few of the innovations that VIT has introduced in their learning system.

ABOUT THE SCHOOL

School of Advanced Sciences, VIT consists of Mathematics, Physics and Chemistry departments. The school offers M.Sc. and Ph.D. programmes in all the three disciplines. The school comprises qualified and research-oriented faculty members whose expertise is in the frontier areas in sciences. Faculty members of SAS have received national and internationally recognized funded projects to the tune of 10 cores on-going projects in SAS. Several research projects of the school are financially supported by some of the leading funding agencies such as NBHM, UGC, CSIR, DRDO, DST, DBT, and others.

ABOUT THE DEPARTMENT

The Department of Mathematics at VIT, Vellore, holds a prominent position in the academic landscape: earning a QS World Subject Ranking of 451-500 in 2024, and ranking 14- 15 within India. Recently, the department secured project funding from DST- FIST, further enhancing its research capabilities. The faculty's areas of expertise span a wide spectrum, including algebra, analysis, differential equations, applied mathematics, optimization techniques, statistics, data science, theoretical physics, and computational sciences. The department offers Ph.D. programmes in Mathematics, Statistics and Data Science in addition to M.Sc. (Data Science), M.Sc. (Business Statistics), Integrated M.Sc. (Computational Statistics and Data Analytics) and Integrated M.Sc. (Mathematics) programmes.



VIT
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)



**Value Added Course
on**

**VAC2508 - Mathematical Models in Ocean
Engineering**

Organized by
Department of Mathematics,
School of Advanced Sciences



17th - 21th March , 2025

**Venue: PRP119
VIT, VELLORE**

ABOUT THE VALUE-ADDED COURSE:

This course delves into the fascinating world of fluid motion, equipping students with essential mathematical tools and computational techniques to analyze and solve complex fluid dynamics problems. Beginning with an overview of fluid motion, the course progresses to explore special functions crucial for representing solutions in various coordinate systems.

VAC CONTENTS

- Overview of fluid motion
- Special Functions
- Perturbation techniques
- Theory of Water waves
- Eigenfunction Matching Method (EMM)
- Scattering problem using EMM (MATLAB)

COURSE OUTCOMES:

- Understand and apply fundamental principles of fluid motion and governing equations.
- Analyse the generation, propagation, and behaviour of water waves using theoretical models.
- Apply EMM to solve scattering problems related to fluid-structure interaction.
- Develop and implement MATLAB code to simulate and analyse fluid dynamic phenomena, including water wave propagation and scattering.
- Interpret numerical results and draw meaningful conclusions about fluid flow behaviour.

WHO CAN ATTEND?

The course is open to all undergraduates, postgraduates, research scholars, faculty members and representatives from industry.

ORGANIZING COMMITTEE

Honorable Patron

Dr. G. Viswanathan, **Founder & Chancellor**

Chief Patrons

Shri. Sankar Viswanathan, **Vice President**

Dr. Sekar Viswanathan, **Vice President**

Dr. G.V. Selvam, **Vice President**

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Dr. K. Karthikeyan, **Dean, SAS**

Convener

Dr. M. S. Jagadeesh kumar

Head, Department of Mathematics

Coordinators:

Dr. T. Poornima

Associate Professor, Mathematics

Dr. Sunanda Saha

Assistant Professor, CCE

COURSE FEE:

Registration Fee: Rs.800/-
(Inclusive of GST)

- Number of participants is restricted to 60 (first come first serve basis)
- Accommodation will be provided on payment basis (To contact in prior).
- Certificate, Course material, and project ideas will be provided.

LAST DATE FOR REGISTRATION:

On or before : 17 March 2025

For Registration & Accommodation contact:

Dr. T. Poornima

Contact No.: 7989591890

ONLINE PAYMENT LINK

Link: <https://events.vit.ac.in/>

