



VIT-AP
UNIVERSITY

Apply Knowledge. Improve Life!®

School of Advanced Sciences



About us

The School of Advanced Sciences (SAS) is one of the seven Schools of VIT-AP University and it houses the Departments of Mathematics, Physics, and Chemistry. Here students are taught how to think critically through project-based learning (PBL) and not merely what to think. Students are encouraged to question, explore, and research throughout their studies, ranging across the various discipline of sciences. Our school aims at providing a solid foundation in natural Sciences, projecting the recent scientific and technological developments to the graduate, postgraduate, and PhD students. We aspire to be a valuable contributor towards the nation's growth and development by producing highly skilled professionals and by engaging in cutting-edge research. SAS earnestly pursues a vision of providing local, regional, national and International leadership in the research and technology development. We believe in quality of education and research with ethical and professional standards for better tomorrow. Here, students make their choices based on their preferences and requirements that equips them with a balance of logical-thinking and problem-solving skills which are essential to tackle today & tomorrow's professional challenges.

Programmes Offered:

Dual Degree Programme

B.Sc. & M.Sc. Data Science
(with exit option B.Sc. Data Science)

PG Programme

M. Sc. Data Science
M. Sc. Physics
M. Sc. Chemistry



Ph.D. Programme

Mathematics, Physics, Chemistry

<http://vitap.ac.in/school-of-advanced-sciences/>



Research

Research is at the heart of SAS's vision towards becoming an internationally recognized center of knowledge and learning. The spectrum of research activities at SAS is extensive and distinct. Our faculty and scholars are keen not just to find technological solutions to problems but also to expand human knowledge and understanding.

Currently, the school has over 20 Research Scholars pursuing a Ph.D. degree. The faculty members have contributed to academic research publishing and have successfully published research papers in over 85 journals and book chapters. SAS encourages faculties for collaborative research with faculties from foreign universities and presents their findings on international platforms.

The school has 23 registered faculties under the Research Grant in Engineering, Management, and Science (RGEMS), an initiative to motivate research that can lead to R&D projects. Undergraduate Research (URE) pursuits are encouraged by the school as well. In collaboration with the faculty, undergraduate students pursue active interdisciplinary research to make intellectual or creative contribution towards advancing Science.



Invited Lectures

More than 15 faculty from SAS have delivered invited lectures at international venues such as: University of Mons, Belgium; University of Split, Croatia; TESOL Asia, Kyoto, Japan; University of Malta, Greece; HELICS Group Scientific Networks, San Diego, CA, USA; ALLIED Academics, Bangkok, Thailand; University of Belgrade, Belgrade; University of London; Women's University, Seoul; University Catholic de , Louvain, Belgium; IMPACT, Dubai, UAE; Max Plank Institute, Germany etc.

International Conferences Attended

Faculty presence at International Conferences is the gateway to get first hand information on the emerging trends in academia. As a part of this knowledge sharing and gaining experience, many faculty members of the School have attended International conferences at various foreign universities.



Department of Mathematics

Department of Mathematics offers two programmes: Dual Degree Programme B.Sc. & M.Sc. Data Science (with exit option B.Sc. Data Science) and M.Sc. Data Science. The department further offers, more than 20 different courses for UG and PG programmes from other Schools. Courses in Mathematics are taught by incorporating technology into classroom teaching using a right blend of traditional teaching tools and computer algebra systems (CAS) such as MATLAB and R Programming. Use of MATLAB in teaching-learning process establishes Student-centric learning environment where the students are taught Mathematics through experimentation, visualisation and discovery. Further, the department specializes in the following research areas:

Nonlinear Dynamical System, Modelling of Memory Devices, Integral Transform, Operator Theory, Hydrodynamics Stability, Thermal Convection, ElastoHydrodynamic, Algebraic Coding Theory, Cryptography, Fractal, MHD Boundary Layers, Perturbation Methods, Stochastic Differential Equation, Approximation Using Linear Positive Operators, Fluid Dynamics, Nonlinear Mathematical Programming Problem, Solute Transport Modelling, Graph B-Coloring, Cosmology and more.



Department of Physics

Department of Physics offers an M.Sc. programme with specialization in frontline areas of modern day technology. Further, the department provides more than 10 different courses for UG and PG programmes from other Schools. The passion for basic and engineering sciences that stem from Physics are favoured by the students. The students devote practical hours at the labs sedimenting their basics in physics, and upgrading their knowhow on latest technologies.

The department is actively engaged in research in the following fields: Nanomaterials, Transparent Conducting Materials for Optoelectronic Applications, Photovoltaics, Sensors, Composite Materials, Coatings, Condensed Matter and Biological Physics.

Department of Chemistry

Department of Chemistry offers an M.Sc. programme that provides students ample opportunities to choose courses from a broad spectrum of fundamental and application-oriented topics across all areas of Chemistry, along with offering 7 courses for the UG and PG programmes from other Schools. The environmental chemistry laboratory is planned to have advanced analytical instruments and laboratory process equipment for project-based hands-on training to the students in fresh water and effluent water analysis, soil testing methods, air pollution studies, etc. This exposure from doing live experiments would enhance the students' understanding about environmental studies.

The department engages in research in the fields of Materials and Nanoscience, Homogeneous Catalysis, Supramolecular Inorganic Chemistry, Spectroscopy, Coordination Chemistry, Molecular Machines, Organicsynthesis among many other areas.



Facilities

SAS has well equipped labs with state of the art equipment and facilities that are essential for research and learning in the advancement of the sciences.

Physics Laboratories: The laboratories under the department provides practical experience to students through experiments on fundamental concepts and current technological applications such as Solar cells, Light Emitting Diodes, Optical fibres etc.

Chemistry Laboratories: The chemistry laboratory is equipped with modern analytical instruments, advanced process equipment, a range of special glassware and chemicals. They provide hands-on skill training with systematic analytical competence for the budding engineers. Also, the laboratory supports the students and research scholars for their chemical analyses needed in engineering project works or research.

Events

SAS is well known for conducting a variety of academic and co-curricular programmes that benefit not just the student community but our faculty and research scholars, and academia at large.

- International Conference: IEEE International Conference on Artificial Intelligence and Signal processing (AISP 2020)
- Workshop/seminar: 06
- Faculty Development Programme: 09
- Guest Lecture: 12



VIT-AP University's Merit Scholarships for UG Non-engineering Courses

- **GV Merit scholarship:** Any board topper across the country will get 100% scholarship for all the years of the UG degree programme.
- **Tmt. Rajeswari Ammal merit scholarship:** Any district topper across the country will get 50% scholarship for all the years of the UG degree programme. If the district topper is a girl, she will get an additional 25% scholarship (making it 75% scholarship).

This scholarship is applicable to our BBA, Law, B.Com, B.Sc. and BA degree programme admissions of 2021.

Reach Us : Beside AP Secretariat, Near Vijayawada, Andhra Pradesh - 522237, INDIA

Website : <http://vitap.ac.in>

Contact email id: dean.sas@vitap.ac.in

Follow Us  /vitap.university  /c/vitap  @vitap.university  @VITAPuniversity  vit-ap