DEPARTMENT OF NATURAL RESOURCES
DOCTORAL PROGRAMME IN NATURAL RESOURCES MANAGEMENT

About TERI School of Advanced Studies

The academic programmes at TERI SAS are focused on the challenges of providing the rising global population with a limited and degraded natural resource base. In moving towards sustainability, the implicit understanding is that there is no panacea or straight road, with recognized and established methodologies, tools or specializations leading to such development.

The solutions therefore do not lie in a specific subject discipline but must be appropriate and relevant to the context.

Developing such an understanding among its students is best achieved through exposure to a variety of subjects, tools, and methodologies offered in an interdisciplinary mode. This has been the guiding philosophy behind the programmes offered by the TERI SAS and is practiced by building a theoretical understanding in courses covering a variety of traditional disciplines, such as ecology, natural and social sciences, governance, policy, law, and engineering.

Apart from doctoral research, TERI SAS offers 14 Masters programmes focused on Renewable Energy, Environment, Water, Climate Science, Biotechnology, Economics, Sustainable Development, Management and Law.

TERI SAS is one in a selected group of 22 institutions chosen worldwide by the MacArthur Foundation, USA, to run the Sustainable Development Practice programme.

The institute provides the very best in equipment and instruments, which includes state-of-the-art computer facilities, well-equipped laboratories, video-conferencing facilities, and access to South Asia's most comprehensive library on energy and environment.

TERI SAS has established excellent partnerships and collaborative arrangements with several institutions overseas, including Yale University, USA; The Freie University of Germany; Utrecht University, The Netherlands; North Carolina State University, USA; and University of Technology, Australia.

Programme Overview

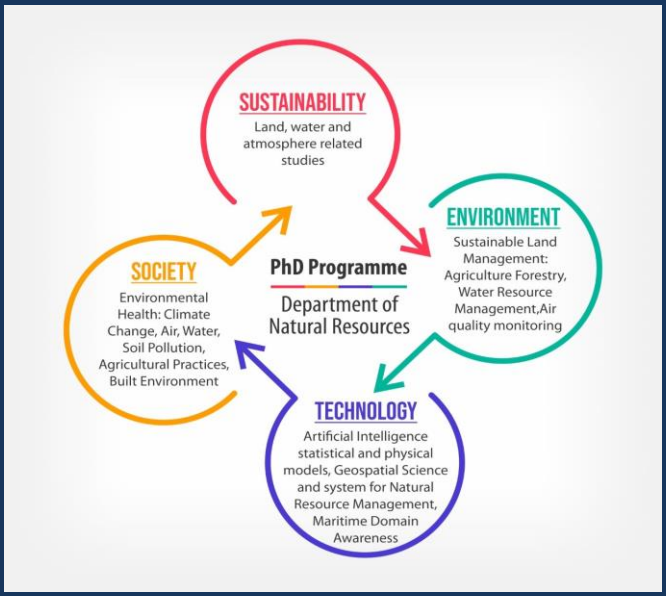
TERI School of Advanced Studies (TERI SAS) provides an opportunity to Ph.D. students to nurture their independent, analytical and critical thinking. It offers a conducive environment to achieve academic excellence and meet the highest global standards.

TERI SAS offers seven different Ph.D. programmes spread across seven different Departments and Centres each drawing their strength from the expertise and areas of interests of faculty members constituting each Department and Centre.

Operational aspects of each Ph.D. programme are governed and guided by the provisions laid down in the "TERI School of Advanced Studies Ph.D. Regulations - 2019".

Research Themes

- Air quality, Atmospheric Dynamics
- Artificial Intelligence for Natural Resources
- Agricultural studies
- Biodiversity and Conservation
- Climate Modelling
- Disaster Management for ecosystem resilience,
- Environmental Health
- Ecosystem Restoration (Terrestrial and Aquatic)
- Geospatial Science for Environment,
- Geospatial Technology for Ocean monitoring
- Hydrological Modelling
- Impacts of Pollution on forests and species sensitive to pollution.
- Urban environment and modelling



Programme Outcomes

I. Intellectual capabilities and indepth knowledge:

On completion of programme, students must have shown evidence of his/her capability to:

(1) Demonstrate thorough knowledge of relevant literature and nuances of the problems in the field of study
(2) Understand and apply scientific methods, associated tools and techniques to carry out high quality research work
(3) Investigate new research problems and effectively communicate new body of knowledge/outcomes through peer reviewed published research article.

II. Personal competence and research management

On completion of programme, students must have shown evidence of his/her capability to:

(1) Develop and implement research independently
(2) Present and defend research outcomes in the field of study

(3) Have developed suitable communication and interpersonal skills, critical thinking and problem-solving attitude

(4) Independently plan and execute original research with high ethical standards

Admission

Admission will be made based on written tests and interview. A weightage of 70% to the written tests and 30% to the performance in interviews shall be given. Written test will have two papers of equal weightage. Paper I will be on 'Research Methodology' which will be a common paper for admission in all departments of the University. Paper II will be department/subject specific.

Syllabus for Research Methodology

Syllabus for Paper II (Preferable research interest)

Syllabus for the entrance test for PhD programme would be announced and provided on the website for the specific year.

Biodiversity and Conservation:

Fundamentals of Ecology. Concept of Ecosystems, functioning services and assessment techniques. Significance of Biodiversity Conservation and monitoring techniques . Concept of Biodiversity 'Hotspots', Ecoregions and 'Key Biodiversity Areas'. The IUCN Red listing process for conservation categorization. Protected Areas in India and its planning. National and Global Legislations for Biodiversity Conservation. Global Conventions: CBD, Ramsar, UNCCD, CITES and CMS. Land degradation and Forest landscape Restoration. Sustainable Forest management and Forest Certification.

Geospatial sciences and applications:

Fundamentals of Remote sensing and GIS, Geospatial technologies for urban development, monitoring and management: Urban heat island, urbanisation, urban sprawl, air quality mapping and monitoring, vegetation mapping and monitoring, smart cities, utility services, location-based services, 3D modelling, build environment, thermal comfort, sustainable cities, and urban system modelling.

Ocean Remote Sensing: Sea Surface Temperature, Ocean Colour Monitoring, Vessel Tracking, Radar Altimetry Basics, Satellite Sensors, Sustainable Development, Systems Modelling.

Basic understanding of meteorology and atmospheric sciences, different scales of atmospheric phenomena, Meteorological disasters, Air pollution, Dispersion and transport of pollutants, statistical technique

Eligibility Criteria

Master's degree in a relevant field or equivalent with at least 55% marks in aggregate or an equivalent grade in a point scale wherever grading system is followed.

(Applications are accepted throughout the year and interested candidates may apply online.)

Fee

For details regarding the fee for doctoral programmes, please refer to the link given below:
https://www.terisas.ac.in/how-to-apply.php#nav-doctoral-tab

Ph.D. Guidelines

For Ph.D. guidelines, please refer to the link to student handbook. The Ph.D. regulations are from page no. 57 to 69
https://www.terisas.ac.in/pdf/student-handbook.pdf

Contact

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