



USAID
FROM THE AMERICAN PEOPLE

U.S.-Pakistan

Centers for Advanced Studies in Water



Academic Programs

USPCAS-W, MUET

USPCAS-W: A Brief Introduction:

U.S.-Pakistan Center for Advanced Studies in Water (USPCAS-W) is part of a broader higher education initiative launched in Pakistan with financial support from the United States Government through its Agency for International Development (USAID), under the Cooperative Agreement signed on December 12, 2014 for five years. It is one of the three Centers focused on identifying and developing solutions for the multifaceted water-related challenges facing the country. The Center is housed at the MUET at Jamshoro. (<http://water.mueta.edu.pk/>).

The Center intends to contribute solutions to Pakistan's water-related challenges by educating and training the next generation of water sustainability leaders through advanced academic training in different water-related disciplines.

Hydraulic, Irrigation and Drainage - HID

The HID program educates students in the field of open channel and groundwater hydraulics in combination with engineering principles and to support useful plant life, with minimum degradation of soil and water resources.

The primary objective is to understand soil, water and plant relationships and how they can be applied to better manage surface and groundwater resources in the production of food and fiber. HID program, especially at the post-graduate level, is structured to be interdisciplinary. In addition to increasing their understanding of engineering fundamentals, students are encouraged to explore and appreciate environmental and ecological effects of irrigated agriculture.

This is important since irrigated agriculture has come under increasing criticism for being a heavy user of water combined with low land and water productivity and environmental damages to soil and water resources.

Eligibility Criteria for MS Degree in HID

Applicants must have obtained a Bachelor's degree in the subjects mentioned below with 16 years of education, 1st class or 3.0 and above CGPA.

BE/BSc in: Civil Engineering, Agricultural Engineering and Environmental Engineering, Water Resources Engineering, and other related fields.

Courses/Research (HID Program)

- ☐ Hydro-informatics: Data Management and Analysis
- ☐ Open Channel Hydraulics
- ☐ Groundwater Hydraulics
- ☐ Water Law, Policy and Community
- ☐ GIS and Remote Sensing Applications
- ☐ Irrigation Water Management
- ☐ Agricultural Land Drainage
- ☐ Research Methodology and Statistical Analysis
- ☐ Watershed Modeling/Soil and Water Conservation
- ☐ Thesis Research, Data Collection & Processing etc.
- ☐ Graduate Seminar: Water Security in Pakistan

Research/ Data Collection & Processing, Thesis Write-up and Final Seminar

Head of Department

Dr. Abdul Latif Qureshi

Professor (PhD. Hydraulics & Irrigation, MUET)

Cell: 0301-3503012

E-mail: alqureshi.uspcasw@faculty.mueta.edu.pk



MEHRAN UNIVERSITY
of Engineering & Technology
Jamshoro, Sindh, Pakistan



THE UNIVERSITY OF UTAH

Integrated Water Resources Management - IWRM

The IWRM program enhances students' knowledge and capacities to deal with multi-disciplinary aspects of water resource allocation and use under conditions of uncertainties. Key topics constituting the program include; principles of IWRM, hazard planning and management, inter-sectoral allocation and use, water governance, institutions and policies, water dispute management, water valuation, economics of water management, and GIS and remote sensing in water resources. Given the emerging complexities in water sector, the need of coordinated decision making across sectors and scales has always been felt. IWRM provides a platform where young leaders are trained in interdisciplinary concepts and methods for integrated water resources management to meet the complex sustainability challenges.

Eligibility Criteria MS Degree in IWRM

Applicants must have obtained a Bachelor's degree in the subjects mentioned below with 16 years of education, 1st class and/or 3.0 and above CGPA.

BE/BSc in: Civil Engineering, Environmental Engineering, Agricultural Engineering, Water Resources Management, Water Management, Water/Environmental/Agricultural Economics, Water Resources Engineering and other related fields.

Courses/Research (IWRM Program)

- ☐ Research Methodology
- ☐ Hydro-informatics: Data Management and Analysis
- ☐ Integrated Water Resources Management: Principles & Applications
- ☐ Hazard Planning and Risk Management
- ☐ Water Law, Policy and Community
- ☐ GIS and Remote Sensing Applications
- ☐ Sustainable Development and WEF Nexus
- ☐ Climate and Water
- ☐ Model Applications in IWRM
- ☐ Preparation of Thesis Research Proposal
- ☐ Graduate Seminar: Water Security in Pakistan
- ☐ Thesis Research/ Data Collection & Processing, Thesis Write-up and Final Seminar

Head of Department

Dr. Altaf Ali Siyal

Professor

PhD (Soil and Water, UK)

Post-Doc. (USA & Australia)

Cell : 0335-3340405

E-mail: aasiyal.uspcasw@faculty.muet.edu.pk



Environment Engineering - EnvEng

The EnvEng program emphasizes learning in conventional environmental engineering, physical, chemical and biological processes, water and wastewater treatment design, air and noise pollution and control, hazardous and solid waste management, and environmental impact assessment. While focusing on water issues, EnvEng program provide a great opportunity to gain knowledge on ecological economics and entrepreneurship. Students of EnvEng are expected to conduct applied research to develop innovative solutions for emerging environmental problems. This unique EnvEng program promotes analytical and design skills of our students to make them market leaders. Our EnvEng graduates are working in various environmental consulting firms, academic institutions, and industries.

Eligibility Criteria MS Degree in EnvEng

- Applicants must have obtained a Bachelor's degree in the subjects mentioned below with 16 years of education, 1st class and/or 3.0 and above CGPA.
- BE/BSc in: Environmental Engineering, Civil Engineering, Agricultural Engineering or any other engineering discipline with at least one subject of environmental engineering.

Courses/Research (EnvEng Program)

- Professional Development and Practice
- Solid and Hazardous Waste Management
- Air and Noise Pollution Engineering
- Physical, Chemical, and Biological Processes
- Water Law, Policy and Community
- Environmental Economics
- Water and Wastewater Treatment Design
- Environmental Impact Assessment
- Occupational Health & Safety
- Graduate Seminar: Water Security in Pakistan
- Research/ Data Collection & Processing, Thesis Write-up and Final Seminar

Head of Department

Dr. Zubair Ahmed

Professor

PhD (Environment Engineering, South Korea)

Cell: 0 334 3833 220

E-mail: zahmed.uspcasw@faculty.muet.edu.pk

Eligibility Criteria for Ph.D Degree Program

Applicants must have obtained a Masters' degree in the subjects mentioned under each program area in the following table with 18 years of education; and first class or CGPA 3.0 and above out of 4.0.

HID	IWRM	Env.Eng.
ME/MS in HID or any other related discipline	ME/MS in IWRM or any other related discipline	ME/MS in Environmental Engineering or in any other related discipline

for more detail please visit link: <http://admissions.water.muet.edu.pk>

Water, Sanitation & Health Sciences - WaSH

In contrast to most 'traditional' degrees in environmental engineering, individuals in this program will need to have the knowledge, skills and attitudes to assess the needs of a community, design, evaluate and implement technical solutions to the deficiencies of water supply and sanitation that are appropriate for a given community and sustainable, through a process of community engagement and mobilization, and in partnership with like-minded organizations whose focus is on health promotion and education.

Individuals trained in this program will have the skills and knowledge to work effectively with community and community-based organizations and the local political structure to effectively implement water and sanitation interventions, assess the functioning and impacts of these systems, and identify and implement solutions to improve the effectiveness and sustainability of existing systems.

Eligibility Criteria MS Degree in WaSH

- Applicants must have obtained a Bachelor's degree in the subjects mentioned below with 16 years of education, 1st class and/or 3.0 and above CGPA.
- Applicants must have a bachelor degree of engineering in civil, environment, agriculture & water resources, degree in environmental science, physical sciences (chemistry, bio chemistry etc), medicine and biological sciences (biology, micro biology, bio sciences etc).

Courses/Research (EnvEng Program)

- Professional Development and Practice
- Water and Health
- Small Water System Design
- Chemistry & Biology of WaSH
- Water Law, Policy and Community
- WaSH and Community
- Biostatistics and Epidemiology
- Sanitation Systems, Waste Reuse and Hygiene
- WaSH Assessment and Practical Management
- Graduate Seminar: Water Security in Pakistan
- Thesis Research, Data Collection & Processing etc.

Head of Department

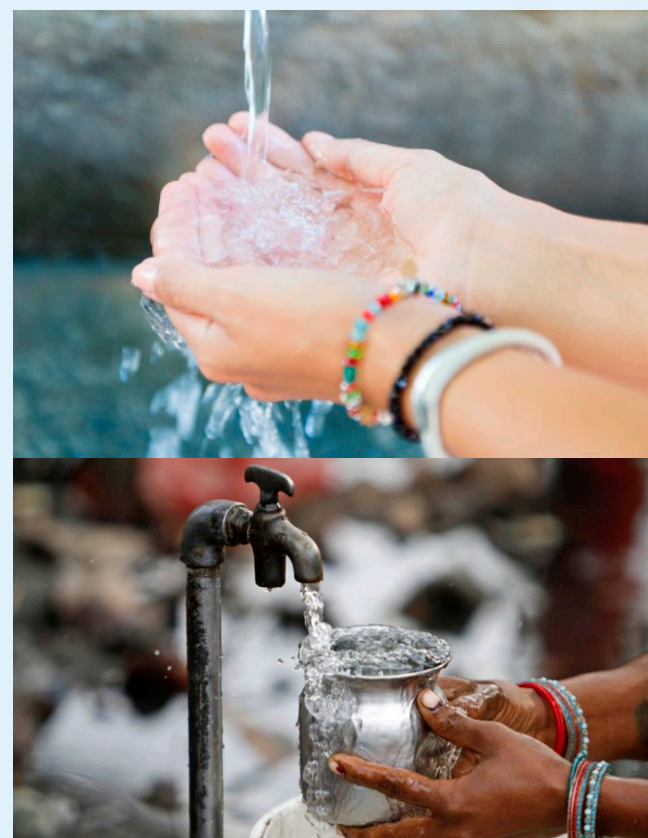
Dr. Jamil Ahmed

Assistant Professor

MD, M.Phil (International Community Health, Norway)

Cell: 0333 285 5283

E-mail: jamilahmed.uspcasw@faculty.muet.edu.pk



Disclaimer:

This publication is made possible by the support of the American people through the United States Agency for International Development (USAID). The contents are the sole responsibility of USPCASW - MUET Jamshoro and do not necessarily reflect the views of USAID or the United States Government.

Contact:

U.S.-Pakistan Centers for Advanced Studies in Water

Mehran University of Engineering and Technology, Jamshoro-76062, Sindh - Pakistan

 water.muet.edu.pk |  uspcasw@admin.muet.edu.pk |  /USPCASW |  USPCASW_MUET |  92-22-210 9145