Department of Disaster & Environmental Engineering, CUET

Under an agreement between CUET and University of Kassel (UNIKA) of Germany, a project creating Regional Centers of Excellence in Disaster and Environmental Engineering (ReCEDEE) education in Bangladesh was funded by German Academic Exchange Service (DAAD) program. The 4 year project ended in 2011. DAAD then extended collaboration until 2015 to create a South-East Asia Educational Network for Disaster & Environmental Engineering (SEAN-DEE) so that other higher education institutions can be benefited from the development of ReCEDEE experience at CUET and SUST. Accordingly, The Department of Disaster & Environmental Engineering (DEE) has started activities at CUET since 2011 to offer education & to continue subject related cooperation with UNIKA and other educational institutions. The inauguration of the first batch first semester class (M.Sc. Engg. in DEE) was held in January 2011.

1st Workshop of SEAN-DEE at CUET in 2012 (Official Inauguration)

Admission Requirements

For admission into Master of Science in Disaster and Environmental Engineering (M.Sc. Engg. in DEE) degree, a candidate

a) Must have at least one first class/first division or its equivalent in 5.5.C and H.S.C examination or its equivalent.

b) Should have CGPA of a minimum of 2.50 out of 4.0 or its equivalent in B.Sc. Engg. in the relevant branch.

c) Must not have third division or a CGPA less than 2.0 out of 5.0 in any one of S.S.C. and H.S.C. or equivalent examinations.

d) Should submit a written research proposal.

e) Must have obtained a B.Sc. Degree in Civil Engineering/ Civil & Environmental Engineering or an equivalent degree in a relevant branch from a recognized university/institution. The Equivalent Committee shall examine the equivalence of a degree for admission.

Scholarships, Student Exchange/Attachment

Deserving full time students may have opportunity to visit UNIKA for their laboratory oriented thesis work. CUET scholarships/teaching assistantships may also be provided for deserving full-time students.

Sponsors and Participating Universities

1. German Academic Exchange Program (DAAD)
2. University of Kassel (UNIKA) Germany
3. Chittagong University of Engineering & Technology (CUET)
4. Shahjalal University of Science and Technology (SUST)
5. National Institute of Engineering (NIE), Myssuru, India
6. Tribhuvan University (TU), Kathmandu, Nepal
7. CDMP, UNDP, HEQEP & MoDMR of GoB

Admission Deadlines

<table>
<thead>
<tr>
<th>Application submission</th>
<th>February 09, 2017</th>
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<tr>
<td>Interview for selection of candidates for admission</td>
<td>February 16, 2017</td>
</tr>
<tr>
<td>Publication of list of eligible candidates</td>
<td>February 23, 2017</td>
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Further Information

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Course Coordinator
Department of Disaster & Environmental Engineering
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Disaster & Environmental Engineering Education in Bangladesh

Natural disasters exert an enormous toll on infrastructural development of Bangladesh. The linkages between development and disaster risk are not difficult to visualize. So, disaster engineering education is indispensable now to adapt and to become fully prepared for challenges of disasters in Bangladesh. The country also suffers from different types of environmental problems. Particularly, the climate change issues are making it much more critical to survive in future. Environmental Engineering education should be explored to invent and to develop our own technology to counteract the environmental challenges and to sustain in such an adverse environment.

Courses to be Offered

Compulsory Courses

- Challenges in Disaster Engineering
  - Highlights sciences of major types of disasters & their impact on engineered & non-engineered structures in Bangladesh.
- Challenges in Environmental Engineering
  - Discusses challenges for the environment, i.e., water resources, energy, agriculture, land degradation etc.
- Advanced Numerical Modeling
  - Emphasizes on geometric and material nonlinearities in structural mechanics for conducting static & dynamic analysis of civil engineering structures.
- Advanced Mechanics
  - Covers advanced theories of solid & fluid mechanics.
- Project Management and Controlling
  - Focuses on advanced project management, approaches to finance, plan, design, construct and monitor projects.

Optional Courses

- Natural Preservation and Human-Nature Interaction
  - Highlights human-nature interaction, evaluation of cities & pattern of urbanization using GIS, environmental planning or control.
- Earthquake Engineering
  - Covers seismology, seismic design of structures, seismic assessment & strengthening for robust structures.
- Waste Reduction & Control
  - Focuses on advanced waste treatment management, and conversion methods.
- Human Water Resources
  - Covers wastewater treatment & integrated water resources management

Optional Courses (continued)

- Flood Control
  - Focuses on flood modelling, flood routing, flood management & flood resistant rural infrastructures.
- Wind Engineering
  - Emphasizes nature of wind induced vibrations & damages to structures, wind resistant design of structures & their strengthening.
- GIS and RS in Disaster Management
  - Covers basic concepts of GIS and RS techniques & their application in disaster management.

Faculty Members with Specialization

Prof. Dr. Md. Safiul Islam
  - Structural Engineering, Concrete Technology
Prof. Dr. Mahmood Omar Imam
  - Transportation Engineering, Project Management
Prof. Dr. Md. Jahangir Alam
  - Structural and Earthquake Engineering
Prof. Dr. Swapan Kumar Palit
  - Transportation and Environmental Engineering
Prof. Dr. Md. Nazrul Ali
  - Optimal Water Management and Modeling
Prof. Dr. Md. A. R. Bhuyan
  - Bridge Engineering, Earthquake Engineering
Prof. Dr. Sudip Kumar Pal
  - Advanced Mechanics, Optimal Waste Management
Prof. Dr. Aysha Akter
  - Hydraulics, Water Resources Engineering
Prof. Dr. Reaz A. Mullick
  - Water Resources Engineering & Environmental Management
Dr. Mst. Farzana Rahman Zuthi
  - Environmental Management, Water Treatment and Modeling
Mr. Md. Abul Hasan
  - Project & Disaster Management, Structural Engineering
Ms. Faraham Omri
  - Environmental Engineering, Membrane Filtration Processes

Degree Programs

- BE in Civil Engineering
- BE in Environmental Engineering
- M.Sc. in Civil Engineering
- M.Sc. in Environmental Engineering
- PhD in Civil Engineering
- PhD in Environmental Engineering

Course Coordinator

Mr. Maruful Hasan Mazumder

Table: Academic Curricula

<table>
<thead>
<tr>
<th>Semester</th>
<th>Compulsory Courses (Cr.)</th>
<th>Optional Courses (Cr.)</th>
<th>Thesis (Cr.)</th>
<th>Total (Cr.)</th>
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<tbody>
<tr>
<td>I</td>
<td>4 Courses @ 3 Cr.</td>
<td>3 Courses @ 2 Cr.</td>
<td>2 Cr.</td>
<td>12 Cr.</td>
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<tr>
<td>II</td>
<td>1 Course @ 3 Cr.</td>
<td>3 Courses @ 2 Cr.</td>
<td>2 Cr.</td>
<td>12 Cr.</td>
</tr>
<tr>
<td>III</td>
<td>3 Courses @ 2 Cr.</td>
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<td></td>
<td>12 Cr.</td>
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<tr>
<td>IV</td>
<td></td>
<td></td>
<td></td>
<td>12 Cr.</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>15 Cr.</td>
<td>12 Cr.</td>
<td>21 Cr.</td>
</tr>
</tbody>
</table>

Universities in Collaboration

The department maintains close collaboration with several universities to promote disaster and environmental engineering education & researches.

University of Kassel (UNIKA), Germany

UNIKA offers a broad range of studies covering the engineering, natural & social sciences and arts. Its civil engineering department and Institute of Water, Waste and Environment (WATE) offer BE, MS & PhD programs with specializations in structural engineering, earthquake engineering, construction management, traffic planning & management, environmental engineering, hydraulic engineering, waste technology and water management of settlements. Its structural laboratory offers unique testing capabilities on its strong floor, reaction frame etc.

Chittagong University of Engineering & Technology (CUET), Bangladesh

CUET is one of the prestigious degree awarding universities in Bangladesh. There are 9 engineering departments, 4 institutes namely IET, ICT, IIER & R& E and 4 centres namely CESE, CRHLSR, CIIPR and Language Centre offering degree programs, training and conducting researches in the area of science and engineering. There are also departments of architecture, urban & regional planning, basic sciences and humanities in CUET. The Department of DEE of CUET is a Regional Center of Excellence in Disaster and Environmental Engineering (ReCEDEE) offering postgraduate degree and pursuing research on disasters and environmental engineering.

Shahjalal University of Science & Technology, Sylhet, Bangladesh

NIE, Myssuru, India

Tribhuvan University, Nepal