Established in 1994, as an ‘Institute of National Importance’, IIT Guwahati has since then grown into being a preferred destination for people passionate about learning and innovation. IIT Guwahati has several factors contributing to how in a short span of time it has established itself as one of the best institutes of its kind in the country.

The programs and courses that are covered at IIT Guwahati are perpetually evolving to adapt to the ever changing global requirements and along with the diversity of the fields of study, this has helped the institute become one of the nation’s nerve centers for research and development, and technical education.

The faculty besides doing world class research ensure that the students of the campus are ready to face the challenges of the professional world by providing them with a sound conceptual understanding of their respective disciplines, and also by playing a huge role in their development as individuals who can lead and lead well.

The institute also offers a plethora of opportunities to students for their holistic development, through the excellent facilities that it has for sports and general extracurricular activities.

All of this has helped IIT Guwahati produce students who are well prepared to strive for professional excellence, and this is made evident by the institute’s impressive placement records. In 2014 IIT Guwahati has been ranked among the top 100 of the world’s dynamic young universities by Times Higher Education (THE) magazine. Also IIT Guwahati was ranked 74 under Asia University Rankings 2014.

The batch of 2016 truly reflects IIT Guwahati’s strengths which include versatility, innovation, a keen interest in learning, and being able to excel in a fiercely competitive world.
Department of Civil Engineering at IIT Guwahati was established in 1997 and has continually upgraded itself in terms of academic programs and research infrastructure including state-of-the-art laboratories. The department attracts the finest young and dynamic faculty members and the best of students for its Bachelors, Masters and Doctoral programs. The presence of state-of-the-art experimental and computational facilities, active institute-industry interaction, national and international exchange programs and industrial/research training opportunities help the students in the department to excel in the competitive professional life. The department is committed to providing excellence in classroom instruction, enrichment of the academic and professional experience of students, outreach to the engineering community and society, and advancements in Civil Engineering. The department also handles consultancy works and projects.

Faculty
The department boasts of an expert and dedicated faculty of Professors, Associate and Assistant Professors, involved in varied research areas like Environment Engineering, Geotechnical Engineering, Infrastructure Engineering and Management, Structural Engineering, Transportation Engineering, Water Resources and Hydraulic Engineering.

Association of Civil Engineers
Popularly known as ACE, is a voluntary body of students and faculty of Department of Civil Engineering at IIT Guwahati. It was established with a prime objective to provide common platform for corporates, professors and students and also to impart knowledge and address divergent issues.
Graduating Batch

- B.Tech: 40
- M.Tech: 71
- Faculty: 77

M.Tech Graduating Batch

- Environmental Engineering: 14
- Geotechnical Engineering: 11
- Infrastructure Engineering: 18
- Structural Engineering: 20
- Transportation System Engineering: 14
- Water Resources Eng. and Management: 2
ACADEMIC STRUCTURE - B.Tech

The B.Tech programme in Civil Engineering imparts the fundamentals of Civil Engineering through a set of core courses. It also equips the student in his/her chosen specialization, through a set of electives. It is for duration of eight semesters spanning four years and includes general engineering education as well as core Civil Engineering education. Students pursue internships at leading industrial organizations and reputed universities after 6th semester and in final year independent project work would be carried out on par with specialized topics. The course structure provides an optimal mix of compulsory and elective courses. Admission into B.Tech program is through Joint Entrance Exam (JEE).

Courses

The broad area of study includes Structural Analysis, Geotechnical Engineering, Transportation Engineering, Water Resource Engineering and Construction Management and Technology.

Civil Engineering Materials
Engineering Geology
Solid Mechanics
Fluid Mechanics
Surveying
Structural Analysis
Geotechnical Engineering
Hydraulics and Hydraulic Structures
Reinforced Concrete Design
Design of Steel Structures
Transportation Engineering
Construction Technology and Management
Environmental Engineering
Water Resources Engineering
Optimization Methods*
Numerical Methods*
Statistical Methods*
Genetic Algorithms*
Parallel Computing*
Expansive soil*
Pre-stressed Concrete*
Dynamics of Structure*
Advanced Structural Mechanics*
*Elective Courses
The institute has taken up an initiative to nourish the students with broad areas of knowledge. Minor courses were introduced in the current academic year for the first time. Students can either opt for courses within their domain or from other departments as well. The student’s demographics of various elective courses covered by the department are shown here.

**Department Electives - 2015**

<table>
<thead>
<tr>
<th>Course</th>
<th>No. of B.Tech. Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimization Methods</td>
<td></td>
</tr>
<tr>
<td>Numerical Methods</td>
<td></td>
</tr>
<tr>
<td>Subsurface Investigation and Instrumentation</td>
<td></td>
</tr>
<tr>
<td>Reinforced Soil Structures</td>
<td></td>
</tr>
<tr>
<td>Pre-stressed Concrete and Industrial Structures</td>
<td></td>
</tr>
<tr>
<td>Dynamics of structure</td>
<td></td>
</tr>
<tr>
<td>Advanced Structural Mechanics</td>
<td></td>
</tr>
</tbody>
</table>

**Minor Courses - 2015**

<table>
<thead>
<tr>
<th>Course</th>
<th>No. of B.Tech. Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td></td>
</tr>
<tr>
<td>Mechanical</td>
<td></td>
</tr>
</tbody>
</table>

**Open Electives - 2015**

<table>
<thead>
<tr>
<th>Course</th>
<th>No. of B.Tech. Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dynamics of Structures</td>
<td></td>
</tr>
<tr>
<td>Solid Waste Engineering</td>
<td></td>
</tr>
</tbody>
</table>
SUMMER INTERNSHIPS - B.Tech

To further their academic training, experimental skills and research aptitude, students undergo summer internship after their 6th semester which also gives them ample exposure to industrial work and lifestyle. A few of the esteemed companies and institutions where the present batch has interned are

**Academic**

Nanyang Technological University
Hong Kong University of Science and Technology
Technische Universität Braunschweig
York University, Canada
University of Malaya
IIT Madras
IIT Guwahati
IIT Hyderabad
IIT Roorkee
Gujarat Energy Research & Management Institute
IIIT Hyderabad
Rakshak Foundation
Kibbutz, Israel

**Industrial**

Entura Hydro Tasmania
Schlumberger
Shapoorji Pallonji & Co. Ltd
Ircon International Ltd.
Technip India LTD
Omaxe Ltd.
Delhi Metro Rail Corporation
Carmel Organics Private Limited
Air Liquid Global E & C Solutions
L&T Mumbai
Bhilai Steel Plant
Gammon India Limited
Diesel Locomotive Works
RENEN Power Technologies
SMEC India Pvt. Ltd.
Brahmaputra Infrastructure Limited
RITES Ltd.
Unity Infraprojects Ltd.
Consulting Engineers Group Ltd.
JK Cement Ltd.
L&T Hyderabad
Heavy Engineering Corporation Ltd.
ACADEMIC STRUCTURE - M.Tech

Environmental Engineering

**Thrust Areas:** Water & wastewater treatment, Air pollution & quality modeling, Waste management & composting, Environmental impact assessment, Heavy metal removal.

**Infrastructure:** UV visible spectrophotometer, atomic absorption spectrophotometer, flame photometer, ion chromatograph, BOD incubator, muffle furnace, high volume sampler.

Geotechnical Engineering

**Thrust Areas:** Machine and offshore foundations, seismic soil-structure interaction, Site investigation & ground improvement, Geotechniques for waste disposal, Advanced foundation Engineering, Geosynthetic Engineering, Reinforced soil structures, landslides and slope stabilization.

**Infrastructure:** Stress path triaxial system, Guelph permeameter, geotextile testing equipment, automated cyclic triaxial system, MASW.

**Technical Support:** Geostudio, Flac 2D-3D, Abaqus, PLAXIS.

Transportation Systems Eng.

**Thrust Areas:** Urban transport system and planning, Traffic modeling and simulation, Pre-cast & cast-in-situ concrete block pavement.

**Infrastructure:** Separate facilities for traffic engineering and pavement engineering, Equipment for advanced traffic data collection, GPS & VBOX.

**Technical Support:** MX Roads, Vissim, Trans CAD, VBOX, HDM-4, TRANSYT.

Infrastructure Eng. And Management

**Thrust Areas:** Public private partnerships, Risk management, sustainable construction materials, Building information modeling, and High performance concrete.

**Infrastructure:** Advanced concrete technology laboratory and project management laboratory.

**Technical Support:** MS Project, Primavera Project Planner.
**Structural Engineering**

**Thrust Areas:** Earthquake Engineering, Bridge Engineering, Advanced Concrete design, Composite structures, Performance-based seismic design, Structural health monitoring, Impact and blast resistant design.

**Infrastructure:** Top-notch advanced experimental facilities in the country servo-controlled hydraulic MTS actuators and hydraulic jacks, 100T electronic UTM, 200T CTM, shake table, range of instruments for non-destructive testing of structures.

**Technical Support:** STAAD Pro, SAP 2000, ANSYS, AutoCAD, SHAKE 91, MIDAS.

**Water Resources Eng. And Management**

**Thrust Areas:** Surface and subsurface flow modeling, Meso-scale distributed hydrological modeling, Geoinformatics, Watershed modeling and management, Dam break analysis, Reservoir optimization, Urban water and integrated land use planning.

**Infrastructure:** Tilting flume with experimental facility for infiltration from river, experimental watershed, GPR, spectroradiometer, Pelton wheel, Kaplan and Francis turbines, DGPS, canopy analyzer, Reynolds’ apparatus.

Students typically would be taking up experimental and theoretical research work in major areas of Civil Engineering under the guidance of experienced faculty to achieve the level of expertise and proficiency warranted by a doctorate degree. This is evident in the minimum number of credits required and a dissertation to be presented as part of the degree.

**Students Enrolled Yearwise-PhD**

- 2010: 30
- 2011: 12
- 2012: 19
- 2013: 26
Industry-oriented research is encouraged at every level of the department in terms of a BTech project or a MTech project or a PhD dissertation/thesis. In addition, students, under the guidance of faculty, work on government and industry-sponsored projects bagged by the department. Furthermore, the department conducts quality improvement programs (QIPs), periodic workshops and short-term courses in earthquake risk management, solid waste management, infrastructure management, etc.

**Government-sponsored R&D**
- Board of Research in Nuclear Sciences (BRNS)
- Council of Scientific & Industrial Research (CSIR)
- Department of Science & Technology (DST)
- Ministry of Urban Development (MoUD)
- Ministry of Human Resource Development (MHRD)
- Ministry of Science & Technology
- Ministry of Drinking Water & Sanitation
- UK-India Education and Research Initiative (UKIERI)

**Industrial Consultancy**
- BSNL
- CALCOM Cement India Ltd.
- IOCL
- Lea Associates South Asia Pvt. Ltd.
- Meghalaya State Electricity Board
- National Games Secretariat
- NEEPCO
- NHPC
- North Frontier Railway
- Oil India Limited
- PWD Assam
- Ramky Infrastructure
- Space Applications Centre (ISRO)
PAST RECRUITERS

Ansys Fluent
Aarvee Associates
Altair Engineering
ASC Infratech
BGR Energy
BHEL
BPCL
Coal India
Fluidyn
GE India
Geometric Ltd.
Global Analytics
HPCL
HSCC
IOCL
JayPee Group
Jindal Steel
LNJ Bhilwara
L&T ECC
L&T Ltd.
M N Dastur
Absolutdata
Assam Downtown University
Bank of India
Centurion Group of Institutes
Degremont
Parimal
Ericsson
Evalueserve
Fair Issac
Futures First
Headstrong
IBM – GBS
Infosys
Kaziranga University
KIIT University
KL University
NKG Infra
NTPC
NBPPPL
Oil India Limited
ONGC
Plaxis India
Polaris Software Labs
Reliance Power
RIL
SAIL
Saraswati Technical services
Schlumberger
SEW Infra
S N Bhobe
WS Atkins
LP University
MM University
Mu Sigma
Oracle
PCS
PricewaterhouseCoopers
Quest
RGUKT
Sharda University
Sports Authority of India
Thornton Tomasetti
Sony India
Spectrum World
Virtusa India
Wipro
Zeus Numerix
Cubastion
Flipkart
Innovacer
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