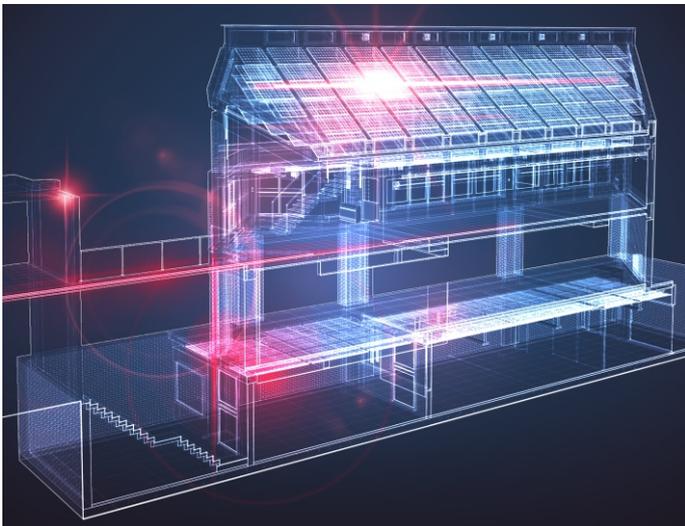


# Master of Technology in Building Energy Performance

## CEPT University, Ahmedabad, India

Buildings with low energy use are a social and economic imperative for India and other tropical regions that are experiencing an economic growth coupled with a rising awareness of environmental concerns. Building energy performance is emerging as an area of intellectual and professional growth. Building codes, green building rating systems, and a demand by owners for buildings that are efficient and comfortable have created a need in the building industry for professionals who can understand energy issues, systems, and evaluate as well as propose innovative solutions.

The M. Tech. program in Building Energy Performance (MBEP) is a two-year program. Here, students learn state of the art tools to conduct simulations and assess building energy performance during building design and operation. The learning is very hands-on where students use the latest equipment for testing and measuring thermal and luminous effects in buildings. The coursework also includes guest lectures from national and international energy experts. The program prepares the students to tackle complex technical problems and participate in a multidisciplinary work



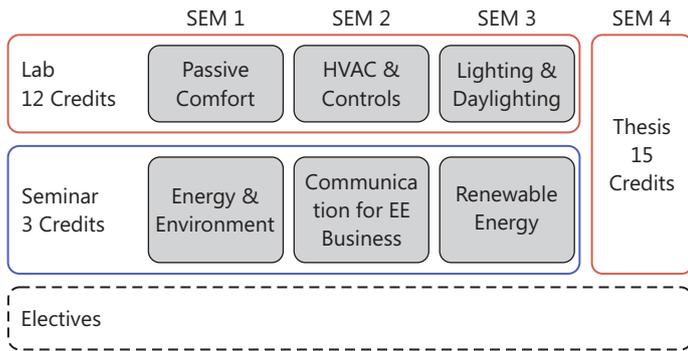
environment. They are trained to become skilled professionals, who influence the design of energy-efficient buildings, while considering the architecture and environment, the inhabitants' behaviour and needs, their health and comfort, as well as long and short term costs.

The faculty consists of practitioners and researchers with solid experience. They ground the education with a practical solution oriented approach, and constantly look towards the horizon for innovations and cutting edge technologies and approaches.

The graduates from this program have been placed at some of the leading consulting firms and non-profit organizations involved in high performance building and energy research. One of the students went for a six-month internship to the USA funded by the Department of Science and Technology, Govt. of India and the Indo-US Science and Technology Forum. In 2017, the M.Tech BEP students won the first place in the US Department of Energy's Race to Zero Student Design Competition in the urban single family housing category.



*Team KILL BILL – US DOE's Race to Zero 2017 First Prize  
Urban Single Family Housing*



*Basic course structure and credits distribution*

During the first 3 semesters, the students are required to take only one 12-credit Lab course, and one 3-credit Seminar Course. The students focus only on their thesis in the fourth semester. This structure allows an in-depth exploration of the topic area, making it an immersive education for the students. The lab courses focus on passive thermal comfort design, HVAC systems, lighting, daylighting design and integrated building design. Students learn to use simulation tools (DesignBuilder, EnergyPlus, eQuest, LightStanza) and conduct field studies. The seminar courses help the students connect the dots with the economy, environment, business, and professional practice.

With a focus on warm climate, the graduates of this program are attractive candidates for job markets in India, Singapore, UAE, Vietnam, Indonesia, Bangladesh, as well as other countries in South-east Asia and the Middle-east. The program also provides a research foundation to enable the graduates in taking up research careers in Europe and North America. They work in energy consulting firms, building design teams, with building owners and government agencies, taking a leading role for pursuing energy efficiency with a whole-building perspective. They are also prepared to pursue their studies further at the doctoral level.



### **Centre for Advanced Research in Building Science and Energy**

CARBSE aims at providing an impetus for research in energy efficiency in built environment and energy resource management at large. Its objective is to conduct in-depth research in the fields of energy efficient building design, energy efficient building construction processes, environment friendly construction materials and resource audit and management. It has been awarded the status of a 'Regional Energy Efficiency Centre on Building Energy Efficiency' by the USAID ECO-III program and 'Centre of Excellence' by Ministry of New and Renewable Energy, Government of India. The centre is also leading research under the prestigious US India Joint Centre for Building Energy Research and Development. CARBSE is supported by Gujarat Energy Development Agency, industry and various philanthropic organizations.