

DEPARTMENT OF CIVIL ENGINEERING

STRATEGIC PLAN (2020-2025)



About the Department

The Department of Civil Engineering offers Diploma, Bachelor (B. Tech) Degree and Masters (M.Tech) Programs in Civil Engineering within campus and also focusing in Doctorate (PhD) programs in the near future. The Department offers Full Time as well as Part Time Masters (M. Tech) Degree Programs in 3 specializations viz. Structural Engineering, Construction Technology and Management and Transportation Engineering in the domain of Civil Engineering. The Department aims to generate trained manpower in the various aspects related to Civil Engineering and attempts to integrate Research and Teaching to harness maximum potential and has emerged as a center of excellence in imparting quality Teaching and Training at under graduate, Post-graduate level and propagating Research activities in diverse field of this vital stream and its allied areas. The course curriculum will not only equip the student with sound knowledge and expertise in relevant areas but will also create avenues for Research and job opportunities in future and for self-employment. Department is equipped with modern equipment with state of the art laboratory facilities and has dedicated faculty members carrying specializations and their ongoing Research and project works in various domains of Civil Engineering and its allied sciences viz. Structural Designing, Sustainable Construction Techniques, Efficient and affordable construction techniques, Efficient Traffic management, Effective Road Designing (Pavement and Geometrical), Green Construction, Environmental Impact Assessments, Water Quality Assessments etc. The Department is currently headed by Mr. Satish Parihar.

Vision:

The Department envisions preparing and producing qualified Civil Engineering Graduates and Experts, who not only have the basic understanding and expertise of their domain, but they also look towards betterment of society by providing sustainable, time-saving and cost-


Registrar
Rama University
Mandhana, Kanpur-209217

effective construction and at the same time, they also keep their key motive of environmental restoration, thereby they could be able to provide sustainable competitive advantages Globally..

Mission:

- To provide the nation/society with a high-quality workforce by changing the students from an ordinary aspirant to a Well-Equipped and Qualified professional with high moral and ethical values.
- To raise awareness of professional and social ethics along with the incorporation of quality domain knowledge.
- To prepare the students with smart thinking and problem solving attitude by introducing Establishing strategic relationship with leading National International corporate and universities for academic as well as Research collaborations.
- Contributing for creation of healthy, vibrant and sustainable society by involving the students in community service, health and hygiene awareness, sports, cultural activities and environmental protection
- Undertaking ISR activities for women empowerment, upliftment of rural/deprived sections of the society and socially relevant Research.

Objectives:

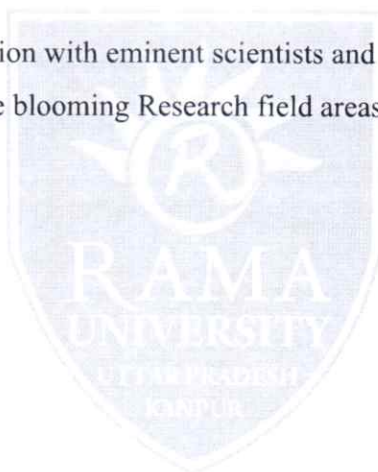
For improvement of our Department, we need to produce high-quality students so that they are able to cope with all the professional and personal challenges that are prevalent around the world and be able to do their respective jobs and contribute to the overall growth of their respective employment providers and countries and the world. Graduates must also have the most advanced R & D skills in their field.

1. Carry out engineering practice in a wide range of industrial, social and practical applications.
2. Pursue higher education, Research and development, and other creative and innovative efforts in science, engineering, technology, and other professional occupations.
3. Act in a responsible, professional and ethical manner.


Registrar
Rama University
Mandhana, Kanpur-209217

Action Plan:

- Develop new methodologies for efficient learning and Teaching
- Follow an inquiry-based lab curriculum, an inquiry-based curriculum offers many opportunities for active learning, creating an atmosphere in which students must take responsibility for their learning.
- Guiding students to a more Research and thinking based approach.
- Engaging students with a collaborative and Research-intensive education which includes defining clear and realistic Aims of the course.
- Engaging students in project based lab.
- More hands-on experience of students in various experiments
- Signing MOU with national and international universities and Tech Giants of high reputation.
- Enhancing collaboration with eminent scientists and industries across the world.
- To do Research in the blooming Research field areas.




Registrar
Rama University
Mandhana, Kanpur-209217

Research Development Strategy:

All the management comes with setting up of a Research facility

The currently focused Research areas are, but not limited to:

- ✓ Alternate Construction Materials
 - ✓ Alternate Construction Techniques
 - ✓ Latest Concrete Technology
 - ✓ Project Management
 - ✓ Construction Cost Economics
 - ✓ Water Recourse Assessments
 - ✓ Building material Improvements
 - ✓ Working and Designing with latest softwares
- More Researches in the said field will magnify the chance of getting Government grants, filling patents.
 - Focus on Research and creative efforts, and promote interdisciplinary and emerging Research.
 - Integrate Research experiences into the undergraduate curriculum and provide faculty with resources and recognition for their contributions
 - Identifies the obstacles that impede the implementation of its Research policy plan and undertakes appropriate action as and when required.
 - The Department is planning to increase the number of Researches in the upcoming years.
 - The Department also focuses on Incubation Lab setup in the upcoming years.
 - To enhance Research, the Department has planned to start offering Ph.D program in the upcoming year.


Reg. No. 100
Rama University
Mandhana, Kanpur-209217.

Admission:

The Department believes in the concept of “Quantity after Quality”. Following the same principle, the Department is aiming to enhance quality of education through various techniques and exposures. The Department also believes that the first and most reliable source of admission is the mouth publicity by our own alumni, and that can only be achieved when they experience the quality.

For this the Department is planning to provide the students with most flexible and interesting curriculum, so that they can learn in the best possible and most practical manner.

The Department is also planning to enhance the site construction knowledge by visiting and tie up with top industries so that students can see and learn the actual construction procedure at ground level.

The Department is also going to communicate with the aspirants through a video, which would help them choosing Civil engineering as a career option. That video will be put on all social media and aspirant platforms in order to ensure maximum viewership and higher acceptance.

- Frequent Department and lab visit of higher secondary students and motivate them to choose Civil Engineering as their career stands as the best suited option, who wish to pay a visit to the University.
- Renovation of lab infrastructure and instruments for providing better Research facility will attract students for doing M.Tech and Ph.D as well.
- Advertising throughout India regarding the Civil Engineering course of Rama University.
- Analyzing some new concepts of earn while learn so that it could help economically poor students as well as students can check and learn the actual office environment which could help them in their future also


Registrar
Rama University
Mandhana, Kanpur-209217

Placement:

- Inviting Best Civil Engineering companies
- Motivating students for certification courses in various Civil Engineering industries which will attract the core companies for better recruitment.
- Special placement oriented course by Attitude experts

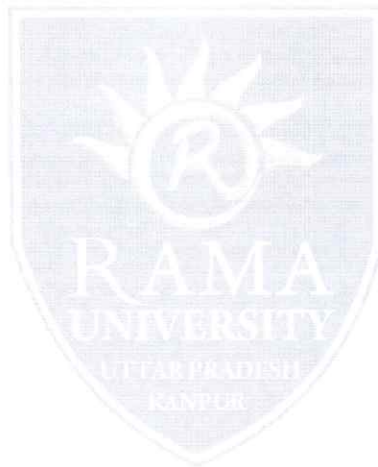
Society Benefit:

- Students leave either the lab or classroom with the ability to discuss and develop ideas to address several issues in the biological spectrum.
- Students as a leader to participate in their areas of expertise and activities that support global services and economic development.
- We believe that Healthy mind lives in a Healthy body, so we are looking towards in sports activities also which not only improves health of students but also provides a global platform to represent student itself as well as university.
- Various skill development courses as well as core detail subject knowledge courses under Government of India like SWAYM platform, NEPTEL etc
- Looking towards programs 'earn while learn' so that student can put themselves in best environment of official skill development as well as improves minor financial issues of students


Registrar
Rama University
Mandiana, Kanpur-209217

Strategic Focus Areas

The Department of Civil Engineering offers Bachelor (B.Tech), Masters (M.Tech.) and Doctorate (Ph.D). Degree Programs in Civil Engineering. The Department aims to generate trained manpower in the areas of Civil Engineering and attempts to integrate Research and Teaching to harness maximum potential and has emerged as a centre of excellence in imparting quality Teaching and Training at under graduate, Post-graduate level and propagating Research activities in diverse field of this important science. The course curriculum will not only equip the student with sound knowledge and expertise in relevant areas but will also create avenues for Research and job opportunities in future and for self-employment. Department is equipped with ultra-modern equipments with state of the laboratory facilities




Registrar
Rama University
Mandiana, Kanpur 209217

Civil Engineering

Civil Engineering refines and extends methods that produce new Building Construction and Research. Civil Engineering has a long history of use in construction and was the first known engineering field. Civil Engineering applications in the construction sector, therefore, target the selection and manipulation of construction with the objective of improving process control, product quality, safety, consistency and yield, while increasing construction efficiency. In an effort to address the future expectations of stakeholders and construction sector through Research and development innovations, it becomes necessary to build trained and expert work force in area. Department aims to bridge this gap by Training and creating trained manpower and promote Research activities.

Environmental Civil Engineering

Environmental Civil Engineering is a system of scientific and engineering knowledge related to the use of environmental knowledge and their products in the prevention of environmental pollution through reusing of solid, liquid, and gaseous wastes, of polluted environments, and monitoring of environment and treatment processes. Given the limitations of current chemical and mechanical processes, the world is turning towards greener option of technological interventions. The Department of Civil Engineering aims to promote Teaching, Training and Research activities in the areas relevant to waste management & environmental improvement, development & demonstration of waste material specific effective options like recycled aggregates, industrial waste, new chemical additives, Bio-restoration technologies for medical waste and e-waste.


Registra
Rama University
Mandiana, Kupat 704217

Strategic Planning Aim

The faculty at Department of Civil Engineering deliberated about five-year roadmap in an online meeting. The faculties gave various input regarding academics, assessment of students, student's learning trajectory, laboratory infrastructure, faculty loads, Department visibility, quality Research, Teaching and learning activities, Research activities, and entrepreneurship among students and consultancy projects. The faculty identified following areas which are: quality Research and consultancy, quality Teaching, Department visibility, student satisfaction and competitiveness with leading institute as being critical to the Department's future. These five items will be considered for Department's strategic Aims. The importance of each Aim is explained below, along with specific objectives and action items to help the Department achieve each Aim.

Aim 1: Quality Research & consultancy

Quality Research and consultancy is extremely crucial for growth of Department. Research and consultancy activities will set the Department in good stead and will help Department to carve its own identity. The following strategies will be employed to achieve the desired Aim:

Strategy 1: The Department aims to focus on building laboratory infrastructure required for increasing the quality of Research. The Department is planning to apply for sponsorship to Department of Civil Engineering, Department of Science & Technology, New Delhi for up gradation and setting up of Research laboratories.

Strategy 2: Tapping the rich talent pool of M. Tech and Ph.D students to pursue Research at university laboratory only. This small change will help better control on their Research data and curb plagiarism and data fabrication and improve quality of Research. The rampant malpractice needs to go to protect image of university and supervisor.

Strategy 3: The existing faculty load will be relooked as this is most important aspect towards quality Research. The faculty will be made free from unnecessary works to focus on Research proposal, projects, books authoring. Further, they will be encouraged to utilize this time for consultancy work too to make Department self-reliant. There is urgent need towards


Registrar
Rama University
Mandhana, Kanpur-209217

reworking faculty load given the existing talent pool available at Department to promote Research and consultancy.

Strategy 4: Promotion of Research activities taken at Department through various print and electronic media. Department plans to hold open day annually, where anyone from Kanpur region, especially students can visit and interact with faculty, Departmental student and Research activities being done at Department. This will increase the visibility and helps in garnering much needed consultancy projects and student enrollment.

Aim 2: Quality Teaching

Strategy 1: The Department is planning to establish Teaching and learning cell to suggest innovative Teaching methodology and faculty student engagement with faculty and students. This cell will also be responsible for assessing the quality of content being taught in the class. This cell will also suggest enhancing Teaching experience in the present faculty load.

Strategy 2: In the post Covid-19 era, there is focus on online education. Therefore, Department will provide quality Teaching materials online through various existing platform. Introducing short term courses in phased manner in line with current industrial demand to enhance job related technical skills.

Strategy 3: In continuation of above strategy, the Department will launch 'E-RAMACIVIL' (virtual PLATFORM) specifically designed for students of university. This will enhance the Research as well as laboratory skills of student which is one of the crucial and backbone of Civil Engineering studies. This platform can be accessed by outer university students also for limited trail period which not only advertise university but also show transparency of education.

Aim 3: Students satisfaction and success

This is the most important metric that faculty at Department of Civil Engineering recognizes. Student's satisfaction and success will help in creating brand RAMA University and will help in increasing enrollment and placement activities. The strategy that Department of Civil Engineering will employ to create Brand RAMA are:


Registrar
Rama University
Mandhana, Kanpur-209217

Strategy 1: Improving Communication skills of students- Strong communication skills, in particular written communication, are essential for student success. The faculty believes that student's communication skills should be improved. The following methodology can be applied:

- Investigate ways to better integrate core communications courses with each of our degree curricula.
- Enhance curriculum so that communications skills are reinforced throughout the degree program. For example, ensure that there is a writing intensive (or presentation intensive) course each semester in a typical student's schedule. Ensure that written work products and presentations in these courses are rigorously evaluated and detailed feedbacks are provided to students.
- Yearly workshops to enhance communication skills for both faculty as well as students must be in English to provide global communication in future also

Strategy 2: Enhancing technical skills of students- Civil Engineering being a multidisciplinary field requires lot of effort both from faculty and students. There are two aspects of technical skills (1) Theoretical, and (2) Practical. Theoretical skills will be enhanced by giving quality notes, assessment through quizzes, surprise test and case studies, identifying non-performers and understand their problems, relating class room learning with example of real world to enhance their understanding of subjects. The faculty will be trained by Teaching and learning cells to deliver this style of lecture for student satisfaction. Practical aspect will be taught through rigorous practical session with focus on each individual rather than group.

Strategy 3: In continuation of the above, a student group under the chairmanship of experience faculty will be setup to notify skill improvement courses, conferences and open challenges to students. The students will be encouraged to participate to hone their skills.

Strategy 4: Training students in multidimensional field of Civil Engineering to become future leaders.

As Civil Engineer, challenges are immense not only at job front but also at Research front. However, Civil Engineering field is extremely wide and students can choose career as per their liking. Therefore, there is a need to train students in Civil Engineering as well as allied field such as surveying, designing, rural based geo-technology development, etc. Our

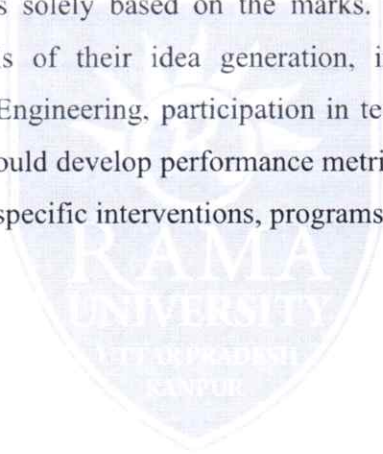

Registrar
Rama University
Mandiana, Kanpur-209217

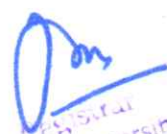
students can contribute to society not only through professional engineering or construction work but through leadership. Leadership may include engaging in public policy formation, holding public office, creating innovative new technologies and start-up companies, and running a successful business.

Strategy 5: Setting up of entrepreneurship cell at Department: Through this cell, Department aims to encourage and inculcate entrepreneurship skills among students. The cell will organize lecture series; identify areas related to Civil Engineering having business potential, protecting intellectual property etc. This cell will create future entrepreneurs and will help in creating brand RAMA.

Strategy 6: Metric for measuring student success

Success is a subjective term and Faculty at Department of Civil Engineering aims to shy away from the definition of success solely based on the marks. The Department is planning to measure success on the basis of their idea generation, innovativeness and handling of challenging situation in Civil Engineering, participation in technical events will be given due weightage. The Department should develop performance metrics and collect data that allow the faculty to judge the success or specific interventions, programs or the curriculum as a whole.




Registrar
Rama University
Mandhana, Kanpur-209217