

Guru Ghasidas Vishwavidyalaya

(A Central University)
Bilaspur (C.G.)

Information Brochure

2024-2025



Department of Chemical Engineering
School of Studies of Engineering and Technology

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RANKING



Amongst Top Universities of India (Both Government and Private Universities)

Guru Ghasidas Vishwavidyalaya (GGV) has earned a place among India's top 50 universities in The Times Higher Education World University Rankings. This achievement is attributed to our Vice - Chancellor Professor Alok Kumar Chakrawal's leadership.

It is GGV's first international ranking, placing it in the 1001-1200 bracket globally. Our success is linked to implementing the National Education Policy-2020 and fostering a positive academic environment. The university focuses on holistic student development through skill programs, collaborations, and startup initiatives, leading to 250+ patents and 15+ startups.

Professor Chakrawal's commitment has elevated GGV's international academic standing. The Times University Rankings involve 1799 universities worldwide, emphasising the university 's dedication to progress.

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Message from the Hon'ble Vice Chancellor



Prof. Alok Kumar Chakrawal

Guru Ghasidas Vishwavidyalaya is a Central University of Chhattisgarh, accredited with NAAC A++ and Ranked 48TH Times Higher Education Ranking, owns the principal responsibility of providing job-oriented education, taking care of the educational aspiration, propagation of quality education, and enlightenment of the people of local society and remote areas.

We shall comprehensively make efforts to grow this University, named after the great saint Baba Guru Ghasidas, like a banyan tree of higher learning at national and international level. As we navigate the exciting path ahead, the Department of Chemical Engineering is poised to introduce cutting-edge programs, collaborative research endeavours, and industry partnerships that will position our graduates forefront of technological advancement.

Message from the Registrar



Prof. A.S. Ranadive

Guru Ghasidas Vishwavidyalaya (A Central University) Bilaspur, accredited with "A++" Grade by NAAC is a leader in providing excellent outcomebased education to engineering under graduate and post graduate students supported by project based learning and extracurricular activities for all-round development of the students.

It gives me profound pleasure and pride to set out a remarkable education world in the Department of Chemical Engineering. It has been our endeavour, right from the beginning, to make the Department a preferred destination for students who want to get to the top of this field. We aspire to mould our students into globally competent and wellgroomed Chemical Engineers who can meet the challenges of technological advancement. efforts are also being made to inculcate social values and professional ethics in our students to face the current as well as future global standards. A well-qualified and competent faculty with wellequipped labs are committed to provide an excellent teaching methodology for bringing up the students into excellent engineers as well as good human beings.

Message from the Dean



Prof. S.C. Srivastava

As the Dean of the School of Engineering and Technology, specializing in Chemical Engineering, I extend a warm welcome to all prospective students seeking to embark on a journey of academic excellence with us.

At our esteemed institution, we pride ourselves on providing top-notch education and fostering an environment where innovation thrives. Our Chemical Engineering program is designed to equip students with the skills, knowledge, and practical experience necessary to succeed in today's dynamic and evolving industry landscape.

Join us as we pave the way for the future of chemical engineering. Explore your potential, discover new horizons, and embark on a fulfilling academic journey with us.

Message from Head



Dr.R.S. Thakur

Welcome to the Department of Chemical Engineering at Guru Ghasidas Vishwavidyalaya! Since 1997, we've been dedicated to leading the way in chemical engineering education and research.

With state-of-the-art facilities, experienced faculty, and industry partnerships, we ensure that our students receive a comprehensive education that prepares them for successful careers in various sectors, including energy, pharmaceuticals, environmental sustainability, and more.

Join us as we explore the exciting world of chemical engineering, where knowledge transforms into real-world solutions. Discover inspiration and excellence within our department.

About the Department

The Department of Chemical Engineering, established in 1997, is one of the earliest departments within the School of Studies of Engineering and Technology. Currently, it comprises 12 dynamic faculty members actively involved in cutting-edge research areas such as renewable energy, water treatment, catalysis, and food processing.

Offering B.Tech., M.Tech., and Ph.D. programs. The department also fosters student development through various clubs and organizations like the Chemical Engineering Students Society (ChESS) and the Student Chapter of the Institution of Engineers, India. The department's diverse student body contributes to a vibrant mixed culture, celebrated through departmental festivals and cultural activities.

In line with the department's commitment to student well-being, a mentor-mentee system is maintained to ensure personalized interaction and support. Additionally, alumni feedback is highly valued and utilized for continuous curriculum enhancement. Embracing the principles outlined in the National Education Policy (NEP) 2020, the department eagerly welcomes suggestions from stakeholders for further improvement.

Vision

The vision of the department is to establish itself as one of the best study center's of Chemical Engineering education to produce proficient and responsible Chemical Engineers to serve the needs of the industry and society.

Mission

- To produce career-ready Chemical Engineers with high standards of ethical and social values and entrepreneurial skills.
- To develop the research culture in fundamental and application-oriented problems to cater the societal and industrial needs.
- To build strong relationship between academia, industry and other institutions of repute. Objectives of the Department
- To provide students with fundamental and current knowledge of Chemical Engineering through classroom teaching, practical experiments and using ICT tools.
- To nurture new talents and create leaders who can bring value addition in the chemical and allied industries.
- To establish state of art laboratories to gain extensive and practical knowledge.
- To create the research environment in the department with a focus on thrusts areas.

OUR FACULTIES & THEIR AREA OF SPECIALIZATION

Area of Specialization Name of the Faculty Prof. Anil Kumar Chandrakar Catalysis **Professor** Membrane separation Dr. Amit Jain processes, Processing of **Associate Professor** various medicinal herbs and fruits Process intensification, Dr. Raghwendra Singh Thakur Adsorption, Waste water **Associate Professor & HOD** treatment Reactive extraction, Dr. Anuradha N. Joshi **Environmental Associate Professor** Management Dr. Saurabh Meshram Water Treatment, **Associate Professor** Adsorption Dr. Neeraj Chandraker Adsorption, Water **Assistant Professor Treatment**

Dr. Gautam Prasad Dewangan Assistant Professor



Fluidization, modelling and simulation

Mr. Vishnu Prasad Yadav Assistant Professor



Renewable energy and catalysis, Modelling and simulation

Dr. Sandeep Dharmadhikari Assistant Professor



Fuel Cells, Membranes, Adsorption, Wastewater treatment

Dr. Ghoshna Jyoti Assistant Professor



Process intensification (Pervaporation), Process modelling and simulation, Reaction kinetics

Dr. Pankaj Kumar Assistant Professor



Biofuels, Biorefinery,
Heterogeneous Catalysis,
Reaction Engineering,
Process design & Technoeconomic Analysis, Pyrolysis
of Biomass.

Mr. Satyajit Bhattacharjee Assistant Professor



Non timber forest products, waste biomass utilisation

B.Tech. Curriculum

1st semester

Engineering Mathematics-A
Engineering Chemistry
Basic Electrical and Electronics
Engineering Environmental Science
and Ecology Computer Programming
Indian Constitution
Engineering Chemistry
Laboratory Computer
Programming Laboratory
Engineering Workshop
Practices Sports and Yog

3rd semester

Mathematics-III
Chemical Engineering
Thermodynamics Material and Energy
Balance Calculations Fluid Mechanics
Fluid Mechanics
Lab CET Lab
Departmental
Elective Open
Elective

5th semester

Heat Transfer
Mass Transfer-1
Chemical Reaction Engineering-1
Heat Transfer Lab
MassTransfer-1Lab
Chemical Reaction Engineering Lab
Departmental Elective
Open Elective

7th semester

Process Equipment Design-2
Chemical Reaction
Engineering-2
Transport Phenomena
Minor Project
Seminar
Departmental Elective
Open Elective

2nd semester

Engineering Mathematics-B
Engineering Physics
Introduction to Information
Technology English for
Communication
Human Values and Ethics
Engineering Physics Laboratory
Engineering Mechanics
Laboratory Engineering Graphics
NSS

4th semester

Particle and Fluid ParticleOperations Inorganic Chemical
Technology Numerical Methods in
Chemical Engineering
Process Instrumentation
Fluidization Engineering
Numerical Methods in
Chemical Engineering Lab
Particle and Fluid Particle
Operation sLa

6th semester

MassTransfer-2
Process Dynamics and
Control Process
Equipment Design-1
Mass Transfer Lab-2
Process Dynamics and Control
Lab Departmental Elective
Open Elective

8th semester

Process Equipment Design-3 Major Project Departmental Elective Open Elective

For more information kindly go to the link: Guru Ghasidas Vishwavidyalaya (ggu.ac.in) B.Tech. Curriculum is updated from time to time though Board of Studies.

M.Tech. Curriculum

1st semester

Advanced Heat Transfer
Advance Separation Process
Advance Reaction Engineering

Elective - I

Advanced Fluidization Engineering
Advanced Wastewater Treatment Technology
Advanced Chemical Process Modeling

Elective - II

Advanced Process Control Process Intensification Bioprocess Engineering

Chemical Engineering Computational Lab Research Methodology and IPR

Open Elective

- 1. Business Analytics
- 2. Industrial Safety
- 3. Operations Research
- 4. Cost Management of Engineering Projects
- 5. Composite Materials
- 6. Waste to Energy
- 7. Internet of Things
- 8. MOOCs
- 9. Software Engineering Techniques
- 10. Enterprise Resource Management

2nd semester

Advanced Transport Phenomena Chemical Reactor Design

Elective - III

Computational Fluid Dynamics
Fuel Cell Technology
Process Plant Design & Flow Sheeting

Elective - IV

Design & Development of Catalyst Industrial Pollution Control Safety Hazards & Risk Analysis

Advanced Chemical Engineering Lab Mini Project Audit Course/Value Added Course

English for Research Paper Writing Stress Management by Yoga Disaster Management Constitution of India

For more information kindly go to the link: Guru Ghasidas Vishwavidyalaya (ggu.ac.in) M.Tech. Curriculum is updated from time to time though Board of Studies.

Eligibility and Admission Procedure

B.Tech.:

Eligibility:

- 1. Candidates must have completed their higher secondary education (12th grade) or equivalent from a recognized board with a strong background in science subjects such as Physics, Chemistry, and Mathematics.
- 2.University often has reservation policies based on categories such as caste, gender, and disability. Candidates belonging to reserved categories may have specific eligibility criteria and relaxation in the minimum marks requirement.

Admission procedure:

1. JOSAA - CSAB Counselling 2024

2.Local/ University Level Counselling.

ADMISSION THROUGH JOSAA - CSAB COUNSELLING 2024

Eligible candidates with valid JEE (Main) scorecard can apply for admission to B.Tech programme via this mode as per details given on JOSAA - CSAB website https://josaa.nic.in/

ADMISSION THROUGH LOCAL/UNIVERSITY LEVEL COUNSELLING 2024

Candidates who have with JEE Main Scorecard 2024 can apply for admission to B.Tech. program via this mode as per details given on university website www.ggu.ac.in. Admission will be given to the left-out seats after admission through JOSAA - CSAB COUNSELLING 2024.

M.Tech.:

Eligibility:

- 1. Candidates must typically hold a Bachelor's degree in Engineering or Technology in a relevant discipline from a recognized university or institution. The specific disciplines eligible for M.Tech. admission may vary depending on the programs offered by GGV.
- 2.Candidates are usually required to have a minimum percentage of marks in their qualifying Bachelor's degree examination. The specific minimum percentage required may vary depending on the M.Tech. program and the university's guidelines.
- 3.GGV follows reservation policies based on categories such as caste, gender, and disability, as per government regulations. Candidates belonging to reserved categories may have specific eligibility criteria and relaxation in the minimum marks requirement.

Admission procedure:

Candidates will be given admission through two modes:

- 1. CCMT 2024
- 2. Local/University Level Counselling

ADMISSION THROUGH CCMT 2024

Eligible candidates with valid GATE scores can apply for admission to M. Tech programme via this mode as per details given on university website www.ggu.ac.in.

ADMISSION THROUGH LOCAL/UNIVERSITY LEVEL COUNSELLING 2024

Candidates who have with either valid GATE scores or are NON GATE candidates can apply for admission to M.Tech. program via this mode as per details given on university website www.ggu.ac.in. Admission will be given to the left-out seats after admission through CCMT 2024.

Ph.D.

Eligibility:

- 1.A 1-year/2-semester master's degree programme after a 4-year/8-semester bachelor's degree programme or a 2-year/4-semester master's degree programme after a 3-year bachelor's degree programme or qualifications declared equivalent to the master's degree by the corresponding statutory regulatory body, with at least 55% marks in aggregator its equivalent grade in a point scale wherever grading system is followed or equivalent qualification from a foreign educational institution accredited by an assessment and accreditation agency which is approved, recognized or authorized by an authority, established or incorporated under a law in its home country or any other statutory authority in that country to assess, accredit or assure quality and standards of the educational institution.
- 2.GGV follows reservation policies based on categories such as caste, gender, and disability, as per government regulations. Candidates belonging to reserved categories may have specific eligibility criteria and relaxation in the minimum marks requirement.

Admission procedure:

There would be two streams of applicants, namely VRET and VRET-Exempted

- a. Applying against available seats in a subject which shall be filled by Vishwavidyalaya Research Entrance Test (VRET) or any other test as decided by the University from time to time
- b. Applying against available seats in a subject which shall be filled by candidates not appeared in VRET i.e. called VRET-Exempted category.

For more information kindly go to the link: https://www.ggu.ac.in/Regulation.aspx

Facilities and Resources

Research Equipment



Centrifuge



Gas Chromatograph



UV Spectrophotometer



Distillation Unit



Muffle Furnace



Hot Air Oven



BOD Incubator



Orbital Incubator Shaker

UG & PG Laboratories



Fluid Mechanics and Unit Operation Lab



Heat Transfer and Process Dynamics & Control Lab



Blake Jaw Crusher



Ball Mill



Emissivity Measurement
__ Apparatus



Pelletizer

Central Amenities



Central Library



Yoga & Meditation Center



Auditorium



Hostels



Cafeteria



Sports



Basketball Court



Volleyball Court



Badminton Court

Co-curricular Activities

The department advocates for a multidisciplinary approach and upholds high standards in both education and research within Chemical Engineering. We foster student engagement in diverse activities, workshops, and competitions, nurturing a versatile skill set that spans across various domains and disciplines. As a result, our students emerge proficient in a wide array of fields, reflecting our commitment to comprehensive education and research in Chemical Engineering.



ChESS

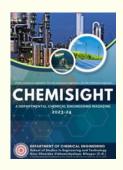
In the year 2011, the department founded a student society, the Chemical Engineering Students Society (ChESS). The society's goal is to give students a place where they may improve their talents and general personality. "ChESS" recently launched its own book club and will soon publish its own e-magazine, RaSAYAN (anin-house publication of ChESS). The department encourages undergraduate students to get involved in research and present their findings on scientific platforms.





Departmental Magazine

CHEMISIGHT is a Magazine launched by the students of Chemical Engineering. It shows the activities of students in the field of their extracurricular enthusiasm as well as in their academic ventures. That is why every student looks forward for its publication and contribution. The magazine is received by the students very enthusiastically. To give authentic information regarding the college to students, parents, old students & other educational Institutions. It also provide opportunity for creative work & self expression. It reflects the literary, educational and sports activities going on in the college.





Industrial Visit

Industrial visits play a crucial role in the holistic education for students, as the objectives of industrial visits is to establish a link between theory taught in a classroom and actual practical concepts. So, that's why our department Faculties always takes students for industrial visits.





Students Chapter of Institutions of Engineers (India)

The Institutions of Engineers (India) [IEI] is the STUDENTS CHAPTER, Department of Chemical Engineering which enhances the knowledge, skill and competency of engineering professionals and also elevates their career by making the member of an elite group of engineers. The rise in demand of competent engineers in the country necessitates the importance of Professional Engineers for certifying the engineering plans, drawings etc. for any public works of the government departments. It conducts regular events for the students.



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Events & Clubs



Equilibrio

EQUILIBRIO is the technical extravaganza held in Guru Ghasidas University, Bilaspur. It is a platform to showcase your talent teaming with spirit and passion. An amalgamation of technical events and cultural galas where students can hone their technical and managerial skills. It provides the students with an opportunity to prove their mettle by competing with students from top institutes across India.

Urchins

Urchins are the Theatre and Drama Group of the university. An initiative, to bring out the hidden talents within the university. Year after year, Urchins grew and continued its quest to dig deep within and provide a platform to showcase the buried gems. Team Urchins are a unique lot in Guru Ghasidas Vishwavidyalaya. Urchins have created a rave among the students.





Tarang

Tarang is the university's official band which brings out the hidden musicians of the university. Tarang started its musical journey in 2011 with a bunch of team members of Udaan. Tarang is capable of bringing out the hidden talent of music within each student and forms a group of about 30 to 40 members. The team spirit and hard work are visible and are experienced in each event of the university. Tarang is looking forward to adopting a different culture and getting better each day. The work of Team Tarang is always remarkable and has always made the university proud.



Udaan

The official magazine of GGV welcomes you. It's happening right here at UDAAN, the homeland of creative geniuses of GGV, harboring a great fusion of talent and culture from across the country. We invite you to be a part of this phenomenal journey and live this experience with us. This creative space has been built for You, feel free to explore ahead!

Abhinartan

The official dance group of GGV was formed under the supervision of respected Vice chancellor S.P. Singh sir in the year 2014. To help each student develop their skills, creativity, opportunities, and talents, to explore themselves and encourage and protect our culture as well Every year auditions are conducted for the official entry and selection of capable students so that they can be more precise and can explore more for future. We aim to provide more opportunities and self-discipline and development, to each and every member in our group.





Chalchitra

Welcome to the YouTube Channel of Chalchitra – The Media and Short Film Club of Guru Ghasidas Vishwavidyalaya. Dive into the world of cinema with us as we showcase the art of storytelling through captivating short films, documentaries, behind-thescenes footage, and more, created by our talented college filmmakers. We also provide media coverage of university events so you stay informed about all the happenings at our university. Whether you're looking for entertainment, inspiration, or insights about GGV, join us on this cinematic journey and become part of our vibrant community of film enthusiasts. Lights, camera, action!

Nexus

Nexus is a student team dedicated to strengthening the bond between alumni and their alma mater. Our main focus is organizing alumni meets and keeping both the institute and alumni informed through social media platforms like LinkedIn and Facebook. We aim to foster a sense of belonging among alumni by maintaining regular contact and providing a platform for exchanging ideas on academic, cultural, and social issues. As the bridge between the institute and its alumni, Nexus is committed to maintaining a strong bond in the years to come.



Achievements

- Kalpna Lakra, B.Tech. Chemical Engineering 1st year student at Guru Ghasidas Vishwavidyalaya. She participated in the annual sports week organized from 26th February, 32 to 28th February, 2024 by University. She secured 1st place in Long jump competition.
- Dwarapudi Hemanth Kumar, a first-year B.Tech. Chemical Engineering student at Guru Ghasidas Vishwavidayalaya, participated in the annual sports event held from February 26th to 28th, 2024. He captained the team, securing 3rd place in Kabbadi and serving as vicecaptain for the 1st place Tug of War team.
- Sonam Kumari, B.Tech. Chemical Engineering 1st year student in Guru Ghasidas Vishwavidayalaya participated in the annual sports week organized from 26th February to 28th February, 2024 by University. She secured 1st place in 100 meter in race competition
- Shashwat Tiwari, B.Tech. 6th Semester Student was the finalist at Chhattisgarh talent reality show.
- Madhav Jha, a 6th-semester B.Tech. student, takes on the role of Placement Cell Coordinator for the Department. He also led the technical team at the International Conference TEERSD-2023. Additionally, Madhav actively participates in the Chess Club within the Department of Chemical Engineering at GGV.
- Nandini Dixit, a 6th-semester B.Tech. student, represented Chhattisgarh at the National Environment Youth Parliament-2024 in Nagpur. She secured 2nd place and prize money for her innovative idea at the GGV National Level Ideathon-2024.
- Ramesh Kumar, Vedant Soni and Abhishek Singh, B.Tech. 2nd year students secured 1st position and received prize money for their innovative idea in GGV National Level Ideathon-2024 held at GGV, 18-19 March, 2024.
- Aniket Anil Sakharwade, a final year student, achieved the 6th position in the All India Inter University Rope Skipping Competition held in Bhopal on February 26, 2024.
- Ms. Rakhi Soni, a Research Scholar, presented her paper on "Synthesis of Carbon-based Catalyst from Bio-waste for Butyl Butyrate Production" at the TEERSD-2023 Conference organized by the Department of Chemical Engineering, GGV, on November 2-3, 2023.
- Ms. Rakhi Soni, Research Scholar, presented paper "Agro waste derived carbon-based solid catalyst for estrification reaction" at National Conference on "Increasing important of Science and Technology in foreign policy" organized by Department of Chemical Engineering, dated 19-20 Fabruary, 2024.

Recent Campus Placement

S. No	Name of the Student	Name of Course	Name of Company
1.	Aniket Anil Sakharwade	B.Tech.	Thermax Limited
2.	Abhishek Kumar Mishra	B.Tech.	Thermax Limited
3.	T.M. Venkata Sai Raghavendra	B.Tech.	Thermax Limited
4.	Naimish Rastogi	B.Tech.	Thermax Limited
5.	M.V. Ranjita Reddy	B.Tech.	Thermax Limited
6.	Priti Kumai	B.Tech.	Thermax Limited
7.	Parag Shrivastava	B.Tech.	Thermax Limited
8.	Riya Rathore	B.Tech.	Adani Group
9.	Arjun Banchhor	B.Tech	Adani Group
10.	Vaibhav Jaiswal	B.Tech.	Tractrix Opto Dynamics Ltd

Achievement of the student in Different Competition



Departmental Activities



International Conference (TEERSD-2023)



International Conference (TEERSD-2023)



Seminar on Management Skills for Career [IE (I) student's Chapter]



IE (I) student's Chapter Team Visited Birkona Village



Advised the Chemical Engineering Students for their career enhancement (ChESS)



The Content Writing Contest [IE (I) student's Chapter]

Notable Alumni



Nishchal Verma
(2001)
Divisional
Manager Suzalkem
Technologies
Private Limited,
Hyderabad



Harish Garg (2001) (MD & Owner) Adroit Enterprises Noida



Mr. Kishore Sahu (2001) MD & Owner Bharat Chemicals, Korba



Colonel Manmath Deora (2002) Indian Army



Torsha Datta
(2008)
Global Solution
Consultant, Energy
Industry Company:
ABB, UK



Deepak Mohnani (2008) Managing Director & Owner Mid-Chem Technology, Mumbai



Akshay Shukla (2008) Senior Journalist Limca Book of Records holder



Prateek Khatri (2013) Assistant Professor NIT Rourkela



Ramdayal Panda (2014) Assistant Professor MNIT Jaipur

Our Recruiters













DHOOT TRANSMISSION PVT. L. Harnessing Safety Building Future.



Mid-Chem Technology

Chakarbhata, Bilaspur, Chhattisgarh

Contact Us

Email: raghurpr@gmail.com/r.s.thakur@ggu.ac.in

Contact: 8965038140/6261333358