



**C.V. Raman**  
**Global University**

ODISHA BHUBANESWAR | INDIA

**CGU**  
ODISHA

# **INFORMATION BROCHURE**

**ACADEMIC  
PROGRAMMES**

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**Shri Sanjib Kumar Rout**

Founder President, CGU-Odisha





## President's Message

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With our motto to create humanist technocrats, we at C.V. Raman Global University (CGU-Odisha), aim to enhance the emotional and the intellectual quotient of our beloved students. With the support of an up-to-date pedagogy, excellent state-of-the-art infrastructure, a team of experienced and enthusiastic faculty, well-gear management system, we hold the record of providing education of a very high order in the field of Engineering, Management and Computer Applications.

We strive to make our campus a seat of learning by providing our students an atmosphere of innovation, experimentation, leadership and interpersonal skills. We take it as our avowed responsibility of enabling our students to face the challenges of the new world order.

Spread over an area of 110 acres of land, the sprawling lush green campus of CGU-Odisha not only offers inner peace but also provides World Class facilities to its students. With a number of CoEs our university is committed to enable our students to become pan-world winners and bring laurels to their alma mater at different national and International competitions.

CGU-Odisha offers courses not only in the regular streams of technical/management education, but also provides the students the opportunity to follow their passion in areas of general proficiency. The students are encouraged to take part in various co-curricular and extra-curricular activities round the year.

The University holds an outstanding placement record with lucrative packages. We collaborate with numerous organizations to provide our students with ample opportunities of direct industry experience. Regular industry visits are an integral part of our curriculum to give our students an edge to get an exposure to the professional work culture.

We call our lovely campus a mini world as it houses students from different countries. The students of CGU-Odisha constantly get exposure to a multicultural set up both inside and outside their class, which helps them to become truly global citizens.

**I welcome you all to join this abode of learning and shape your long-cherished dreams.**



**Prof. B.S. Satyanarayana**

Vice-Chancellor, CGU-Odisha





## Vice-Chancellor's Message

The world in the era of knowledge economy with a focus on sustainable development is recalibrating its moves in the post Covind period. The supremacy of knowledge was always envisaged in India, as espoused by the one of the four mahavakya or major sayings of Vedas “प्रज्ञानं ब्रह्म” or “Pragyanam Brahma” which literally means “Knowledge is Supreme or Ultimate”.

In the post COVIND era when most nations are relooking at a new paradigm of: i) Reshoring ii) Diversification iii) Regionalization and iv) Replication to minimize external influence and optimize international collaborations. The collaboration if external is being planned with the partner who provides the highest Global Value Chain (GVC) empowering. Further all future developments be it in innovative product or effective novel service is supposed to enabled by Knowledge. The recent UNCTAD World Investment Report 2020 shows that India figures in the top in Global Value Chains (GVC). Further knowledge enabled disruptive products and service are expected to account for over \$40 Trillion market opportunity of which over 25% is to be contributed by India.

C V Raman Global University as a new university has set itself to be a major cog in the Indian GVC chain wheel in the era of Knowledge Economy. The effort is to create a new education pedagogy ready for the 21st century skills, Industry 4.0, Age of Digitalization & Education 4.0, with a focus on experiential learning & orienting faculty to relook at an inclusive continuous formative STUDENT CENTRIC assessment of integrated learning, linking knowledge, skills and competence.

To enable the same the university has proactively established over 25 advanced industry-based labs for skilling and product development. Thus providing students an unique platform for learning through actually doing. Especially brining academia and Industry, especially (MSMEs & Start-ups) to work together for Experiential Learning, Research & Innovation. Thus leading to Skilled Employable Student with competence for Innovation, R&D, Joint development and Entrepreneurship. With an effort to not just enable Incremental Innovation or adaptation for product and services, but even generate next generation Disruptive Technologies with a focus on “Make in India” or Atma Nirbhartha. In line with the university vision and encaptured in the tag line “Home grown World class”. Thus, we promise, be it a student from India or any other part of the world, C V Raman Global University offers something unique to prepare them for the world of the future, bring the best of both the worlds, at the most affordable cost with an assured great experience of learning.





## Introduction

C.V. Raman Global University (CGU), Odisha was established as per “Odisha Act 01 of 2020”. The university’s vision is to develop integrated scholastic ability and skills in students, through quality education. Especially linking knowledge and skill seamlessly through experiential learning, leading to competence for employability, innovation, research and entrepreneurship. Then taking India knowledge and innovation across the globe and create a new paradigm.

CGU, has evolved and come a long way from being an engineering college named as C.V. Raman College of Engineering (CVRCE) established in 1997. Since its inception, it was wedded to quality and steadfastly remained committed to bringing about rapid transformations in the field of technical education. This led to establishment of smart classrooms, world class labs, skilled courses and over 25 Centres of Excellence in collaboration with industries. This includes Bosch Rexroth, Festo, Siemens, Schneider Electric, Cisco, AWS, CDAC, Tata technologies, Marcraft, GalSen, Quasar to our own advance manufacturing center catering to PSUs, ISRO to global industries.

These linking of skills and knowledge has led to research projects, consultancy and production of industrial components worth multiple crores, to CGU student winning India’s first gold by an Indian in world skills. The university today has over 20 start-ups under its AIC and TBI incubation centres. Further CGU trains 1000s of children under skilling program working with Govt. of Odisha and Govt. of India Leveraging the NEP2020 process CGU aspires to be a truly global university.



## Vision & Mission

To emerge as a global leader in the area of technical and professional education and create a benchmark for R&D and technological innovations in new frontiers of basic science, engineering and management.

**Our Mission is to achieve our goals by:**

- Providing State-of-the-art technology education at UG, PG and Research (Ph.D) level
- Working collaborations with world leaders in technical education, research, innovation and human resource development (with varsities & institutions);
- Keeping abreast with latest technological advancements and R&D activities; and
- Re-orienting our vision and objectives in a time bound phased manner.







# Great Infrastructure

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Wi-Fi Campus

Central Library

Centre of Excellences (CoEs)

AIC & TBI Incubation Centre for Startups

Hostels

Auditorium

Food Court

Bank / Post-Office

Sports Facilities

Recreational Facilities

National Service Scheme

Health Centre

Transport

## Wi-Fi Campus

The University is located in Mahura, Bhubaneswar, having a sprawling green campus of 110 acres of land. The entire campus is Wi-Fi enabled.



## Central Library

The Central Library of the University housing 64,081 number of books, 2,220 number of journals, 59 number of periodicals etc is fully automated and well-equipped with modern facilities and resources. The library avails CD-ROM, DVD-ROM, Online databases, micro-documents, video cassettes, books, journals, theses, reports etc. The library provides NPTEL video courses with well-equipped audio-visual facilities for the users.





## Centre of Excellences (CoEs)

At present the University has 21 number of Centres of Excellences (CoEs). To name the prominent ones, they are Bosch-Rexroth Center of Excellence, FESTO Authorised and Certified Training Centre (FACT), Siemens Center of Excellence and Robotics Center of Excellence to generate trained workforce adhering to global standards while offering technical solutions and consultancies to local industries for Process Automation. These CoEs are set up in collaboration with the leading foreign companies like Bosch, Siemens and others. They play a crucial role in the skill enhancement of the students to meet the needs of the modern industries.

## AIC & TBI Incubation Centre for Startups



**Atal Incubation Centre (AIC)** - CGU established under the Atal Innovation Mission (AIM) of NITI Aayog. "the AIC especially focuses on bringing all aspects for Digitalization including AI, ML, big Data, analytics and Virtual Reality, Media Labs together for product, process and service enabling."

It supports facilities like initial brainstorming, furnishing ideas, consultancy, mentorship, networking, connecting to other subject matter experts, leading them to market access.

**Technology Business Incubator (TBI)** – CGU established under the NIDHI-TBI. We work in the area of Agriculture and Agro-based Industries with a special focus on innovative Food Technologies, Food Processing and packaging. It supports all innovators within a students entrepreneurial journey from "Mind to Market".

The facilities in the campus along with AIC and TBI infrastructure can be equally used for development of a product or service in any domain





## Hostels

Separate hostels are provided for both boys and girls with a choice of individual and shared accommodation. The hostels have generators, water cooler and dining halls. There are six hostels with total capacity of 2,500 to accommodate the students. Air-conditioned rooms are also available.



## Auditorium

The University has three well equipped auditoriums with different seating capacities. A regular venue for seminars, workshops and conferences, the auditoriums have all facilities to enhance the learning process that serves the varied requirements of quality education. S.C. Bhadra Auditorium has a seating capacity of more than four hundred. RIHC Auditorium has a space for more than two hundred fifty people and serves as a popular venue for different programmes conducted in the campus. Similarly, Bosch Auditorium as a state-of-the-art facility having great acoustic serves as another popular venue for various workshops and seminars.

## Food Court

Centrally located, the food court and the cafeteria of the University serve snacks and meals to the students and staffs at very affordable prices. Besides, the food court and the cafeteria, the campus also has a canteen for the students and the staff.



## Bank / Post-Office

The University has a bank inside the campus to facilitate the students and staffs for fast and smooth financial dealings. The campus also has a post-office that caters to the various needs of the students and the staff. The bank, ATM, and the post-office are located near the back-gate of the campus.





## Sports Facilities

The University has excellent recreational facilities for sports including gymnasium, basketball court, volleyball court and spacious ground for sports such as football, cricket and hockey. There is a swimming pool for the students within the campus. Regular yoga classes are conducted for the holistic physical and mental development of the students.



## Recreational Facilities

The University has a photography club, literary club, robotics club etc that offers a platform to the students to demonstrate their creative skills. It helps in developing the self-efficacy and confidence of the students by conducting events that are both instructional and enjoyable.





## National Service Scheme

The University nurtures the spirit of community service by engaging the students in the NSS programme. The students get an opportunity to understand the community in which they work and identify the needs and problems of the community and develop among themselves a sense of civic and social responsibility. Physics and HSS Departments have undertaken community services through various community development programmes.



## Health Centre

The University has a dispensary to meet the medical needs of the students and the staffs. It has ambulance facilities in case of medical emergencies. The health centre has a team of dedicated healthcare professionals available round-the clock to address the needs of the students.

## Communication

The city of Bhubaneswar has an international airport, a train station, and a large network of highways that connect it with the rest of the surrounding states and the world.

C. V. Raman Global University is easily accessible as it is located in Bhubaneswar, Odisha, and is well connected by rail, road and airport. CGU having a reasonable distance from the bus stand, railway station and airports etc.





# Faculty of Engineering & Technology

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Department of Chemical Engineering

Department of Civil Engineering

Department of Computer Science & Information Technology

Department of Electrical Engineering

Department of Electronics & Communication Engineering

Department of Marine Engineering

Department of Mechanical Engineering





# Department of Chemical Engineering

The Department offers four year B. Tech degree in Chemical Engineering. We are committed to producing individuals of great potential and promise. Our placement statistics are astounding showing upward trend year after year. Each year our students also qualify in GATE examinations and join in reputed institutions for higher studies.

The Department started in the year 2006. Initially the intake was 40, which was increased to 60 in 2008. The Department has well equipped laboratories and a highly qualified faculty with relevant specializations.

The Department has a Society of Chemical Engineers (SoCHE) of which all students of the department are members and it provides the students a platform to interact with their counterparts from leading academicians, industrialists and professional bodies. Department also has IChE workshops student chapter, which organizes seminar talk by industrial or academic specialists. Student members of this society also participate in inter-college competitions, conferences and workshops.

CGU's FACT Center aims to support the nation by generating trained workforce while adhering to global standards. The centre offers technical solutions and consultancies to local industries on Process Automation. The FACT centre promotes professional training for our chemical engineering students in the field of Process Automation.

The lab is equipped with the following major set ups: Edukit PA Basic, Edukit PA Advance, MPS-PA Compact Work station and Filtration, Mixing, Reaction and Bottling Stations.

### Academic Programmes

- B.Tech in Chemical Engineering
- MSC in Bio Technology
- M.Tech (Research) in Chemical Engineering
- Ph.D. in Chemical Engineering
- PG Diploma in Food Testing and Processing

### Laboratories Available

- Heat Transfer Laboratory
- Fluid Flow and Flow Measurement Laboratory
- Fuel Technology Laboratory
- Chemical Technology Laboratory
- Mechanical Operation Laboratory
- Mass Transfer Laboratory
- Process Control Laboratory
- Chemical Reaction Engineering Laboratory
- Computer Aided Design Laboratory (MATLAB)
- Food Biotechnology Laboratory
- Equipment Design Laboratory







# Department of Civil Engineering

The Department has been a good blend of experience in academics and industry. The young promising talents with excellent academic background and specialization in structural, geotechnical, water resources, transportation and environmental engineering form a formidable teaching strength inspiring and guiding the students in various programs. The department has seven numbers of well-equipped laboratories extensively used for research work and projects, facilitating the publication of a good number of papers in indexed national and international journals. The department is striving continuously for value addition to the program by way of opening centre of excellences in plumbing, imparting training in Revit, AutoCAD, STAAD Pro, GIS and RS etc. The department is proud to have a student chapter of India Chapter of American Concrete Institute (IC-ACI) functioning as the only chapter representing eastern part of the country since November 2018. Research Areas of the Department includes:

- Concrete with different reinforcement materials
- Design of structures using STAAD Pro
- Industrial wastewater treatment by adsorption and biological methods
- Turbulent flow around submerged vertical cylinders
- Atterburg's limits of Bentonite clay
- Electrical resistivity method to predict the geotechnical properties of soil



### Academic Programmes

- B.Tech in Civil Engineering
- M.Tech (Research) in Civil Engineering
- Ph.D. in Civil Engineering

### Laboratories Available

- Concrete Lab
- Geotechnical Lab
- Transportation Lab
- Survey Lab
- Fluid Mechanics and Hydraulic Machines Lab
- Material Testing Lab
- STAAD pro and AutoCAD Lab

### Achievements

- Seminar on “Water Resources and Environmental Management”, 23rd September 2017
- AICTE recognised and in collaboration with NITTTR, Chandigarh, Short Term Course under Faculty Development Programme on “Earthquake Resistant Low Cost Housing”, 21-26 May 2018
- Institute topper “Mr. Kumar Himalaya” from the Department of Civil Engineering with CGPA of 9.73 of 2015-2019 batch
- Students represented in “WorldSkill” competition through SSEPL organised at CREDAI in Pune, Maharashtra
- 8th semester students of 2014-2018 and 2015-2019 batch underwent CIDC industrial training program for six months
- Mr. S. K. Nasim Akhtar of 2015-2019 batch secured all India rank of 831 in GATE 2019





# Department of Computer Science & Information Technology

Our Department is known as one of the pioneers in the field of CSE and IT education and has been accredited with Grade 'A' by NAAC. Since 1997, the Department is consistently striving hard to offer a high quality, state-of-the-art education in computer science and engineering at an affordable cost. The Department is accredited by NBA Tier-1 and NAAC for its quality education and it is ISO certified. The Department boasts of its long and sustained placement records of the Bachelors as well as Masters Degree students in different multinational software industries and higher education at different top-class US universities. The distinctive curriculum emphasizing work-integrated learning, learning-based work, problem solving and cross-cultural skills has made the Department of CSE a renowned one.

The Department also focuses on research areas like Neuro Robotics, Machine Learning, Cloud Computing, Computer Vision, WSN, MANET, IoT, SDN, Big data Analytics, Image Processing, Network Security, Pattern Reorganization, Software Testing and Software Engineering. The Department has Google, IoT, Cyber Security, AI & ML Centre of Excellence and looking forward to establish AWS Academy and AR & VR Centre of Excellence to make the under graduates/graduates industry ready. However, our faculty members are associated with Bosch-Rexorth and Robotics Centre of Excellence. The Department ensures academic standards by focusing on Outcome Based Education (OBE), by introducing innovative pedagogy, Industry-Academic interaction and doing live projects etc. With our distinct student-centered teaching-learning methodology, our students are able to face challenges of life with our holistic approach in teaching and learning. It encourages our students to indulge in extracurricular activities to shape themselves as leaders of tomorrow. University recently has sign MOU with NASSCOM under IAC programme, Google for Google Cloud Foundation Programme & IBM as academic partner.

## Academic Programmes

- B.Tech in Computer Science & Engineering
- B.Tech in Computer Science & Information Technology
- B.Tech in Computer Science (System Engineering / Cloud Computing)
- B.Tech in Computer Engineering (Software Engineering)
- B.Tech in Computer Science & Engineering (AI & Machine Learning)
- B.Tech in Computer Science & Engineering (Data Science / Web Technology)
- B.Tech in Computer Science & Engineering (IoT & Cyber Security including Block Chain Technology / Robotics & Artificial Intelligence)
- B.Tech in Computer Engineering
- B.Tech in Computer Science & Engineering (Artificial Intelligence & Data Science)
- M.Tech in Computer Science and Engg.
- M.Tech (Research) in Computer Science and Engg.
- Ph.D. in Computer Science and Engg.

## Laboratories Available

- Operating System Laboratory
- Database Engineering Laboratory
- Programming Laboratory
- Network Laboratory
- Computer Organization Laboratory
- Google Lab
- IoT & SCADA Lab
- Supercomputing (AI & ML) lab
- PARAM SHAVAK Lab
- Research Lab
- Cyber Security Lab
- Cloud Computing Lab

## Achievements

- Certified with NBA Tier-1
- Winner of Smart India Hackathon-2018
- Winner of Smart India Hackathon-2019
- Winner of Cognizant Master Code-2019
- Winner of Chhatra Viswakarma Awards-2019
- Winner of Smart India Hackathon-2020
- BRICS future skills-2020 (Best of the Nation winner in ML & Big data)
- BRICS future skills-2020 (Best of the Nation winner in ITSSB)







## Department of Electrical Engineering

The Department of Electrical Engineering was established in the year 2002. The curriculum includes many advanced courses with focus on Smart Grids, Electric Drives and Traction, Renewable Energy, Electric Vehicle, Artificial Intelligence & IOTs. The Department has a Society of Electrical Engineers (SoEE) with all students of the department as its members. The society provides the students a platform for interaction with students of other colleges, leading academicians, industrialists and professional bodies. The faculty pays personalized attention to motivate and mould young students to make them qualified professionals and responsible engineers through its well-established mentoring system. The programmes of the department are accredited by National Assessment and Accreditation Council (NAAC) & National Board of Accreditation (NBA).

The Department has the latest simulation tools like MATLAB, SIMULINK, PSCAD, EMTDC, ETAP, PSPICE etc., to meet the needs of various specializations and is also equipped with facilities for measurement, characterization and synthesis of experimental, theoretical results as well as for research. The Department of Electrical Engineering effects collaborations with industry to enhance practical knowledge and skills of learners through various skill training centres i.e. TTL Pune, Schneider Electric, SEW Drives, Bosch Rexorth, Quanser Advance Control & Siemens Germany and many more. The Department regularly conducts field visits to industries like OPTCL, SLDC, OHPC, NTPC etc. for industry institute interaction. Our students are encouraged to participate in national and international level competitions like Smart India Hackathon, India skill Competition and are often winning prizes. The research areas include: Smart Grids & Micro Grids, Renewable Energy Sources, Artificial Intelligence, Electric Drives and Power Converters, Robotics, Internet of Things, PLC, SCADA, Electric Vehicles, FACTS Technology and Signal Processing.

## Academic Programmes

- B.Tech in Electrical Engineering
- B.Tech in Electrical & Electronics Engineering
- M.Tech in Electrical Engineering
- M.Tech (Research) in Electrical Engineering
- Ph.D. in Electrical Engineering

## Achievements

Students of the Department have won prizes at India Skill, Odisha Skill, Smart India Hackathon and other project competition at national level. Graduates of the Department excel in national level examination, such as GATE, CAT etc.

## Laboratories Available

- Basic Electrical Engineering Laboratory
- Network & Devices Laboratory
- Electrical Machine – I Laboratory
- Electrical Machine – II Laboratory
- Power Electronics Laboratory
- Electric Drives Laboratory
- Renewable Energy Sources Laboratory
- Electrical Measurement Laboratory
- Power System Protection Laboratory
- Control system Laboratory
- Simulation Laboratory
- Skill Training Centre – I (Schneider Electric)
- Skill Training Centre – II (SEW Eurodrive)
- Skill Training Centre – III (Quanser Center of Excellence)





# Department of Electronics & Communication Engineering

The Department of Electronics & Telecommunication Engineering started in the year of 1997 with an intake of 60 students. 21st century is the century of communication as communication engineering has been growing exponentially in recent years. At CGU we have developed the state-of-the art laboratories & centres of excellence so as to train our students in Electronics and Telecommunication (ETC) through flexible, adaptive and progressive training programs, that too with cohesive interaction with research organizations, academicians and industries. Due to the dedicated involvement of the faculty members and students, the R&D and consultancy activities of the department in terms of funded projects, publications, collaborative projects and consultancies have excelled during the last decade. The Department has been carrying out R&D activities in diverse areas but not limited to Image Processing, Speech Processing, Signal Processing, Sensors & Adhoc Networks, Mobile Communication, Smart Antenna, Microwave Engineering, Pattern Recognition, VLSI Design, Communication System, Embedded Systems, IoT, Artificial Intelligence and Robotics.



## Academic Programmes

- B.Tech in Electronics & Communication Engineering
- B.Tech in Electronics and Computer Science
- M.Tech in Electronics & Communication Engineering (Specialization in Signal Processing & Communication)
- M.Tech (Research) in Electronics & Communication Engineering
- Ph.D. in Electronics & Comm. Engineering

## Achievements

- Accredited by NBA, NAAC and Quality R&D publications
- Excellent Placement Record in reputed companies like NOKIA, AIRTEL, RELIANCE INDUSTRIES, SANKALP SEMICONDUCTOR, CISCO INDIA, SIEMENS, INFOSYS, HAL, IBM, TCS, TECH MAHINDRA, CAPGEMINI, ACCENTURE, AMDOCS, WIPRO TECHNOLOGIES, WIPRO VLSI etc.
- Student achievements in Smart India Hackathon, Singapore-India Hackathon etc.

## Laboratories Available

- Academic Laboratories
- Analog Electronics Circuit Laboratory
- Digital Electronics Circuit Laboratory
- MATLAB Fundamental and Programming technique Laboratory
- Microprocessor & Microcontroller Laboratory
- Analog Communication Laboratory
- Digital Communication Laboratory
- VLSI Design Laboratory
- Digital Signal Processing Laboratory
- RF and Microwave Engineering Laboratory
- Digital Image Processing Laboratory
- Information Theory and Coding Laboratory
- Advanced Communication (Optical and Satellite Laboratory)
- Radar & TV Engineering Laboratory
- Design and Simulation Laboratory
- CoEs and R&D Laboratories
- Robotics Center of Excellence
- PCB & Circuit Design Systems Center of Excellence
- Xilinx-CoreEL VLSI-FPGA Center of Excellence
- Image Analysis and Computer Vision Laboratory (R&D)
- Soft Computing Laboratory (R&D)





## Department of **Marine Engineering**

Sailors and their legendary voyages have long fascinated storytellers and audiences alike. Marine engineers are modern sailors. And their jobs are just as exciting. They are responsible for the safe running of all engines, machinery and their maintenance, repair and construction. They also supervise engine crew involved in operating the machines.

Application of modern technology has given a new dimension to the art of sailing worldwide. New management concepts such as decentralization and equity is altering the scope and feel of marine engineering in India too.

## Academic Programmes

- B.Tech in Marine Engineering
- 1 Year Graduate Marine Engg. (GME) Programme
- Ph.D. in Marine Engineering
- STCW Courses

### Basic STCW & Modular Courses

Personal Safety and Social Responsibilities (PSSR)

Elementary First Aid (EFA)

Personal Survival Techniques (PST)

Fire Fighting and Fire Preservation (FPFF)

Basic Safety Training (PSSR+EFA+PST+FPFF)

Security Training for Seafarers with Designated Security Duties

Refresher Training for Proficiency in FPFF

Refresher Training for Proficiency in PST

Basic Training for OIL & Chemical Tanker Cargo Operation (OCTO)

### Advanced STCW & Modular Courses

Ship Security Officer (SSO)

Medical First Aid (MFA)

Advance Fire Fighting (AFF)

Proficiency in Survival Craft and Rescue Boat (PSCRB)

Refresher Training for Proficiency in MFA

Refresher Training for Proficiency in AFF

Refresher Training for Proficiency in PSCRB

## Laboratories Available

- Marine Workshop
- OOW Simulator
- GMDSS Simulator
- Auxiliary Boiler
- Marine Hostel
- Swimming Pool
- Fire Fighting lab
- Ship - in - Campus







## Department of **Mechanical Engineering**

The Department of Mechanical Engineering came into existence in 1997. The aim of the Department is to be recognized as one of the top tier Departments in quality education and to carry out research related to Mechanical Engineering. The Department is actively involved in many R&D projects and takes up Consultancy work from various funding agencies like DST, BRNS, NALCO etc. The Department provides an outstanding research environment and offers academic program leading to the award of B.Tech., M.Tech. and Ph.D. degrees. The Department has HVAC, Welding, TTL, TRTC, Bosch Centres of Excellence. The Department conducts research on various areas like Heat exchanger analysis, Phase change material and Solar thermal applications, Welding Technology, Mineral Processing and Materials Characterization, Refrigeration and air-condition, Cryogenics, Material Science, Product Development, Automotive Design, Micro-machining & Cryogenic Machining, Rotor dynamics, Mechatronics System, Advance Machining Process, Smart Materials, Vibration, Fluid Mechanics & CFD applications in single and multiphase flows, Sustainable Machining & Machining Tribology, Composite materials, Bio-fuel and Optimization.

## Academic Programmes

- B.Tech in Mechanical Engineering
- M.Tech in Mechatronics
- M.Tech in Thermal Engineering
- M.Tech in Production Engineering
- M.Tech in Mechanical Engineering
- M.Tech (Research) in Mechanical Engineering
- Ph.D. in Mechanical Engineering

## Laboratories Available

- Central Workshop
- Computer Centre
- Mechanical Measurement Lab
- Refrigeration & Air-conditioning Lab
- Heat Transfer Lab
- Production & Dynamics Lab
- Fluid Machine & Fluid Power Lab
- Internal Combustion Engine Lab
- Basic Manufacturing Lab
- Fluid Mechanics and Mechanism Lab
- Basic Mechanical Engineering Lab
- Material Science Lab
- HVAC Lab
- Welding Lab
- TTL Lab
- TRTC Lab

## Achievements

- Accredited by NBA TIER-I for 03 years.
- Consultancy and Sponsored R&D more than Rs. 01 Crore.







# Faculty of **Physical & Mathematical Science**

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Department of Chemistry

Department of Physics

Department of Mathematics

Department of Life Science



## Department of Chemistry

The Department of Chemistry was established in 1997. The Department is involved in U.G. teaching in Engineering Chemistry, Environmental Science and Technology, Material Science and Engineering and Industrial Chemistry to all Engineering Students. The Department has been also conducting laboratory classes for Engineering Chemistry and Industrial Chemistry. Besides teaching the department is also involved in various R&D activities. The P.G. course in Chemistry began in 2018. The U.G. and P.G. students are involved in various Minor and Major projects during the course of study. The Department offers programmes in research areas such as Catalysis, Environmental Reactions, Water splitting, Medicinal Chemistry, Inorganic complex synthesis and application, Electrochemical applications and Materials synthesis and characterization.

### Academic Programmes

- M.Sc. in Chemistry
- Ph.D. in Chemistry

### Laboratories Available

- Engineering Chemistry
- Industrial Chemistry
- Analytical Chemistry
- Inorganic Chemistry
- Organic Chemistry
- Food Testing (Food, Soil & Water)

### Achievements

- Completed two AICTE-RPS Projects of Rs. 23 Lakhs
- Completed three SERB-DST Projects of Rs. 75 Lakhs
- On-going three projects (two from SERB-DST and one from NALCO) of Rs. 136 Lakhs
- Three Patents approved and One Patent filed
- More than 30 (Thirty) publications in reputed International/ National Journals
- Four Ph.D. Students







## Department of Physics

Superiority in teaching has been the trademark of this Department since its inception. The Department of Physics came into existence since its very inception in 1997. It takes care of foundation courses in Engineering Physics at the UG level. The Department has been offering PG courses in Applied Physics since 2016 and has introduced three specializations in the course of M.Sc., which includes Fibre optics and optoelectronics, Plasma physics and Materials science and technology. The Department is actively involved in R&D work in the fields of Fiber Optics and Optoelectronics, Materials Science, Plasma Physics, Nanotechnology, etc. The Department has published around 50 papers in last 3 years. It is presently running one sponsored project from DST and is also having a MOBILE SCIENCE & TECHNOLOGY LABORATORY which promotes the science educations in rural high schools. The Department conducts research on varied areas like Fiber optics and Optoelectronics, Experimental Condensed Matter Physics, Nanoscience & Nanotechnology, Thin Film Technology, Polymer Composites and Computational quantum Physics. The department has received the following research grants: AICTE Sponsored MODROB Project, CSIR Sponsored Project and DST Sponsored Project

## Academic Programmes

- M.Sc. in Physics
- Ph.D. in Physics

## Achievements

### Faculty

Young Scientist Award by Odisha Physical Society

Inclusion of XRD pattern in ICDD database

### Students

Qualified in GATE Exam

Selected In DST Inspire Fellowship

Summer Internship Programme at reputed research centers

## Laboratories Available

### P.G. Labs

Electromagnetics and optics lab

General physics laboratory

Analog & Digital Electronics Lab

Modern physics lab

Numerical Methods &

Computational techniques Lab

Fiber optics & Optoelectronics Lab

Plasma Physics Lab

Materials Science Lab

### U.G. Labs

Engg. Physics Lab

### Research Labs

Materials Science Lab

Nanophotonics Lab







# Department of Mathematics

The Department of Mathematics came into existence in 1997. This Department handles a wide range of Mathematics courses offered to Under Graduate and Post Graduate Engineering students. As Mathematics is the language of engineering, the role of the department is no less than any mainstream engineering department. The subjects taught by the department includes Differential calculus, Integral calculus, Vector calculus, Matrix Algebra, Ordinary and Partial Differential Equations, Complex Analysis, Numerical analysis, Discrete Mathematics, Graph Theory, Laplace Transform, Fourier series and Z-Transforms, Optimization Engineering, Probability Theory and Stochastic Process.

In the Department, P.G. Degree in Mathematics began in the year 2016. It aims to produce post-graduates who can meet the rapidly changing needs of Industry and Sciences. The vision of the Department is to deliver world-class education and research in Mathematics and its application in engineering, industry, sciences and commerce in a diverse society. Students get opportunity to involve themselves in high-end research at IITs, NITs and other Universities. Postgraduate and Ph.D. scholars are engaged in high-end research and publication activities.

Currently consultancy and R&D areas of the department include: Cosmology, Differential Equation, Fluid Dynamics, Graph Theory, Inventory Models, Mathematical Epidemiology, Optimization, Fuzzy Optimization, Algebra and Cryptography. Research and Development efforts of the department are supported by bodies like AICTE, DST and CSIR Govt. of India.

## Academic Programmes

- M.Sc. in Applied Mathematics and Computing
- Ph.D. in Mathematics



## Academic Programmes

- Integrated LLB (5 Years)
- BBA (Specialisation in Healthcare administration)
- MBA
- Ph.D.

## Laboratories Available

- Research and Business Analytics
- Business Communications Lab

## Achievements

Our students have been placed in number of reputed companies like S&P Global, Axis Bank, Coca Cola, Pepsico, HDFC Bank, Vedanta, Aquaguard, Aditya Birla, Dr. Reddy's Foundation, Kotak Mahindra Bank, Indusind Bank, Reliance Retail, ICICI Bank, Hyundai, Britannia Industries, Asian Heart Institute, Mother Dairy, Xcel Corp, Axis Securities including other companies.





# Faculty of Humanities and Social Sciences

## Department of Humanities

The Department of Humanities and Social Sciences of CGU-Odisha was established in 1997. It enables the students to think critically beyond specialized training in a particular area of technology. Umpteen numbers of students have benefited across disciplines. It has significantly contributed to the overall growth and development of the students by engaging them in group discussions and other activities with specific focus on effective communication.

The Department has been consistently helping students by developing them with sound theoretical and practical knowledge in the domain of humanities and social sciences. To facilitate smooth and effective learning, the department has three labs well-equipped with modern technology. It ensures quality output by focusing on Outcome Based Education (OBE). The Department has been playing a pivotal role in shaping the future leaders by training them in integrated learning and equipping them with modern and sensitive outlook to face the challenges of the competitive world.



## Academic Programmes

- Integrated MA with Ph.D. in English Language and Literature

## Achievements

- The experienced faculties of the Department work with the British Council to facilitate students with language skills through positive and inclusive learning and inter-personal skills.
- Every year the Department conducts several workshops and seminars in Linguistics, Communication and Faculty Development Programmes to enhance the teaching-learning process.
- Several activities organized by various clubs like Literary Club cater to the creative skills of the students. Photography, Debate, Poster Designing competitions are also held.
- One of the notable achievements has been the development of English Lab Manuals for classroom practice and discussion. The Department is also involved in various community service programmes like organizing competitions for kids at schools in nearby areas.
- The Best Reader Award was conferred to one of the faculty members which bears testimony to the standard of 'excellence' followed in the department.





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## FUTURE PROGRAMS

# Faculty of **Medical Science**

The medical wing of CGU-Odisha is making an ambitious endeavour of introducing MBBS course from academic year 2023-24. The wing would offer a unique blend of experience and expertise supported by hi-tech and eco-friendly campus. The teaching professionals are well versed in imparting highest standard of medical education

### Academic Programmes

- MBBS ( Medicine and Surgery )



# Faculty of **Nursing**

The nursing division of the medical wing is going to offer soon B.Sc. Nursing with prime motive of educating the prospective students about taking care of preventive, primitive and rehabilitative needs of the patients.

### Academic Programmes

- B.Sc. Nursing



## FUTURE PROGRAMS

# Faculty of **Pharmacy**

The Faculty of Pharmacy would be offering pharmaceutical education and research whose primary focus would be to create professionals having expertise in preparing, dispensing and making appropriate use of medication.

### Academic Programmes

- B. Pharma



## FUTURE PROGRAMS

# Faculty of **Physiotherapy**

### Academic Programmes

- B.Sc. Physiotherapy





# Faculty of **Agriculture and Allied Science**

The Faculty of Agricultural and Allied Science is dedicated to providing high quality education and training in the field of Agricultural Sciences. The Faculty of Agriculture Science strives to meet international standards as well generate technologies and motivated trained human resource to foster sustainable agricultural production, protection and processing systems.

## **Academic Programmes**

- 4 yrs B.SC in Agriculture

# Emerging Programmes



## Future of Skills

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Bosch Rexroth CoE

FACT Centre Gold for Process Automation

Siemens CoE

HVAC and Refrigeration CoE

Centre for Industrial Robotics

Tool Room & Training Centre

Welding CoE

Plumbing CoE

Google CoE

TATA Technology CoE

Schneider Electric CoE

C-DAC CoE

CoreEL VLSI CoE

SEW Eurodrive CoE



## Bosch Rexroth CoE

### Training Programmes

- Mechatronics with Industry 4.0
- Basic & Electro Hydraulics
- Proportional Hydraulics
- Mobile Hydraulics
- Basic & Electro Pneumatics
- Closed Loop Pneumatics
- Industrial PLC
- Sensorics
- Robotics
- Transfer System Drive
- PG Diploma in Automation & Process Control
- Advance Diploma in Machine Maintenance & Automation



## FACT Centre Gold for Process Automation

### Training Programmes

#### Process Automation (Basic Level)

- EduKit-PA
- Sensor Technology
- Open loop / Close loop control technology

#### Process Automation (Advanced Level)

- MPS -PA Compact Work station
- Control of the level, flow, pressure and temperature
- P-I-D Controls
- Optimization of a control loop

#### FESTO EDS Training System

- Water Technology Training Set-up
- PG Diploma in Automation & Process Control



## Siemens CoE

### Training Programmes

- AC/DC Drive
- PLC (Simatic S-7 based)
- DCS (Simatic PCS-7 based)
- LV switch-gear
- HMI
- SCADA
- PG Diploma in Automation & Process Control





## HVAC and Refrigeration CoE

### Training Programmes

- Commercial Refrigeration and Air Conditioning
- Industrial Air Conditioning
- PLC and Wiring Simulation of Refrigeration & Air Conditioning
- Use of software for Psychometric analysis and cooling load computation
- Industrial application of HVAC & R



## Centre for Industrial Robotics

### Training Programmes

#### Robotics and Embedded Systems

- Embedded C Programing  
LED Interfacing
- I/O Interfacing
- DC Motor Interfacing
- Alphanumeric LCD Interfacing

#### Sensors Technology

- Sensor switches, Photo sensors, Vibration sensors,
- Temperature sensors, Proximity sensor, Hall sensor
- Rotary encoder, Analog & Digital sensor interfacing
- Robot design, Timers / Counters

#### Robot Design

- 3D Printer, Portable/Mini Drill Machine
- Hot Wire Foam Cutter, Acrylic Cutter, Acrylic Bender
- Circular Sawing Machine

#### FANUC Industrial Robot Training



## Tool Room & Training Centre

### Training Programmes

#### Advance Machining & Metrology

- CNC Turning
- CNC Milling
- EDM Machining
- Metrology
- Conventional Lathe
- Conventional Milling
- Surface Grinding
- Radial Drilling
- Coordinate Measuring Machine (CMM)
- Profile Projector, Tool Makers & Microscope

#### Advance Modeling

- CREO
- CATIA
- AutoCAD
- Diploma in Structural Design & Analysis
- Advance Diploma in Machine Maintenance & Automation
- Diploma in CAD-CAM



## Welding CoE

### Training Programmes

- Introduction to Welding Technology
- Basic SMAW (Arc) Procedures
- Metal Design/Fabrication & Oxy-Acetylene Procedures
- Basic GMAW (MIG) Procedures
- Advanced GMAW (MIG) Procedures
- Advanced SMAW (Arc) Procedures
- Advanced Metal Design/Fabrication
- Introduction to TIG



## Plumbing CoE

### Training Programmes

Hands on training modules from Schreiber Didactic, Germany on plumbing activities are as follows:

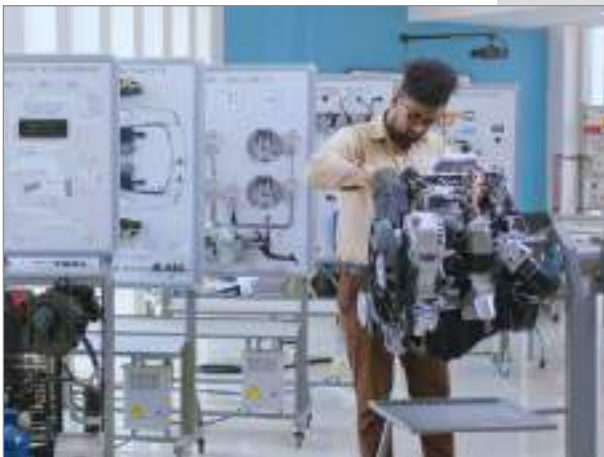
- Potable water installation
- Drinking water protection, legionella prevention and domestic water supply systems
- Module set armature testing
- Electronic sanitary control
- Training station solar system, Thermionic collector



## Google CoE

### Training Programmes

- Android Developer Platform
- Digital Marketing
- Parallel Computing with GPU



## TATA Technology CoE

### Training Programmes

#### Smart Factory Lab Car :

- Hardware Setup
- Installation and Test set up
- Lab Car-Full Vehicle E&E Architecture
- Technology Tool and Environment

#### Product Design & Development :

- 20 High End Industry Workstation
- Multiple Industrial Technology
- Digital Manufacturing Technology Tools
- PLM Technologies-Commercial Modules

#### Teardown And Benchmarking

- Training Set-up by MECHATRONIKA for Automobile Mechatronics



## Schneider Electric CoE

### Training Programmes

- Designing and installation
- Low voltage electrical installation
- Industrial electricity and Automation
- BMS applied to buildings (Building Management system)
- Industrial Automation
- Energy Audit





## C-DAC CoE

### Training Programmes

- High Performance & Super Computing Lab
- Cloud Computing & Big Data Analytics Lab
- Internet of Things (IoT) Lab
- Wireless Sensor Networks Lab
- SCADA Lab



## CoreEL VLSI CoE

### Training Programmes

- Digital VLSI design & FPGA implementation
- Analogue VLSI schematic design
- Layout and Parasitic extraction
- Advanced VLSI
- Embedded system design



## SEW Eurodrive CoE

### Training Programmes

#### Variable frequency drive

- General Product Information and Principal of operation
- MOVIDRIVE control model, Option and accessories, Installation & Start-up, Start-up and Parameter setting
- Application Module and IPOS programming

#### Multi-axis Servo controller Moviaxi

- Start-up of MOVIDRIVE
- Hands on activities
- Programming based

#### Decentralize drive system Movifit FC

- General Product Information
- MOVIAxis Start-up
- Application Engineering

# International Education

International Education Cell (IEC) here explores the modalities of international education related to student admission, scholarship schemes, student exchanges, twinning programs, short and long term study abroad programs for students and faculties and international level collaboration. It aims to give its stake holders a sound exposure to both international education systems and up-to-date global socio cultural outreach.

Ongoing International collaborations with few top ranked universities of the world, for delivery of credit courses , semester abroad programs and research projects is also enriching the teaching & research platform of CGU.



SYRIA



YEMEN



BANGLADESH



ETHIOPIA



NIGERIA



UGANDA



RWANDA



AFGANISTHAN



MALAYSIA



NEPAL



SOMALIA



SIERRA LEONE



KENYA



SRI LANKA



GHANA



INDONESIA



# Placement Assistance

The university as much as it supports placement and is expanding the number of companies it collaborates to provide placement hopes to create over 5000 entrepreneurs who would provide placements in future in the next decade as it becomes a truly global university

## Software Companies

amazon.in

Capgemini

Infosys

SAP

wipro

MAQ  
Software

NINELEPS  
SOFTWARE SOLUTIONS PVT. LTD.

IBM

Cognizant

ValueLabs

TATA  
TATA CONSULTANCY SERVICES

## Core Companies

Berger

TATA  
TATA TECHNOLOGIES

VOLTA  
VOLTAS LIMITED

TATA  
TATA POWER

MACLEODS

BOSCH

JMC Projects (India) Ltd.  
A Galpatara Group Enterprise

SMS group

JK PAPER LTD.

MEDHA

IOT






Approved by









*On account of the dynamic changes in Indian education system with the introduction of the National Education Policy NEP2020, there could be subtle variation in the programs name or nomenclatures. However, all specialisations mentioned shall be available and possibly even more choice with greater flexibility. These changes will be announced on the university web site, closer to the admission period*





**C.V. Raman**  
**Global University**  
ODISHA BHUBANESWAR | INDIA

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