

M.Tech in Nanoscience and Nanotechnology : Admission-2024
Interdisciplinary Subject for Atmanirbhar Society and Progress of frontiers Knowledge
FOR ENGINEERING GRADUATES(B.E/B.TECH) AND SCIENCE POST-GRADUATE(M.SC)
Aryabhata Knowledge University(AKU), Patna,web site link <http://acnn.akubihar.ac.in>



Hon'ble Chancellor(Governor) , Hon'ble Chief Minister, Bihar, Hon'ble Education minister , Dr. U K Misra, first Pro Vice Chancellor of AKU with other dignitaries higher Govt. officers and academicians visited Nanotechnology center/ Research activities. Prof. S N Guha, founder Vice Chancellor of AKU with Hon'ble CM , Bihar at the official inauguration of nanotechnology Center.

- ✓ Arbhatha Center for Nanoscience&Technology(ACNN) is non-traditional, super specialized, frontier areas of subject of 21st century& first cutting edge Research Centre of university of Bihar, equipped with 20 high-end research instruments such as Scanning Electron Microscope, Multiferroic system, Vibrating Sample magnetometer, High energy ball mill etc. This is only one such frontiers related academic center in universities of Bihar.
- ✓ The Nanoscience and nanotechnology center of Aryabhata knowledge University was Established by the founder Vice Chancellor Prof. S N Guha with whole hearted support and encouragement from Honorable Chief minister Sri Nitish Kumar Ji. The first academic session of M.Tech and Ph.D. started from academic from year 2013. The academic and research activities of this Center visited/appreciated by Hon'ble Governor cum Chancellor Universities of Bihar, Hon'ble Chief minister Sri Nitish Kumar Ji, Education ministers and various Govt. officers and various eminent academicians/scholars.

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- ✓ In the last 10 year more than 1000 eminent academicians/Scholars from different parts of world/country/state visited Nanoscience center of Aryabahtta Knowledge University. About more than 200 research papers published/ final progress in SCI/Scopus/WoS/Peer reviewed Journals by Nanotechnology center in multidisciplinary area of Science, Engineering & technology including Engineering Science, Agriculture, Electronics, Medicine, Food, and Ayurveda and Basic Sciences.
- ✓ 4 patents and 2 prototype have been filed/developed using engineering/functional nanomaterials for low cost LED, Agriculture fertility, purification of water and energy & Environment.
- ✓ Scientists/Academicians of About More than 100 countries of the world including China, USA, UK, Germany, others cited/appreciated/read the frontiers research activities of the nanoscience center.



Students and Faculty member of Nanoscience center participation in various innovative practices



पीएम रिसर्च फेलोशिप के लिए एकेयू के शशांक का चयन

जागरण संवाददाता, पटना : आर्यभट्ट नालेज यूनिवर्सिटी (एकेयू) के नैनोसाइंस व नैनोटेक्नोलॉजी केंद्र के एमटेक के विद्यार्थी शशांक भूषण दास को प्रधानमंत्री रिसर्च फेलोशिप स्कीम के तहत आइआइटी मद्रास ने चयन किया है। विभागाध्यक्ष डा. राकेश कुमार सिंह ने बताया कि शशांक नैनो इलेक्ट्रॉनिक्स पदार्थ के क्षेत्र में शोध कर रहे हैं। इनका 10 से अधिक शोध पत्र अंतरराष्ट्रीय जर्नल में प्रकाशित हो चुका है। (जासं)

Nanotechnology Students awarded in Governor house, Patna and awarded Prime minister fellowship for frontiers research.

- Nanoscience and Nanotechnology center of AKU have been working in Collaboration/MOU with IIT Patna/National Institute of Ayurveda, Jaipur/NIT Patna/ CSIR-NPL Delhi/ Atal Incubation center, Niti Ayog Patna/ CIMP-Patna/ VTU Bangalore / CIMP -Patna and some others.



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Career/ Job prospects of M.Tech, in Nanoscience and Nanotechnology Courses:

- At present nanoscience and nanotechnology programme are being offered in India at more than 40 institutions from Graduation level to Doctoral research, in which some of the organizations are following –
Aryabhata Knowledge Universit Patna, Punjab university Chandigarh, University of Rajsthan, Institute of Nanoscience & Nanotechnology Mohali, National Forensic Science Science University- an Institution of National Importance under ministry of home affairs Govt. of India, Pandicherry university, Symbiosis University Hospital & Research Center, S N Bose National Center for Basic Sciences, JNU-Delhi, Delhi University, Amity university, VIT, SRM University Center for Nano & Soft Matter Sciences, NIT-Bhopal, IIT Bomaby, I.I.ScBanglore, Amrita University, JIS university, Dr. A P J Kalam technical university Lucknow, Banasthali Vidyapith and Various others places

Till date about more than 1000 nanotechnology based products are in the global market.
Multidisciplinary Cutting Edge Nanomaterials Research activities at Nanotechnology Center



Production of Various functional Engineering, Food, Silica Engineering Nanomaterials from rice husk, herbal nanomedicine, Iron oxide-based nanomaterials =Hydroelectric cell(Inventor-Prof. R K Kotnala) at Nanotechnology center for its multifunctional applications in industries & Society.



Nanotechnology research of AKU appreciated by Governor secretariat, international Scientific communities and visited by scholars from different parts of country.

These are some following sectors of M.Tech in Nanoscience and Nanotechnology degree for Job/Career. In addition to these sector, there are endless job/career opportunities.

S.No	Category(Sectors)	Nature of Job/ Product
1	Professor/Lecturer	Colleges/Universities/ Specialized research Institute
2	Scientists/ Scientific Officer	In DRDO, BARC, Nano mission of DST-Govt. of India, Various CSIR laboratories, TERI Deakin Nano-Biotech Center Gurgaon, International research center for Powder Metallurgy and New materials and various others
3	Research Officer/ Energy Manager	National Institute of Rock Mechanics Bangalore, Indian Oil Corporation(IOC), Hindustan Petroleum Corporation Limited(HPCL), Bharat Heavy Electricals Limited(BHEL)
4	Chief Executive Officer(CEO)	Production industries of different Kind of Electronics nanomaterials, Ayurvedic Nanomedicine by various sectors. SRL company Ltd. Producing various Nanomaterials for its uses in agriculture, laboratory purpose etc. Nano-LED based Electronics Companies.
5	Cosmetics Industries	Various types of cosmetics are nanomaterials, which are available in the global market with scientific evidence.
6	In Industries- Reinste Nanoventures; Sunita Carbon pvt. Ltd; IFFCO pvt.Ltd; SISCO Research Pvt. Ltd as CEO/Technical executive	Production of nanomaterials Related product in foundry & Forge technology for iron based materials, Central manufacturing Technology Institute Bangalore, production of Carbon based nanomaterials, Nano-Urea
7	Pharmaceutical Industries for production of Various nanomedicine as Scientist	Various nanomedicine for various diseases
8	Bajaj Pvt. Comapnay Ltd as CEO/Technical executive	Bajaj fans with anti-viral, Anti-bacterial & Bye-Bye dust repellent feature
9	Century Ply Ltd.Hires CEO/Technical executive	Century Ply prepared formulated nano-engineering particles which stop the spread of fire, that saving life and valuables
10	HiQ-Nano. S.r.l and Symphoney company Pvt. Ltd and other	Production of Silica engineering Nanomaterials for bricks, Tiles, cement and fluorescent nanobeads
11	Winmarket Research Ltd.	Ferrite Magnetic nanomaterials for its uses as Electrical & Electronics/ Ceramics materials for its applications in Energy & Environment, Transformer core, Hydroelectric cell
12	Hydroelectric cell for Green Energy	Various product such as Candle, LED, Lamp, battery as green energy
13	Company- Motorola, Hitachi, Degussa	Production of Various nanomaterials for its applications in high resolution display, Cosmetics



Nanotechnology Faculty Dr. Rakesh Kr Singh awarded Best Teacher Award by Hon'ble Chancellor(Governor) for his outstanding Performance and Hon'ble CM, Bihar Sri Nitish Kr Ji appreciated ongoing Nanoscience academic activities.



General Instructions for 4-Semester Postgraduate Programme Leading to the Degree of M.Tech (Nano Science & Technology): M.Tech admission 2024

General Information

- 1.1. The Semester system of education shall be followed in ACNN at M.Tech level. Each semester will be at least 90 working day duration. Every enrolled student will be required to do specified course work and also complete a project/dissertation if any either in the ACNN or at other National Labs/Institutions.
- 1.2. The total number of seats for the course is **20** (Thirty). Reservation of SC/ST/OBC/PH/Women candidates will be done as per the University norms.

2. Minimum Eligibility for Admission

M.Sc. or equivalent degree in Physics/ Chemistry/ Electronics/ Electronics Science/Material Science/Biotechnology/Life Science / Agriculture, with not less than 55% aggregate marks for General Category & 50% for all reserved categories in the absolute system of equivalent grade.

OR

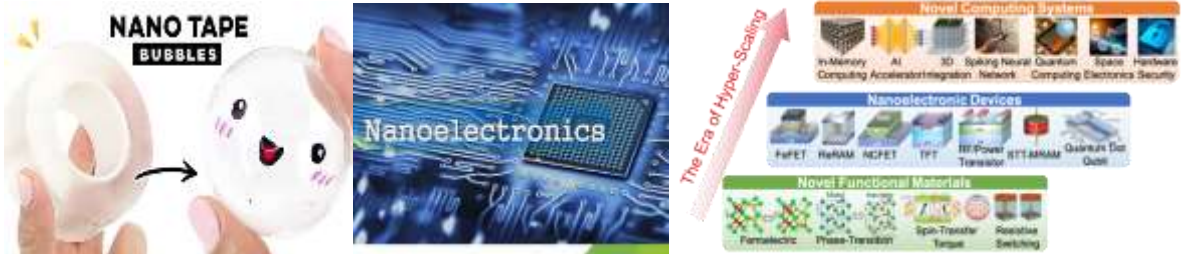
Bachelor's degree in Electrical/ Mechanical/ Civil Engineering/ Electronics & Communication/ Computer Engineering/ Instrumentation/ Computer Science/ Chemical/ Biochemical Engineering/ Civil Engineering/ Medical/ Veterinary Sciences or equivalent, with not less than or 60% aggregate marks for General Category & 55% for all reserved categories in the absolute system or equivalent grade.

3. Mode of Admissions: Spot Admission. Details can be seen acnn.akubihar.ac.in



Total 4 Patents published/Filed and 2 Prototype developed on Low cost LED , Nanomaterials for purification of water, Nanomedicine , hydroelectric Cell, as Nonfertilizer by Nanoscience center.

Some of the Nanotechnology products available in market



Nanotechnology based pain - Dust and antimicrobial free Fan, Nanotechnology Electronics Chip



Production of Nano-Electronics Materials and Hydroelectric cell at Nanotechnology Center, Aryabhata Knowledge University



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World Class Nanotechnology Research laboratory and Research Activities of AKU



High Energy Ball Milling for Production of Nanomaterials



FTIR and Impedance Analyzer measurement



Vibrating Sample Magnetometer for Magnetic Measurement



High Temperature Muffle Furnace



Microinjection moulding machine for Composite



Learning Science through Low Cost Experiment Lab



Scanning Electron Microscope Lab



Atomic Force Microscope and Scanning Tunneling Microscope

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X-ray diffractometer for crystalline size/structure measurement



Thermal Analysis Laboratory



UV-Visible and PL spectroscopy Laboratory



Nanoparticle Tracking Analysis System



Zeta Potential Measurement Lab



Hydrothermal Technique for Material synthesis



Multiferroic Instruments



J-Octa simulation software

Nanomaterials Simulation Lab

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