

Curriculum Vitae



Name	Dr. Atma Nand
Designation	Associate Professor
Area	Mathematics
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Scopus Id: [58314288100](#)
Researcher Id: [AAU-7869-2020](#)
Google Scholar Id: [RGLSVAcAAAAJ](#)

Dynamic Mathematics Teacher passionate about making the world of mathematics accessible and relevant to all students. Long track record of fostering student learning. Creates a comfortable learning environment for all types of learners. A PhD in Mathematics has helped me hone my problem-solving and pattern-recognition skills. Moreover, I continuously focus on creating environments that improve productivity and achievement within human systems, both at individual and group levels. Thus, I continue learning and growing through Personal and Professional Development Trainings, books, podcasts, and immersive seminars to continue sharpening my skills, mastering my emotional intelligence and optimizing my state to effectively lead others. Offering my skills and energy to improve our community through providing education is an honour.

Professional Experience	- Associate Professor May 2025 to present at Uttaranchal University. - Assistant Professor: August 2017 April 2025 at present at department of mathematics Uttaranchal University, Dehradun. - Assistant Professor: August 2016 to May 2017 at department of mathematics Uttaranchal University, Dehradun. - Digital Web Based Platform: Build and run my own educational website 2009-2016
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Education Qualification	Name of Exam	Board/ University	Division
	Ph.D.	Uttaranchal University	
	Mathematics		
	M.Sc.	A.U, Karaikudi, Tamilnadu	1 st
	Mathematics		
	B.Sc.	A.U, Karaikudi, Tamilnadu	1 st
	XII	BSEB, Patna	1 st
	X	BSEB, Patna	1 st

Area of Research	- Operation Research - Inventory Control Model - Mathematical Modelling - Optimization Techniques - AI Integration: Mathematical prompt engineering for AI models
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Current Research

- An EPQ Inventory Model with Weibull Distribution, Dynamic Time-Dependent Holding Cost Under Various Demand Pattern Using Maclaurin Series Approximations.
- A Novel Approach to Optimizing Inventory System by Incorporating Fuzzy Logic, Non-Linear Demand Function and Granular Differentiability
- An inventory control model for linear and non-linear deteriorating goods with partial backlogging, where demand is depending on price and stock level under inflation.
- Optimized Inventory Allocation in Complex Multi-Tier Networks: Leveraging Sampling Techniques
- Next-Generation Inventory Optimization: Advanced Inventory Management Harnessing Demand Variability Integrating Fuzzy Logic and Granular Differentiability
- EPQ Model for Optimized Production, Integrating Weibull Degradation, Dynamic Demand and Holding Costs for Perishable Goods.
- Efficient Optimization of Inventory Control Problems.
- Evaluation of Optimized Inventory Control Model for Supplier and Retailer Coordination by Fuzzifying Parameters
- Mathematical Model for diffusion of drug through GI Tract and Blood Stream
- An optimization framework for Supply Chain Networks Model via Asymptotic Law: An Interactive Possibilistic Model in Industrial Clusters
- Collaboration of Mathematics to Day-to-Day Life & Its Application to Real World

Publications

- [An inventory model for deteriorating items with linear deterioration and time-dependent demand under compound interest and backordering](https://link.springer.com/article/10.1007/s12597-026-01162-6)
<https://link.springer.com/article/10.1007/s12597-026-01162-6>
- [Time-Dependent Holding Cost in Inventory Models for Deteriorating Items: A Linear and Nonlinear Approach](https://doi.org/10.1142/S0219686726500228), <https://doi.org/10.1142/S0219686726500228>
- Deteriorating Inventory Management Model: Adapting to Variable Lead Time and Consumer-Driven Shortages, DOI: 10.1504/IJOR.2023.10064634.
- Dynamic Terminology for Supplier-Retailer Collaboration Metrics in Inventory Model, DOI: 10.1504/IJMOR.2024.10064476.
- Nand, A. (2024). Optimized Economic Production Quantity Inventory Model with Weibull Decay, Dynamic Holding Cost Under Varied Demand Scenario and Demand Series Analysis. Journal of Advanced Manufacturing Systems, 1-26.
- Nand, A., & Chauhan, N. S. (2024). MULTI-ENTITY STOCK DEPENDENT MODEL WITH CAPACITY AND MANUFACTURE COST RESTRAINT'S. Malaysian Journal of Science, 37-48.
- Linear and Nonlinear Time-Dependent Deteriorated Inventory Control Model, Journal of Advanced Manufacturing Systems 0 0:0, 1-18
- Economic order quantity Inventory Model for Pharmaceutical Product with Price and Stock Dependent Demand Rate, Variable Ordering Cost and Variable Holding Cost
- Role of Inventory Control Theory for Flexibility and Transparency to Serve Customers during COVID-19 Crisis
- Application and Technique of Inventory Control Theory in Pharmaceutical Sciences
- Inventory Control Model for Pharmaceutical Items with Exponential Demand and Holding Cost Varying Based on Time
- A Handbook on Commerce & Management: Applications, Concepts & Technologies (Volume-1)
- Deteriorating Items Stock Chain Inventory Control Formulation for Single Merchant Multiple Consumers with Variable Lead Time and Consumers Dependent Shortages
- Book chapter- Mathematical Model for diffusion of drug through GI Tract and Blood Stream
- Paper presentation in Conference: Evaluation of Optimized Inventory control model for supplier and retailer coordination by fuzzifying parameters (CCMAS-2023)

Patents	Application Number	Title
	202211013516	DESIGN OF SMART DEVICE FOR MONITORING DRAINAGE SYSTEM OF CANALS
	202311026089	AI AND IOT BASED CONTROLLER FOR ELECTRIC GRASS CUTTER WITH SOLAR PANEL
	202311024614	SMART BUFFER STOCK SOLUTIONS OF ONION IN WAREHOUSE
	202311026150	PUBLIC PARKING MANAGEMENT SYSTEM USING EDGE DEVICE AND CLOUD SERVER
	202311029373	SYSTEM OF UTILIZATION OF FLOWING NATURAL WATER RESOURCE IN MOUNTAIN REGION USING IOT

Academic & Administrative Leadership	NAAC Accreditation Leadership: Acted as a core driver for institutional quality enhancement by coordinating NAAC Criteria I (Departmental and College levels), Criteria II, and Criteria III initiatives. Curriculum Development & BOS Leadership: Served as the Member-Secretary of the Board of Studies (BOS) for B.Sc. (Hons.) Mathematics and B.Sc. (Hons.) Mathematics with Research. Member of BOS for M.Sc. Mathematics, M.Sc. Data Science, and B.Sc. Data Science. Instrumental in the design of new curricula, courses, and bridge course syllabus design. NEP 2020 Implementation: Directed the strategic implementation of the National Education Policy (NEP) 2020 within the higher education framework, ensuring the department's academic offerings are progressive and aligned with national educational reforms. Member of Organizing Committee in International Conference on Nano Materials and Green Technology for Sustainable Development: Quality Innovation and Challenges (ICNMGT-2024) Member of Organizing Committee in International Conference on Computational and Mathematical Methods in Applied Sciences Member of the American Mathematical Society (2990992579 DI-UNEM) Design of New Curricula and Courses Member-secretory of BOS of B.Sc. (Hons.) Mathematics and B.Sc. (Hons.) Mathematics with Research Member of BOS of M.Sc. Mathematics Member of BOS of M.Sc. Data Science Member of BOS of B.Sc. Data Science NAAC Criteria-I co-coordinator of the College NAAC Criteria-I coordinator of the Department NAAC Criteria-III coordinator of the department News bulletin committee coordinator of the department Swayam, MOOC course Bridge course syllabus design Sponsor Member of mathematical club “To ∞ and beyond”.
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**Conferences/
Seminars/
Workshops/
FDP/MDP
attended**

One Week Workshop on MATLAB Programming Organized by School of Applied and Life Sciences (SALS) Uttaranchal University Dehradun (5th-10th August, 2024)
One Week Workshop on MATLAB Programming Organized by School of Applied and Life Sciences (SALS) Uttaranchal University Dehradun (5th-10th August, 2024)
One day NAAC Sponsored Seminar on Quality Enhancement and Sustenance in Higher Education held on 18 November 2022

One week FDP on software tools for mathematical education, Transcending the pandemic towards a resilient new normal

Week Long International FDP on 'Technological Development & Changing Dimensions of Life
Stability analysis of nonlinear dynamic systems modelled in state space

International Webinar on Climate Change & Ecosystem Restoration on April 2, 2022

Online Teachers Enrichment Workshop on "Algebra & Multivariate Calculus"
Dr. Hari Singh Gour Vishwavidyalaya, Sagar, MP, India

Seven days staff development programme: UHV (universal human values)
School of Applied Science & Humanities and Department of Computer Applications, Haldia Institute of Technology, Haldia West Bengal, India

Seven Days Refresher Course "Implementation of National Education Policy 2020 in Higher Education" **Bundelkhand University, Jhansi, India.**

Online Three-Day International Faculty Development Program on "Research Methodology and Scientific Tools" **Department of Applied Sciences and Humanities, B. K. Birla Institute of Engineering and Technology Pilani, Rajasthan, India**

Two Weeks Faculty Development Program on "Advances in Applied Science and Teaching Methodology in current Scenario-2021" **School of Applied Sciences and Life Sciences, Uttaranchal University Dehradun, Uttarakhand, India**

One-week online workshop on Algebra and Optimization 2020 **Department of Science & Humanities (Mathematics), National Institute of Technology, Nagaland**

Online Teachers Enrichment Workshop on "Differential Equations and its Applications" **Deshbandhu College, University of Delhi, New Delhi, India**

One Week Online FDP on Applicability of Mathematical Sciences in Emerging World **Department of Applied Science & Humanities, Faculty of Science, Invertis University, Bareilly (U.P.), India.**

Six-Day Online FDP on Applications of Mathematics in Engineering **Department of Mathematics, KPR Institute of Engineering & Technology, Coimbatore, India**

Online FDP on Holistic Teaching Techniques for University Teachers **Law College Dehradun, Uttaranchal University Dehradun India**

Three-Days Online FDP on Appraisal of Mathematical Learning Outcomes in Cybergang Environment **Department of Mathematics, Arul Anandar College Madurai, India**

**Conferences/
Seminars/
Workshops/
FDP/MDP
attended**

Three-Days Online FDP on Fuzzy Mathematics Learning and its Applications
Department of Mathematics, Government College Daman, India

Three-Days Online International FDP on Computational Mathematics for Engineers and Researchers **Department of Mathematics, Poornima Institute of Engineering & Technology, Jaipur, India**

Applications of Nature Inspired Optimization Techniques for solving Real Life Problems **Department of Mathematics, KPRIET, Coimbatore, October 08, 2020**

Three-day online Faculty Development Programme on “Fuzzy Mathematics and its Applications” **Government College, Daman (UT), July 11-13, 2020**

FDP on “Personality Development and Human Values” **Vinayaka Mission’s Annapoorana College of Nursing, Salem, Tamil Nādu, July 6-10, 2020**

Practical Aspects of Mathematics in Data Transmission and Personal Authentication Systems **School of Advanced Sciences, Vellore Institute of Technology, July 24-25, 2020**

Online Faculty Development Programme on Holistic Teaching Techniques for University Teachers **Law College, Uttaranchal University, Dehradun, July 20-25, 2020**

Faculty Development Programme on ICT based Teaching and Learning Process **RCP, Roorkee, UK, July 1-5, 2020**

Faculty Development Programme on APPLICATIONS OF MATHEMATICS **Karunya Institute of Technology And Sciences, Coimbatore, 20 July 2020 to 24 July 2020**

National level E-Quiz on "Plagiarism Awareness- Research & Academic Ethics **Faculty of Doctoral Studies & Research and Faculty of computer Application in association with Indian Society for Technical Education, 21 July 2020**

Computational Mathematics for Engineers and Researchers **Department of Mathematics, Poornima Institute of Engineering & Technology, Jaipur, 10-12 July, 2020**

“भारत में शिक्षा और पर्यावरण के लिए कोविड-19 की वैज्ञानिक तथा तकनीकी शब्दावली”

Chaman Lal College, Landhaura, Haridwar, UK, June 26-27, 2020

Three-Day International Conference on Productive Mathematical Discourse **Department of Mathematics, Christ Nagar College, Maranalloor, Thiruvananthapuram, Aug 3-6, 2020**

Six-day national webinar series on applications of mathematics **KPRIET, Coimbatore, Tamilnadu, July 6-11, 2020**

Six-day faculty development programmes on “applications of mathematics in engineering” **KPRIET, Coimbatore, Tamilnadu, July 20-25, 2020**

Applications of Optimizations Techniques in Science and Engineering **KPR Institute of Engineering and Technology, Arasur, Coimbatore, TN, July 6, 2020**

Conferences/ Seminars/ Workshops/ FDP/MDP attended	One Week Faculty Development Programme on Importance of Traditional Indian Knowledge System in Health Wellness (28 June–4 July, 2024)
	One Week Faculty Development Programme cum Workshop on Application of Computational Tools in Research (31st May - 5th June, 2024)
	3 Days Work on Yoga for Improving Performance UCALS, Uttarakhand University, Dehradun, April 3-5, 2017
	Seminar on IPR Uttarakhand College of Applied and Life Sciences, Uttarakhand University, Dehradun, Uttarakhand, Dec 7, 2017
	One Week Faculty Development Program on Research Methodology Department of Computer Science, Uttarakhand University, Dehradun, Dec 4-9, 2017
	Teachers' congruence Uttarakhand University in Association with The Institute of Company Secretaries of India, July 16, 2018
	Faculty development program Uttarakhand University, Dehradun, July 16-22, 2018
Invited Talk	Workshop on MATLAB and Its Applications Department of Physics, Uttarakhand College of Applied and Life Sciences, Uttarakhand University, Dehradun, Uttarakhand, Sep 13-14, 2018
	Uttarakhand educator's summit Human Rights Protection Centre, Dec 10, 2018
Award/ Certificate/ Prize Received	11th IFAC Conference on Manufacturing Modelling, Management and Control, 30 June - 3 July 2025, Invited Session: Modelling and Optimization of Deteriorating Inventories
	18th IFAC Symposium on Information Control Problems in Manufacturing (INCOM 2024) Invited Session: Modelling and Optimization of Deteriorating Inventories
	• IIARI webinar series 2 FDP on "Innovation with AI" during 23-25th March 2022 • Performed a double-blind review of an academic research article • Certificate received by International Web Conference on Mathematics for Materials Science, Signals, Images and Structured Data" [ICMMSIS'20], organised by Department of Mathematics, Bannari Amman Institute of Technology, Sathyamangalam, Tamil Nadu for presenting research paper "economic order quantity inventory Model for Pharmaceutical Product with Price and Stock Dependent Demand Rate, Variable Ordering Cost and Variable Holding Cost on July 23-24, 2020 • Certificate received by International Webinar on "The Role of Applied Mathematics in Present Global Crises, organised by Department of Applied Mathematics with Oceanology and Computer Programming Vidyasagar University, Midnapore, West Bengal for presenting research paper Role of Inventory Control Theory for Flexibility and Transparency to Serve Customers during COVID-19 Crisis, Aug 5-7, 2020 • International Conference on New Horizons in Green Chemistry & Technology, Uttarakhand College of Applied and Life Sciences, Uttarakhand University, Dehradun, November 27-28, 2018

- National Conference on Recent Advances in Science and Technology, Uttarakhand College of Applied and Life Sciences, Uttarakhand University, Dehradun, February 27-28, 2017
- Reviewer of International Journal of Educational Management and Development Studies
- Attended one week FDP on “Advances in Analytical & Computational Techniques for Higher Education & Research
- Participated in World is Full of Networks! An International Webinar on the Applications of Graph Theory, organized by Sri H. D. Devegowda Government First Grade College, Paduvalahippe on 27th January 2023

Any extra-curricular activities

- **Slow learner and Advanced Learner**
- **Lessons Planning:**
Introduced new learning methods to ensure total comprehension for all students. Designed lesson plans focused on age and level-appropriate material. Routinely met with students' parents regarding in-class issues and learning interruptions to discuss solutions. Received high remarks for the creativity of classroom lesson plans and instructional techniques from students, parents and faculty.
- **Student Development:**
Increased student standardized test scores effectively by introducing more effective learning techniques such as technology integration, use of digital medium and student run lesson plans.
- **Education Strategies:**
Employed special educational strategies and techniques during instruction to improve the development of sensory/perceptual-motor skills, language, cognition, and memory.
- **Plan Development:**
Planned and conducted activities for a balanced program of instruction, demonstration, and work time that provided students with opportunities to observe, question, and investigate. Developed interesting course plans to meet academic, intellectual, and social needs of students. Developed and implemented interesting and interactive learning mediums to increase student understanding of course materials.
- **Goal Setting:**
Established clear objectives for all lessons/projects and communicated with students, achieving a total understanding of grading rubric and overall class expectations.
- **Technology Integration:**
Increased student participation and test scores by introducing relevant computer programs, graphics software and exercises to encourage student interest and enjoyment.
- **Parent Communication:**
Regularly met with parents to discuss student issues and course weakness areas. Routinely met with students' parents regarding in-class issues and learning interruptions to discuss solutions.
- **Student-Centered Curriculum Planning:**
Developed mid-semester evaluation for students to give feedback about current curriculum and suggest alternative course materials and subjects for remainder of year.

Any extra-curricular activities

- **Mathematical Club Sponsor (To infinity and beyond):**
- **Examination and Evaluation work**
- **Paper Setter**
- **Member of Alumni Association**
- Co-ordinator of B.Sc. (hons) Mathematic
- Departmental Minutes of meeting and circular in charge
- Educational Visit co-ordinator of the department
- Reviewer in Institute of Industry and Academic Research Incorporated (IIARI ID R21-0197)
- Editor of the Journal 'Academic Social Research' (ASR).

Teaching Philosophy

As an assistant professor of mathematics, my teaching philosophy is rooted in the belief that mathematics is both an art and a science, essential not only for academic pursuits but also for everyday problem-solving and critical thinking. My goal is to inspire students to appreciate the beauty of mathematics while equipping them with the skills needed to tackle complex challenges.

Student-Centered Learning

I believe in a student-centered approach where the needs, interests, and abilities of students drive the learning process. Every student is unique, and I aim to create an inclusive environment that supports diverse learning styles. By fostering a supportive classroom atmosphere, I encourage students to ask questions, explore concepts deeply, and collaborate with peers.

Active Engagement

Active engagement is crucial for meaningful learning. I employ a variety of teaching methods, including interactive lectures, group work, and problem-based learning. Incorporating technology, such as mathematical software and online resources, helps make abstract concepts more tangible and accessible. Through hands-on activities and real-world applications, students can see the relevance of mathematics in different contexts.

Encouraging Critical Thinking

Mathematics is a discipline that develops critical thinking and analytical skills. I encourage students to approach problems methodically, think logically, and develop perseverance. I emphasize the importance of understanding the underlying principles rather than rote memorization. By promoting a growth mindset, I help students view challenges as opportunities for growth and learning.

Continuous Assessment and Feedback

Assessment is an integral part of the learning process. I use a variety of assessment methods, including quizzes, projects, and presentations, to gauge student understanding and progress. Timely and constructive feedback is provided to help students reflect on their learning and identify areas for improvement. I also encourage self-assessment and peer feedback to foster a collaborative learning environment.

Lifelong Learning

Education is a lifelong journey, and I strive to instill a love for learning in my students. By connecting mathematical concepts to real-life situations and interdisciplinary fields, I demonstrate the broad applicability and importance of mathematics. I encourage students to remain curious and open to new ideas, continually seeking knowledge beyond the classroom.

Professional Development

As an educator, I am committed to my own professional growth. I stay current with advancements in mathematics education and pedagogy, attend workshops, and

collaborate with colleagues to enhance my teaching practices. Reflecting on my teaching experiences and student feedback allows me to continuously improve and adapt my methods to better serve my students.

In summary, my teaching philosophy is centered on creating an engaging, inclusive, and supportive learning environment where students can develop their mathematical skills, critical thinking abilities, and a lifelong passion for learning. Through innovative teaching methods and a commitment to student success, I aim to inspire the next generation of mathematicians and problem-solvers.

Name: Dr. Atma Nand

Date:

Place: Dehradun