

VALUE-ADDED COURSE IN WORKSTATION DESIGN AND APPLIED ERGONOMICS (2022 - 23)

The Value-Added Certificate Course in Workstation Design and Applied Ergonomics, meticulously organized and conducted by the esteemed specialization of Community Resource Management since the academic year 2010-11, has been specially crafted to instil a comprehensive understanding of the critical issues surrounding workplace ergonomics and the practical application of ergonomic principles across diverse segments of the population. As part of this course, students are not only required to complete coursework, but also apply the knowledge gained to real-world workplace scenarios while engaging in an in-depth study within their chosen area of interest.

The Value-Added Course features a flexible structure that enables students to effectively manage their concurrent graduation lectures and certificate coursework. Under the expert coordination of Dr. Roopa Rao, subject matter specialists were invited and field visits/industrial visits were meticulously planned and organized to ensure proactive and immersive learning throughout the duration of the course.

The Value Added Course in Workstation Design and Applied Ergonomics offers students specialized knowledge, practical skills, and improved job prospects in various industries. It equips them with the expertise to create ergonomic work environments, enhance workplace safety, and promote individual well-being, contributing to their personal and professional growth.

After completion of the Value-Added Course in “Workstation Design & Applied Ergonomics” opens a wide range of job opportunities in the field of occupational health and safety. Some potential career paths for students include:

- ✓ Ergonomics Consultant: Graduates can work as consultants, offering their expertise to organizations seeking to optimize work environments, reduce workplace injuries, and enhance employee well-being.
- ✓ Ergonomics Specialist: Graduates can specialize in ergonomics within specific industries such as healthcare, manufacturing, or office settings. They can assess workplace designs, recommend improvements, and implement ergonomic interventions.
- ✓ Occupational Health and Safety Officer: Students can pursue careers as occupational health and safety officers, ensuring compliance with ergonomic guidelines and implementing measures to minimize workplace hazards.
- ✓ Researcher or Educator: Graduates can explore opportunities in research institutions or educational settings, conducting research on ergonomics, teaching, and training future professionals in the field.

The ergonomics course is exclusively open to students enrolled in T.Y.B.Sc. CRM owing to its technical intricacies, resulting in a cohort of 20 enrolled participants. Subject experts, namely Ms. Ashwini Gaikwad, Ms. Sakina Chhatriwala, Ms. Saniya Pai, and Ms. Arundhati Dolas, were invited to conduct the theory components. Dr. Roopa Rao provided guidance for the research and in-depth studies, offering comprehensive support to student groups from topic selection to the final report writing stage.

The details of their research and in-depth studies are as follows:

Group	Students	Title of the research project
1.	Chavan Shruti Parmar Falguni Chheda Khushi Darji Deepansha	Assessment Of Occupational Health (Ergonomic, Physical, Shift Work and Circadian Rhythm) Among Employees in the BPO Sector.
2.	Khan Amna Khan Umaima Malandkar Sanobar Asma Ansari	Risk Factors to Work-Related Musculoskeletal Disorders Among Bartenders (Aged 25 – 45 Years) In Mumbai City and its Suburbs
3.	Khan Iram Asgar Khan Maahenoor Srivastava Ritika	Psychosocial And Musculoskeletal Risks Faced by Food Delivery Boys in Mumbai City and its Suburbs
4.	Rangwala Batul Khan Iram Khanam Kadam Mrudula	Occupational Hazards of Hotel Housekeeping Department in Mumbai and its Suburbs
5.	Pinero Melann Patanwala Zainab Yelve Esha Rampurawala Zahra	Work-Related Challenges Among Fishermen

The culmination of their diligent efforts resulted in the students presenting their research studies at various inter-collegiate and university-level competitions, as well as an esteemed international conference. Their exceptional work was recognized with the esteemed "Best Research Prize" in several competitions.

The specific details of their remarkable achievements are as follows:

S. No.	Names of the Student	Guide	Details of the Competition/Conference
1.	Shruti Chavan	Dr. Roopa Rao	<ul style="list-style-type: none"> Title of the Paper: "Sleep-Wake-Work: Struggle of the BPO Employee." National Level Poster Presentation Competition Elysium Research Convention (Elysium "Vande Bharatam" – A tribute to India's Culture and Diversity) Organized by MKLM's B. L. Amlani College of Commerce and Economics, and N. R. Nathwani College of Arts in collaboration with Unit of DLLE, University of Mumbai

			<ul style="list-style-type: none"> On 12th March 2023 at MKLM's B. L. Amlani College of Commerce and Economics, Vile Parle (West).
2.	Melann Pinero	Dr. Roopa Rao	<ul style="list-style-type: none"> Title of the Paper: "Wave Of Survival – Challenges Faced By Fishermen." National Level Poster Presentation Competition SRIJNA – Nurturing Creativity and Innovation Organized by Guru Nanak Institute of Research & Development (GNIRD) and Research Committee of Shiromani Gurudwara Parbandhak Committee's Guru Nanak Khalsa College of Arts, Science, and Commerce (Autonomous), Mumbai -19 On 25th February 2023
3.	Sanobar Malandkar	Dr. Roopa Rao	<ul style="list-style-type: none"> Title of the Paper: "Occupational Injuries Among Bartenders." National Level Poster Presentation Competition SRIJNA – Nurturing Creativity and Innovation Organized by Guru Nanak Institute of Research & Development (GNIRD) and Research Committee of Shiromani Gurudwara Parbandhak Committee's Guru Nanak Khalsa College of Arts, Science, and Commerce (Autonomous), Mumbai -19 On 25th February 2023
4.	Zainab Patanwala.	Dr. Roopa Rao	<ul style="list-style-type: none"> Title of the paper: "Know Safety No Pain - Towards Better Occupational Health." 15th Aavishkar Inter-University Maharashtra State Research Convention Organized by Rajya Bhavan Conducted at Savitribai Phule Pune University (SPPU), Pune from 12th - 15th Jan 2023. This paper was presented under Category 2: Commerce, Management & Law; Level 1: UG.
5.	Batul Rangwala, Iram Khanam Khan	Dr. Roopa Rao	<ul style="list-style-type: none"> Title of the paper: "Clean Sweep - Occupational Hazards Among Hotel Housekeepers."

	Mrudula Kadam.		<ul style="list-style-type: none"> • 17th Aavishkar Inter- Zonal (final) Round • Organized by the Department of Students' Development, University of Mumbai • Conducted at Satish Pradhan Dyanasadhana College, Thane. • This paper was presented under Category 2: Commerce, Management & Law; Level 1: UG. • On 26th Dec 2022
6.	Zainab Patanwala, Melann Pinerio, Esha Yelve, Zahara Rampurawala.	Dr. Roopa Rao	<ul style="list-style-type: none"> • Title of the paper: "Sea – The Unseen Challenges of Fishermen." • 17th Aavishkar Inter- Zonal (final) Round • Organized by the Department of Students' Development, University of Mumbai • Conducted at Satish Pradhan Dyanasadhana College, Thane. • This paper was presented under Category 2: Commerce, Management & Law; Level 1: UG. • On 26th Dec 2022
7.	Batul Rangwala, Iram Khanam Khan Mrudula Kadam.	Dr. Roopa Rao	<ul style="list-style-type: none"> • Title of the paper: "Clean Sweep - Occupational Hazards Among Hotel Housekeepers." • 17th Aavishkar Inter-Collegiate/ Institute/ Department Research Convention - Zonal (Zone1: Mumbai 1) Round • Organized by the Department of Students' Development, University of Mumbai • Conducted at College of Home Science Nirmala Niketan, Mumbai. • On 15th December 2022. • This paper was presented under Category 2: Commerce, Management & Law; Level 1: UG. • This study was among the best few selected and shortlisted to participate in the Final (inter-zonal) round scheduled for 26th Dec 2022.
8.	Zainab Patanwala, Melann Pinerio, Esha Yelve,	Dr. Roopa Rao	<ul style="list-style-type: none"> • Title of the paper: "Sea – The Unseen Challenges of Fishermen."

	Zahara Rampurawala.		<ul style="list-style-type: none"> • 17th Aavishkar Inter-Collegiate/ Institute/ Department Research Convention - Zonal (Zone1: Mumbai 1) Round • Organized by the Department of Students' Development, University of Mumbai • Conducted at College of Home Science Nirmala Niketan, Mumbai. • On 15th December 2022. • This paper was presented under Category 2: Commerce, Management & Law; Level 1: UG. • This study was among the best few selected and shortlisted to participate in the Final (inter-zonal) round scheduled for 26th Dec 2022.
9.	Shruti Chavan, Deepansha Darji, Khushi Chheda, Falguni Parmar.	Dr. Roopa Rao	<ul style="list-style-type: none"> • Title of the paper: It's Too A.M. – Occupational Challenges of the BPO Employees.” • 17th Aavishkar Inter-Collegiate/ Institute/ Department Research Convention - Zonal (Zone1: Mumbai 1) Round • Organized by the Department of Students' Development, University of Mumbai • Conducted at College of Home Science Nirmala Niketan, Mumbai. • On 15th December 2022. • This paper was presented under Category 2: Commerce, Management & Law; Level 1: UG.
10.	Sanobar Malandkar Amna Khan, Umaima Khan, Asma Ansari.	Dr. Roopa Rao	<ul style="list-style-type: none"> • Title of the paper: "Toss the Pain. – Occupational Injuries of Bartenders.” • 17th Aavishkar Inter-Collegiate/ Institute/ Department Research Convention - Zonal (Zone1: Mumbai 1) Round • Organized by the Department of Students' Development, University of Mumbai • Conducted at College of Home Science Nirmala Niketan, Mumbai. • On 15th December 2022. • This paper was presented under Category 2: Commerce, Management & Law; Level 1: UG.

11.	Iram Khan, Mahenoor Khan, Ritika Srivastava	Dr. Roopa Rao	<ul style="list-style-type: none"> ● Title of the paper: The Food At your Doorstep – At What Cost? ● 17th Aavishkar Inter-Collegiate/ Institute/ Department Research Convention - Zonal (Zone1: Mumbai 1) Round ● Organized by the Department of Students' Development, University of Mumbai ● Conducted at College of Home Science Nirmala Niketan, Mumbai. ● On 15th December 2022. ● This paper was presented under Category 2: Commerce, Management & Law; Level 1: UG.
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Industrial Visit to Jaipur from 6th to 12th March 2023:

The itinerary of the industrial visit to Jaipur was meticulously planned, primarily catering to the students of the Value-Added Course, with the aim of providing them with practical insights into the diverse industrial applications of ergonomics. Several tour operators were approached, including Ecstasy Educational and Holiday Planners. Ultimately, the quote from EEHP was accepted, and a six-day trip to Jaipur-Sanganer-Ranthambhore was planned from 6th to 12th March 2023.

The selection of industries for the visit was carefully curated by Dr. Roopa Rao, the coordinator of the Value-Added Course, with the intention of encompassing both practical and theoretical insights into the subject matter. These visits proved instrumental in equipping students with first-hand knowledge about industrial operations, enabling them to plan, organize, and actively engage in learning experiences both within and outside the classroom. Moreover, it provided them with valuable insights into their potential roles as ergonomists within the industry, while also imparting crucial knowledge regarding industrial best practices. The students expressed their satisfaction with the course content and the research/in-depth studies conducted, emphasizing that it provided them with practical insights into industry dynamics, their potential placements, and the requisite do's and don'ts.

The industries visited during the three days at Jaipur were: Jaipur Rugs, HNS Coach Factory, Podar Shoe Factory, Kagzi Handmade Papers, and Omega Electronics & Scientific Instrumentation. Although it was an exhausting day, it offered the perfect blend of industries to gain valuable insights into Occupational Health, HR matters, and TQM. In addition to these enriching industrial visits, the students also had the opportunity to indulge in recreational activities, visiting notable attractions such as Jal Mahal, Amer Fort, Jantar Mantar, Albert Museum.

The highly anticipated awards ceremony, where the highest marks, topper, and best research projects were acknowledged, along with the distribution of certificates and appreciation letters, will take place on the Valedictory day. The deserving recipients of the esteemed accolades are:

- **Best Project Award:** “Assessment of Occupational Health (Ergonomic, Physical, Shift Work and Circadian Rhythm) Among Employees in the BPO Sector” by Chavan Shruti, Parmar Falguni, Chheda Khushi, and Darji Deepansha
- **Highest Marks:**

- Topper – 1 st	Chavan Shruti
- Topper – 2 nd	Chheda Khushi
- Topper – 3 rd	Pinero Melann
- Highest Marks (WD)	Darji Deepansha
- Highest Marks (AE)	Rangwala Batul
- Highest Marks (Prac)	Chheda Khushi
- **Appreciation Certificate for 100% Attendance: NIL**

These diligent students demonstrated exemplary dedication and expertise in their research endeavours, culminating in an outstanding project that surpassed expectations. Their innovative exploration of the effects of circadian rhythm disruption among the BPO employees showcases their commitment to enhancing occupational health and safety.

The Value-Added Certificate Course in Workstation Design and Applied Ergonomics has undoubtedly nurtured a cadre of skilled professionals poised to make significant contributions to the field. With their research studies receiving recognition at various esteemed platforms, including inter-collegiate competitions, university-level events, and a national conference, these students have not only expanded their knowledge but also made a lasting impact on the academic community.

Challenges Faced: The challenges encountered in running the Value-Added Course in Workstation Design & Applied Ergonomics are:

1. **Space Constraints:** The college's limited physical space poses a significant challenge for conducting practical sessions and setting up dedicated ergonomics laboratories. Insufficient space restricts the implementation of hands-on activities and limits students' exposure to real-world ergonomic scenarios.
2. **Inadequate Lab Facilities:** The lack of well-equipped ergonomic laboratories hinders the effective delivery of the course. The absence of essential equipment and tools limits students' ability to engage in practical experiments and gain hands-on experience, thus impacting their understanding and skill development.
3. **Understaffing:** Insufficient faculty members specializing in ergonomics impede the comprehensive teaching and mentoring required for the course. Limited staff often leads to a higher workload and compromises individual attention, thereby affecting the overall quality of education imparted.

Future Plans:

- **Infrastructure Development:** The college administration should prioritize allocating additional space for ergonomics laboratories and related facilities. Establishing well-

equipped labs with state-of-the-art equipment will provide students with hands-on experience and practical exposure to ergonomic principles.

- **Faculty Recruitment and Training:** Hiring qualified faculty members specializing in ergonomics will alleviate the understaffing issue. Conducting regular training programs and professional development workshops will ensure that faculty members remain updated with the latest advancements in ergonomics, enhancing their teaching capabilities.
- **Collaborations and Partnerships:** The college can explore partnerships with external organizations, research institutes, and industry experts to supplement the existing resources. Collaborations would enable students to access off-campus laboratories and facilities, expanding their learning opportunities beyond the college premises.
- **Guest Lectures and Industry Interactions:** Inviting experts from the industry to deliver guest lectures and share their practical experiences will expose students to real-world applications of ergonomics. Industry interactions, such as internships and industrial visits, will provide students with a deeper understanding of ergonomics in various work environments.

While challenges such as space constraints, inadequate lab facilities, and understaffing pose obstacles in running a value-added course in ergonomics, the college can overcome them through infrastructure development, faculty recruitment and training, collaborations, and industry interactions. By implementing the future plans, students will receive a comprehensive education in ergonomics, enhancing their career prospects in the field of occupational health and safety.

Dr. Roopa Rao

Coordinator

VAC, Workstation Design & Applied Ergonomics