



**OFFICE OF THE DEPARTMENT OF METALLURGY:
ORISSA SCHOOL OF MINING ENGINEERING, KEONJHAR**

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**Guidelines for Add-on Skill Courses
(For Metallurgy Students and Faculty)**

Aligned with AICTE Philosophy and SCTE&VT Odisha Norms

Purpose:

This guideline is intended for adoption by our department to promote employability, practical competency, entrepreneurship, industry readiness and lifelong learning through structured Add-on Skill Courses.

Objectives

- Enhance employability through industry-oriented skills.
- Bridge curriculum and industrial requirements.
- Promote multidisciplinary learning.
- Develop practical and hands-on competence.
- Encourage innovation, entrepreneurship and self-employment.
- Prepare students for higher studies and certifications.
- Strengthen institute-industry interaction.
- Support NBA/OBE and AICTE quality initiatives.

Guidelines for Students

- Every student is encouraged to complete at least one Add-on Skill Course each academic year.
- Students may select a course based on career goals and prerequisites.
- Assessment shall include practical work, assignments and viva.
- Successful completion leads to a certificate from the training partner.
- Students shall maintain a report and submit the report and a mini-project wherever applicable.
- Academic integrity and discipline shall be maintained throughout the course.
- Students are advised to use COURSERA, Other MOOC courses to ramp up their skill. Catalogue is provided for reference on ADD on Skills to choose.
- Students shall have to submit one report on ADD on Skill at the end of the semester.

Guidelines for Faculties

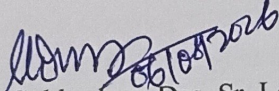
- Ensure at least 60–70% hands-on practical training.
- Invite industry experts wherever feasible.
- Document evidence for NBA/quality assurance.
- Whenever there is free time, review the progress of students on ADD on Skill.

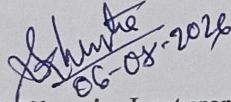
Catalogue of 70 Suggested Add-on Skill Courses

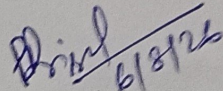
1. Industrial Safety & PPE
2. 5S and Lean Manufacturing
3. Six Sigma Yellow Belt
4. Welding Technology
5. Welding Inspection
6. NDT Basics
7. Metallography
8. Heat Treatment
9. Foundry Practice
10. Casting Simulation
11. Forging Technology
12. Powder Metallurgy
13. Corrosion Testing
14. Failure Analysis
15. Steel Making Basics
16. Aluminium Processing
17. Copper Alloys
18. Refractory Technology
19. Materials Characterization
20. SEM/XRD Basics
21. CAD for Engineers
22. AutoCAD
23. SolidWorks
24. CATIA Basics
25. ANSYS Basics
26. PLC Fundamentals
27. Industrial Automation
28. Hydraulics & Pneumatics
29. CNC Programming
30. 3D Printing
31. Robotics Basics
32. Industrial IoT
33. Python for Engineers
34. MATLAB Basics
35. MS Excel Advanced
36. Data Analytics
37. AI for Engineers
38. Battery Technology
39. Supercapacitors
40. Renewable Energy
41. Solar PV
42. Electric Vehicle Technology
43. Quality Control Tools
44. ISO 9001 Awareness
45. ISO 14001 Awareness
46. Laboratory Calibration
47. Industrial Instrumentation
48. Maintenance Engineering
49. Project Management
50. Supply Chain Basics

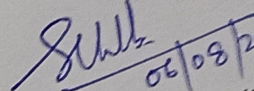
51. Entrepreneurship
52. Communication Skills
53. Technical Report Writing
54. Presentation Skills
55. Interview Skills
56. Personality Development
57. Digital Marketing
58. Cyber Security Awareness
59. Cloud Computing Basics
60. GIS Basics
61. Environmental Management
62. Waste Management
63. Water Treatment
64. Energy Audit
65. First Aid
66. Fire Safety
67. Financial Literacy
68. Intellectual Property Rights
69. Research Methodology

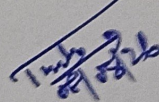
Internal Committee Members For Formulation of Department Guidelines on ADD on Course


Sushree Subhashree Das, Sr. Lecturer

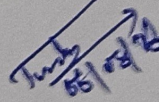

Sitanjali Khuntia, Lecturer (S-I)


Parasmita Biswal, Lecturer (S-II)

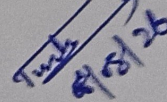

Suvendu Muduli, Lecturer (S-II)


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Memo No 209/meth Date 06-08-2026
Copy to the Department Notice Board/all the students' whatsapp group/the parents/ parents' whatsapp group for information and necessary action.


HOD

Memo No 209/meth Date 06-08-2026
Copy to the Principal, OSME Keonjhar for information.


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