Goswami Ganesh Dutta Sanatan Dharma

College Internship for Enhancing Employability

Department of Physics

Hands-on Training in Electronics and Material Characterization

Summer, 2026

Important Dates:	- - Classes begin: June 08, 2026 - - Classes end: July 01, 2026 Holidays • Martyrdom Day of Sri Guru Arjun Dev Ji: June 18, 2026 (Thursday)
Internship Supervisor	Dr. Neelu Mahajan
Contact	internship@ggdsd.ac.in
Training Timing	Monday to Saturday (9:00 am to 3:00 pm)
Credits	B.Sc./BCA – 4 Credits (120 hrs/ 20 days) B.A./B.Com./BBA and other courses– 2 Credits (60 hrs/ 10 days)
Core Training Areas	Hands-on Electronics & Circuit Design, Material Science & Instrumentation Techniques, Scientific writing and Documentation

Learning outcomes	After successful completion of the training, students will be able to: 1. Understand the basic concepts of analog and digital electronics. 2. Identify and use common electronic components such as resistors, capacitors, diodes, transistors, LEDs, and ICs. 3. Use measuring instruments such as multimeters and power supplies safely and effectively. 4. Develop skills in breadboard circuit assembly, soldering, and troubleshooting. 5. Program and interface Arduino boards using the Arduino IDE. 6. Interface sensors, motors, displays, and communication modules with Arduino. 7. Gain knowledge of characterization techniques used in material science research. 8. Operate and interpret data from basic scientific and electronic instrumentation. 9. Learn calibration, measurement accuracy, and experimental data analysis techniques 10. Develop skills in technical and scientific report writing. 11. Enhance communication, presentation, and documentation skills required for research and industry environments.
Employability Focus	The training program aims to enhance students' technical and practical competencies aligned with current professional requirements.
Evaluation	The evaluation of the internship shall be based on a combination of continuous assessment and final performance review. The evaluation process will include I. **Internship Report and Viva Voce (80% Weightage)**: Students must submit a detailed report documenting their activities, learning outcomes, challenges faced, and skills developed during the internship. Students are required to appear for a viva-voce before a 2-member internal evaluation committee (including a supervisor) to discuss their internship experience and learning outcomes. II. **Supervisor's Evaluation (20% Weightage)**: Feedback from the Internship Supervisor/Mentor at the host organization or within the department, assessing the student's engagement, skill development, professionalism, and attendance based on the Activity Log Book.

Internship Activity Logbook

Students will maintain an internship activity logbook for the "Enhancing Employability" internship throughout the training period. The logbook will be duly signed by the mentor and the internship supervisor upon completion of the training. The format of the Internship Activity Logbook is given below:

Week	Dates	Activities Performed	Skill Learned	Remarks from Mentor
1				
2				
3				
4				

Feedback Report

The mentor will prepare a Feedback/Evaluation Report for each student enrolled in the Internship for Enhancing Employability. The format for the Feedback/Evaluation Criteria is provided below:

Criteria	**Excellent (5)**	**Very Good (4)**	**Good (3)**	**Fair (2)**	**Poor (1)**
Punctuality and Attendance	☐	☐	☐	☐	☐
Professionalism and Work Ethics	☐	☐	☐	☐	☐
Communication Skills (Oral and Written)	☐	☐	☐	☐	☐
Initiative and Enthusiasm	☐	☐	☐	☐	☐
to Work Independently	☐	☐	☐	☐	☐
Technical/Subject Knowledge	☐	☐	☐	☐	☐
Solving and Analytical Ability	☐	☐	☐	☐	☐
Teamwork and Collaboration	☐	☐	☐	☐	☐
and Timeliness of Work	☐	☐	☐	☐	☐
Adaptability and Learning Ability	☐	☐	☐	☐	☐

Moreover, the mentor will provide remarks on the key strengths of the student intern, areas requiring improvement, and any special contributions or achievements demonstrated by the student during the internship.

Training Schedule

Week	Date	Topics
1	8/6/2026	Program Overview, Lab Safety, Introduction about components, Hands-on with electronic components
	9/6/2026	Fundamentals of Electronics Circuits, Voltage, current, resistance, Ohm's Law, circuit laws and theorems, Experimental: introduction to measurement tools
	10/6/2026	Resistors, capacitors, diodes, transistors, Fundamentals of components of Arduino boards, RC circuit, Using archive as a search tool for research articles
	11/6/2026	LED Circuits, Installation of tools, Arduino IDE, Designing Code II, Documentation writing using LaTeX software
	12/6/2026	Developing an understanding of Coding Basics, Fundamentals of programming languages e.g. C++. Variables, loops, Introduction to Programming Language for using Arduino IDE
	13/6/2026	Interfacing of Arduino board with basic electronics devices, designing some basic programs using Arduino, such as blink LED, analog reading, plotting, etc., Introduction to sensors, Analog vs digital Read sensor values
Week	Date	Topics
2	15/6/2026	Fundamentals of Nanotechnology, Basic Characterization Techniques in Nanotechnology
	16/6/2026	Advanced functional materials for environmental remediation, Synthesis of advanced functional materials by various techniques. CVD, hydrothermal. Chemical method and ball milling techniques, hands-on synthesis methods with our existing facility
	17/6/2026	Fundamentals and Hands on XRD Technique, and data analysis using software
	18/6/2026	**Holiday**

	19/6/2026	Green sustainable energy generation, Solar cell experimental facts and data analysis, Hands-on fabrication of DSSC, Solar cell characterization by solar simulator
	20/6/2026	Fundamentals of FTIR and UV-Visible Spectroscopy, Hands-on practical session

Week	Date	Topics
3	22/6/2026	Latex as an advanced writing tool, Advance fictional materials for removal of bacterial strains, hands-on measurement of antibacterial activity using functional nanostructures
	23/6/2026	Hands-on Training for the synthesis of materials-I
	24/6/2026	Visit to CIL, INST or CSIO institute
	25/6/2026	Hands-on Training for the synthesis of materials-II, Introduction to Gnuplot, Data plotting using Gnuplot in 2-D and 3-D formats
	26/6/2026	Beamer as a tool for academic presentation, presentation design, and basic slide preparation for an academic presentation
	27/6/2026	Building mini projects using Arduino-I
Week	Date	Topics
4	29/6/2026	Building mini projects using Arduino-II
	30/6/2026	Career opportunities in Physics, Project writing using Latex, Beamer, Power Point Presentation
	1/7/2026	Project presentation by Participants & Valedictory Session

Note: Internship report, viva voce, and supervisor's evaluation for 2 credit courses will be conducted after 10 days.