

## DEPARTMENT OF INTERNATIONAL PARTNERSHIPS AND STUDENT MOBILITY



## **Research Project Internship Form**

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**Department/School**: Department of Basic & Applied Sciences, School of Engineering & Sciences, GD Goenka University, Gurugram, Haryana - 122103

Internship Project Name: Basic skills of Applied Microbiology

Duration of Internship: 3 Months or 6 Months

Number of Students Needed: 02

**Location of Internship (Lab/Company/Office):** Microbiology and Biotechnology Laboratory, Department of Basic & Applied Sciences, School of Engineering & Sciences, GD Goenka University, Gurugram, Haryana

**Prerequisites:** School Level Biology and Basic knowledge of Microbiology

Project Details: (At least 150 words)

This internship project in Basic skills of Applied Microbiology is designed for UG and PG students of Microbiology and Biotechnology for providing up-to-date knowledge in their field. The internship is in relevance for Quality Control and Quality Assurance and biological research. It will cover the basics of microbiology, laboratory tools and techniques under the following topics-

- Introduction to Good Laboratory Practices and Biosafety
- Basics of Calculations; Buffers and Reagent Preparation
- principle and applications of important instruments used in the microbiology laboratory
- Various Nutrient Media (Solid/Liquid) preparation and Its Sterilization
- Various methods of Inoculation of Cultures (Streaking, spreading and pouring)
- Microbial Enumeration (TAMC and TCYM)
- Antimicrobial Susceptibility test (Kirby-Bauer test)



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- Isolation and Culturing of microbes from Soil, Water, Air Samples
- Isolation of pure bacterial colonies from mixed population
- Basic Identification of microorganisms by Colony morphology and Biochemical testing
- Various staining techniques
- CFU (Colony Forming Unit) Count
- Sterilization techniques (Dry and wet)
- Bacterial Motility Test
- Water portability or MPN test

**Note:** Students will assign to a particular research topic based on the above-mentioned area, which he/she should complete within the given duration i.e., 6 months.

## **Comments/Notes: NIL**