



## Master of Science - Microbiology

## Course Overview

Microbiology is an integral part of many different scientific studies, such as immunology, genetics, molecular biology, biochemistry, medicine, agriculture, ecology, industrial processes and many more. Course deals with general concepts, methods, and applications in microbiology. Laboratory portion of the course provides first hand experiences that inform, illustrate, expand, and reinforce major concepts discussed in lecture.

### Programme Name

**Master of Science**

### Programme Code

**044**

### Course Code & Name

**4402 – M.Sc in Microbiology**

### Degree Awarded

**Master of Science**

### Duration of the Programme

**2 years, 4 semesters**

### Total Credits

**128**

### Eligibility

**The minimum qualification required to apply is a bachelor's degree in biotechnology / microbiology / botany / biochemistry**

### Medium of Instruction / Examination

**English**

### Study Campus

**Center for Post Graduate Studies  
Jayanagar 3<sup>rd</sup> Block, Bangalore**

### Programme Timings

**8.30 am – 4.30 pm (Mon – Fri) & 8.30 am – 1.00 pm (Sat)**

### Course Advisor

**Dr. T Padmavathi  
+91 94485 33337**

## Examinations & Assessments

1. Internal tests
2. Assignments
3. Seminar presentation
4. Preparatory theory and Practical examination
5. End term theory and Practical examination

## Course Curriculum

### I Semester

- Microbial Systematics and Bacteriology
- Mycology and Phycology
- Immunology
- Biochemistry and Microbial Physiology
- Practicals - Microbial Systematics, Bacteriology, Mycology and Phycology
- Practicals - Biochemistry, Physiology & Immunology

### II Semester

- Molecular Biology
- Microbial and Molecular
- Genetics
- Medical Microbiology
- Agricultural Microbiology
- Practicals - Molecular Biology and Microbial Genetics
- Practicals - Medical & Agricultural Microbiology

### III Semester

- Recombinant DNA Technology
- Environmental and Food Microbiology
- Microbiological Techniques
- Dairy Microbiology
- Microbial Inoculants
- Biological Waste Management
- Extremophiles
- Practicals -Recombinant DNA Technology, Environmental and Food, Industrial / Techniques
- Practicals - Dairy Microbiology, Microbial Inoculants, Biological Waste Management & Extremophiles

#### **IV Semester**

- Agricultural Microbiology
- Industrial Microbiology
- Clinical and Physiological Biochemistry
- Biochemical Genetics
- Environmental Biochemistry
- Protein Chemistry
- Industrial Biotechnology
- Fermented Food Technology
- Genomics & Proteomics
- Medical Biotechnology
- Clinical And Physiological Biochemistry
- Biochemical Genetics
- Environmental Biochemistry
- Protein Chemistry
- Industrial Biotechnology
- Fermented Food Technology
- Genomics & Proteomics
- Medical Biotechnology
- Project
- Presentation & Defence
- Comprehensive - Viva-Voce

#### **Career Opportunities**

Microbiologists have wide scope in various pharmaceutical, biochemical, biotechnology industries (marketing, technical support and regulatory affairs), education (teaching, museums and science centres), business (patent attorney or accountant) and communications (public relations, journalism and publishing).