



Re-accredited by NAAC with 'A' Grade with CGPA 3.62/4

Recognised by UGC as "College with Potential for Excellence"

Conferred "College with "STAR STATUS" by DBT, Government of India.

Centre for Research Capacity Building under UGC-STRIDE

Date: 21-02-2022

NOTIFICATION

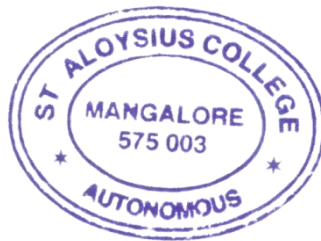
Sub: Syllabus of **B.Sc. MICROBIOLOGY** under NEP Regulations, 2021.
(As per Mangalore University guidelines)

- Ref: 1. Decision of the Academic Council meeting held on 18-12-2021 vide
Agenda No: 6 (2021-22)
2. Office Notification dated 21-02-2022

Pursuant to the above, the Syllabus of **B.Sc. MICROBIOLOGY** under NEP Regulations, 2021 which was approved by the Academic Council at its meeting held on 18-12-2021 is hereby notified for implementation with effect from the academic year **2021-22**.

S. Venkatesh

PRINCIPAL



MMS

REGISTRAR

PROGRAMME SPECIFIC OUTCOMES

PSO.1. Acquired knowledge and understanding of the microbiology concepts as applicable to diverse areas such as medical, industrial, environment, genetics, agriculture, food and others.

PSO.2. Demonstrate key practical skills/competencies in working with microbes for study and use in the laboratory as well as outside, including the use of good microbiological practices.

PSO.3. Competent enough to use microbiology knowledge and skills to analyze problems involving microbes, articulate these with peers/ team members/ other stakeholders, and undertake remedial measures/studies etc.

PSO.4. Developed a broader perspective of the discipline of Microbiology to enable him to identify challenging societal problems and plan his professional career to develop innovative solutions for such problems.

| UG Program BA / B.Sc | Discipline Core(DSC) (Credits) (L+T+P) | Discipline Elective(DSE) / Open Elective (OE) (Credits) (L+T+P) | Ability Enhancement Compulsory Courses (AECC), Languages (Credits) (L+T+P) | | Skill Enhancement Courses (SEC) | | | Total Credits |
|--|--|---|--|---------------------------|---|---------------------------------------|---|---------------|
| | | | | | Skill based (Credits) (L+T+P) | Value based (Credits) (L+T+P) | | |
| I | DSC A1(4+2) DSC B1(4+2) | OE-1 (3) | English (3) Languages (3) 4 | | Digital Fluency (1+0+2) +Value Education (1) | Physical Education - Yoga (1) (0+0+2) | Health & Wellness (1) (0+0+2) | 25 |
| | | | | | | Physical Education - Yoga (1) (0+0+2) | NCC/NSS/R&R(S&G)/ Cultural (1) (0+0+2) | |
| II | DSC A2(4+2) DSC B2(4+2) | OE-2 (3) | English (3) Languages (3) 4 | Environmental Studies (2) | | Physical Education - Yoga (1) (0+0+2) | NCC/NSS/R&R(S&G)/ Cultural (1) (0+0+2) | 25 |
| Exit option with Certificate (48 credits) | | | | | | | | |
| III | DSC A3(4+2) DSC B3(4+2)) | OE-3 (3) | L1-3(3),L2-3(3) (4 hrs. each) | | SEC-2: Artificial Intelligence (2)(1+0+2) | Physical Education - Yoga (1) (0+0+2) | NCC/NSS/R&R(S&G)/ Cultural (1) (0+0+2) | 25 |
| IV | DSC A4(4+2) DSC B4(4+2) | OE-4 (3) | L1-4(3),L 2-4(3) (4 hrs. each) | Constitution Of India (2) | | Physical Education - Yoga (1) (0+0+2) | NCC/NSS/R&R(S&G)/ Cultural (1) (0+0+2) | 25 |
| Exit option with Diploma (96 credits) | | | | | | | | |
| V | DSC A5(3+2) DSC A6(3+2) DSC B5(3+2) DSC B6(3+2) | | | | SEC-3: SEC such as Cyber Security (2) (1+0+2) | Physical Education - Yoga (1) (0+0+2) | NCC/NSS/R&R(S&G)/ Cultural (1) (0+0+2) | 23 |
| VI | DSC A7(3+2) DSC A8(3+2) DSC B7(3+2) DSC B8(3+2) | | | | SEC-4: Professional Communication (2) | Physical Education - Yoga (1) (0+0+2) | NCC/NSS/R&R(S&G) / Cultural (1) (0+0+2) | 25 |

Curriculum Structure for the Undergraduate Degree Program BSc (Basic /Hons.)

Total Credits for the Program : 176

Starting year of implementation: 2021-22

Name of the Degree Program :B.Sc. (Basic/Hons.) Microbiology

Microbiology Program Articulation Matrix:

| Semester | Title / Name of the course | Program outcomes that the course addresses (not more than 3per course) | Pre- requisite course (s) | Pedagogy | Assessment |
|-----------------|--|--|---|--|---|
| I | G 509 DC1.1 General Microbiology 4 Credits 100 Marks | <ol style="list-style-type: none"> 1. Knowledge and Understanding of Concepts of microbiology. 2. Learning and practicing Professional skills in handling microbes. 3. Thorough Knowledge and Application of Good laboratory and good manufacturing Practices in Microbial quality control. | PUC or +2 (Life Sciences As One of the Core disciplines) | The general pedagogy to be followed for theory and practical are as under. Lecturing, Tutorials, Group / Individual Discussions, Seminar, Assignments, Counseling, Remedial Coaching. Field/Institution/Industrial visits, Hands on training, Case observations, | LSSSDC (NSDC) assessment and certification For lab Technician or Lab assistant Job role |
| | G 509 DC2.1 P General Microbiology 2 Credits 50 Marks | | | Models/charts, preparations, Problem Solving mechanism, Demonstrations, Project presentations, Experiential Documentation and Innovative methods. | |

| | | | | | |
|-----------|---|---|--|---|---|
| II | G 509 DC2.2 Microbial Biochemistry and Physiology 4 Credits 100 Marks | Thorough knowledge and understanding of concepts of microbiology and its application in different microbiological industries. | | The general pedagogy to be followed for theory and practical areas under. Lecturing, Tutorials, Group/Individual Discussions, Seminars, Assignments, Counseling, Remedial Coaching. Field/Institution/Industry visits, Hands on training, | LSSSDC(NS DC) Assessment and certification for lab technician or Lab assistant job role |
| | G 509 DC2.2 P Microbial Biochemistry and Physiology 2 Credits 50 Marks | | | Case observations, Models/charts preparations, Problem solving mechanism, Demonstrations, Project presentations, Experiential documentation and Innovative methods. | |

Theory: 60:40

Practicum: 50:50 converted as 25+25=50



St Aloysius College (Autonomous)

Mangaluru

Re-accredited by NAAC “A” Grade

Course structure and syllabus of

B.Sc.

BOTANY

Under NEP Regulations, 2021



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S. Venkatesh

PRINCIPAL

To:

1. The Chairman/Dean/HOD
2. The Registrar Office
3. Library



REGISTRAR

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Programme structure for the under-graduate programs in Universities and Colleges

| SEMESTER-I | | | | | | | | |
|----------------------------|---------------|---|--------------------------|--------------------------|-------|------|-------|---------|
| Group | Course Code | Title of the Course | Instruction Hours / week | Duration of Exam (Hours) | Marks | | | Credits |
| | | | | | IA | Exam | Total | |
| Discipline Specific Course | G 507 DC1.1 | MICROBIAL DIVERSITY AND TECHNOLOGY | 4 | 2.5 | 40 | 60 | 100 | 4 |
| Discipline Specific Course | G 507 DC 2.1P | MICROBIAL DIVERSITY AND TECHNOLOGY - PRACTICALS | 4 | 3 | 25 | 25 | 50 | 2 |
| Open Elective Course | G 507 OE 1.1 | PLANTS FOR HUMAN WELFARE | 3 | 2.5 | 40 | 60 | 100 | 3 |

[subjects with practicals] [With major Botany]

| SEMESTER- II | | | | | | | | |
|----------------------------|-------------|--|--------------------------|--------------------------|-------|------|-------|---------|
| Group | Course Code | Title of the Course | Instruction Hours / week | Duration of Exam (Hours) | Marks | | | Credits |
| | | | | | IA | Exam | Total | |
| Discipline Specific Course | G507 DC1.2 | DIVERSITY OF NON-FLOWERING PLANTS | 4 | 2.5 | 40 | 60 | 100 | 4 |
| Discipline Specific Course | G507DC 2.2P | DIVERSITY OF NON-FLOWERING PLANTS - PRACTICALS | 4 | 3 | 25 | 25 | 50 | 2 |

| | | | | | | | | |
|----------------------------|--------------|---|---|-----|----|----|-----|---|
| Open Elective Course | G 507 OE 1.2 | PLANT PROPAGATION, NURSERY MANAGEMENT AND GARDENING | 3 | 2.5 | 40 | 60 | 100 | 3 |
|----------------------------|--------------|---|---|-----|----|----|-----|---|