



SYMBIOSIS

INTERNATIONAL UNIVERSITY

PREVENT IT CURRICULA @SYMBIOSIS INTERNATIONAL UNIVERSITY

College Name: Symbiosis School of Biological Sciences

Course Name: Microbiology Teaching Faculty: Dr. Sunil Saroj

Course Program: Post-graduation Studies in Biotechnology

Modernised Type:

Nature: Compulsory

60 Hours No. of Hours: No. of Students: 40

Semester: First Course Code: T4716

SYLLABUS

Microbial Communication: quorum sensing, strategies, interspecies, Interkingdom, eaves dropping Disease, novel

 AMR: antimicrobials, principles, usage, pharmacokinetics, pharmacodynamics genetic basis, pumps, transmission

✓ Diagnosis of AMR

TEACHING METHODOLOGY

✓ Power Point Presentation

Lecture



RECOMMENDED MATERIAL

- Arch G.M., Pomeroy C. Management of Antimicrobials in Infectious Disease: Impact of Antibiotic Resistance. Human Press, 2010
- Chin-Yi C. Antimicrobial Resistance and Food Safety: Method and Techniques. Academic Press, 2015



EVALUATION PATTERN

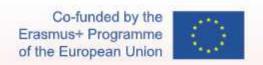
- ✓ Internal Evaluation 60%
- ✓ External Evaluation 40%

SCOPE AND OBJECTIVES

- ✓ Allen R. Antimicrobial Resistance and Infection. Control. Foster Academics. 2019 Microbial ecology and analytics techniques in microbiology.
- To Understand the factors affecting antimicrobial resistance, risk management and strategic to combat antimcrobial resistance
- To work and learn effectively both independently and cllaboratively.









PREVENT IT CURRICULA @SYMBIOSIS INTERNATIONAL UNIVERSITY

College Name: Symbiosis School of Biological Sciences

Course Name: Practicals in Microbiology

Teaching Faculty: Dr. Sunil Saroj

Course Program: Post-graduation Studies in Biotechnology

Modernised Type:

Compulsory Nature: 90 Hours No. of Hours:

No. of Students: 40 Semester: First Course Code: T4060

SYLLABUS

 Testing susceptibility of microbes to antimicrobials, Detrmination of MIC by agar diffusion and microbroth dilution



TEACHING METHODOLOGY ✓ Lab Experiments Practicals

RECOMMENDED MATERIAL

- ✓ Woolverton C.J., Sheewood L., Willey J. Prescott's Microbiology, McGraw-Hill Education, 2016
- Cornelissen C.N., Harvey R.A., Fsher B.D. microbiology Illustrated Reviews Volume 3 of Lipincott's Illustrated Reviews Series. Lippincott Williams & Wilkins, 2012
- Talaro K.P., Chess B. Foundations in Microbiology. McGraw-Hill Education, 2014

SCOPE AND OBJECTIVES

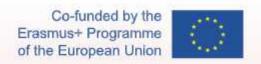
- ✓ To understand the-concepts of microbial isolation and aseptic techniques.
- ✓ The Student should be able to plan, perform and analyse experiment independently.
- Learn the concepts of anitmicrobial resistance



EVALUATION PATTERN

- ✓ Internal Evaluation 60%
- ✓ External Evaluation 40%







PREVENT IT CURRICULA @SYMBIOSIS INTERNATIONAL UNIVERSITY

College Name: Symbiosis School of Biological Sciences

Course Name: Food Microbiology Teaching Faculty: Dr. Sunil Saroj

Course Program: Post-graduation Studies in Nutrition & Dietetics

Modernised Type:

Nature: Compulsory

60 Hours No. of Hours:

No. of Students: 60 Semester: First Course Code: T4738

SYLLABUS

Microbial genetics, bacteriophages CRISPR-cas system

Antimicrobals, Principles of antimicrobial usage, antibacterial Role of public health laboratories, Antibacterial resistance and food chain, nutrition, infection and antibacterial resistance



TEACHING METHODOLOGY

✓ Power Point Presentation



RECOMMENDED MATERIAL

- Allen R. Antimicrobial Resistance and Infection Control. Foster Academics, 2019
- Arch G.M., Pomeroy C. Management of Antimicrobials in Infectious Disease: Impact of Antibiotic Resistance. Human Press, 2010
- Chin-Yi C. Antimicrobial Resistance and Food Safety: methods and Techniques. Academic Press, 2015



EVALUATION PATTERN

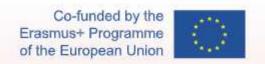
- ✓ Internal Evaluation 60%
- ✓ External Evaluation 40%

SCOPE AND OBJECTIVES

- ✓ To Study the core concepts of microbiology. including host pathogen interactions, microbial ecology and analytics techniques in microbiology
- ✓ To understand the factors affecting antimicrobial resistance, risk management and strategies to combat antimicrobial resistance
- ✓ To work and learn effectively both independently and collaboratively.









PREVENT IT CURRICULA @SYMBIOSIS INTERNATIONAL UNIVERSITY

College Name: Symbiosis School of Biological Sciences

Course Name: Microbiology Teaching Faculty: Dr. Sunil Saroj

Course Program: Post-graduation Studies in Biochemistry

Modernised Type:

Compulsory Nature: No. of Hours: 60 Hours

No. of Students: 30 Semester: First Course Code: T4072

SYLLABUS

- Microbial Communication: quorum sening, strategies, interspecies, interkingdom, eaves dropping disease, noval drugs
- AMR: antimicrobials, priciples, usage, pharmacoketics, pharmacodynamics genetic basis, pumps, transmission



TEACHING METHODOLOGY

✓ Power Point Presentation



RECOMMENDED MATERIAL

- Allen R. Antimicrobial Resistance and Infection Control. Foster Academics, 2019
- Arch G.M., Pomeroy C. Management of Antimicrobials in Infectious Disease: Impact of Antibiotic Resistance. Human Press, 2010
- Chin-Yi C. Antimicrobial Resistance and Food Safety: methods and Techniques. Academic Press, 2015



EVALUATION PATTERN

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- ✓ External Evaluation 40%

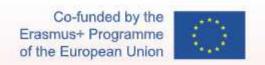
SCOPE AND OBJECTIVES

- ✓ To Study the core concepts of microbiology. including host pathogen interactions, microbial ecology and analytics techniques in microbiology
- ✓ To understand the factors affecting antimicrobial resistance, risk management and strategies to combat antimicrobial resistance
- To work and learn effectively both independently and collaboratively.



The course has been accepted by the 'Program review committee' but the BUD, BOS and BOM is pending







PREVENT IT CURRICULA @SYMBIOSIS INTERNATIONAL UNIVERSITY

College Name: Symbiosis School of Biological Sciences

Course Name: Practicals in Microbiology and Molecular Biology

Teaching Faculty: Dr. Sunil Saroj

Course Program: Post-graduation Studies in Biochemistry

Type: Modernised Nature: Compulsory

90 Hours No. of Hours:

No. of Students: 30 Semester: First

Course Code:

SYLLABUS

 Testing susceptibility of microbes to antimicrobials, Determination of MIC by agar diffusion and micro broth dilution



TEACHING METHODOLOGY

√ Practical ✓ Lab experiments



RECOMMENDED READING MATERIAL (TEXTBOOKS/WEBSITES/ REFERENCE BOOKS/ORIGINAL PAPERS AND REVIEW ARTICLES FROM JOURNALS):

- ✓ Woolverton C.J., Sherwood L., Willey J. Prescott's Microbiology, McGraw-Hill Education, 2016
- ✓ Cornelissen C.N., Harvey R.A., Fisher Microbiology Illustrated Reviews Volume 3 of Lippincott's Illustrated Reviews Series, Lippincott Williams & Wilkins, 2012
- Talaro K.P., Chess B. Foundations in Microbiology. McGraw-Hill Education, 2014
- Schmidt T.M., Schaechter M. Topics in Ecological and Environmental Microbiology, Academic Press, 2012

SCOPE AND OBJECTIVES

- Understand the concepts of microbial isolation and aseptic techniques.
- The student should be able to plan, perform and analyse experiments independently.
- Learn the concepts of antimicrobial resistance.



EVALUATION PATTERN

- ✓ Internal Evaluation 60%
- External Evaluation 40%

The course has been accepted by the 'Program review committee' but the BUD, BOS and BOM is pending