



## MSc in Biochemistry & Molecular Biology

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This course is designed to provide a broad understanding of biochemical processes at cellular and molecular level as well knowledge of key techniques in biochemistry & molecular biology and their applications in medicine and industry. It also aims to provide training in core transferable skills that are fundamental to all biological disciplines. The course has a strong practical foundation and will provide hands-on experience in core laboratory techniques as well as a solid training in research.

### Basic Information

1. **Department:** Department of Biochemistry & Molecular Biology
2. **Course Organizer:** Professor Indu Waidyathilake,  
*+94 112 697 947, +94 112 695 300 ext. 128*
3. **Learning Outcomes:**
  - To provide a broad understanding of biochemical processes at cellular and molecular level as well as knowledge of key techniques in biochemistry & molecular biology and their applications in medicine and industry.
  - To provide training in core transferable skills that are fundamental to all biological disciplines.
4. **SLQF Level:** 10
5. **Credit Hours:**
6. **Duration in Months:** 24 months (2 years)
7. **Course Delivery:** Full time
8. **Entry Criteria:**
  - A Bachelor's Degree in Science with Chemistry/ Biochemistry as a subject, Medicine, Dental, Veterinary Science or Agriculture from recognized university **OR**
  - A Gratuateship of the collage of Chemical Science, Institute of Chemistry, Sri Lanka
9. **No. of Students per Batch:** 15 students in average
10. **Teaching/ Learning Method(s):**
  - Lectures
  - Online Learning
  - Laboratory work
  - Practical



- Self-learning
- Library research
- Formative assessment
- Projects with Assessments
- Research project

**11. Assessment Method(s):**

- Three continuous Assessments
- Final Assessment Test
- Research thesis which will be evaluated by external examiners

**12. Tuition Fees:**

- **Local students:** Rs.550,000
- **International Students:** 8,000 USD

Payments can be paid either in,

- Full payment to the registration
- In Installments: Rs. 100,000 (4,000USD) at registration + Rs. 120,000 (1050USD) X 4 installments within a year.

**13. Other Fees:**

- Application fee: Rs 1,500

## Core course contents of Modules

The course content includes lectures based on the following topics.

- Water
- pH and buffers
- Biomolecules
- Cell membranes and transport
- Cytoskeleton & extracellular matrix
- Bioenergetics
- Techniques in Biochemistry
- Enzymology
- Vitamins and minerals
- Genome organization & gene Expression
- DNA replication



- Damage repair and mutation
- Endocrinology
- Metabolism
- Molecular biology techniques and applications
- Clinical chemistry & Molecular biology in Diagnostics and quality control.

There will additionally be lectures on special topics such as statistics and bioinformatics that will be useful for research, as well as advanced special interest topics