M.Sc. Degree Program in Applied Statistics
Faculty of Graduate Studies
University of Sri Jayewardenepura

1. Introduction

Statistical thinking and methods are becoming more and more prevalent in an exceptionally wide range of areas. With this postgraduate qualification in Applied Statistics, students can advance their career in almost any field, including education, science, technology, health care, government, or business. In Sri Lanka, qualified statisticians are well received by various institutions such as the Central Bank of Sri Lanka, Department of Census and Statistics and Coconut/Tea/Rubber research institutes to name but a few. The demand for trained statisticians continues to increase in the industry as well as it is becoming more dependent on predictive data and numerical reasoning.

There is a high demand for professionals with postgraduate qualifications in Applied Statistics in the country. Professionals from various backgrounds are also keen in obtaining basic statistical knowledge in order to advance in their careers. This postgraduate program includes two exit points in order to cater for a broader range of candidates seeking various levels of postgraduate qualifications in applied statistics. The MSc in Applied Statistics program is specially designed for candidates who are from Mathematics/Statistics background.

Master of Science in Applied Statistics program is a University Grants Commission (UGC) approved program that has been designed to meet Sri Lanka Qualifications Framework (SLQF 10) guidelines. It also consists of two exit points at Postgraduate Diploma level (SLQF 8) and Master of Applied Statistics level (SLQF 9) for those who wish to exit the program without completing the second year.

2. Objectives of the Degree Program

This program has been designed for graduates with a basic knowledge in Statistics to provide them an opportunity to further develop their knowledge in Applied Statistics. Those who complete the program successfully will gain knowledge in advanced statistical theory, as well as will receive an extensive training in statistical data analysis and statistical computing. The MSc in Applied Statistics program provides (a) advanced theoretical knowledge in Statistics, (b) an opportunity to do research, and (c) an opportunity for graduate employees to gain higher educational qualifications required for their promotions and career development.

The MSc in Applied Statistics program provides

(a) Advanced theoretical knowledge in Statistics,

(b) An opportunity to do research,
(c) An opportunity for graduate employees to gain higher education qualifications required for their promotions and career development.

Graduate Profile

The postgraduate student who successfully completes the degree is expected to demonstrate;

- An understanding of advanced theoretical knowledge in statistics,
- An ability to apply the gained advanced knowledge in statistics and training in advanced data analysis to solve real-life problems
- An ability to conduct independent research and write up the work.

3. Eligibility requirement (2025 intake)

● A Bachelor's Degree with 30 credits in Statistics and/or a related field from a recognized university.
OR

- Successful completion of Postgraduate Certificate in Applied Statistics program offered by the Faculty of Graduate Studies, University of Jayewardenepura
  AND
  fulfillment of at least one of the following:
  - A Bachelor's Degree from any field of study with 10 credits in Statistics and/or a related field from a recognized university.
  - At least one year working experience in a related field.

4. **Selection criteria (2025 intake)**

An interview will be held to select candidates if required.

5. Course Units in the MSc in Applied Statistics program

Year/Semester	Course Code	Course Name	Credit Value	Status (Core/ Compulsory/ Optional)
Year 1 Semester 1	STA 531 0.0	Basic statistical theory and methods[#]	0.0	Compulsory
	STA 513 2.0	Time Series Analysis	2.0	Core
	STA 514 2.0	Advanced Design and Analysis of Experiments	2.0	Core
	STA 515 2.0	Statistical Quality Assurance	2.0	Core
	STA 517 3.0	Programming and Statistical Computing with R	3.0	Core
	STA 522 2.0	Advanced Distribution Theory	2.0	Core*
	STA 530 2.0	Survival Analysis	2.0	Core
	STA 534 2.0	Operational Research	2.0	Core*

Year 1 Semester 2	STA 518 2.0 STA 519 2.0 STA 520 2.0 STA 521 2.0 STA 526 2.0 STA 524 2.0 STA 525 5.0 STA 536 2.0	Actuarial Statistics Advanced Regression Analysis Sampling Theory Advanced Multivariate Statistics Generalized Linear Models Advanced Data Analysis Independent Study*** Python for Statistical Modelling	2.0 2.0 2.0 2.0 2.0 2.0 5.0 2.0	Core** Core Core Core Core Core Core Core**
Year 2 Semester1	STA 523 2.0 STA 527 1.0 STA 528 30.0 STA 535 2.0 STA 537 2.0 STA 529 2.0	Linear Models Research Methodology Research Project**** Econometric Models Longitudinal and Clustered Data Analysis Data Mining	2.0 1.0 30.0 2.0 2.0 2.0	Core## Core Core Core## Core## Core
Year 2 Semester 2	STA 528 30.0	Research Project****	30.0	Core

#STA 531 0.0 is a compulsory foundation course which will run during the first two weeks after the commencement of the program. All candidates are required to follow this course and obtain a minimum 'C' Grade.

* Any 1 out of these 2 core courses will be offered during semester 1 year 1 considering the availability of resource persons.

**Any 1 out of these 2 core courses will be offered during semester 2 year 1 considering the availability of resource persons.

*** STA 525 5.0 Independent Study is only available for students who are following *Master of Applied Statistics*. It is a core course for them.

**** STA 528 30.0 Research Project will be conducted throughout Year 2. Please refer to Section 7 for guidelines.

Any one of these 1 core courses will be offered during semester 1 year 2 considering the availability of resource persons.

Exit point 1: Postgraduate Diploma in Applied Statistics program: Total number of credits is 25 (STA 531 0.0 is a compulsory course. All the other course units in Year 1 are core except STA 525 5.0 Independent Study). Hence, the total number of lecture hours is 375 hours (excluding the hours allocated for the foundation course).

Exit point 2: Master of Applied Statistics program: Total number of credits is 30 (STA 531 0.0 is a compulsory course. All the other course units in Year 1 are core). Expected time spent for the Independent Study is 90X5=450 hours. Hence, the total number of lecture hours is 450 hours (excluding the hours allocated for the foundation course).

MSc in Applied Statistics program: Expected time spent for the research project is 90X30=2700 hours. Total number of credits is 60 (STA 531 0.0 is a compulsory course. All the other course units in Year 1 and 2 are core courses except STA 525 5.0 Independent Study). Hence, the *total* number of lecture hours is 450 hours (excluding the hours allocated for the foundation course).

6. Fee structure

Fees	Per Student (Rs.)
Course Fee/Tuition Fee	MSc Program: Rs. 350,000
Application Fee	Rs. 2000.00
Registration Fee	Rs. 5000.00
Library – Non refundable	Rs. 5000.00
Library – Refundable	Rs. 5000.00
End Semester Examination per Course	Included in the course fee
Viva Voce Examination	Included in the course fee
Repeat Examination per Course	As set by FGS

Payment plans on offer for 2025 intake:

Method 1: Make the full course fee+other fees at the time of the registration.

Method 2: Pay in two installments.

- First instalment: 60% of the course fee + other fees at the time of the registration
- Second instalment: remainder within six months from the date of the registration

Method 3: Offered only for recent graduates (effective date within 1 year from the commencement date of the program). Pay in two installments.

- First instalment: Rs.100,000 at the time of the registration
- Second instalment: remainder before Year 1 Semester 2 examinations*.

*The admission will not be issued if payment is not settled.

7. Program Delivery and Learner Support System

Lectures and examinations:

- All lectures will be conducted online. They will be conducted during the weekend (Saturday 8 am - 5 pm, Sunday 8 am - 5 pm) and will be held at the Department of Statistics, Faculty of Applied Sciences, University of Sri Jayewardenepura. The department is located on the third floor of the new faculty complex (NFC) building which is located within the Faculty of Applied Sciences premises. All Exams will be conducted onsite at this location.
- GOOGLE CLASSROOM/Learning Management System (LMS): Various functionalities in one of these applications will be used to enhance the learning and teaching experience.
- ***E-mail is considered as an official way of communication***. In particular, e-mail will be the way of communication between the coordinator and the candidates. Each candidate must have an active personal e-mail address and the e-mail address (a gmail account will be required to join a google classroom) must be provided to the coordinator. Any change of the e-mail address must be notified to the coordinator. It is the responsibility of the student to check e-mail regularly.
    - Medical Certificates: All medical certificates must be approved by the university medical officer. A medical certificate will be considered only if it has been approved by the

university medical officer. Obtaining the approval of the university medical officer is a responsibility of the student.

- Examination Offences: Plagiarism and examination offences are dealt with according to the prevailing rules and regulations of the university.

8. Program Assessment Procedure/Rules

Formative and summative examinations in the program:

- Method of assessment can differ from course-unit to course-unit. For each course unit, a course description including the topics, course objectives, learning outcomes, method of evaluation and a tentative schedule for assessments will be given by the lecturer in-charge at the beginning of the course unit.
- Assessments can be in the form of written examinations, practical examinations, take home assignments, oral presentations, etc.
- There are two types of assessments. The assessments held between the first lecture and the last lecture are called `mid-course-unit assessments' (MCUA). The overall assessment held after the last lecture of a course unit is called the `end-course-unit assessment' (ECUA).

Scheme of Grading (Grades/Grade Points/ Marks ranges):
The Grade Point (GP) system for course units and thesis/dissertation is given as follows:

GP	0.0			1.0	1.3	1.7	2.0	2.3	2.7
Grade	M	ab	E	D	D+	C-	C	C+	B-
Mark range	-	-	0-24	25-29	30-34	35-39	40-44	45-49	50-54
Interpretation	Absent on medical reasons	Absent	Bad	Bad - Weak	Weak	Weak - Satisfactory	Satisfactory	Fair	Fair - Good

GP	3.0	3.3	3.7	4.0	
Grade	B	B+	A-	A	A+
Mark range	55-59	60-64	65-69	70-84	85-100
Interpretation	Good	Very good	Very good - Excellent	Excellent	Outstanding

Calculation of Grade Point Average (GPA):
The Grade Point Average (GPA) is calculated as

$$GPA = \frac{\sum_i \left(C_i \times GP_i\right)}{\sum_i C_i},$$

where

C_i = Credit Value of the ith course unit

GP_i = GP for the ith course unit

Important: The research project is considered separately and not considered in calculating the GPA. Please note that when reporting the final GPA it will be rounded to two decimal places.

Repeat examinations:

- A candidate who wants to improve the GP for any course unit up to 3.0 may sit for the assessments of that course unit within three consecutive batches. The maximum GP obtainable by such a candidate is 3.0. In order to sit for a repeat attempt, the candidate should pay the `repeat assessment fee'.
- None of the assessments will be held more than once within a program.
- If a candidate becomes absent for an assessment, he/she may sit for that assessment with the immediately following batch. Whether the candidate can sit with full privileges or not will be decided by the senate depending on the reason for the absence. If a candidate is not eligible for full privileges, he/she is considered as a `repeat candidate'
- Excuses for examinations will be accepted only if they are approved by the University.
- The maximum number of times that a candidate can face any assessment is three.

Guidelines on thesis proposal presentation and defence:

- It is the responsibility of the candidate to find a suitable research objective/idea/topic for the dissertation. The lecturers or the coordinator is not responsible for providing a research topic.
- Each MSc candidate must submit a proposal for his/her dissertation on the commencement date of semester 1 year 2. Each candidate must make an oral presentation of his/her proposal within one month of the submission of the proposal. The date of the presentation will be decided by the program coordinator. The proposal and presentation will be evaluated by a panel of examiners.
- If the proposal is rejected by the panel of examiners, the candidate should submit a new proposal within a given period of time.

Guidelines on conduct of research:

- The progress of the research will be evaluated through a progress review seminar which will be held in the week after Semester 1 Year 2 Final Examinations.

- Each MSc candidate must submit his/her dissertation for evaluation within 10 months of the oral presentation of the proposal. If additional time is required, the candidate must make a written request with the approval of the supervisor. Such a request must be made at least two weeks prior to the deadline for submission of the dissertation. The request must contain the reason for requiring additional time and the length of additional time required. However, additional time will be granted only if the university approves the request. The length of additional time will be decided by the university.
- The dissertation (soft binding) should be submitted in three copies to the coordinator on or before the deadline, for assessment.
- Each MSc Candidate should defend his/her dissertation in an oral presentation within one month of the submission of the dissertation. The date of defence will be notified to the candidates by the coordinator through e-mail at least 13 days before the date of defence.
- Three properly bound hard copies and two soft copies of dissertation should be submitted to the coordinator within one month of the defence. One hard copy will be returned to the candidate with the signatures of supervisor and examiners.

Guidelines on thesis defence examination:
The MSc Dissertation is evaluated by two examiners approved by the university. Supervisor is not an examiner.

Evaluation

To award the Postgraduate Diploma in Applied Statistics, a candidate should obtain

- A GPA of not less than 2.7 for all Year 1 semester 1 and 2 core courses (excluding STA 525 5.0 Independent Study)

  AND

- A 'C' or a higher grade for the foundation course unit.

To award the Master's in Applied Statistics, a candidate should obtain

- A GPA of not less than 2.7 for all Year 1 semester 1 and 2 core courses (including STA 525 5.0 Independent Study)

  AND

- A 'C' or a higher grade for the foundation course unit.

To award the MSc in Applied Statistics, a candidate should obtain

- A GPA of not less than 2.7 for all Year 1 and Year 2 core courses (excluding STA 525 5.0 Independent Study and STA 528 30.0 Research Project)

  AND

- A 'C' or a higher grade for the foundation course unit,

  AND

- A GP of 2.7 or above for the STA 528 30.0 Research Project.

Important: A candidate is only eligible to receive a Postgraduate Diploma or Master's Degree or MSc Degree. One can only receive only one certificate of these qualifications.

Merit Pass in MSc in Applied Statistics:

A candidate who obtains

- A GPA of not less than 3.5 for all Year 1 and Year 2 core courses (excluding STA 525 5.0 Independent Study and STA 528 30.0 Research Project),

  AND

- A 'C' or a higher grade for the foundation course unit,

  AND

- A GP of 3.7 or above for the STA 528 30.0 Research Project

  in the program will be awarded a merit pass.

9. Panel of Lecturers

Name of the Lecturer	**Designation**
Prof. Sarath Banneheka B.Sc.(Special)(Math., USJ, SL), M.Sc.(Math., London, UK), M.Sc.(Stat., SFU, CA), Ph.D.(Stat., SFU, CA)	Professor, USJ
Mr. P Dias B.Sc.(Special)(Math., USJ, SL), PG.Dip.(Stat., UOC, SL), M.Sc.(Math., Curtin, AUS)	Senior Lecturer I, USJ
Dr. Chitraka Wickramarachchi B.Sc.(Special)(Stat., USJ, SL), M.Sc.(Applied Stat., PDN, SL), M.Phil.(Stat., PDN, SL), Ph.D.(Stat., Canterbury, NZ)	Senior Lecturer I, USJ
Dr. Ravindra Lokupitiya B.Sc.(UOC, SL), M.Sc.(Stat., Wyoming, USA), Ph.D.(Stat., Wyoming, USA)	Senior Lecturer I, USJ

Dr. Niroshan Withanage B.Sc.(Special)(Stat., UOC, SL), M.Sc.(Applied Stat., Limburghs, BE), M.Sc. (Biostat., Hasselt, BE), Ph.D.(Stat., Calgary, CA)	Senior Lecturer I, USJ
Professor RMKT Rathnayaka B.Sc. (Special)(Math and Stat., UOR, SL), M.Sc. (Ind. Math. USJP, SL), M.Sc. (Stat., WUC, China), Ph.D. (App. Stat., WUC, China)	Professor, SUSL
Dr. Rajitha M. Silva B.Sc.(Hons.)(Industrial Math., RUSL, SL), M.Sc.(Industrial Math., PDN, SL), M.Sc.(Stat., SHSU, USA), Ph.D.(Stat., SFU, CA)	Senior Lecturer II, USJ
Dr. Chathuri Jayasinghe B.Sc.(Special)(Stat., USJ, SL), M.Sc.(Applied Stat., RMIT, AUS), Ph.D.(Stat., RMIT, AUS)	Senior Lecturer II, USJ
Dr. Neluka Devpura B.Sc. (Special)(Stat., UOC, SL), M.Sc. (Research, NUS, SG), Ph.D. (Finance, Deakin, AUS)	Senior Lecturer II, USJ
Dr. Hasanthi Pathberiya B.Sc.(Special)(Stat., USJ, SL), Ph.D.(Stat., UOC, SL)	Senior Lecturer II, USJ
Dr. Thiyanga Talagala B.Sc.(Special)(Stat., USJ, SL), M.Sc.(Financial Math., UOM, SL), Ph.D.(Stat., Monash, AUS)	Senior Lecturer II, USJ
Dr. Manjula Perera B.Sc.(Special)(Stat., USJ, SL), M.Sc.(Financial Math., UOM, SL), Ph.D.(Stat., USJ, SL)(Reading)	Senior Lecturer II, USJ
Dr. MTM Perera B.Sc.(Special)(Math.,USJ, SL), M.Sc. (UOM, SL), Ph.D.	Senior Lecturer II, USJ
Mr. Hashan Peiris, B.Sc.(Special)(Stat., USJ, SL), M.Sc.(Stat., SHSU, USA), Ph.D.(Actu. Sci., SFU, CA)(Reading)	Postgraduate Researcher, SFU
Ms. Devindi Samaranayake B.Sc.(Special)(Stat., USJ, SL), M.Sc.(Financial Math., UOC, SL), Diploma in Actuarial Techniques (ARN 9047585, Institute of Actuaries, Edinburgh, UK)	Associate Actuary, Spark Actuarial and Risk Consultants

Coordinator's details

Dr. Niroshan Withanage
Department of Statistics,
Faculty of Applied Sciences,
University of Sri Jayewardenepura

Email: nniroshan@sjp.ac.lk
Phone: 0112758905