



**Postgraduate Certificate 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 Certificate program has been specially designed for those who wish to gain a basic knowledge in statistics which may be of interest to professionals from various backgrounds seeking to gain some basic knowledge in statistical methods. For example, following successful completion, professionals from various fields such as medicine, engineering, management, social sciences, biological sciences, marketing, pharmaceuticals etc. will be able to design surveys/experiments and then analyze the data collected through them. Further to this, this postgraduate program will be of benefit for those who are following programs such as M.B.A., M.D. as these programs require a basic knowledge in Statistics to succeed.

**Postgraduate Certificate program in Applied Statistics is a University Grants Commission (UGC) approved program that has been designed to meet Sri Lanka Qualifications Framework (SLQF 7) guidelines.**

**Upon successful completion of this program the candidates are eligible to apply for our MSc in Applied Statistics program (SLQF 10) together with 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.**

## 2. Objectives of the Degree Program

The main objective of the Postgraduate Certificate program in Applied Statistics is to provide professionals from various fields with a basic knowledge in Applied Statistics. Those who complete the program successfully will be capable of solving statistical problems arising in practical situations in a broad range of fields.

The Postgraduate Certificate program in Applied Statistics provides

- (a) Essential theoretical knowledge in Statistics,
- (b) An opportunity for graduates who have not studied Statistics to learn Statistics,
- (c) Knowledge in applications of Statistics and training in data analysis required by graduate employees in various fields,
- (d) 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 essential theoretical knowledge in statistics,
- An ability to apply the gained knowledge and training in data analysis to solve real-life problems.

Professional and Employment Opportunities:

Advancement in careers in census and statistics field, opportunities to enter the banking sector including central bank. As the country's monitoring, reviewing and valuation processes advance the graduate in this field will have numerous options.

## 3. Eligibility requirement (2022 intake)

Bachelor's Degree from any field of study from a university or an equivalent institution recognized by University Grants Commission/University of Sri Jayewardenepura. Adequate mathematical knowledge is recommended.

## 4. Selection criteria (2022 intake)

An interview will be held to select candidates if required.

## 5. Course Units in the Postgraduate Certificate programme in Applied Statistics

| Semesters | Course Code | Course Name   | Credit Value | Status     |
|-----------|-------------|---|--------------|------------|
| 1         | STA 500 0.0 | Basic Mathematics with Software and Introduction to Statistical Software* | 0.0          | Compulsory |
|           | STA 501 1.0 | Descriptive Statistics  | 1.0          | Core       |
|           | STA 502 2.0 | Probability and Distribution Theory                                       | 2.0          | Core       |
|           | STA 503 1.0 | Sampling Techniques   | 1.0          | Core       |
|           | STA 504 2.0 | Statistical Inference   | 2.0          | Core       |
|           | STA 532 2.0 | Spreadsheet modelling   | 2.0          | Core       |
|           | STA 506 2.0 | Linear Regression Analysis  | 2.0          | Core       |

|   |             |  |     |      |
|---|-------------|--|-----|------|
| 2 | STA 507 1.0 | Nonparametric Statistics                           | 1.0 | Core |
|   | STA 508 1.0 | Industrial Statistics                              | 1.0 | Core |
|   | STA 509 2.0 | Introduction to Design and Analysis of Experiments | 2.0 | Core |
|   | STA 510 2.0 | Categorical Data Analysis                          | 2.0 | Core |
|   | STA 511 2.0 | Applied Multivariate Analysis                      | 2.0 | Core |
|   | STA 512 2.0 | Data Analysis                                      | 2.0 | Core |

*Postgraduate Certificate:* Total number of lecture hours is 300 hours. Total number of credits is 20.

\*STA 500 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.

## 6. Fee structure

| Fees                                | Per Student (Rs.)          |
|-------------------------------------|----------------------------|
| Course Fee/Tuition Fee              | Rs. 150,000.00             |
| Application Fee                     | Rs. 1000.00                |
| 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               | NA                         |
| Repeat Examination per Course       | As set by FGS              |

### Payment plans on offer for 2021 intake:

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

Method 2: Pay in two installments.

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

## 7. Program Delivery and Learner Support System

- All lectures will be conducted face-to-face during the weekend on Saturday 8 am - 5 pm and Sunday 8 am - 12 noon 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.
- 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 Offenses: Plagiarism and examination offenses 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

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

where

$C_i$  = Credit Value of the  $i$ th course unit  
 $GP_i$  = GP for the  $i$ th course unit

**Repeat/Make up 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.

**Evaluation**

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

- A GPA of not less than 2.7 for all semester 1 and 2 core courses
- AND
- A 'C' or a higher grade for the foundation course unit.

**Merit Pass in Postgraduate Certificate in Applied Statistics:**

A candidate who obtains a GPA of greater than 3.5 for all semester 1 and 2 core courses in the program will be awarded a merit pass.

## 9. Panel of Lecturers

| Name of the Lecturer   | Designation             |
|--|-------------------------|
| Prof. Sarath Banneheka<br>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<br>B.Sc.(Special)(Math., USJ, SL), PG.Dip.(Stat., UOC, SL), M.Sc.(Math., Curtin, AUS)   | Senior Lecturer I, USJ  |
| Dr. Niroshan Withanage<br>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  |
| Dr. Ravindra Lokupitiya<br>B.Sc.(UOC, SL), M.Sc.(Stat., Wyoming, USA), Ph.D.(Stat., Wyoming, USA)  | Senior Lecturer I, USJ  |
| Dr. Chitraka Wickramarachchi<br>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. Rajitha M. Silva<br>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<br>B.Sc.(Special)(Stat., USJ, SL), M.Sc.(Applied Stat., RMIT, AUS), Ph.D.(Stat., RMIT, AUS)                                    | Senior Lecturer II, USJ |
| Dr. Neluka Devpura<br>B.Sc. (Special)(Stat., UOC, SL), M.Sc. (Research, NUS, SG), Ph.D. (Finance, Deakin, AUS)   | Senior Lecturer II, USJ |
| Dr. Hasanthi Pathberiya<br>B.Sc.(Special)(Stat., USJ, SL), Ph.D.(Stat., UOC, SL)   | Senior Lecturer II, USJ |
| Dr. Thiyanga Talagala<br>B.Sc.(Special)(Stat., USJ, SL), M.Sc.(Financial Math., UOM, SL), Ph.D.(Stat., Monash, AUS)                                    | Senior Lecturer II, USJ |
| Mrs. Manjula Perera<br>B.Sc.(Special)(Stat., USJ, SL), M.Sc.(Financial Math., UOM, SL), Ph.D.(Stat., USJ, SL)(Reading)                                 | Lecturer, USJ           |

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| Dr. Prasansha Liyanaarachchi<br>B.Sc.(Special)(Stat., UOP, SL), M.Sc.(Stat., SHSU, USA), Ph.D.(Stat., ODU, USA) | Senior Lecturer II, USJ |
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### **10. Coordinator's details**

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