

# 1 “Certificate Course in Gem Resources Management” ( “මැණික් සම්පත් කළමනාකරණය පිළිබඳ සහතික පත්‍ර පාඨමාලාව” )

## 2 Introduction

The Uva Wellassa University of Sri Lanka has served the people as a higher educational institution from 2006 onwards. The university offers a degree program for undergraduates named Bachelor of Science in Mineral Processing Technology through the Department of Applied Earth Sciences. The importance of gemmology knowledge is growing with the demand for precious gemstones. Students, school leavers, government sector employees, and private sector employees are interested in learning gemmology to make extra income for their living. Most of the employees, school leavers, and students of the Uva province are travelling to other parts of the country, especially Colombo or Ratnapura, to follow the gemmology courses. The Association of Research Gemologists has requested us to conduct a basic course for interested people on gemmology within the Uva Province. The Department of Applied Earth Sciences plans to provide the facility to Uva province as a remedy for people travelling too far distance to follow the gemmology courses.

## 3 Background

Most of the government universities and educational institutes of Sri Lanka are not conducting gemmology-related external (short) courses due to scarcity of resources. The external courses conducted by the government universities are very helpful to the students, employees, and others to have recognized certificates and prove themselves as a professional in Gemology. Department of Applied Earth Sciences has the laboratory facilities and the human resources to conduct such a program.

The person who completed the certificate course would be able to identify gemstones, and gem crystals, and handle gem identification instruments professionally which are essential for the gem trading profession. Furthermore, the gem valuation and trading knowledge bank would enhance the capacity of gem trading in the Uva province.

### 3.1 Medium

The course will be taught in Sinhala and English medium

### 3.2 Duration

Six weekends (12 days) (Saturdays and Sundays) from 9.00 a.m. to 3.00 p.m.

### 3.3 Entry qualification

Completion of junior secondary level, which is Grade 9 or an equivalent,

or

Completion of primary education and certified work experience equivalent to a minimum period of two years in a particular field may also be considered an equivalent qualification

and

The applicant should be at least 16 years of age.

Note: If applications received more than the break-even point, the received date of the application will be considered.

### 3.4 Syllabus

	<b>Theory</b>	<b>Practical</b>
1. Geology and the Gem Minerals	02 hours	
2. Crystallography of Gem Minerals	04 hours	04 hours
3. Gem Identification Instruments	12 hours	30 hours
4. Artificial Gem Materials	04 hours	
5. Gem Treatments and Value Addition	10 hours	
6. Gem valuation and Trading	06 hours	
Total Duration	38 hours	34 hours

#### 3.4.1 Geology and the Gem Minerals

- The Earth Processes
- Rocks and Minerals
- Gem Formation Methods

- Gem Mining and Recovery methods
- Gem Occurrences in Sri Lanka

### **3.4.2 Crystallography of Gem Minerals**

- Nature of Crystals
- Crystal Systems
- Crystal Habits and Forms
- Twining of Crystals

### **3.4.3 Gem Identification Instruments**

- Polariscope
- Conoscope
- Refractometer
- Spectroscope
- Microscope

### **3.4.4 Artificial Gem Materials**

- Synthetic Productions
- Composites Gem Materials
- Reconstruction Gem Materials
- Identification of Synthetic Gem Materials

### **3.4.5 Gem Treatments and Value Addition**

- Bleaching
- Dyeing
- Coating
- Impregnation
- Fracture Filling
- Diffusion
- Irradiation
- Laser treatment
- High-Pressure High-Temperature treatments (HPHT)
- Heat Treatments
- Geuda Classification

- Geuda Heat Treatment
- Type of Furnaces
- Heat Treatment of other Gem Varieties

### 3.4.6 Gem Valuation and Trading

- Valuation Standards of Gemstone and the process
- Marketing of Gemstones and Export Procedure
- Internal trade in Sri Lanka
- Government Regulations in gem trading

### 3.5 Evaluation Criteria

Practical test and a written test at the end of the course

Practical Test	50 Marks
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A given gemstone identification using instruments

A rough gem stone identification using external features

Written Test	50 Marks
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Check the overall knowable

### 3.6 Grading System

To get a “pass” mark the student needs to get a minimum of 25 marks from the practical test and a minimum of 25 marks from the written test.

### 3.7 Course fee

The course fee per person is Rs. 30000.00

For more information

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