

-SQA-SCOTTISH QUALIFICATIONS AUTHORITY

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NATIONAL CERTIFICATE MODULE DESCRIPTOR

-Module Number- 0078663 -Session-1987-88

-Superclass- RF

-Title- SUN, MOON AND STARS (x¹/₂)

-DESCRIPTION-

Type and Purpose A general module which provides a basis for the understanding of the sun, moon and stars.

Preferred Entry Level No formal entry requirements.

Learning Outcomes The student should:

1. know the positions and motion of bodies on the celestial sphere and the different co-ordinate systems;
2. know the methods of time keeping around the world;
3. know the elements of the solar system and the effects of their motion;
4. know the principal stars, constellations and planets.

Content/ Context Corresponding to Learning Outcomes 1-4:

1. The celestial sphere:
 - (a) Definitions of salient features;
 - (b) Equidistant projection diagram;
 - (c) Positions and motions of bodies on the celestial sphere.
2. Time-keeping world-wide:
 - (a) UK Time;

- (b) Summer Time;
 - (c) time in other countries.
3. The Solar System:
- (a) Planets
 - (i) sizes,
 - (ii) compositions,
 - (iii) orbits,
 - (iv) rotations,
 - (v) motions;
 - (b) Earth/Moon System;
 - (c) Moon Phases and Tides;
 - (d) Equinoxes and Solstices;
 - (e) Seasons, day lengths;
 - (f) Sunrise, sunset, twilight;
 - (g) Eclipses;
 - (h) Artificial and natural satellites.

4. Stars, constellations and planets:

Principal stars, constellations and planets seen on a clear night.

Use of Planetarium:

- (a) recognition of principal stars, constellations and planets;
- (b) different co-ordinate systems;
- (c) the effect of latitude on
 - (i) twilight and
 - (ii) celestial diurnal motions.

Suggested
Learning and
Teaching
Approaches

The learning and teaching approaches to each outcome will, by their nature, overlap

Although outcome No.5 is 'Use of Planetarium', the Planetarium may also be used to advantage for the other four outcomes.

1. Figure drawing by the student may be extensively done to reinforce definitions and knowledge of the celestial sphere.
- 2,3. May be linked together. Use may be made of films and video.
4. Time spent on a Planetarium will simplify the identification of celestial bodies during clear evenings.

Assessment Procedure

All Learning Outcomes must be validly assessed.

Acceptable performance in the module will be satisfactory achievement of the performance criteria specified for each Learning Outcome.

Where cutting scores are stated these are intended to be for guidance. The precise cutting score for a test will depend on the difficulty of the test and will have to be decided by the Tutor aided by the Assessor.

The following abbreviations are used below:

LO Learning Outcome
 IA Instrument of Assessment
 PC Performance Criteria

LO1 IA Written/graphical exercises - the student is given the co-ordinates of three bodies and required to give the co-ordinates in another system.

PC The performance criteria should be based on the correct figures being accurately drawn and on accurate measurement.

LO2 IA Written examination - ten short answer questions on the methods of time keeping around the world.

PC Cutting score 70%

LO3 IA Written examination - six short answer questions on the elements of the solar system and the effects of their motion.

PC Cutting score 90%

LO4 IA Identification test - the student is required to identify twenty stars, four planets and six constellations. This may be done for the actual bodies in the sky on a clear night or from star charts.

PC Cutting score 70%

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