

SREB

Aerospace Engineering - Course 4

Code: 9033

AEROSPACE ENGINEERING – COURSE 4

Test Code: 9033

Version: 01

Specific Competencies and Skills Tested in this Assessment:

Information about the AC course standards can be found in the front of the AC course teacher guide.

CTE

1A Apply Design CTE
2A. Create testing protocols CTE
5A. Utilize navigation tools CTE
7A. Predict and analyze CTE
1B Create Models CTE
2B. Utilize Labview CTE
1C Conduct Model Documentation CTE
4C. Select and defend materials CTE
8C Create and program CTE
10C Create Programming CTE
1D Conduct Model Analysis CTE
2D. Utilize Statistical CTE
10D Design and Create CTE
1E. Apply sustainable principles CTE
9E Apply Safety Standard CTE
10F. Utilize industry standard CTE
7G. Create Environmental CTE

Literacy

RST 11.12.1 Literacy
RST 11.12.2 Literacy
RST 11.12.4 Literacy
RST 11.12.10 Literacy

Aerospace Engineering – Course 4 (continued)

Math

F.IF.7 Math

G.GMD.3 Math

G.GPE.3 Math

N.CN.5 Math

S.ID.4 Math

Science

ETS 1-1 Science

ETS 1-2 Science

ETS 1-3 Science

ETS 1-4 Science

Aerospace Engineering – Course 4 (continued)

Written Assessment:

Administration Time: unlimited

Number of Questions: 53

Areas covered:

55%	CTE
21%	Literacy
9%	Math
15%	Science

Sample Questions:

What are the advantages of laser communications?

- A. Lasers can be switched on and off at high speeds
- B. Laser light remains collimated (focused) over long distances
- C. Lasers are the lowest cost method for communicating over long distances
- D. The much shorter wavelengths allow for more data to be transmitted per second

How many solar cells are between one standard deviation above or below the mean if a total of 1000 solar cells are used and are normally distributed?

- A. 950 solar cells
- B. 340 solar cells
- C. 68 solar cells
- D. 680 solar cells

What is the major tradeoff in building manned habitats on the Moon?

- A. Cost and weight of transporting materials to the moon vs using lunar materials to build new structures
- B. Using humans on the Moon to build structures vs developing machines to automatically assemble structures
- C. Building structures on open surfaces of the Moon vs building them in lava tubes
- D. Building inflatable structures vs hardened structures