Earth Systems 3209
June 2012 Public Exam Outcome Report

Unit 1 – Introduction
Unit 2 – Historical Geology
Unit 3 – Earth Materials
Unit 4 – Forces Within Earth
Unit 5 – Earth Resources

PART I – Total Value: 75%

Item	Cognitive Level	Curriculum Guide Page	Unit	Outcome Topic
1	L1	28	1	Branches of Earth Science
2	L1	30	1	Origin of the universe
3	L2	32	1	Characteristics of Earth's layers
4	L2	32	1	Characteristics of Earth's layers
5	L2	32	1	Temperature and pressure changes within Earth
6	L2	42	2	Identifying a geologic structure
7	L2	42	2	Relative dating techniques
8	L1	40 and 42	2	Measures of relative time
9	L2	48	2	Estimating ages of materials
10	L3	48	2	Radioactive dating calculation
11	L1	48	2	Sources of error in estimating radiometric ages
12	L1	52	2	Definition of a fossil
13	L2	52	2	Methods of fossilization
14	L1	52	2	Definition of a trace fossil
15	L1	56	2	Divisions of geologic time
16	L3	56	2	Determining geologic age ranges using a cross-section
17	L1	58 and 60	2	Dominant life forms within geologic time frames
18	L2	56 and 58	2	Sequence of events in the geologic past
19	L1	66	3	Classifying mineral chemistry terms
20	L1	66	3	The abundance of elements comprising Earth's crust
21	L1	68	3	Definition of a mineral
22	L2	68	3	Major mineral groups
23	L2	70 and Core Lab 3	3	Mineral identification
24	L3	70 and Core Lab 3	3	Specific gravity calculation
25	L2	70 and Core Lab 3	3	Mineral identification
26	L2	70	3	Distinguishing among minerals
27	L1	70 and Core Lab 3	3	Mineral properties
28	L2	74	3	The rock cycle
29	L1	74 and 86	3	The rock cycle
30	L1	76	3	Mafic minerals
31	L2	76	3	Types of felsic rocks
32	L3	76 and 78	3	Igneous rock compositions
33	L1	78	3	Igneous rock textures
34	L1	78	3	Igneous rock textures
35	L2	86	3	Sediment sorting
36	L2	86 and 88	3	Relating particle size to current velocity
37	L1	86 and 88	3	Relating sediment type to particle shape
38	L1	86	3	Classifying clastic sedimentary rocks
39	L1	88	3	Classifying chemical sedimentary rocks
40	L1	90 and 92	3	Biochemical sedimentary rocks and environments
41	L3	94	3	Textures and metamorphic changes
42	L1	96	3	Grades and types of metamorphism
43	L1	94	3	Metamorphic rocks and textures
44	L1	94 and 96	3	Contact metamorphism
45	L1	104	4	Evidence of the Continental Drift Theory
46	L1	106	4	Contributions to the Plate Tectonic Theory
47	L1	136	4	Plate boundaries and rock types
48	L2	114	4	Evidence of the Plate Tectonic Theory
49	L3	124	4	Fault types and associated forces
50	L1	120	4	Deformation types
51	L2	120	4	Causes of deformation
52	L1	124	4	Fault types

53	L3	124	4	Fold types
54	L2	126	4	Causes of earthquakes
55	L1	132 and Core Lab 5	4	Locating the epicenter of an earthquake
56	L2	136	4	Plate boundary types and Earth locations
57	L1	128	4	Characteristics of earthquake waves
58	L3	130	4	Properties of earthquake waves
59	L1	134	4	Volcano types.
60	L2	132 and Core Lab 5	4	Locating the epicenter of an earthquake
61	L2	136	4	Hotspot volcanism
62	L1	136	4	Volcano types and characteristics
63	L1	138	4	Effects of volcanism
64	L1	140	4	Careers in the Earth Sciences
65	L1	146	5	Minerals and economics
66	L2	146	5	Types of mineral deposits
67	L2	146	5	Economic minerals and contributing factors
68	L2	148	5	Exploration techniques
69	L3	152	5	Processing techniques
70	L1	154	5	Petroleum terminology
71	L1	156	5	Evolution of organic matter
72	L1	156	5	Components in the formation of petroleum traps
73	L3	160	5	Types of petroleum traps
74	L1	162	5	Extraction techniques
75	L1	164	5	Refining techniques

PART II – Value: 25%

Item	Cognitive Level	Curriculum Guide Page	Unit	Value	Outcome Topic
76	L3	34	1	2%	Earth systems
77(a)	L3	48	2	2%	Calculating radioactive ages
77(b)	L2	42 and Core Lab 1	2	3%	Interpreting a cross-sectional diagram
78(a)	L2	70 & Core Lab 3 (Part 1)	3	2%	Identifying minerals using mineral properties
78(b)(i)	L2	86	3	1%	Identifying a sedimentary rock
78(b)(ii)	L2	86	3	2%	Reasons for sediment particle shapes
78(c)	L3	94 and 96	3	2%	Rocks resulting from types of metamorphism
79(a)	L3	116,191 and STSE	4	2%	The geology of Newfoundland
79(b)	L2	104-108 and 114	4	2%	Continental Drift and Plate Tectonic theories
79(c)	L2	114	4	2%	Evidence supporting the Plate Tectonic Theory
80(a)	L2	148	5	3%	Pros and cons of mining methods
80(b)	L3	156,158 and160	5	2%	Formation of petroleum traps