

SAULT COLLEGE
of Applied Arts and Technology
Sault Ste. Marie

Revised
January
1987

COURSE OUTLINE

PHYSICAL GEOLOGY I
122-3
GEO ~~112-4~~ 3

revised December, 1981 by M. Engel

PHYSICAL GEOLOGY

GEO 112-4

TEXT:

The Dynamics of the Earth - E. W. Spencer

REFERENCE TEXTS:

Physical Geology - Longwell, Flint, Sanders

Introduction to Geology - Read, Watson

Principles of Geology - Gilluly, Waters, Woodford

Physical Geology - Leet & Judson

Topic	Periods	Topic Description	Referer
1	3	<u>Introduction</u> - Geology - definition & origin of subject - Relationship with other fields of science - Significance of Geology today - Geology - A preview - Modern concepts	
2	3	<u>Minerals - The Building Blocks of the Earth's Crust</u> - minerals as chemical compounds - mineral groups - important rock forming minerals	
3	16	<u>Igneous Rocks</u> - introduction - igneous activity - Magam - definition, origin, migration & emplacement - Composition (chemical) & physical characteristics - Lavas - definition, origin, migration & emplacement - Composition (chemical) & physical characteristics	
4	6	<u>Weathering</u> - mechanical weathering - chemical weathering - soils	
5	14	<u>Sedimentary Rocks</u> - definition of sediments & sedimentary rocks - source of sediments - transportation - air - water (suspended & in solution) - ice - deposition - marine - lacustrine - fluvial - terrestrial - classification of sediments - clastic - chemical - precipitated - organic - compaction and lithification - significance and use of fossils for geological interpretation	

Topic	Period	Topic Description	Reference
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6

12

Metamorphic Rocks

- definition of metamorphism
- contact metamorphism - temperature & pressure concepts
 - typical rock structure
- regional metamorphism - temperature & pressure concepts
 - typical rock structures
 - rock textures, types and facies
 - relation to granitization
- classification of metamorphic rocks
- migmatites
- relationship of metamorphic rocks to intrusive and structural deformation
- metasomatism

7

6

The Earth's Crust

- continents, oceans, continental margins
- continental drift
- earthquake belts
- isostasy