COURSE CODE:	ENS-201
COURSE NAME:	Introduction to Earth Sciences
CREDIT HOURS:	Theory = 3 Practical = 0 Total = 3
CONTACT HOURS:	Theory = 48 Practical = 0 Total = 48
PREREQUISITE:	None
MODE OF TEACHING:	Three hours of lecture per week

Course Description:

This course aims to provide knowledge about the basic concepts of geology and geography. This will help the student to get the knowledge about different types of rocks and minerals, the processes of their formation, different earth processes like mountain buildings, earthquakes, weathering and erosion. The students will also be introduced to work with different type of maps and GPS system.

TOPICS COVERED:

Week	Topic
1	Major components of Earth Systems: earth systems and their characteristics
2	Geologic Time and processes, Geology as an historical science, scientific methods and study of Earth's evolving systems
3	Earth Systems: Processes and Interactions-Earth Solid System: components and processes
4	Rock cycle: Igneous rocks, Sedimentary rocks and Metamorphic rocks
5	The Hydrosphere–hydrologic cycle, Ocean circulations, the Biosphere–Biogeography, Energy relationships, biogeochemical cycles
6	Sedimentary rocks and fossils, processes of weathering, Biogenic sedimentary rocks, Chemical sedimentary rocks, Marine environments, Coral Reefs, Continental Shelves
7	Terrestrial Environments: Forests, Deserts, Glaciers and Lakes
8	Terrestrial Environments: Forests, Deserts, Glaciers and Lakes

9	**Mid Semester Exam**
10	Time and Stratigraphy: Introduction, Relative ages, Absolute ages, Evolution of Geologic time scale, why sea level is so important
11	Plate tectonics, structure of earth, hypothesis of continental drift, continental margins and plate boundaries types, features and behaviours, tectonic cycles
12	The Dynamic Earth and Natural Hazards: Earth Quake and Volcanoes, Land instability, Weather Hazards, Fires and Costal Hazards
13	Humans and the Environment: introduction to Holocene, sea level rise,
14	Rapid climate change: at Millennial time scale, at Continental time scale and at Multidecadal time scales
15	Practical and Field Work: Study of earth relief features with the help of topographical models and thematic maps.
16	Identification of samples of rocks and minerals. Use of Brunton compass and GPS.
17	One study tour in the field.
18	**End Semester Exam**

Text and Material:

1. Earth Evolving System: The History of Planet Earth by Ronald Martin, Jones & Bartlett Learning: LLC an Ascend Learning Company USA 2013
2. Introduction to Earth Science by Laura Neser, 2022
3. Mineralogy: An Introduction to Minerals, Rocks, and Mineral Deposits 1st Edition by Martin Okrusch and Hartwig E. Frimmel, 2020

ASSESSMENT SYSTEM:

Theoretical/Instruction	**100%**
Assignments	10%
Quizzes	15%
Mid Semester Exam	25%
End Semester Exam	50%

Practical Work	**0%**
Lab Attendance	0%
Lab Report	0%
Lab Quiz	0%
Lab Rubrics	0%