

Course Type	Course Code	Name of Course	L	T	P	Credit
DC	NGLC103	Introduction to Paleontology	3	0	0	3

Course Objective
The primary objective of the course is to introduce fundamental aspects of stratigraphy and paleontology. The primary objective of the course is to accustom the student with paleontology (fossils, fossilization process, taxonomy, evolution, and major groups of invertebrates) and the basics of stratigraphy. Also, the designed course will act as a bridge to complement both subjects.
Learning Outcomes
Upon successful completion of this course, students will: <ul style="list-style-type: none"> Basics of stratigraphy Historical development of stratigraphic units Origin, evolution, and phylum-wise development of organism Fossil as a tool to complement stratigraphy

Unit No.	Topics to be Covered	Lecture Hours	Learning Outcome
1	Basics of stratigraphy (Litho-, bio- and chronostratigraphy), Stratigraphic units, Geological time scale, stratigraphic breaks.	5	Brief idea about the elementary components of stratigraphy.
2	Classification of different periods of geologic time scale.	3	Brief idea about the different subdivisions of geological time scale with faunal and floral signatures.
3	Kinds of fossils, process of fossilization, Elementary ideas about origin of life, elementary ideas of evolution.	4	Learn about origin of life, evolution and fossilization
4	Identification of fossils: methods of description and illustration; Binomial nomenclature of organism, Systematic classification of organisms – their characters.	3	Learn about classification of organisms and identification of fossils
5	Morphology, environment, and geological distribution of brachiopods, pelecypods, and the difference between these two groups.	7	Idea about detailed morphologic description, habitat of brachiopods and pelecypods.
6	Morphology, environment and geological distribution of gastropoda, cephalopoda and difference between them.	7	Idea about detailed morphologic description, habitat of gastropods and cephalopods.
7	Morphology, environment and geological distribution of echinodermata, arthropoda, and anthozoa.	9	Idea about detailed morphologic description, habitat of echinoderms, arthropods and anthozoans.
8	Introduction to Palynology and paleobotany; morphology of typical Gondwana flora.	3	Learn about palynology and paleobotany
9	Index fossils from India	1	Learn about Indian index fossils

Text Books:

- Ogg, J. G., Ogg, G. M., Grads, F. M., 2016. A Concise Geologic Time Scale. Elsevier, Pp. 1-229
- Brookfield, M. E., 2004. Principles of Stratigraphy. Blackwell Publishing Ltd, pp. 1-340.
- Dasgupta, A. (2005). An Introduction to Paleontology. World Press, Kolkata.

Reference Books:

- Jain, S., 2017. Fundamentals of Invertebrate Palaeontology. Springer, pp. 1-405
- Koutsoukos, E. A. M., 2005. Applied Stratigraphy. Springer, pp. 1-488.
- International Commission on Stratigraphy (Website: <http://www.stratigraphy.org/>)
- Dasgupta, A. (2005). Introduction to paleontology, The World Press Private Limited, Kolkata
- Moore, R. C., Lalicker, C. G., and A. G. Fischer (1997). Invertebrate fossils. CBS Publishers & Distributors, New Delhi.
- Jain, P. C., and Anantharaman, M. S. (2012). Paleontology: Evolution and animal distribution. Vishal publishing Co., New Delhi.