



# Semester-II

MGU-UGP (HONOURS)

Syllabus



<b>Programme</b>	<b>BSc (Hons) Geology</b>					
<b>Course Name</b>	<b>EXOGENOUS EARTH PROCESSES</b>					
<b>Type of Course</b>	<b>DSC A</b>					
<b>Course Code</b>	<b>MG2DSCGEO100</b>					
<b>Course Level</b>	<b>100-199</b>					
<b>Course Summary</b>	This course explores the external processes that shape the Earth's surface, including weathering, erosion, transportation, and deposition. Students will examine the impact of these exogenic processes on landscapes, landforms, and geological features.					
<b>Semester</b>	<b>2</b>	<b>Credits</b>			<b>4</b>	<b>Total Hours</b>
<b>Course Details</b>	<b>Learning Approach</b>	<b>Lecture</b>	<b>Tutorial</b>	<b>Practical</b>	<b>Others</b>	<b>75</b>
		3		1		
<b>Pre-requisites, if any</b>	Basic knowledge in geography.					

**COURSE OUTCOMES (CO)**

*Syllabus*

<b>CO No.</b>	<b>Expected Course Outcome</b>	<b>Learning Domains *</b>	<b>PO No</b>
1	Understand the interconnectedness of Earth's systems, including the Atmosphere, Hydrosphere, Lithosphere, and Biosphere, and their role in shaping the environment.	U	PO 1 PO 2
2	Understand various types of weathering, factors influencing weathering, and their resultant products. Conduct soil profile analysis, emphasizing texture to comprehend soil properties.	U	PO 1 PO 2
3	Understand the various geomorphic agents such	U	PO 1

	as rivers, glaciers, wind, and gravity, and their respective roles in shaping landforms.		PO 2 PO 3
4	Apply morphometric analysis techniques to interpret geological features, including stream ordering, slope calculation, and topographic profile construction, for understanding landscape dynamics.	A	PO 1 PO 2 PO 10
<b>*Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)</b>			

## COURSE CONTENT

### Content for Classroom transactions (Units)

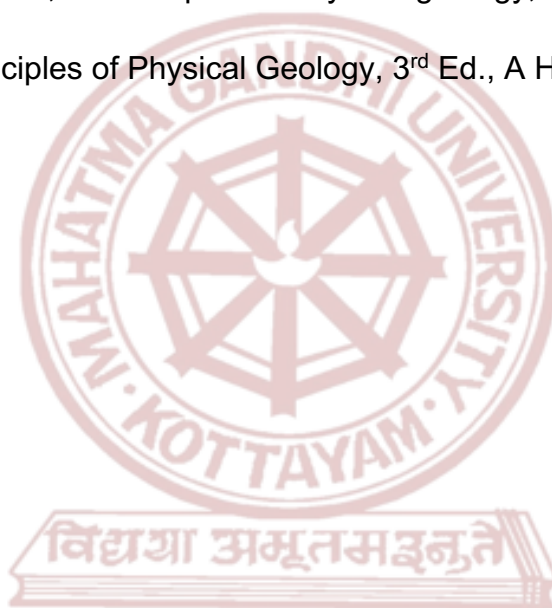
Module	Units	Course description	Hrs (75)	CO No.
1	1.1	Earth system: Atmosphere, Hydro-sphere, Lithosphere, Biosphere; Hydrologic cycle	2	CO1
	1.2	Geomorphic processes: Exogenic processes; geomorphic agents: River, wind, glacier, coastal, groundwater	3	CO3
	1.3	Geological work of agents: erosion, transportation and deposition	2	CO3
	1.4	Denudation, weathering, Types of weathering	2	CO2
	1.5	Factors of Weathering and Products of Weathering	2	CO2
	1.6	Soil Profile and soil texture analysis	2	CO2
2	2.1	Geological work of streams: erosion, transportation and deposition	3	CO3
	2.2	Fluvial erosional landforms	3	CO3
	2.3	Fluvial depositional landforms	3	CO3
	2.4	Geological work of wind: Erosion, transportation and deposition	2	CO3
	2.5	Aeolian erosional and depositional landforms	3	CO3
	2.6	Geological work of glacier: erosion, transportation, and deposition	2	CO3
	2.7	Glacial erosional landforms	3	CO3

	2.8	Glacial depositional landforms	2	CO3
3	3.1	Coastal processes	2	CO3
	3.2	Geological work of wave: erosion, transportation and deposition	2	CO3
	3.3	Coastal erosional and depositional landforms	3	CO3
	3.4	Geological work of groundwater- erosion and transportation-karst topography.	2	CO3
	3.5	Cave deposits- Stalagmite and stalactite	2	CO3
Practical Contents  4	4.1	Morphometric analysis: Stream ordering, stream numbering, length ratio, bifurcation ratio, texture of stream.	15	CO4
	4.2	Slope calculation from contour.	5	CO4
	4.3	Topographic profile construction	5	CO4
	4.4	Identification of geomorphic features from aerial photographs using stereoscopes.	5	CO4
5	Teacher Specific Content			

<b>Teaching and Learning Approach</b>	<b>CLASSROOM PROCEDURES</b> Lectures, Demonstrations, Assignments, Class Tests and Practical
<b>Assessment Types</b>	<b>MODE OF ASSESSMENT</b> <b>A. Continuous Comprehensive Assessment (CCA)</b> <b>Theory: 25 Marks</b> Assignments, Viva/Seminar, Class Tests <b>Practical: 15 Marks</b> Lab Report, Viva, Lab involvement  <b>B. End Semester Evaluation (ESE)</b> <b>Theory: 50 Marks</b> Short Answer in 60 words (7 out of 8): 7x2=14 Short Notes in 250 words (3 out of 5): 3x8 = 24 Essays in 400 words (1 out of 2):1x12=12  <b>Practical: 35 Marks</b> Examination: 25, Viva:10

## References

- Carlson, Plummer, and McGeary. Physical Geology – Earth Revealed. McGraw-Hill, 2006.
- Thornbury, W. D. Principles of Geomorphology. Wiley, 2004.
- Marshak, S. Essentials of Geology. W.W. Norton & Company, 2003. New York.
- Huggett, R. J. Fundamentals of Geomorphology. Routledge Taylor & Francis Group, 2003. London, New York.
- Mahapatra, G. B. A Textbook of Geology. CBS, 2019. New Delhi.
- Duff, P. and Holms, A. Principles of Physical geology, Nelson Thornes Ltd, 1993.
- Holmes, A. Principles of Physical Geology, 3<sup>rd</sup> Ed., A Halsted Press Book, 1978.



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