Central University of Kerala

Established by the Parliament of India vide the Central University Act, 2009(No.25 of 2009)

Kasaragod, Kerala, India, 671123

DEPARTMENT OF GEOLOGY

No. CUK/GEO/BOS/MIN/2021/01 Dtd: 17/08/2021

Minutes of the 2nd Meeting of the 2th Board of Studies in Geology held online at 10.00 a.m. on 17/08/2021

The Department of Geology, Central University of Kerala conducted the Board of Studies (BoS) meeting on 17th August, 2021. It was the Second BoS meeting of the second Board of Studies. Due to the COVID-19 pandemic situation the meeting was conducted through online via Google Meet platform. The panel members included invited subject experts, Head of the Department, internal members and department faculties as special invitee. The attendees of the meeting were as follows: -

BoS Attendees:

Invited subject experts

- Prof. (Dr.) Rajneesh Bhutani, Professor, Department of Earth Sciences, Pondicherry University
- Prof. (Dr.) Rajesh Raghunath, Professor, Dept .of Geology, University of Kerala,
- Prof. (Dr.) Prakash Narasimha, K.N., Professor, Department of studies in Earth science, University of Mysore, Manasagangotri
- Dr. A. Anil Kumar, Director, Marine & Coastal Survey Division, Geological Survey of India, Manglaluru.

Internal members from the Central University of Kerala

- Dr. Pratheesh P., Assistant Professor and HOD (i/c), Dept. of Geology.
- Dr. Sijinkumar A.V., Assistant Professor, Dept. of Geology.
- Dr. S. Anbazhagi, Assistant Professor, Dept. of Environmental Science.

Special invitee from the Central University of Kerala

- Dr. Sandeep K., Assistant Professor, Dept. of Geology.
- Dr. Chandan Kumar B., Assistant Professor, Dept. of Geology.

The BoS meeting started with the welcome address by Dr. Pratheesh P., Head of the Department (i/c). Dr. Pratheesh P. gave a brief introduction on the objectives of the BoS meeting. Thereafter, he welcomed all experts and faculty to the meeting, and briefed the agenda of BoS meeting.

The agenda for discussion in the BoS meeting was proposed by the Head of the Department. The main items discussed in the BoS are given below:

(a) The inclusion of programme outcome and course outcomes in the syllabus of department of geology, central university of Kerala thereof.

(b) Consider the revised syllabus for 2021 admission

c) Inclusion of employment oriented courses in syllabus

The details of agenda-wise discussion and the final recommendation by the BoS are given below.

Agenda 1: The inclusion of programme outcome and course outcomes in the syllabus of department of geology, central university of Kerala thereof.

Dr. Pratheesh P. has explained the Faculty Council discussion regarding inclusion of programme outcome and course outcomes in the syllabus. Then Dr. Pratheesh P. invited the Board of Studies opinion. BoS members have accepted the proposed programme outcome and course outcome. Prof. Rajneesh Bhutani opined that there should be some integration of thinking skills in the programme outcome.

Recommendation: Following a detailed discussion on the contents, the members approved the inclusion of programme outcome and course outcomes in the Department of Geology, Central University of Kerala curriculum.

Agenda 2: Consider the revised syllabus for 2021 admission.

Dr. Pratheesh P. has presented the revised syllabus for 2021 along with proposed programme structure. BoS members have accepted the proposed programme structure with some small suggestions.

Prof. Rajneesh Bhutani pointed that Geochemistry was missing from the curriculum, which is very much essential for an earth science. After a long discussion, BoS has decided to incorporate Geochemistry as a compulsory elective paper. Prof. Prakash Narasimha has suggested the usage of 'Planetary Sciences' instead of 'planetary Geosciences'. Dr. A. Anil Kumar has suggested a title change for Oceanography as 'Oceanography and Marine Geology'. Prof. (Dr.) Rajesh Raghunath has recommended some modifications in sequence stratigraphy. Apart from this BoS has recommended a number of additions in the core course discussion.

Recommendation: After a detailed discussion on the revised syllabus, the members unanimously approved the new syllabus for MSc Geology programme in Department of Geology Central University of Kerala. All the recommendations from the experts have incorporated in the revised syllabus.

Agenda 3: Inclusion of employment oriented courses in syllabus.

Dr. Pratheesh P. has explained the feedback received from the Alumni through the Alumni Coordinator, on the inclusion of employability oriented courses. He also pointed that the faculty council has discussed the same and incorporated a new core course 'Geospatial Technology and Engineering Geology' in the proposed syllabus. BoS had a fruitful discussion on the syllabus framework of the newly inducted course.

Recommendation: Following a detailed discussion on the contents, the members approved inclusion of 'Geospatial Technology and Engineering Geology' as core course in the proposed curriculum.

After this, overall agenda discussed in the BoS were summarised by Dr. Pratheesh P. Thereafter, Dr. Sijinkumar A.V. offered the vote of thanks, which conluded the BoS meeting.

Dr. Pratheesh P.

Head (i/c), Department of Geology

CENTRAL UNIVERSITY OF KERALA
DEPARTMENT OF GEOLOGY
M.Sc. GEOLOGY

Course Code	EGE 5101	Semester	I
Course Title	Geomorphology		
Credits	3	Type	Core

This is a participatory and employability based skill development course for ground water exploration, remote sensing, town and urban planning, various engineering projects etc.

Course Description

The course focuses on the origin, evolution of landforms, and the physical processes responsible for their creation and modification. This course will examine how surface processes interact to create landscapes and how climate, rock type, structure, and tectonics influence the formation of different landforms. The course also includes quantitative evaluation of landforms by morphometric analysis and identification of landforms from topographic maps and satellite images.

Course Outcome

By the end of the course, students are expected to be able to:

- Understand the key characteristics of fluvial, coastal and tectonic geomorphology.
- Specify the linkages between geomorphic forms and processes.
- Appreciate the importance of tectonics in landform development.
- Ability to classify and describe landforms in a variety of environmental and climatic settings.
- Quantitatively use and evaluate geomorphological data with numerical and statistical methods.
- Identify, interpret and critically evaluate landforms and geomorphic processes from topographic maps, satellite images, and aerial photographs.

Course Structure

Module - 1

Fundamental concepts in geomorphology. Different models for the Evolution of landscape: Davis, Penck, King, Hack.Hill slopes: slope elements, classification, models of slope evolution, slope movement and stability factors. Influence oflithology and structure on geomorphic processes and landforms.Climatic geomorphology: Development of landforms under different climatic conditions.

Module – 2

Fluvial Geomorphology: Erosional and depositional landforms of rivers. Drainage systems and patterns. Stream ordering. Hypsometry. Morphometric elements and parameters - morphometric analysis of drainage basins. Laws of drainage composition,drainage density, stream frequency. Coastal geomorphology: Coastal processes, Coastal erosional and depositional landforms.Effect of sea-level changes. Tectonic geomorphology: Landforms in relation to tectonics. Geomorphic indicators of neotectonic activity.

Module – 3

Geomorphological mapping: Study of geomorphic features from topographic maps, aerial photographs and satellite images. Methods of preparation of the geomorphological map.Application of geomorphology in various fields of earth sciences, viz. Mineral exploration, Hydrogeology, Civil Engineering and Disaster Management. Geomorphology of India.

Evaluation &Grading

Skill development (Analytical, Writing and Presentation) – 20%
Class Test – 20%

End Semester Assessment – 60%

References

- Agrawal, L.C. (2008). Introduction to Geomorphology. Pointer Publishers, 128p.
- Arthur L. Bloom (1978). Geomorphology (A Systematic Analysis of Late Cenozoic Landforms). Prentice-Hall, 510 p.
- Chorley, R.J., Schumm, S.A. and Sugden, D.E. (1984). Geomorphology, Methuen & Co., 605p.
- Holmes, A. (1993). Holmes Principles of Physical Geology, Edited by P. McL. D. Duff. Chapman and Hall, London; New York, 791p.
- Kale, V.S. and Gupta, A (2012). Introduction to Geomorphology. Anmol Publications, India.
- Ritter, D.F., Kochel, R.C., Miller, J.R. (2006). Process Geomorphology, Waveland Pr Inc., 652p.Huggett, R. (2016): Fundamentals of Geomorphology, Taylor&Francis, 578p.
- Savindra Singh (2018). Geomorphology, Pravalika Publications, Allahabad. 652p.
- Savindra Singh (2017). Physical Geography, Pravalika Publications, Allahabad.
- Sen, P.K. and Prasad, N. (2002).An Introduction to the Geomorphology of India. Allied Publishers Pvt. Ltd, 396p.
- Sharma, H.S. (1991). Indian Geomorphology, Concept Publishing Co., New Delhi, 358p.
- Sparks, B.W. (1979). Geomorphology, John Wiley & Sons Inc., 561p.
- Strahler A. N. and Strahler, A. H. (2008). Modern Physical Geography, John Wiley & Sons, New York, 652p.
- Thornbury, W.D. (1984). Principles of Geomorphology, John Wiley & Sons, 594p.