



Department of Geology & Environmental Science

In collaboration with

TerraPy Education

(MSME Certified and is ISO 9001 and IAO accredited)

**Conducting an
*Advanced Course in Structural Geology***



Mr. Pragnyadipta Sen
TerraPy Education, Kolkata

Co-ordinators:

**Ms. Roshini P.P.
Dr. Linto Alappat**

Topics Covered:

- *Vectors in Structural Geology*
- *Extracting information from Maps*
- *Transformations in Structural Geology*
- *Matrices and Tensors*
- *Stress and Mohr Circle*
- *Laboratory Techniques in Finite Strain Analysis*

ADVANCED COURSE IN STRUCTURAL GEOLOGY
COURSE-CORDINATOR REPORT

Course Code: GEO0STRGL

Number of Students	58
Date of Examination	16/12/2023
Total Students who passed exam	58
Total Course duration	50 hrs

Feedback analysis:

- o The class was very enlightening.
- o It helped the students gain the knowledge of structural problems.
- o It helped the students to look into the geological problems with easy methods and strategies to solve each of the problems.
- o The simple way of teaching helped the students understand more about the complicated structural problems.
- o Most of the students enjoyed the classes.

Course Coordinators: Dr. Linto Alappat, Ms. Roshini P.P.

CHRIST COLLEGE (AUTONOMOUS)

Irinjalakuda

Accredited by NAAC with 'A++' Grade, Affiliated to University of Calicut

Structural Geology short course Report

The course was organized by Department of Geology and Environmental Science and the short course took place on 5th -February 2024 to 9th February 2024 at the Fr. Dismas hall.

The training session was opened by a formal welcome ceremony at Fr. Dismas hall. Dr Anto Francis was welcomed our resource person Rahul Nag from IIT Bombay, participants and colligues. 75 students were participated in the course. Dr. Linto Alappat (Dean of research, Assistant professor, Department of Geology and Environmental science) was the programme convenor and Ms. Sweeshma Pdev and Dr. Sunitha D (Faculties of Department of Geology and Environmental Science) was coordinated the five day short course.

Aims and Objective of the course :

- Be able to understand, discuss, and apply the most important concepts of structural geology.
- Be able to creatively solve problems in structural geology and solve the geometrical problems in structural geology by using stereographic projection method.
- The description and interpretation structures in deformed rocks helps us to understand the tectonic evolution of an area from the maps.

Short course Syllabus and teaching plan

Day1(5/02/2024,Monday) Forenoon Session-Time-10AM-12PM

Planes and lines in structural geology, dip, strike, pitch, plunge (Theory); AfternoonSession-Time-1PM-3PM

Principles and applications of stereo-netand plotting of planes and lines(Lab);

Day2(06/02/2024,Tuesday)

ForenoonSession-Time-10AM-12PM Folds, faults, joints(Theory);

Afternoon Session -Time-1 PM -3PM Stereonet plotting:Folds and interlimb angle(Lab);

Day 3(07/02/2024, Wednesday) Forenoon Session-Time-10 AM -12 PM Unconformities foliations, lineation(Theory);

AfternoonSession-Time-1PM-3 PM

Identification and interpretation of geological features intopographic maps(Lab);

Day4(08/02/2024,Thursday)

Forenoon Session-Time-10AM-12PM

Construction of geological cross-sections: Strikelines ,stratum contours and drawing unconformities ingeological cross sections (Lab).

Afternoon Session -Time-1 PM -3PM Construction of geological cross-sections: Folds and faults (Lab)

Day 5 (09/02/2024, Friday) ForenoonSession-Time-10AM-12PM

Identification and interpretation of structural elements in geological maps:Faults, folds, unconformities(Lab).

Brochure

Syllabus and the time plan

Day 1 (5/02/2024, Monday)
Forenoon Session - Time-10 AM - 12 PM
Planes and lines in structural geology, dip, strike, pitch, plunge (Theory);
Afternoon Session - Time- 1 PM - 3 PM
Principles and applications of stereo net and plotting of planes and lines (Lab);

Day 2 (06/02/2024, Tuesday)
Forenoon Session - Time-10 AM - 12 PM
Folds, faults, joints (Theory);
Afternoon Session - Time- 1 PM - 3 PM
Stereo net plotting; Fold and inter limb angle (Lab);

Day 3 (07/02/2024, Wednesday)
Forenoon Session - Time-10 AM - 12 PM
Unconformities, foliations, lineation (Theory);
Afternoon Session - Time- 1 PM - 3 PM
Identification and interpretation of geological features in topographic maps (Lab);

Day 4 (08/02/2024, Thursday)
Forenoon Session - Time-10 AM - 12 PM
Construction of geological cross-sections: Strike lines, stratum contours and drawing unconformities in geological cross sections (Lab);
Afternoon Session - Time- 1 PM - 3 PM
Construction of geological cross-sections: Folds and faults (Lab)

Day 5 (09/02/2024, Friday)
Forenoon Session - Time-10 AM - 12 PM
Identification and interpretation of structural elements in geological maps: Faults, folds, unconformities (Lab).

Convener
Dr. Linto Alappat, (Dean of research, Development and TLC)

Co-ordinators
Dr. Sunitha D (Assistant Professor)
Sweeshma P Dev (Assistant Professor)

Contact:
Department of Geology & Env. Science
Email: geologydept@christcollegeiitk.edu.in

CHRIST COLLEGE (AUTONOMOUS)
Irinjalkuda
Accredited by NAAC with 'A' Grade, Affiliated to University of Calicut

SHORT COURSE (Under PMRF Scheme) ON
STRUCTURAL GEOLOGY
Organized by
Department of Geology and Environmental Science

Rahul Kumar Nag
Resource Person
Research Scholar
Department of Earth Sciences
IIT Bombay

About the Department
Christ College, Irinjalkuda was established in 1956. The college is affiliated with University of Calicut and in 2012 it was elevated to Autonomous by UGC. The College was re-accredited with NAAC 'A' grade in this year, highlighting the merit of the Institution. It is also ranked high among colleges by NIRF, MHRD, Govt. of India.
The Department of Geology and Environmental Science was established in 1981 and offers two undergraduate programs in Geology and two postgraduate programs in Applied Geology and Environmental Science, apart from the five-year M.Sc. Integrated program in Geology. Department also offers a PhD program in Geology and Environmental Science under the University of Calicut. The department is actively involved in research of various fields in Geology and Environmental Sciences.

Date - (05/02/2024-09/02/2024)
Venue - Fr. Dismas Hall

Strength of the programme

1. The resource person was very cooperative.
2. Great support from colleagues and students
3. Students were actively participated.
4. We all kept proper time management and could completed every session on proper time by well executed planning

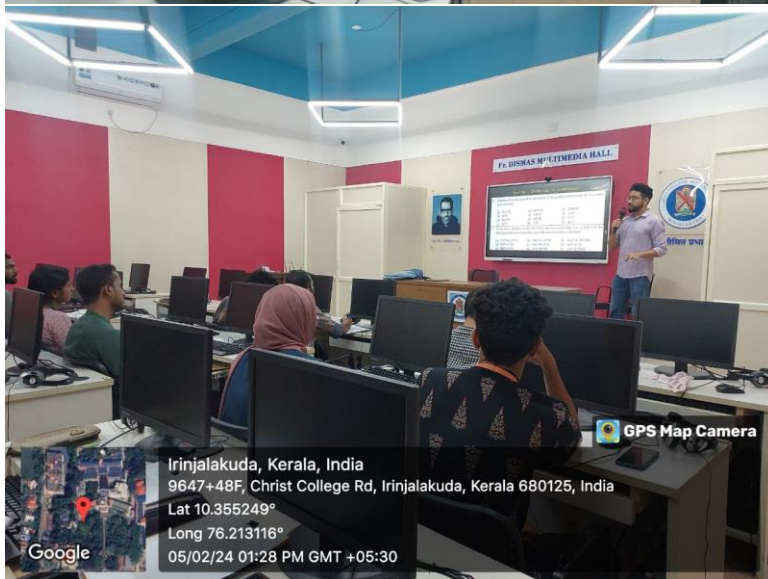
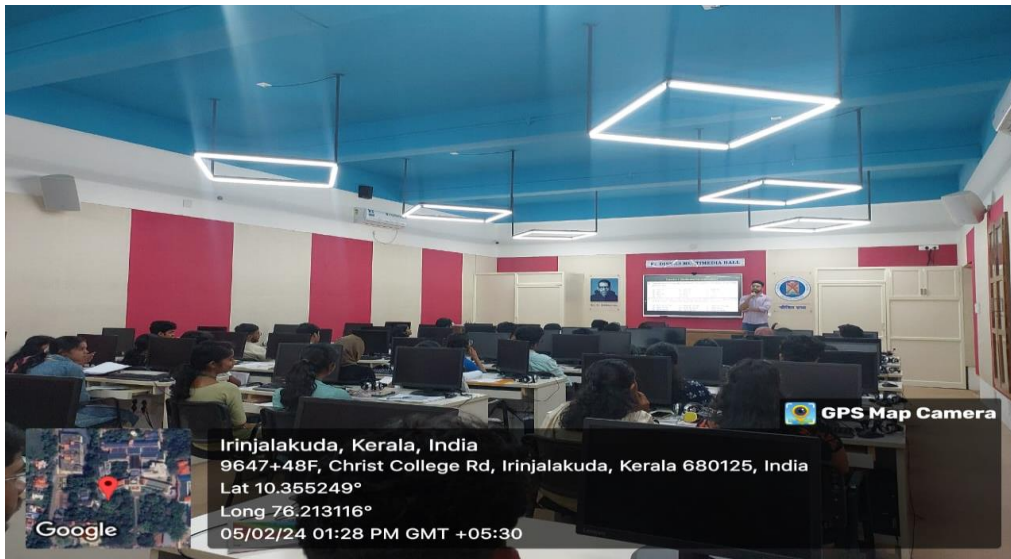
weakness of the programme

1. No change in the previous year syllabus and due to that PG second year (2nd MSc Applied Geology) students become repetition in one or two session
2. Some of weak students (BSc) students needed more detailing on basics and they take extra time to complete mapping practical sessions.

Outcomes of the course

Students can interpret the geological maps and the 2D representation of a 3D structures by various maps and stereographic projection method. By structural Analysis they could identify and interpret faults, folds, and unconformities on geological maps deepened and they can understand of Earth's structural history from various maps .

Photos Of the short course

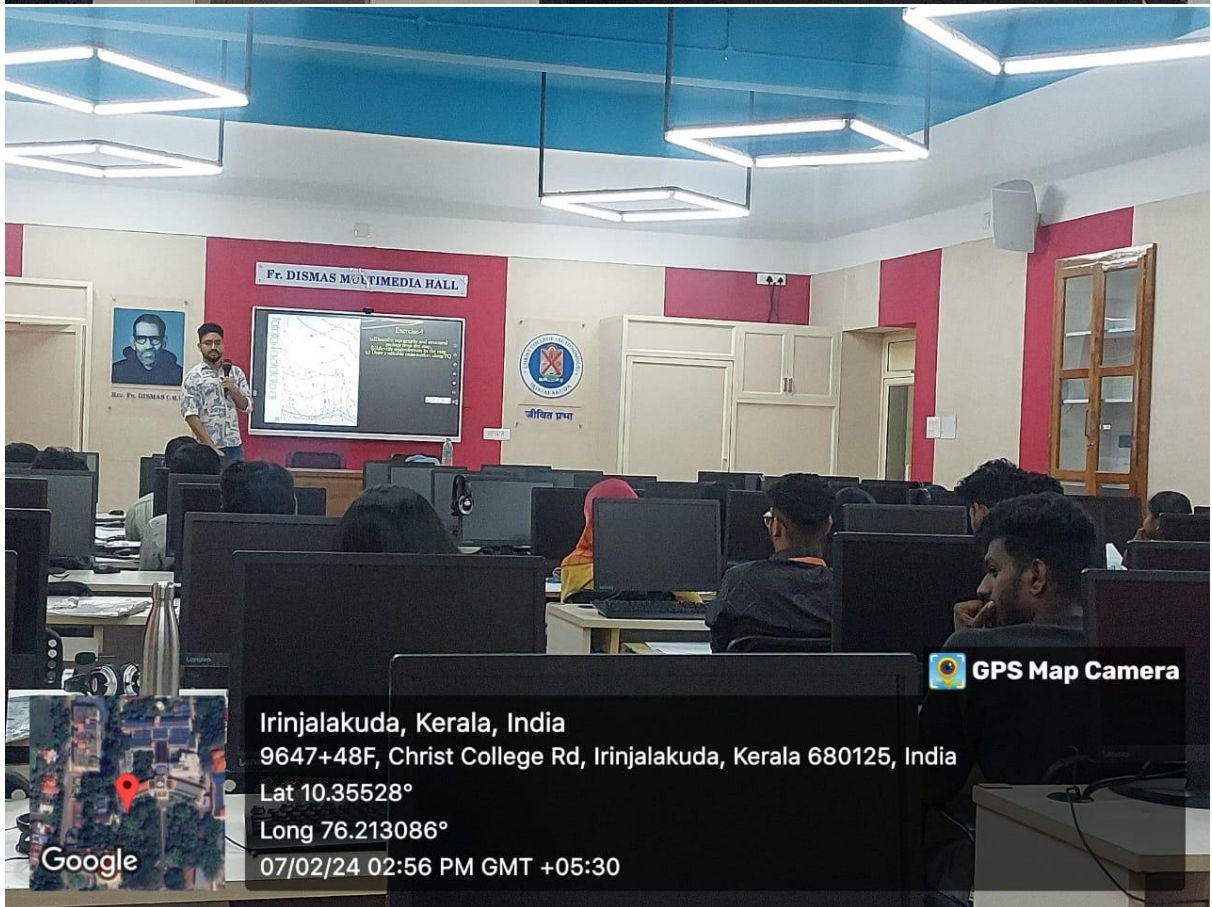
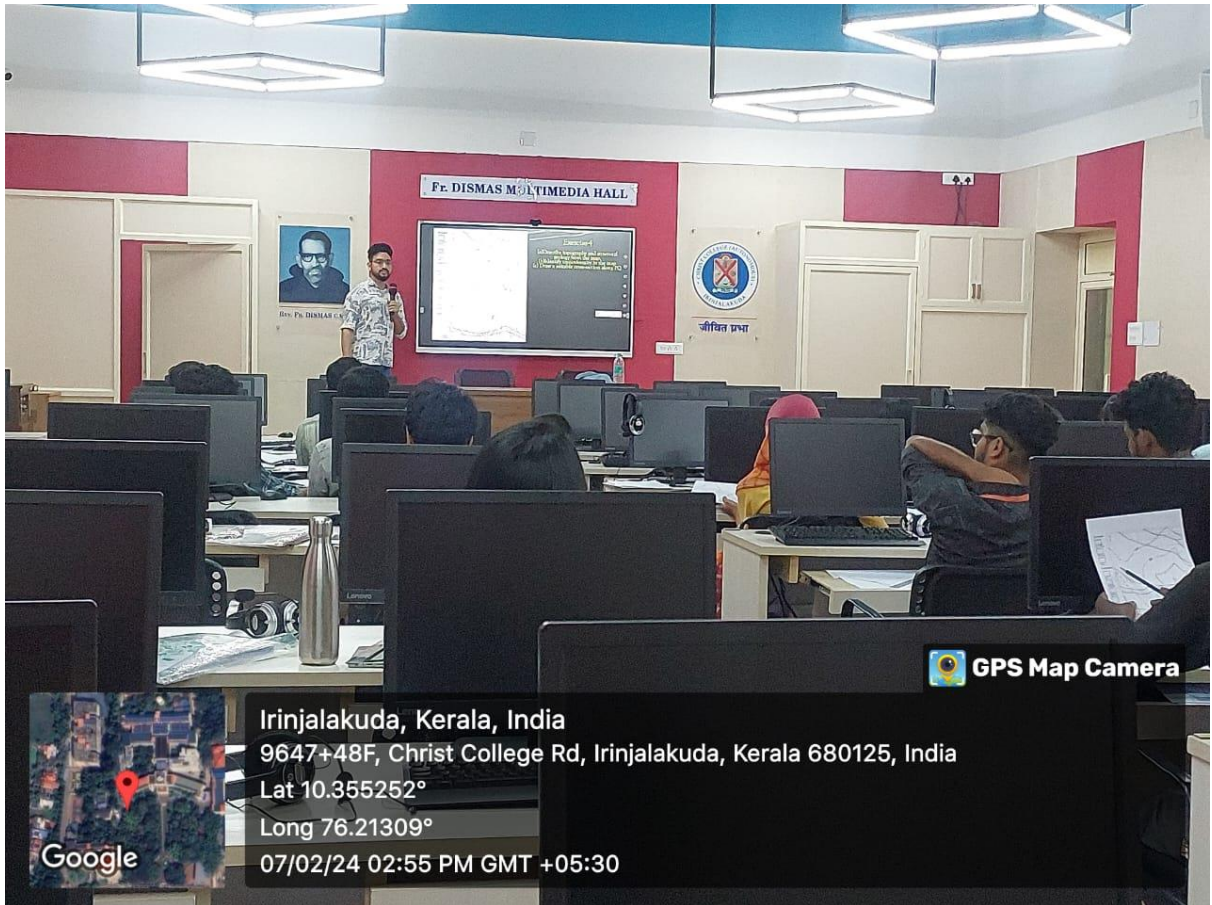


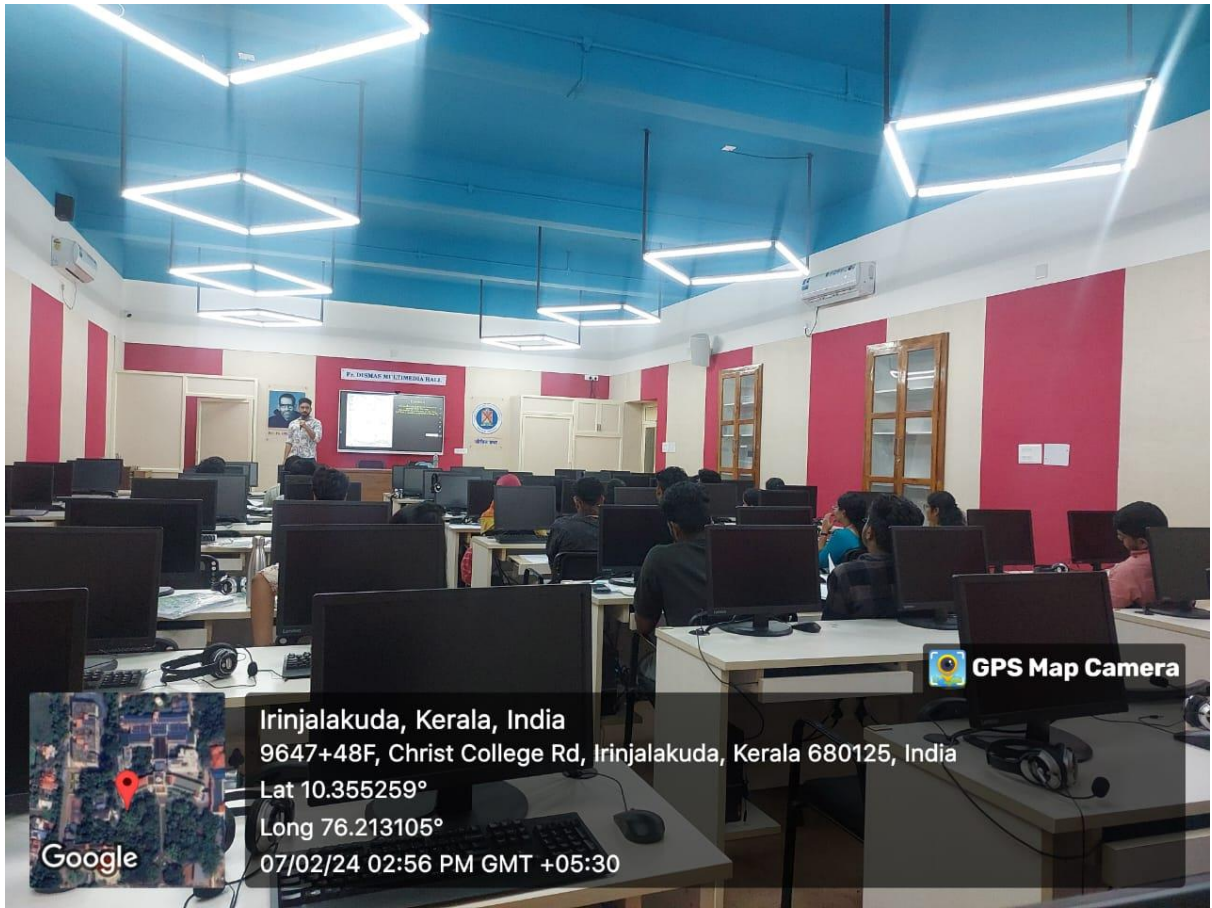


Irinjalakuda, Kerala, India
9647+48F, Christ College Rd, Irinjalakuda, Kerala 680125, India
Lat 10.35528°
Long 76.213086°
09/02/24 03:43 PM GMT +05:30



Irinjalakuda, Kerala, India
9647+48F, Christ College Rd, Irinjalakuda, Kerala 680125, India
Lat 10.35528°
Long 76.213086°
09/02/24 03:39 PM GMT +05:30





Irinjalakuda, Kerala, India
9647+48F, Christ College Rd, Irinjalakuda, Kerala 680125, India
Lat 10.355259°
Long 76.213105°
07/02/24 02:56 PM GMT +05:30

 GPS Map Camera



Google

STAFF ATTENDANCE REGISTER

Sl. No.	Designation	NAME	DATE / DAYS												
				1	2	3	4	5	6	7	8	9	10	11	12
1.		Blana Maria Keshy	M	✓	A		✓	✓		✓	✓	A		✓	✓
			E												
2.		Aisha P.H.	M	✓	✓		✓	✓		✓	✓	✓		✓	✓
			E												
3.		Analkrishna K.B.	M	✓	✓		✓	✓		✓	✓	A		✓	✓
			E												
4.		Brun Mejas V.S.	M	✓	✓		✓	✓		✓	✓	✓		✓	✓
			E												
5.		Harinarayanan B.	M	✓	A		A	A		✓	✓	A		✓	✓
			E												
6.		Jovfal Sebastian Joby	M	✓	✓		✓	✓		A	✓	✓		✓	✓
			E												
7.		Nishel C.S.	M	✓	✓		✓	A		✓	✓	✓		✓	✓
			E												
8.		Pavithra Raju Kudaliparambil	M	✓	✓		✓	✓		✓	✓	A		A	✓
			E												
9.		Sreechandana H. Santhosh	M	✓	A		✓	A		✓	✓	✓		✓	✓
			E												
10.		Adone Refi	M	✓	✓		✓	✓		A	✓	A		✓	✓
			E												
11.		Adgalakshmy M.S.	M	✓	A		✓	✓		✓	✓	✓		A	✓
			E												
12.		Alan Jese	M	✓	✓		A	✓		✓	✓	✓		✓	✓
			E												
13.		Aleena Shajar	M	✓	A		✓	✓		✓	✓	A		✓	✓
			E												
14.		Anam Mohamed Shareef	M	A	A		A	✓		✓	A	A		✓	✓
			E												
15.		Anantkrishnan K.R.	M	✓	✓		✓	✓		✓	✓	✓		✓	✓
			E												

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13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	In the Month	Previous	Total	Remarks												
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✓	✓	✓																																

Sl. No.	Name of the students	Batch/ Class
1	Alana Maria Koshy	3 rd Yr M.Sc. Int.
2	Aisha T. H.	3 rd Yr M.Sc. Int.
3	Amal Krishna K.B.	3 rd Yr M.Sc. Int.
4	Arun Thejus V.S.	3 rd Yr M.Sc. Int.
5	Harinarayanan A.	3 rd Yr M.Sc. Int.
6	Jovial Sebastian Joby	3 rd Yr M.Sc. Int.
7	Mishel C S	3 rd Yr M.Sc. Int.
8	Pavithra Raju Kudiliparambil	3 rd Yr M.Sc. Int.
9	Sreechandana H Santhosh	3 rd Yr M.Sc. Int.
10	Adone Reji	3 rd Yr M.Sc. Int.
11	Adyalakshmi M.S.	3 rd Yr M.Sc. Int.
12	Alan Jose	3 rd Yr M.Sc. Int.
13	Aleena Shajan	3 rd Yr M.Sc. Int.
14	Anam Mohamed Shareef	3 rd Yr M.Sc. Int.
15	Ananthakrishnan K.R.	3 rd Yr M.Sc. Int.
16	Asif Minhaj N. T.	3 rd Yr M.Sc. Int.
17	Bhadra K.V.	3 rd Yr M.Sc. Int.
18	Evon Luxie Wilfred	3 rd Yr M.Sc. Int.
19	Fida Fathima P N	3 rd Yr M.Sc. Int.
20	Gopika G	3 rd Yr M.Sc. Int.
21	Jisna Francis	3 rd Yr M.Sc. Int.
22	Nisma	3 rd Yr M.Sc. Int.
23	Nizna P.N.	3 rd Yr M.Sc. Int.
24	Parthasaradhi M. S.	3 rd Yr M.Sc. Int.
25	Shahal Ahamed A.M.	3 rd Yr M.Sc. Int.
26	Vijesh U. Guruprasad	3 rd Yr M.Sc. Int.
27	Sooryan K S	4 th Yr M.Sc. Int.
28	Aysha Saleem	4 th Yr M.Sc. Int.
29	Anupama S	4 th Yr M.Sc. Int.
30	Pooja K	4 th Yr M.Sc. Int.
31	Jithin C F	4 th Yr M.Sc. Int.
32	Akshay Raj	4 th Yr M.Sc. Int.
33	Caren Vencilavouse	4 th Yr M.Sc. Int.
34	Nava Lakshmi N S	4 th Yr M.Sc. Int.
35	Akhila Nampadakkunnel Santhosh	4 th Yr M.Sc. Int.
36	Jiswin Johnson	4 th Yr M.Sc. Int.
37	Krishnaprasad M	4 th Yr M.Sc. Int.
38	Sethuraman K S	4 th Yr M.Sc. Int.
39	Abel Thomas	4 th Yr M.Sc. Int.
40	Arun Vikram P S	4 th Yr M.Sc. Int.

41	Medha V M	4 th Yr M.Sc. Int.
42	V P Krishna	4 th Yr M.Sc. Int.
43	Adithyakrishnan S.	2 nd Yr M.Sc. Applied Geo.
44	Anin Mary John	2 nd Yr M.Sc. Applied Geo.
45	Anzia Fazil	2 nd Yr M.Sc. Applied Geo.
46	Arul Thejus	2 nd Yr M.Sc. Applied Geo.
47	Ashby Ann Mathew	2 nd Yr M.Sc. Applied Geo.
48	Aswin Menon	2 nd Yr M.Sc. Applied Geo.
49	Danie Mathew	2 nd Yr M.Sc. Applied Geo.
50	Delphy Manuel	2 nd Yr M.Sc. Applied Geo.
51	Hamd Bin Abdurehman	2 nd Yr M.Sc. Applied Geo.
52	Megha C M	2 nd Yr M.Sc. Applied Geo.
53	NandapriyaT	2 nd Yr M.Sc. Applied Geo.
54	Nandhakumar A K	2 nd Yr M.Sc. Applied Geo.
55	R. S. Ananthajith	2 nd Yr M.Sc. Applied Geo.
56	Sanika K S	2 nd Yr M.Sc. Applied Geo.
57	Shana Jasmin T K	2 nd Yr M.Sc. Applied Geo.
58	Shilpa Shaju M	2 nd Yr M.Sc. Applied Geo.

Department of Geology & Environmental Science	CCAUIGL015
Department of Geology & Environmental Science	CCAUIGL016
Department of Geology & Environmental Science	CCAWMAG001
Department of Geology & Environmental Science	CCAWMAG002
Department of Geology & Environmental Science	CCAWMAG003
Department of Geology & Environmental Science	CCAWMAG004
Department of Geology & Environmental Science	CCAWMAG005
Department of Geology & Environmental Science	CCAWMAG006
Department of Geology & Environmental Science	CCAWMAG007
Department of Geology & Environmental Science	CCAWMAG008
Department of Geology & Environmental Science	CCAWMAG009
Department of Geology & Environmental Science	CCAWMAG010
Department of Geology & Environmental Science	CCAWMAG011
Department of Geology & Environmental Science	CCAWMAG012
Department of Geology & Environmental Science	CCAWMAG013
Department of Geology & Environmental Science	CCAWMAG014
Department of Geology & Environmental Science	CCAWMAG015
Department of Geology & Environmental Science	CCAWMAG016

ADVANCED STRUCTURAL GEOLOGY

Value Added Certificate Course

S E P T E M B E R 2 0 2 3 - 2 0 2 4

Course Code: GEO0STRGL

The course started on December 1st 2023.

There were 58 students and 58 students completed the course. The course was of 50 hrs. duration (10 theory hrs. and 40 practical hours). Students enjoyed the course and appreciated the efforts of the department in initiating such a course that would benefit their future endeavors.

The main topics covered in the course are as follows:

- Vectors in Structural Geology
- Extracting information from Maps
- Transformations in Structural Geology
- Matrices and Tensors
- Stress and Mohr Circle
- Laboratory Techniques in Finite Strain Analysis

Course Outcome:

The students were satisfied with the class. They were given different aspects of Structural Geology. Introduced quantitative structural geology using matrices, vectors and tensors. Basic concepts of matrices, vectors and tensors are reviewed. Problems in Structural Geology are solved using quantitative techniques. A number of open-source software implementation taught with examples and laboratory assignments.

Course Coordinators: Dr. Linto Alappat, Ms. Roshini P.P.

ADVANCED STRUCTURAL GEOLOGY

Value Added Certificate Course

Semester: I Period: 2022-23

Course Code: GEO0STRGL

Number of Students	58
Date of Examination	16/12/2023
Total Students who passed exam	58
Total Course duration	50 hrs

Feedback analysis:

- The class was very enlightening.
- It helped the students gain the knowledge of structural problems.
- It helped the students to look into the geological problems with easy methods and strategies to solve each of the problems.
- The simple way of teaching helped the students understand more about the complicated structural problems.
- Most of the students enjoyed the classes.

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ADVANCED STRUCTURAL GEOLOGY

Value Added Certificate Course

S E M I T E R M I 2022-23

Course Code: GEO0STRGL

Students are evaluated on the basis of practical examination (70%), theory examination (20%) and Viva examination (10%). For the assessment of student ability to apply the acquired knowledge, geology related problem was given to all the candidates. The problem solving using the basics of Programming in Python and viva constituted the final 80% of the student evaluation process. Only those students who have solved the problem were allowed to attend the final examination.

Course Coordinators: Dr. Linto Alappat, Ms. Roshini P.P.

