University of Mosul

College of Science

Department of Geology and Petroleum

Laboratories

First stage laboratories

Computer laboratory (Lab No. 207)

Subject: Computer

Delivery Plan (Weekly Lab. Syllabus)	
	Material Covered
Week 1	Lab 1. Managing Files using Windows O. S
Week 2	Lab 2. Communication technology Web design and browsering
Week 3	Lab 3. Word (interface language)
Week 4	Lab 4. Word (files and editing)
Week 5	Lab 5. Word (format features)
Week 6	Lab 6. Word (table and outcome)
Week 7	Lab 7: Power point (interface language)
Week 8	Lab 8. Power point (menus and slide design)
Week 9	Lab9: Power point (animation effects)
Week10	Lab 10: Excel (interface language)
Week 11	Lab 11: Access (basic practice)
Week 12	Lab 12: Project Work

Supervisors of the laboratory:

Dr. Adil Murad Awad and Dr. Sanad Abdulelah Mahmood

Physical geology laboratory (Lab No. 333)

Subject: General Geology

Delivery Plan (Weekly Lab. Syllabus)	
	Material Covered
Week 1	Lab 1. over view of geology.
Week 2	Lab 2. How identification of mineral.
Week 3	Lab 3. Physical properties of minerals.
Week 4	Lab 4. Chemical properties of minerals.
Week 5	Lab 5. Types of rocks in the nature.
Week 6	Lab 6. Properties of Igneous rocks.
Week 7	Lab 7: classification of Igneous rocks.
Week 8	Lab 8. Properties of Metamorphic rocks
Week 9	Lab9: classification of Metamorphic rocks.
Week10	Lab 10: Properties of Sedimentary rocks.
Week 11	Lab 11: classification of Sedimentary rocks
Week 12	Lab 12: summery

Supervisors of the laboratory:

Dr. Falah Abed Al-Miamary and Dr. Rafee Ibrahim Al-Humidi

Second stage laboratories

Micropaleontology laboratory (Lab No. 233)

Subject: Micropaleontology

Delivery Plan (Weekly Lab. Syllabus)	
	Material Covered
Week 1	Lab 1: Shape, measurements of carapace and valves.
Week 2	Lab 2: Orientation of carapace and valves.
Week 3	Lab 3: External features, external structures.
Week 4	Lab 4: Internal features, internal structures.
Week 5	Lab 5: Inner lamella, outer lamella.
Week 6	Lab 6: Hinge line.
Week 7	Lab 7: Description of some index ostracode species.
Week 8	Lab 8: Preparing of Calcareous nannofossils slides.
Week 9	Lab9: Coccoliths shape description.
Week10	Lab 10: Coccoliths orientation.
Week 11	Lab 11: Element arrangement.
Week 12	Lab 12: Description of some index nannofossils species

Supervisors of the laboratory:

Dr. Omar Ahmed Mawlood and Dr. Ibrahim Younis Ahmad

Optical mineralogy laboratory (Lab No. 127)

Subject: Optical mineralogy

Delivery Plan (Weekly Lab. Syllabus)	
	Material Covered
Week 1	Lab 1: part of the polarized microscope
Week 2	Lab 2: general explanation of the optic properties of minerals.
Week 3	Lab 3: general explanation of the optic properties of minerals.
Week 4	Lab 4: isotropic minerals. (garnet ,fluorite, spinel ,neosean,……..)
Week 5	Lab 5: un axial minerals (quartz, apatite, zircon,…)
Week 6	Lab 6: uni axial minerals (tuormaline, calcite ……..)
Week 7	Lab 7: bi axial minerals
Week 8	Lab 8: bi axial minerals , metamorphic minerals
Week 9	Lab9: sign of elongation and optic sign
Week10	Lab 10: determine the slow and fast vibration direction
Week 11	Lab 11: interference figure of uni axial minerals
Week 12	Lab 12: interference figure of bi axial minerals.

Supervisors of the laboratory:

Dr. Sahar A.Qasim and Omar Saif

Sedimentology laboratory (Lab No. 101)

Subject: Sedimentology

Delivery Plan (Weekly Lab. Syllabus)	
	Material Covered
Week 1	Lab 1: Mechanical analysis of pebble shapes, (Introduction).
Week 2	Lab 2: Measuring the grain size of pebbles Using Vernia.
Week 3	Lab 3: Determine pebble shape using zing diagram (Exercise 1).
Week 4	Lab 4: Determine pebble shape using Sneed and Folk diagram (Exercise 2).
Week 5	Lab 5: Calculate mathematical roundness and sphericity (Exercise 3).
Week 6	Lab 6: Grain-size analysis of sand and sandstone (introduction).
Week 7	Lab 7: Sieve analysis of sand and sandstone in lab. (Exercise 1).
Week 8	Lab 8: Sieve analysis of sandstone (Exercise 2).
Week 9	Lab9: Sieve analysis of sandstone (Exercise 3).
Week10	Lab 10: Paleocurrent analysis (Introduction), (Exercise 1).
Week 11	Lab 11: Paleocurrent analysis (Exercise 2).
Week 12	Lab 12: Paleocurrent analysis (Exercise 2).

Supervisors of the laboratory:

Dr. Ahmed N. Thanon and Dr. Falah Abed Al-Miamary

Third stage laboratories

Structural geology laboratory (Lab No. 203)

Subject: Structural Geology

Delivery Plan (Weekly Lab. Syllabus)	
	Material Covered
Week 1	Introduction of stereographic technique. Theoretical basis. Schmidt or lambert equal-area net.Stereographic or wallf net.
Week 2	Geological structres of planar type Geological structures of linear type. Precise method of Plotting steps of line and planes on equal area net
Week3	Plotting a line that lies in a plane.
Week 4	Determining the between two lines. Line of intersection of two plane
Week 5	True strike and dip from two apparent dips. True dip from strike and apparent dip Attitude of intersection of two planes.
Week 6	Determining the angles between two planes. Pole of plane.
Week 7	Determining the angles between a line and a plane. Bisecting the angles between two lines.
Week 8	Bisecting the angles between two planes .determining the orthographic projection of a line on a plane.
Week 9	Use of equal are net involving rotation. Rotation of line. Projection of cone.
Week 10	Small circle rotation of planes. . Two tilt problems.
Week 11	Rotation of drill-core data. Using the data from the three drill holes shown below, determine the attitude of bedding.
Week 12	Stereographic analyses of folded rocks. Beta and Pi diagrams
Week 13	Stereographic analyses and classification of fractures .paleostress analyses.
Week 14	Preparatory week before the final Exam.

Supervisors of the laboratory:

Dr. Mahmood Abdulhaq Alsumaidai, Dr. Saddam Essa Mustufa, and Dr. Rabeea Kh. Znad

Geophysics laboratory (Lab No. 301)

Subject: Gravity and magnetic methods

Delivery Plan (Weekly Lab. Syllabus)	
	Material Covered
Week 1	Lab 1: Orientation, Syllabus, and Fundamental particles
Week 2	Lab 2: calibration of gravimeter.
Week 3	Lab 3: Draft Correction
Week 4	Lab 4: Bouguer anomaly correction
Week 5	Lab 5: Free air correction
Week 6	Lab 6: Latitude correction
Week 7	Lab 7: bouguer correction
Week 8	Lab 8: terrain correction
Week 9	Lab9: Splitting bouguer anomaly techniques
Week10	Lab 10: magnetic daily distribution.
Week 11	Lab 11: Magnetic distribution of earth.
Week 12	Lab 12: interpretation of magnetic data.

Supervisors of the laboratory:

Dr. Bashar Mahmood Aziz and Dr. Adil Murad Awad

Fourth stage laboratories

Hydrology laboratory (Lab No. 330)

Subject: Hydrogeology

Delivery Plan (Weekly Lab. Syllabus)	
	Material Covered
Week 1	Introduction
Week 2	Rainfall analysis
Week 3	Morphometric analysis
Week 4	Filtration capacity measurement
Week 5	Evaporation measurement
Week 6	River flow analysis
Week 7	Hydrograph
Week 8	Drawing groundwater levels
Week 9	Flow net
Week10	Pumping test measuring
Week 11	Classification of ground water modeling
Week 12	Hydrogeochemistry
Week 13	Drilling engineer

Supervisors of the laboratory:

Dheyaa Ghawi Salih and Dr. Mohammed sheet Mohammed Ramzi Taka

Geochemistry laboratory (Lab No. 130)

Subject: Geochemistry

Delivery Plan (Weekly Lab. Syllabus)	
	Material Covered
Week 1	Lab 1: Element distribution in igneous rocks (evaluation of Goldsmidt rules).
Week 2	Lab 2: The origin relationship of igneous rock from the chemical analysis.
Week 3	Lab 3: Distribution of Cr and Ni in basic volcanic rocks.
Week 4	Lab 4: Distribution of Zr and Hf in acidic igneous rocks.
Week 5	Lab 5: Aragonite stabilization in ancient limestone.
Week 6	Lab 6: Using the geochemical data as a stratigraphical correlation.
Week 7	Lab 7: The geochemistry of phosphorites.
Week 8	Lab 8: Calculation of the salt chemical formula in the lakes.
Week 9	Lab9: Geochemistry of lakes.
Week10	Lab 10: Oil migration.
Week 11	Lab 11: Eh-pH diagram.
Week 12	Lab 12: Distribution of iron phases on Eh-pH diagram.

Supervisors of the laboratory:

Ann Abdulsattar Ismail and Dr. Flyah Hassan Abbas