In this particular module,

we are going to study the second

part of textures of igneous rocks.

Here we are going to outline the shape

of the crystal and mutual relationship

of the crystals in igneous rocks.

And will define what is equi-

Granular, Allotrimorphic,

hypidiomorphic,

and panidiomorphic textures,

in igneous rocks.

We are going to categorize and

identify the rocks in the hand specimen

based on these particular textures.

And to understand what are the shape

an equigranular texture is

present within the igneous rock,

hand specimen that we hold.

The fabric of crystals:

So basically the fabric or pattern

of the rock is a composite term that

depends on the shape or the degree of

perfection of the form of the crystal.

So this is basically the

shape of the crystals.

Whether the crystal has a

definite shape and form.

On the relative size and arrangement

of the different constituent minerals.

This is also called as a mutual

relationship of the crystals.

So the term fabric comprises of

both the shape of the crystals

and the mutual relationship of the crystals.

First, let us take a look at the fabric term

which describes the shape of the crystals.

If most of the grains that are contained

within the igneous rocks are euhedral, Now,

What is your Euhedral?

Basically euhedral are those

crystals which are well bounded with

crystals faces that are well formed.

So they are basically bounded

by well formed crystal faces.

If the Igneous rocks contains well

formed crystal faces,

the fabric is termed to be panidiomorphic.

In this particular image,

you can see that you have a crystal that is

having a development of well defined faces,

so, the fabric is said to be panidiomorphic.

If the most of the grains are sub-hedral,

What are sub-hedral?

Basically, they are bounded by only

a few well formed crystal faces.

It is considered as an intermediate stage

of development, that is between subhedral,

and anhedral.

The fabric is said to be hypidiomorphic.

So you have here a grain that a

seen that is subhedral in nature.

In one part it has a well developed face

and the other part is partly developed.

So when you have a crystal or an igneous

rock that contains such crystals,

hypidiomorphic term is used.

If most of the grains are anhedral,

that is,

they are generally not bounded

by crystal faces at all,

or the crystal faces are absent.

The fabric is said to be allotriomorphic.

The shape or form of the crystal

is best seen under microscope,

so whenever we study the fabric

that is the shape of the crystal in

order to know whether the crystals

have development of faces or not.

This is best seen under a microscope.

In this particular image you see

an anhedral grain where there

is no development of any faces.

So you see,

in this particular image that euhedral are

those which are having well developed faces.

So the term panidiomorphic is used

Subhedral in between Euhedral,

an anhedral where there is

partial development of crystal

faces and partially not.

An anhedral where there is no

development of crystal faces

or crystal faces are absent.

The term allotriomorphic is used.

Now, if the grains have particular

descriptive shape,s then, it is essential

to describe these individual grains.

So what are these common grain shapes?

First, as the term tabular?

The term is used to describe grains

with a rectangular tablet shape,

for example, in feldspars.

The term equant is used to describe

grains that have all their boundaries

of approximately equal length.

For example in garnets.

Fibrous, is the term used to describe

grains that occur as long fibers.

Whereas Acicular is the term used to

describe grains that occur as long

slender crystal like natrolite.

Prismatic is a term used to describe grains

that shows abundance of prism faces.

Second thing of fabric is basically the

mutual relationship within the crystal.

The term equigranular texture

is used to describe the textures,

in which, the constant minerals are

approximately of the same size.

This is usually seen in rocks

such as granites and Felsites.

Now, when most of the crystals are

eqigranular as well as anhedral,

the term alltrimorphic is used. That is,

there is no development of crystal faces,

but the grains are equigranular.

The term hypidiomorphic is also used

when the crystals are all equigranular

and it is subhedral in nature, that

is, in between euhedral and anhedral,

the crystal faces then the

hypidiomorphic is used.

When majority of the crystals are

equigranular and euhedral,

that is the crystals have

faces that are well developed.

The term panidiomorphic is used.

So in this way we are able to

distinguish between allotriomorphic,

, hypidiomorphic and pani-

diomorphic textures depending

upon if the crystals are in anhedral,

Subhedral, euhedral respectively.

This is a hand specimen of the rock gabbro

showing equigranular texture here.

All the grains are approximately

of the same size. Thank you