1 Curriculum Proposal Cover Sheet - for a say illable on-line as an internative PDF. Oral Communication Hation Literacy Technological Literacy inca inillim H = Juli 

## Part II.

## 1) Syllabus of Record

trips during the scheduled lab period.

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I. Catalog Description
GEOS 102 The Dynamic Earth Lab
Prerequisites: No Geoscience Majors/Minors
Corequisite: GEOS 101

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units throughout the state of Pennsylvania and elsewhere, and interpret them to deduce the underground structures of weakness that might be present.

## **Expected Student Learning Outcomes 1 2 and 3**

Informed, Empowered and Responsible Learners

### **Rationale:**

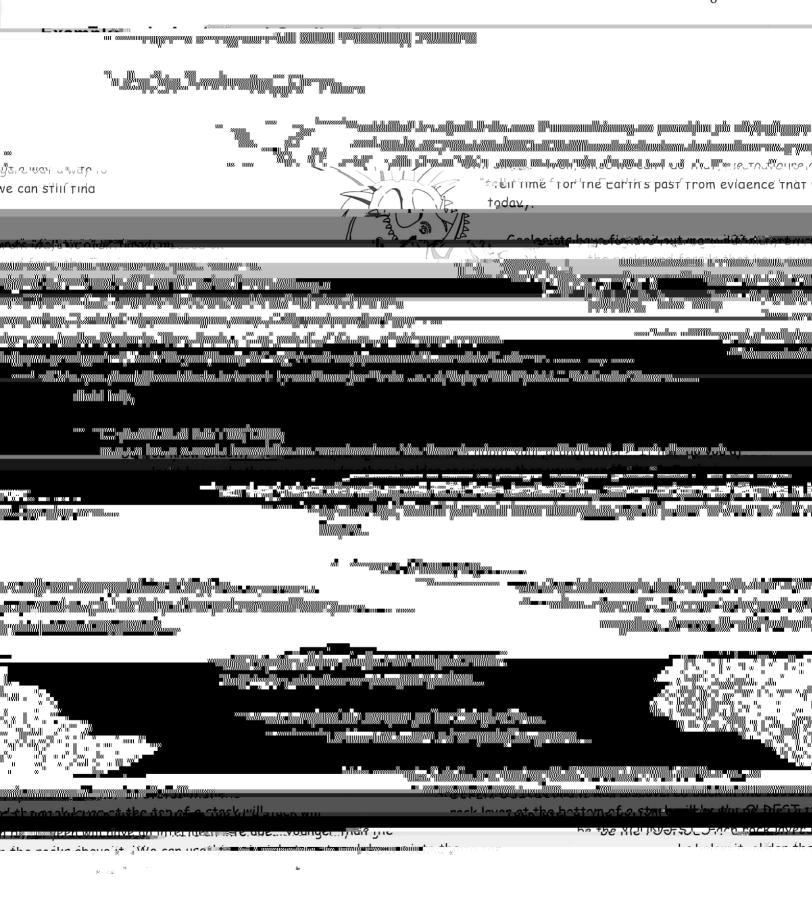
The ability to decipher map patterns and imagine the underground earth structures that create them will allow students to become empowered consumers when they are faced with the choice of where to purchase a home or whether to support an economic development activity near their home.

	III. Course Outline		
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	Lab 2: Topographic maps Lab 3: Mineral identification	2 hours 2 hours	
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## Liberal Studies Course Approval General Information

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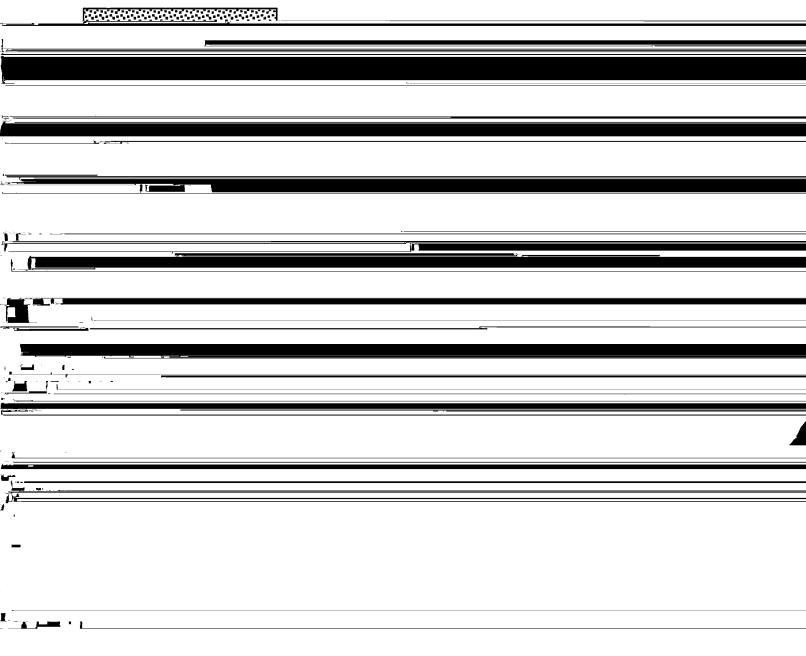
#### C. Cross-Cutting Relations

Since there are many rocks that do NOT form in layers, we need to have some other tools in our dating tool-chest to assign them all relative ages. One thing that can be very useful for igneous rocks is to see what rocks they <u>cross-cut</u>. In order for an igneous vein or pluton to intrude into some other rocks, those other rocks must already pre-exist. If we see an igneous vein cutting across other rocks, we know those rocks must be OLDER than the igneous rock. This is known as the PRINCIPLE OF CROSS-CUTTING RELATIONS.

Answer the following <u>Application Questions</u>:

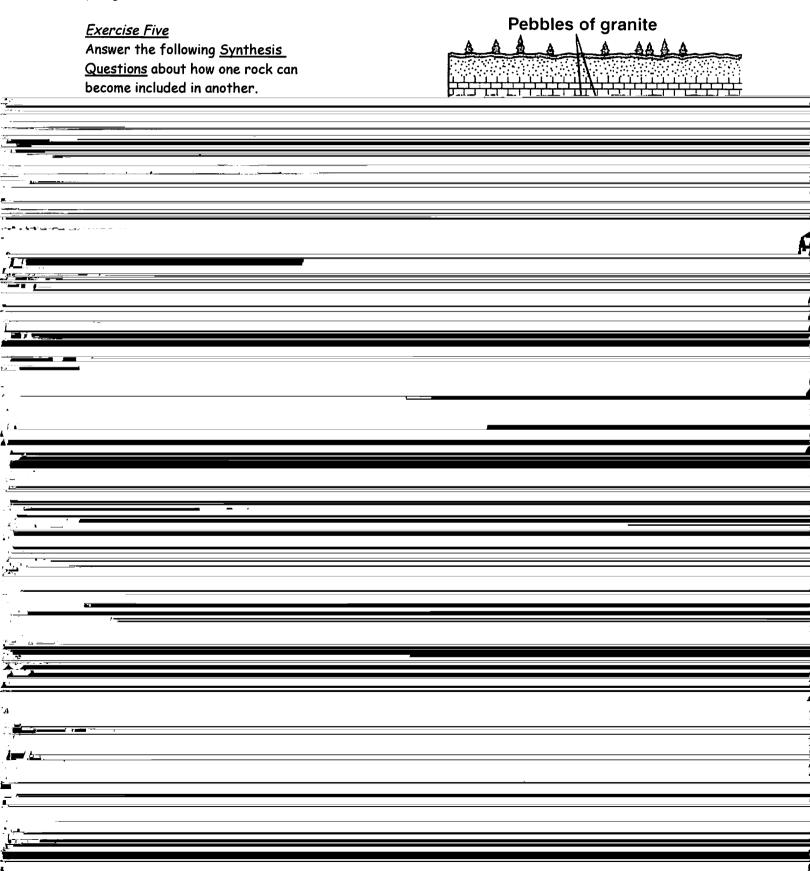
#### Exercise Three

Put the rocks below in order by age from oldest (1) to youngest (4). Be careful!



#### D. Included Pieces

Another way you can compare two rocks to each other determine their relative age is to see whether one rock includes pieces of the other. The rock which broke into pieces before the younger rock formed around it has to be the older of the two.



#### Exercise Seven

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	Name of Dating System	Half-life of Parent Element	Source Materials	Dating Range	Better for old	
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# Lab Grading Rubric

	Comprehension	(5 points) Student answers all	(3 to 4 points) Student answers all	(0 to 2 points)	
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:012 Syllabus of Record

# New Course Proposal / The Dynamic Earth / Page 5

## GS 102 The Dynamic Forth I ah

## I. Catalog Description:

GS 102 The Dynamic Earth Lab

1 credit

2 lab hours

Pre-requisite: No Geoscience Majors/Minors

(0c-2l-1sh)

Co-requisite: enrollment in GS 101

Introduces students to the techniques geologists use to study the earth and reconstruct its past. Labs cover minerals, rocks, man interpretation, fossil identification. Includes field

#### IV. Evaluation Methods

Quizzes. Eight ten-point quizzes will cover previous week's lab or field trip.
 Two non-cumulative lab exams, worth one-hundred points each. Exams will consist of sample identification, short essay and map-based questions. Tests will

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