

## Course Material Submission Form OAN Match Definition Form

**Today's Date:** February 7, 2008

<b>Use this table to specify institutional data</b>	
<b>College/University:</b>	Cleveland State University
Name and title of individual submitting on behalf of the college/university	
<b>Name:</b>	Jae-won Lee
<b>Title:</b>	Director of Curricular Affairs
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**Indicate the reason for this submission:**

New Course Match  
 Course Renumbering Only (do not use for calendar changes)  
 Revised Materials - Faculty review panel requested clarification  
 Revised Materials - Institution submitting additional information  
 Revised Materials - Course content revised by institution, including situations of both content and credit hour change  
 Revised Materials - Other

**Describe specific revisions being made for "Revised Materials" submissions:**  
 Syllabi clarify learning outcomes; chemistry prerequisite added.

**Institutional Notes to Faculty Panel (the institution is encouraged to add any additional clarifications for this submission):**

**Table 1 – Use this table to describe the course match for which materials are being submitted for the first time or revised.**

Proposed effective year and term of match (Final effective date will depend on actual approval of match by faculty panel. Effective Year and Term is the first term in which students taking the course will receive matching credit.)

Semester institutions complete this row:  
 2008 Academic Year       Summer    Autumn    Spring

Quarter institutions complete this row:  
 20      Academic Year       Summer    Autumn    Winter    Spring

<b>Ohio Articulation</b>	<b>OSC 013</b>
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<b>Number (OAN)</b> (Use a separate form for each OAN.):	
<b>Number of courses in the match:</b>	2 (up to 10)
<b>Current status of match:</b>	<input type="checkbox"/> First time submission
	<input type="checkbox"/> Approved <input type="checkbox"/> Submitted <input checked="" type="checkbox"/> Disapproved <input type="checkbox"/> Error <input type="checkbox"/> Resubmitted <input type="checkbox"/> Pending <input type="checkbox"/> Error with enrollment <input type="checkbox"/> Not submitted
<b>Course or Courses being matched to or currently matched to the OAN listed above.</b> (Course Numbers must be exactly what will appear on a student's transcript.):	<b>Course Number</b>
	1. <a href="#">GEO 304</a>
	2. <a href="#">GEO 305</a>
	3.
	4.
	5.
	6.
	7.
	8.
	9.
10.	

**Table 2 - Use this table to submit course materials for the first time or to revise previously submitted course materials. You must submit each course in a separate form, repeating the match definition information in Table 1 above for each form submitted.**

<b>Course Number.</b> (Course Numbers must be exactly what will appear on a student's transcript.):	<a href="#">GEO 304</a>	<b>Course Title:</b>	<a href="#">Mineralogy</a>
<b>Hours (be sure that the hours for this course matches the hours in the OAN.)</b>			
<input checked="" type="checkbox"/> <b>Semester Hours 3</b>		<input type="checkbox"/> <b>Quarter Hours</b>	
<b>Total Credit Hours</b>	<a href="#">3</a>	<b>Lecture Hours</b>	<a href="#">3</a>
		<b>Laboratory Hours (if applicable)</b>	<a href="#">0</a>
<b>Course Placement in Major:</b>		<input type="checkbox"/> Major Requirement <input checked="" type="checkbox"/> Major Elective <input type="checkbox"/> Major Not Offered <input type="checkbox"/> Other	
<b>Pre-Requisite Course work (if applicable)</b> (Be sure this is consistent with the OAN definition):			
GEO 100 (INTRODUCTORY GEOLOGY) AND CHM 261(GENERAL CHEMISTRY I); COREQUISITE: GEO 305 (MINERALOGY LABORATORY)			
<b>Catalog/Course Description:</b>			
<a href="#">GEO 304 Mineralogy (3-0-3)</a> . Prerequisite: GEO 100 and CHM, or permission of instructor. Corequisite: <a href="#">GEO 305</a> . Study of elementary crystallography, crystal chemistry, mineral chemistry, and mineral classification; with			

emphasis on the identification of important minerals using physical properties.

**Texts/Outside Readings/Ancillary Materials** (Be sure that the text meets performance expectations):

MANUAL OF MINERAL SCIENCE, 22ND ED., by Cornelis Klein (Wiley, 2002)

**Course Objectives and/or Plan of Work:**

(Provide a clear indication of how the course objectives align with the matched OAN's learning outcomes. This will facilitate the faculty panel course review process.)

The classification of minerals and their physical characters is taught during the first week of the semester. A detailed interpretation of structural elements such as protons, neutrons, isotopes, atomic and mass number and the difference between ionic and covalent bonding is given in the three weeks period.

In the crystallography section of the course, students will learn about external forces, symmetry elements and operation, crystal chemistry, polymorphism, physical property and mineral stability.

The origin of minerals and their formation by different geological settings will be discussed throughout the semester.

**Description of Assessment and/or Evaluation of Student Learning** (The assessment plan needs to be appropriate for the expected rigor of the course) :

Two midterm exams, which account for 60 % of the grade, and a final exam that accounts for 40% of the grade.

**Master Syllabi and Working Syllabi (if both are used):**

CLEVELAND STATE UNIVERSITY  
GEO 304 - MINERALOGY  
FALL SEMESTER

PROFESSOR: DR. LO  
OFFICE: SR G69  
PHONE: 216 - 687 - 4821

LECTURES: **12:15-1:05** p.m., M W F; SR G60  
TEXT: MANUAL OF MINERAL SCIENCE, 22ND ED., 2002  
by Cornelis Klein

PREREQUISITE: GEO 100 (INTRODUCTORY GEOLOGY) AND CHM  
261(GENERAL CHEMISTRY I)

EXAMS

DATES

First Midterm Exam	Friday, Sep. 26
Second Midterm Exam	Friday, Oct. 31
Final Exam	Monday, Dec. 8 @ 1:00 p.m.

The two midterm exams account for 60 % of the grade, and the final exam accounts for 40% of the grade for the class.

There will be no make-up exams unless the student has a medical excuse or a prior arrangement has been made with the professor.

***No work may be done for extra credit.***

**Outcomes and Objectives:**

The classification of minerals and their physical characters is taught during the first week of the semester. A detailed interpretation of structural elements such as protons, neutrons, isotopes, atomic and mass number and the difference between ionic and covalent bonding is given in the three weeks period.

In the crystallography section of the course, students will learn about external forces, symmetry elements and operation, crystal chemistry, polymorphism, physical property and mineral stability.

The origin of minerals and their formation by different geological settings will be discussed throughout the semester.

Laboratory exercises will be over classification of minerals into groups such as halides, oxides, carbonates, sulfates and others. Students will learn how to use the physical and chemical characteristics of minerals to identify the unknown specimens. The concept of crystal forms, symmetry elements, crystal classes are also taught by wooden models.

LIST OF TOPICS AND READING ASSIGNMENTS

<u>Week</u>	<u>Topics</u>	<u>Text Chapter</u>
Aug 25-29	Introduction	1
	<b>Minerals - Definition and Groups</b>	<b>1</b>
Sep 3-5	Crystallography - External Form	5
	<b>Symmetry Elements and Operations</b>	<b>5</b>
Sep 8-12	Combinations of Symmetry Elements	5
	<b>Crystal Classes and Systems</b>	<b>5</b>
Sep 15-19	Crystal Morphology	5
	<b>Crystal Faces, Crystal Forms</b>	<b>5</b>
Sep 22-26	Twins, <b>First Midterm Exam(9/26)</b>	<b>5</b>
Sep29-Oct3	Physical Properties of Minerals	2
	<b>Density, Hardness, Cleavage</b>	<b>2</b>
Oct 6-10	Physical Properties of Minerals	2
	<b>Streak, Luster, Electrical Properties</b>	<b>2</b>
Oct 15-17	Crystal Projections	6
	<b>Crystallization</b>	<b>4, p105-107</b>
Oct 20-24	<b>Internal Order of Minerals</b>	5
	<b>Polymorphism</b>	<b>4, p134-155</b>
Oct 27-31	<b>Twinning, Second Midterm Exam(10/31)</b>	<b>p155-157</b>
Nov 3-7	Mineral Classification	8
	<b>Sulfides, Oxides, Halides</b>	<b>8, 9</b>
Nov 10-14	Mineral Classes	10
	<b>Carbonates, Sulfates, Silicates</b>	<b>11, 12</b>
Nov 17-21	Crystal Chemistry	3
	<b>Ions, Bonding Forces in Crystals</b>	<b>3</b>
Nov 24-26	Crystal Chemistry	3
	<b>Coordination Principles</b>	<b>3</b>
Dec 1-5	Mineral Chemistry	P 90-98
	<b>Graphic Representation of Minerals</b>	<b>p 98-103</b>
Dec 8-12	<b>Final Exam - Monday @ 1:00 p.m.</b>	

**Additional Documentation:**

**OBR Use**

<b>Approved-Effective Date</b>	
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<b>Pending (i.e. Additional Information Requested)</b>	
<b>Disapproved</b>	
<b>Today's Date</b>	