Minnesota State University, Mankato

Curriculum Proposal

Please type or select the requested information. Print completed forms, add appropriate paper attachments, and route through MSU's curricular process for recommendations and decisions.

College: Science, Engineering and Technology  □ Undergraduate
Department: Chemistry and Geology  □ Graduate
Program: CIP #
Type of Change: COURSE PROPOSALS
Proposed: Change in Course—Other
Title Current: Intermediate Inorganic Chemistry
Title Proposed: 
24-Char. Abbrev: 

Proposal # 120
Effective Date of Change: 06-07
Academic Year: 04-07
(For Office Use Only)

Course Designator
Number
Credit
CHEM 412 2
CHEM 312 2
(if applicable)

Include a course or program description for the Bulletin (30-40 words maximum for courses, 100 for programs):

see attached

Rationale or Justification for change:

see attached

***For General Education or Cultural Diversity Courses Only***

General Education Course:

GE Category #   GE Category Name (Maximum of 3 Categories)

N/A

N/A

N/A

? For Writing Intensive Courses, attach a description of the kind and quantity of writing.
? For Upper Division Courses, include a description of the respects in which it is broad and general rather than narrow and specific, and so suitable as GE.

Attach paper copies of the following:

a. Syllabus or course outline.
b. Course's student learning outcomes associated with each GE competency or CD designation.
c. List of strategies to be used to assess students' achievement of each GE competency or CD designation.

Cultural Diversity Course:

(Please check one.)

☐ Core (At least 75% devoted to topics of race, gender, sexual orientation, age, class, and disabilities as they occur in United States Society.)

☐ Related (At least 25% devoted to the above topics or to a global perspective on topics related to African American, Asian, Hispanic, and Native American inhabitants of the United States.)

***For New Courses***

(Check all that apply:)

Instructional Type: Lecture
Grading Format: □ Grade □ P/N

Course will be offered:

☐ Fall Semester
☐ Spring Semester
☐ Summer Session

☐ Other courses are being change or eliminated. (Explain.)

☐ Course content or title is similar to courses in other departments. (Attach copy of letter of agreement with other program(s) contacted. Indicate the nature of the discussions and/or resolution of differences or potential conflicts.)

Attach paper copies of the following:

a. Syllabus or course outline.
b. Course's student learning outcomes.
c. A list of resources required to offer and support this course.
d. A description of how teaching this course will affect department staffing.
e. If 400/500 level course, an explanation of added expectations of graduate students.

Revised September 2002
Minnesota State University, Mankato
Curriculum Proposal

***Signature Page***

Department
✓ Recommended (Category/ies____________)  Bryan 10-19-06
☐ Not Recommended (Category/ies____________)

Comments:

College Curriculum Committee
✓ Recommended (Category/ies____________)  Karen 11/2/06
☐ Not Recommended (Category/ies____________)

Comments:

College Dean
☐ Recommended (Category/ies____________)  11/5/06
☐ Not Recommended (Category/ies____________)

Comments:

General Education Subcommittee
☐ Recommended (Category/ies____________)
☐ Not Recommended (Category/ies____________)

Comments:

Undergraduate Curriculum and Academic Policy Committee
☐ Recommended (Category/ies____________)  ACM 3/1/07
☐ Not Recommended (Category/ies____________)

Comments:

Faculty Association Graduate Committee
☐ Recommended
☐ Not Recommended

Comments:

Graduate Dean
☐ Recommended
☐ Not Recommended

Comments:

Academic Affairs Council
✓ Recommended (Category/ies____________)  3/12/07
☐ Not Recommended (Category/ies____________)

Comments:

Senior Vice President and Vice President for Academic Affairs
✓ Approved (Category/ies____________)  3/13/07
☐ Not Approved (Category/ies____________)

Comments:
Attachment for CHEM 412 (course change) curriculum proposal

This is a change in course number and pre-requisite and an update to the bulletin description.

**Current course:**
CHEM 412: (2) Intermediate Inorganic Chemistry
Use of the principles of chemistry such as atomic structure, bonding, thermodynamics and acid-base behavior to focus on the properties of the more interesting, important and unusual elements and compounds. Emphasis will be placed on the representative elements and selected transition elements. Pre: CHEM 320 S

**Proposed course:**
CHEM 312: (2) Intermediate Inorganic Chemistry
This course is designed to emphasize the descriptive aspects of inorganic chemistry. Course topics include nuclear chemistry, reactivity patterns of selected s and p block elements and a brief introduction to coordination chemistry. Pre: a grade of “C” or higher in CHEM 202. S

**Rationale for change:** A 4xx level intermediate inorganic course is somewhat of an oxymoron. If the material is taught at the 4xx level it is generally too advanced for the intermediate title to be appropriate. If the material is taught at a typical intermediate inorganic level, it is more appropriate for a 3xx level course. For the average MSU student and the curriculum in the department, a 3xx level course is more consistent with serving the students well and meeting the big picture curriculum needs for the programs that this course is included in.

While a number and pre-requisite change do not generally require a syllabus, since I have also edited the course description to use current terminology, I am including a copy of the CHEM 312 syllabus that will be used for spring 2008. The most significant changes from the CHEM 412 syllabus are in the textbook selection and the point structure/assessment mechanisms.
Welcome to Chem 312, Intermediate Inorganic Chemistry  
Spring 200x

Minnesota State University, Mankato  
Lecture: 8:00-8:50 MT HF Tr C310  
begins on 1/17 ends on 3/07

Note: You are responsible for all of the information contained in this syllabus, and in supplemental documents. Pay attention to the policies set forth in these materials.

Please be considerate of everyone else when you come to class and turn off your cell phone. Calls are very disruptive during the course of a lecture or discussion to all of us.

Instructor: Dr. Marie Pomije  
office: TR N-350  
phone: 389-5917  
email: marie.pomije@mnsu.edu  
office hours: as posted

Textbook:  
“General Chemistry, Fourth Edition” (chaps 19-22)  
by Hill, Petrucci, McCreary and Perry  

Lecture:
This course is designed to emphasize the descriptive aspects of inorganic chemistry. Thus, we will look at reactivity patterns and how various physical properties play a role in that regard. We will cover many topics this semester, and most of them will depend on several of the concepts introduced in general chemistry. We will start with a brief review of some of these fundamental ideas. I will stress other important concepts in class and in homework assignments, but I will expect you to take the initiative on your own to review these concepts (this includes nomenclature) rather than repeat lectures you have heard in general chemistry. Our goal this semester will be to take those ideas and build on them to look at the interesting descriptive chemistry of selected groups and elements in the periodic table.

As usual, we will maintain a rather fast pace so don’t procrastinate. You will need to take an active role to stay on track. Don’t hesitate to see me if you fall behind and need some help. There is also a Learning Center in Memorial Library (ML 0132) that provides a variety of services to help students in developing or strengthening their academic skills including tutoring and workshops on study skills, test anxiety and other relevant areas. If you have a learning disability or need to make some special arrangements in order to meet course requirements, please contact me as soon as possible or contact the Disability Services Office (phone 1791). The Disability Services Office can also make course information available in alternative formats, if necessary.

Internet: Various materials for this course will be posted on the D2L site. If you are not familiar with D2L, be sure to look at the FAQ’s, log on and work with it enough so that you can use it as needed.

If you miss class, get the notes from a classmate and make sure that you pick up any handouts. Most of the exam material is note-related or extended from class notes, so attendance is critical if you intend to do well. I will post extra copies of any class handouts on D2L for you to download.
Grading:

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<td>Homework</td>
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<td>Exams (2 @ 75)</td>
<td>150</td>
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<td>Final exam</td>
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A 90 % and above
B 80% and above
C 70 % and above
D 55 % and above
F Below 55 %

Homework sets will be handed out in class. These sets are designed to extend the ideas we discuss in class to solve new and interesting problems. Each of you is responsible for understanding the material addressed on the homework and turning in your own answer set. I expect your answer sets to be neatly written, professionally prepared and legible. I will deduct up to 5 points “off the top” for homework sets that are too difficult to read, including answers to problems not in numerical order. I will not evaluate sets that have ragged or torn edges (this includes the “frizzy” edges from standard notebook paper). Homework sets are due by noon on the due date. Late problem sets will not be accepted. It is better to turn in an incomplete set on time than to turn in nothing. If the University cancels classes on a day when a homework set is due (i.e. “snow day!”), the due date will be rescheduled to the next scheduled class meeting.

The two exams will consist of a variety of questions primarily covering material presented in class, but may also cover topics from the homework sets. The 2 hour exams will not be cumulative per se, but you will find that many of the concepts build on each other. The exam format will range from short answer, to completion of reactions to interpretation of graphs or diagrams. Most of the questions will require you to go beyond a simple memorization of facts. You will need to be able to apply, interpret, analyze and synthesize the concepts that we discuss and the ideas from your homework. The final exam will be comprehensive and will be administered on the last class meeting. Electronic devices such as palms, laptops and cell phones will not be allowed during exams; only standard hand held calculators can be used. Calculators or other supplementary information cannot be shared during an exam.

Make-up exams will only be given by prior arrangement and for extraordinary reasons. (I do not consider oversleeping to be an extraordinary reason.) Make up exams will not be the same as the exam given in class; in general they will be more difficult. If the University cancels classes on a day when an exam is scheduled (i.e. “snow day!”), the exam will be rescheduled to the next scheduled class meeting. If you wish to have an exam regraded for any reason, you must return the exam to me by 2 PM on the day you received it, clearly state in writing what you want to have regraded and why. If I regrade your exam, you will receive the new score regardless of whether it is higher or lower than your original score.

Incompletes will only be given in the case of a student who is passing the course, but due to unforeseen significant circumstances cannot complete the course requirements by the end of the semester. This is consistent with University policy. Please note that Incompletes can negatively affect course completion rate.
I strongly believe in and adhere to the University’s policy on student academic honesty. This policy addresses several pertinent areas including plagiarism and cheating and collusion. If you have any questions on the policy, you should consult the web site: http://www.mnsu.edu/supersite/administration/basic-stuff/. Academic dishonesty will not be tolerated and will result in a complete loss of credit on the affected exam, homework assignment, or the like and may result in failing of the course. I hope all of you successfully complete this course. But if you do need to withdraw, you must officially drop the course.

Topics we will cover:
A review of fundamental ideas such as thermodynamics and rxn types.
Nuclear chemistry
Hydrogen: including acids, bases and hydrides
Alkali and Alkaline Earth Metals
An overview of the p-block elements
An introduction to coordination chem

We will also cover one "special topic" from the list below:
noble gas chemistry inorg. chem of the environment
intro. to bioinorganic chem fireworks

As a class, we will vote on the topics listed above. The topic with the highest number of votes will be covered at the end of the semester.

Important University Dates:
Please consult the registrar’s web site at: http://krypton.mnsu.edu/Registrars/ for the most current and accurate dates.
### A tentative schedule:

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