New Undergraduate Course Approval Cover Form
Montana State University

This four-page form collects basic information about the proposed new course, provides information on the approval process, and includes all required approvals. Additional information (see INFO sheet) is also required as part of the New Course Packet.

Proposed New Course Information

Requested Rubric, Course Number, Core Designation (if needed):

Check here if "Special Topics" c91 course:

Course Title:

Abbreviated Course Title (c 90 chars):

First Semester to be Offered:

Submitted by:

Submitter's Contact Info: Phone, Email:

Instructor:

Department:

College:

New Course Review Process

Core Course Info

New Course Packet

Core Course Info

Instructor completes the New Course Packet, with Core information if a Core designation is requested.

Instructor checks for "equivalent" course in the MUS system and recommends a common or unique course number.

The Chair of the College Curriculum Committee signs to indicate College academic approval.

The College Dean signs to indicate that adequate resources are available to offer the course. Supporting information (Statement) is typically required.

The New Course Packet (in PDF) is uploaded to the Provost's Office server for distribution to other committees.

Course requests are sent to Curriculum and Program Committee (CPC). Core reviews are sent to appropriate Core subcommittee. Committee work is parallel when possible to the approval process. Special topics courses (S3, S31) skip the CPC review (limited to two years.)

Provost's Office reviews the new course request. New courses are submitted by MUS for Common Course Number (CCN) review. Dean and Department informed upon approval.

Approved new course sent to Registrar for inclusion in the Catalog and Schedule of Classes

APPROVALS

Deborah Keil
Submitter

Date

Chair, College Curriculum Comm.

Date

Chair, CPC

Date

Registrar's Office

Date

Note: This diagram illustrates the typical flow path, but at any review step there can be a request for additional information or modifications. Careful review in early stages is the best way to speed the overall process. * Special topics courses (S3) require fewer signatures, but cannot be offered more than two times without committee review.
INFORMATION NEEDED FOR COMMON COURSE NUMBERING

The process for identifying a common course number for a new course is as follows:

1. Course learning outcomes are prepared for the new course.
2. The person submitting the new course request looks at the CCN website to see if a course with similar outcomes already exists in the MUS system.
   - If no “equivalent” course is found, the person submitting the new course request should identify a unique course number that has not been used by any other course in the MUS system.
3. The requested rubric and course number are submitted as part of the new course packet.
4. If no “equivalent” course is found, the person submitting the new course request should identify a unique course number that has not been used by any other course in the MUS system.
5. The assigned common course number is reported back to the person submitting the new course request.

Requested Rubric, Course Number, Core Designation (if needed):

<table>
<thead>
<tr>
<th>Course Title:</th>
<th>Toxicology: The Basic Science of Poisons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abbrev. Course Title (≤ 30 char):</td>
<td>Toxicology</td>
</tr>
<tr>
<td>Credits:</td>
<td>3.0</td>
</tr>
<tr>
<td>Department Offering Course:</td>
<td>Microbiology</td>
</tr>
<tr>
<td>College:</td>
<td>Letters and Science</td>
</tr>
</tbody>
</table>

Is this course “equivalent” to a course in the MUS System?: ☑ Yes ☐ No

Learning Outcomes for the Course:

The primary goal of this course is to provide an understanding and knowledge of the mechanisms of toxicity including the role of metabolism in enhancing and reducing toxicity and the effects of toxicants on major organ systems. Students are expected to learn the following fundamental toxicological concepts: major classes of toxicants, absorption, distribution, and storage of toxicants, biotransformation and elimination of toxicants, and effects of toxicants on major organ systems. Clinical and environmental agents specific to human health and an introduction to risk assessment of exposure to toxicants will also be discussed.

Class Learning Objectives:
- Evaluate the historical use and abuse of toxicological agents and the impact on managing environmental and clinical chemicals present today.
- Describe the chemical properties and the biological processes that modulate the toxicity of chemicals—absorption, distribution, metabolism, and excretion.
- Explain the biological transformation reactions as a determining factor of the toxicokinetic and toxicodynamic activities of chemicals.
- Describe molecular, cellular, and physiological responses resulting from exposure to chemical agents (clinical and environmental) relevant to human health. Identify various classes of compounds (i.e., metals, polycyclic aromatic compounds, solvents, etc.) and their primary modes of action affecting human health. Identify essential risk factors that contribute to the capability of chemicals to elicit biological effects leading to human disease. Determine the perspective role of toxicology in...
INFORMATION REQUIRED BY THE REGISTRAR

The data needed to enter the new course into the MSU Catalog and Schedule of Classes is collected on this page. Once the new course has been approved, this page is automatically forwarded to the Registrar for data entry.

Assigned Rubric, Course Number, Core Designation (if needed):
Course Title (for Catalog):
Course Title (for Schedule of Classes, 30 characters, max.):
First Semester to be Offered:
Restricted Entry/Consent of Instructor Required:
Instructor's GID (last 4 digits only):
Department Offering Course:
College:

Is the requested course number available? (4155 to check):
Frequency of course offering:
Semester(s) offered (check all that apply):
Summer Options (check all that apply):

Credits by mode of instruction:
Lecture:
Seminar:
Independent Study:
Lab/Studio:
Recitation/Discussion:

TOTAL CREDITS:

Primary Mode(s) of Delivery:

Time and Location – Call the Registrar’s Office at x4155 to find a time and location for the course:
Assigned Day(s):
Assigned Time(s):
Assigned Building:
Assigned Room:
Capacity (room capacity, or enrollment “cap”):

Co- and Pre-Requisites – Courses numbered 200 and above are normally expected to have prerequisites. When listing multiple prerequisites, please separate courses with “and” if both are required, or “or” if only one is required:
Prerequisite(s):
Co-Requisite(s):

Course Description – Provide a course description of 40 words or less for the MSU Catalog:

This course is appropriate for premed, health professional, and environmental science majors. Topics include history, principles, and mechanisms of toxicology; disposition of toxicants; chemical carcinogens; target organ toxicity; clinical and environmental toxicology.
DEAN'S STATEMENT

The reviewing committees are being asked to take a closer look at the resources required for each proposed new course. In many cases new courses will replace existing courses and the new course request is effectively resource neutral, however that is not always the case. For example, a new elective course that would result in distributing an existing student population across a larger number of courses would represent a significant increase in expenditures for the new course, and no increase in total student credit hours. A funding mechanism for such a course would need to be identified.

The Dean's Statement is the place to document how the costs of the proposed new course will be covered.

New faculty - part of regular workload.

AMZ 10/23/13
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Chapters, Assigned Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>To be filled in with dates</td>
<td>• History and Scope of Toxicology</td>
<td>Chapter 1</td>
</tr>
<tr>
<td>Week 1</td>
<td>• Principles of Toxicology</td>
<td>Chapter 2</td>
</tr>
<tr>
<td></td>
<td><strong>Quiz 1, D2L</strong></td>
<td></td>
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<tr>
<td>Week 2</td>
<td>• Mechanisms of Toxicology</td>
<td>Chapter 3</td>
</tr>
<tr>
<td>Week 3</td>
<td>• Risk Assessment</td>
<td>Chapter 4</td>
</tr>
<tr>
<td>Week 4</td>
<td>• Disposition of Toxicants (ADME)</td>
<td>Chapter 5</td>
</tr>
<tr>
<td></td>
<td><strong>Quiz 2, D2L</strong></td>
<td></td>
</tr>
<tr>
<td>Week 6</td>
<td>• Biotransformation of xenobiotics</td>
<td>Chapter 6</td>
</tr>
<tr>
<td>Week 7</td>
<td>• Toxicokinetics</td>
<td>Chapter 7</td>
</tr>
<tr>
<td></td>
<td>• Chemical Carcinogens</td>
<td>Chapter 8</td>
</tr>
<tr>
<td></td>
<td><strong>Exam #1</strong></td>
<td></td>
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<tr>
<td>Week 8</td>
<td>• Genetic Toxicology</td>
<td>Chapter 9</td>
</tr>
<tr>
<td>Week 8</td>
<td>• Developmental toxicology</td>
<td>Chapter 10</td>
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<tr>
<td></td>
<td><strong>Quiz 3, D2L</strong></td>
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<tr>
<td>Week 9</td>
<td>• Toxic responses to the blood</td>
<td>Chapter 11</td>
</tr>
<tr>
<td>Week 9</td>
<td>• Toxic responses to the immune system</td>
<td>Chapter 12</td>
</tr>
<tr>
<td>Week 10</td>
<td>• Toxic responses to the liver</td>
<td>Chapter 13</td>
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<tr>
<td></td>
<td><strong>Quiz 4, D2L</strong></td>
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<tr>
<td>Week 10</td>
<td>• Toxic responses to the kidney</td>
<td>Chapter 14</td>
</tr>
<tr>
<td>Week 11</td>
<td>• Toxic effects of pesticides</td>
<td>Chapter 22</td>
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<tr>
<td></td>
<td><strong>Exam #2</strong></td>
<td></td>
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<tr>
<td>Week 11</td>
<td>• Toxic effects of metals</td>
<td>Chapter 23</td>
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<tr>
<td>Week</td>
<td>Topic</td>
<td>Chapter</td>
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<tr>
<td>Week 12</td>
<td>Toxic effects of solvents and vapors</td>
<td>Chapter 24</td>
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<td></td>
<td><strong>Quiz 5, D2L</strong></td>
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<tr>
<td>Week 12</td>
<td>Health effects of radiation and radioactive materials</td>
<td>Chapter 25</td>
</tr>
<tr>
<td>Week 12</td>
<td>Toxicity of animal venoms and plants</td>
<td>Chapter 26 and 27</td>
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<tr>
<td>Week 13, 14</td>
<td>Clinical toxicology and Drugs of Abuse</td>
<td>Chapter 32</td>
</tr>
<tr>
<td>Week 15</td>
<td><strong>Graduate student presentations</strong></td>
<td></td>
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<tr>
<td></td>
<td><strong>Exam #3 and Final</strong></td>
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</tr>
</tbody>
</table>
Please provide the following information in narrative format. Substantive responses to all criteria are required. Although not required, a draft syllabus can also be helpful to the committee in understanding the details of the proposed course.

**General Course Information**

1. **Requested Rubric, Course Number, and Core Designation (if any)**

   BIOM 4XX

2. **Course Title**

   Toxicology: The Basic Science of Poisons

3. **Provide a general description of the course explaining the need for the course, its goals, and its overall structure. This is the most important part of the application and should offer a good sense of what students will experience by taking this class.**

   The primary goal of this course is to provide an understanding and knowledge of the mechanisms of toxicity including the role of metabolism in enhancing and reducing toxicity and the effects of toxicants on major organ systems. Students are expected to learn the following fundamental toxicological concepts: major classes of toxicants, absorption, distribution and storage of toxicants, biotransformation and elimination of toxicants, and effects of toxicants on major organ systems. Clinical and environmental agents specific to human health and an introduction to risk assessment of exposure to toxicants will also be discussed.

   **Class Learning Objectives:**

   Evaluate the historical use and abuse of toxicological agents and this impact on managing environmental and clinical chemicals present day; Describe the chemical properties and the biological processes that modulate the toxicokinetics of chemicals --- absorption, distribution, metabolism, and excretion; Explain the biological transformation reactions as a determining factor of the toxicokinetic and toxicodynamic activities of chemicals; Describe molecular, cellular and physiological responses resulting from exposure to chemical agents (clinical and environmental) relevant to human health; Identify various classes of compounds (i.e., metals, polyaromatic compounds, solvents etc.) and their primary modes (or mechanisms) of action affecting human health; Identify essential risk factors that contribute to the capability of chemicals to elicit biological effects leading to human disease; Determine the perspective the role of toxicology in the risk assessment process; Recognize all stakeholders involved in a risk assessment and various perspectives they offer to a management decision regarding a toxicological agent.

4. **Based on what types of student work (e.g., tests, homework assignments, papers, performances, etc.) will grades be determined?**
The class will be blended with lecture, classroom discussion, presentations by graduate students (split level), online quizzes (at least 5), and at 3 lecture exams. When available, I will invite guest toxicologists to provide one or two lectures so that the students are exposed to broader perspectives in this science.

Grading Scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>100 - 94%</td>
</tr>
<tr>
<td>A-</td>
<td>93 - 90%</td>
</tr>
<tr>
<td>B+</td>
<td>89 - 88%</td>
</tr>
<tr>
<td>B</td>
<td>87 - 84%</td>
</tr>
<tr>
<td>B-</td>
<td>83 - 80%</td>
</tr>
<tr>
<td>C+</td>
<td>79 - 78%</td>
</tr>
<tr>
<td>C</td>
<td>77 - 74%</td>
</tr>
<tr>
<td>C-</td>
<td>73 - 70%</td>
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<tr>
<td>D</td>
<td>69 - 63%</td>
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<tr>
<td>F</td>
<td>62 or below</td>
</tr>
</tbody>
</table>

Scoring Undergraduates:
- 100 pts. First Exam
- 100 pts. Second Exam
- 100 pts. Third and Final Exam
- 10 quizzes. 10 pts each x 10 = 100 pts

Total Points = 400 pts.

Scoring Graduates:
- 120 pts. First Exam with essay
- 120 pts. Second Exam with essay
- 120 pts. Third and Final Exam with essay
- 10 quizzes. 10 pts each x 10 = 100 pts
- 100 pts. Project Presentation

Total Points = 560 pts.

Exams:
- Exam 1, 2 and 3: in-class exam
- Final Exam: comprehensive, see the published Final Exam Schedule for time and location
- No notes are allowed during exam. When needed a calculator may be used. This will be indicated by the instructor.
- An unexcused exam will be assigned 0 points. Official documentation will be required to support any excused absences from exams.

Quizzes: Quizzes will be open-book, timed, and administered via D2L. Refer to Master schedule for dates and times that will be uploaded on D2L. It is the responsibility of the student to be aware of dates and complete quizzes as per the syllabus schedule. The quizzes will range from 10 to 20 questions and emphasize information discussed to date from ANY previous lecture, supporting laboratory exercise, and/or reading assignments. Students are expected to be on their academic honor when completing all assignments and while taking tests or quizzes. Meaning, the work submitted is your own work and not anyone else’s.
5. Provide a course content outline containing all major topics plus a brief description of the material to be covered under each major topic heading.

See attached master schedule.

6. List required texts or other required references.

**Textbook:**

7. What are the estimated enrollment and student credit hour (SCH) production?
   \[\text{SCH} = (\text{enrollment} \times \text{credits})\]
3 credit hours

8. Will there be an enrollment cap that restricts enrollment below the level of student demand? If so, what is the enrollment cap and why is it necessary?

I have proposed 30 as a cap for the first year. I expected that after my first semester of teaching this course at MSU, I could increase the cap if necessary.

9. Will course be a “restricted enrollment” course? If so, why is restricted enrollment necessary?

No.

10. Describe how the success of the course will be evaluated? (“End-of-semester student evaluations” is not the answer to this question. How will the instructor determine if the learning outcomes are being met, and how will the department determine if the course is fulfilling its intended purpose?)

The following are general learning outcomes:

**Learning Outcomes:**
Students will be able to

- Evaluate the historical use and abuse of toxicological agents and this impact on managing environmental and clinical chemicals present day.
- Describe the chemical properties and the biological processes that modulate the toxicokinetics of chemicals --- absorption, distribution, metabolism, and excretion.
- Explain the biological transformation reactions as a determining factor of the toxicokinetic and toxicodynamic activities of chemicals.
- Describe molecular, cellular and physiological responses resulting from exposure to chemical agents (clinical and environmental) relevant to human health.
• Identify various classes of compounds (i.e., metals, polyaromatic compounds, solvents etc.) and their primary modes (or mechanisms) of action affecting human health.
• Identify essential risk factors that contribute to the capability of chemicals to elicit biological effects leading to human disease.
• Determine the perspective the role of toxicology in the risk assessment process.
• Recognize all stakeholders involved in a risk assessment and various perspectives they offer to a management decision regarding a toxicological agent.

In addition, cognitive, affective and psychomotor skills will be expanded in this course based on course or project assignments.

<table>
<thead>
<tr>
<th>Cognitive Learning</th>
<th>Course Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recall of Knowledge</td>
<td>Overview: Students will be presented with a problem and draw upon their knowledge and research to weigh and select various data leading to a solution of the problem which is workable and intellectually defensible.</td>
</tr>
<tr>
<td>Comprehension</td>
<td></td>
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<td>Application</td>
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<tr>
<td>Analysis</td>
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<tr>
<td>Synthesis</td>
<td></td>
</tr>
<tr>
<td>Evaluation</td>
<td></td>
</tr>
<tr>
<td>Affective Learning</td>
<td>Overview: Students will approach problems in toxicology that will requires skills in organizing and prioritizing facts that are pertinent to a well-researched decision. In this process, they will learn the value of various stakeholders involved in managing toxicology issues from the scientist to the EPA regulator or risk assessor to a community member or patient.</td>
</tr>
<tr>
<td>Receiving</td>
<td></td>
</tr>
<tr>
<td>Responding</td>
<td></td>
</tr>
<tr>
<td>Valuing</td>
<td></td>
</tr>
<tr>
<td>Organization</td>
<td></td>
</tr>
<tr>
<td>Value Complex</td>
<td></td>
</tr>
<tr>
<td>Psychomotor Learning</td>
<td>Overview: Students will be required to produce a project or defensible solution to a problem and apply oral and visual presentation skills that reflects competency as a communicator.</td>
</tr>
<tr>
<td>Gross Bodily Movements</td>
<td></td>
</tr>
<tr>
<td>Finely Coordinated Movements</td>
<td></td>
</tr>
<tr>
<td>Non-verbal Communication</td>
<td></td>
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<tr>
<td>Speech Behaviors</td>
<td></td>
</tr>
</tbody>
</table>

In addition to these general learning outcomes, additional objectives will be added for each assigned chapter reading. Testing will be consistent with learning outcomes and this will be the primary way to evaluate student education.
11. Is the instructor a member of the regular faculty (i.e., tenured or tenure-track)? If no, please describe the instructor’s qualifications, attach a Vita, and provide a separate letter of support, signed by the department head (or appropriate unit director), addressing the instructor’s qualifications to teach this course.

Tenure Track, Assoc Professor
I am a Diplomate of the American Board of Toxicology and serve on its executive board. (DABT)

Level of Offering
12. Has the course been offered previously under 280/291 or 480/491? If so, when? Under what number? What was the enrollment? What level of students took the course?

No.

13. Justify the level of course offering.

I suggest a split level class for graduate and undergraduate students. This will serve the LRES undergrad and graduate students, undergrad MLS students in microbiology, and graduate students with environmental and health majors.

Relationship to other Courses, Curricula, and Departments
14. Does this course build on or interrelate with other courses in your curriculum or related curricula? If so, which ones?

This builds on undergrad MLS classes and complements clinical chemistry and hematology. This class will also complement the MS degree in Environmental Science (Dr. Robert Petereson is the director). Toxicology inherently is multidisciplinary. Therefore, I believe this topic will complement many MSU classes, some of which I will learn about after I have taught the class a time or two.

15. Do the topics in the proposed course duplicate or reiterate those in other courses in this or any other department? If so, how do the coverage and educational experience differ and how is this duplication or reiteration justified? Also, what liaison (which is expected in cases of apparent overlap) has been conducted with other departments? Report reactions, both favorable and unfavorable.

Currently, no toxicology, environmental or clinical, is offered on this campus. Initial reactions have been favorable and I have been told that students are wanting to include this class in their course of study. Recently, I presented an introductory 50-minute class on toxicology and related professions. At least 90% of the student feedback in a class of 50 students indicated that they were interested in this topic and were impressed with my presentation (these written evaluations are available upon request). Of this group alone, probably 10 of them would take the class. In addition, I would know almost 10 additional graduate students that would take this class.
At the end of this semester, I will present on toxicology topics in a freshman class of 160. I anticipate that with the awareness of this topic, additional students will consider this class.

16. What programs (departments, colleges) will be impacted by the SCH production of this course? That is, where do you think the SCH in the proposed course are likely to come from? If the expected SCH production of the proposed course is greater than 1000, and the SCH are expected to come from other colleges, what steps have been taken to make the other units aware of the potential loss of SCH? Report reactions, both favorable and unfavorable.

MLS program
Microbiology
MS in Environmental Science
Soil science, geology - contaminants in soil and impact on health
Agriculture - occupational exposure to pesticides, fungicides, and impact on health and environment
Pre-med and pre-vet majors - will supplement understanding of ADME - absorption, distribution, metabolism and excretion of chemical (clinical or environmental) exposure. Discuss routes of exposure and long lasting health effects.

\[ \text{SCH} = \text{(enrollment} \times \text{credits}) \]
\[ 30 \times 3 \text{ credits} = 90 \text{ SCH} \]

17. If this proposed course has a significant interdisciplinary component, please explain briefly. Otherwise, indicate n/a.

Toxicology inherently is multidisciplinary. Therefore, I believe this topic will complement many MSU classes, some of which I will learn about after I have taught the class a time or two.

**Students Served**
18. Does the proposed course serve majors only? Non-majors only? Both majors and non-majors? What other majors might be interested in this course? State areas or disciplines to be served and indicate the specific efforts that will be made to make the course material relevant to all disciplines served.

Majors in the following will be directly served:
MLS program
Microbiology
MS in Environmental Science
Soil science, geology - contaminants in soil and impact on health
Agriculture - occupational exposure to pesticides, fungicides, and impact on health and environment
Pre-med and pre-vet majors - will supplement understanding of ADME - absorption, distribution, metabolism and excretion of chemical (clinical or environmental) exposure. Discuss routes of exposure and long lasting health effects.
As this is a multidisciplinary topic, additional majors with health or environmental science will benefit from this class.

Resources
19. What additional resources (e.g., additional instructional FTE, required technologies), if any, will be required to offer this course? Are there any resource issues for the students who will take the course (e.g., required technologies, travel, on-line access requirements)? Will there be an additional fee charged to students taking this course? Please explain.

D2L will supplement this class. No travel is anticipated. With a bit more experience in smart classrooms, I would like to expand into this teaching environment. However, smart classrooms are not available to all faculty on campus. In addition, I am eagerly waiting for MSU to provide opportunities for faculty to participate in these new delivery methods. With these tools, I would like to see this class evolve with expanded teaching techniques.

20. What existing information resources – print (books, journals, documents), audiovisual (videos, DVDs, CDs or other), and/or electronic (e-books, databases, electronic journals and web sites) – provided by the MSU Libraries will be used by students in this course? Provide examples as well as descriptive information. If additional information resources are necessary, please discuss those acquisitions with the library (x6549 Collection Development) at least three months prior to the beginning of the semester in which this course will be taught.

In addition to the textbook, current journal articles in toxicology would support this class. I will contact Collection Development for this.

Other Supporting Material
21. Include any additional information you feel is needed to support this request.

All supportive information is provided above.
BIOM 4xx and 5xx: Toxicology: The Basic Science of Poisons, Spring 2014

Split undergrad/grad course

Updated: Sept 20, 2013

Catalog Data: Spring, 3 cr.
This course is appropriate for premed, health professional, and environmental science majors. Topics include history, principles, and mechanisms of toxicology; disposition of toxicants; chemical carcinogens; target organ toxicity; clinical and environmental toxicology.

Prerequisites: General Chemistry I and II, General Biology, Biochemistry

Class Schedule: Anytime to be selected on Tuesday and Thursday 10am-4:30pm (TBD)

Course Web Site: D2L is used in this course for
• News and class updates
• Providing copies of all material handed out in class
• Homework assignments and solutions (available online right after the assignment due date)
• Quizzes
• Providing student access to assignment scores and course grades

Textbook:

Instructor:
Deborah E. Keil, Ph.D, MLS(ASCP), DABT
103 Lewis Hall, Deborah.keil@montana.edu
Office Hours: (Tuesday 2-4; Thursday 2-4 and by appointment – this will be updated based on class assigned time)
The primary goal of this course is to provide an understanding and knowledge of the mechanisms of toxicity including the role of metabolism in enhancing and reducing toxicity and the effects of toxicants on major organ systems. Students are expected to learn the following fundamental toxicological concepts: major classes of toxicants, absorption, distribution and storage of toxicants, biotransformation and elimination of toxicants, and effects of toxicants on major organ systems. Clinical and environmental agents specific to human health and an introduction to risk assessment of exposure to toxicants will also be discussed.

Learning Outcomes:
Students will be able to
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<tr>
<td>Evaluation</td>
<td></td>
</tr>
</tbody>
</table>

| Affective Learning                  |                                                                                     |
| Receiving                           | Overview: Students will approach problems in toxicology that will requires skills in organizing and prioritizing facts that are pertinent to a well-researched decision. In this process, they will learn the value of various stakeholders involved in managing toxicology issues from the scientist to the EPA regulator or risk assessor to a community member or patient. |
| Responding                          |                                                                                     |
| Valuing                             |                                                                                     |
| Organization                        |                                                                                     |
| Value Complex                       |                                                                                     |

| Psychomotor Learning                |                                                                                     |
| Gross Bodily Movements              | Overview: Students will be required to produce a project or defensible solution to a problem and apply oral and visual presentation skills that reflects competency as a communicator. |
| Finely Coordinated Movements        |                                                                                     |
| Non-verbal Communication            |                                                                                     |
| Speech Behaviors                    |                                                                                     |

**Grading Scale:**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>100 - 94%</td>
</tr>
<tr>
<td>A-</td>
<td>93 - 90%</td>
</tr>
<tr>
<td>B+</td>
<td>89 - 88%</td>
</tr>
<tr>
<td>B</td>
<td>87 - 84%</td>
</tr>
<tr>
<td>B-</td>
<td>83 - 80%</td>
</tr>
<tr>
<td>C+</td>
<td>79 - 78%</td>
</tr>
<tr>
<td>C</td>
<td>77 - 74%</td>
</tr>
<tr>
<td>C-</td>
<td>73 - 70%</td>
</tr>
<tr>
<td>D</td>
<td>69 - 63%</td>
</tr>
<tr>
<td>F</td>
<td>62 or below</td>
</tr>
</tbody>
</table>

**Scoring Undergraduates:**

- 100 pts. First Exam
- 100 pts. Second Exam
- 100 pts. Third and Final Exam
- 10 quizzes. 10 pts each x 10 = 100 pts

**Total Points = 400 pts.**

**Scoring Graduates:**

- 120 pts. First Exam with essay
- 120 pts. Second Exam with essay
- 120 pts. Third and Final Exam with essay
- 10 quizzes. 10 pts each x 10 = 100 pts
- 100 pts. Project Presentation
Total Points = 560 pts.

Exams:
- Exam 1, 2 and 3: in-class exam
- Final Exam: comprehensive, see the published Final Exam Schedule for time and location
- No notes are allowed during exam. When needed a calculator may be used. This will be indicated by the instructor.
- An unexcused exam will be assigned 0 points. Official documentation will be required to support any excused absences from exams.

Quizzes: Quizzes will be open-book, timed, and administered via D2L. Refer to Master schedule for dates and times that will be uploaded on D2L. It is the responsibility of the student to be aware of dates and complete quizzes as per the syllabus schedule. The quizzes will range from 10 to 20 questions and emphasize information discussed to date from ANY previous lecture, supporting laboratory exercise, and/or reading assignments. Students are expected to be on their academic honor when completing all assignments and while taking tests or quizzes. Meaning, the work submitted is your own work and not anyone else's.

Online course guidelines and communication:
The didactic portion of the course is offered through classroom lecture, email or D2L.

Electronic or equipment failure: It is your responsibility to maintain your computer and related equipment in order to participate in the online portion of the course and email communication. Equipment failures will not be an acceptable excuse for any late or absent assignments.

Document archiving: You are responsible for making sure your assignments, including attachments, are received before the deadline.

Naming conventions and software type: You are responsible for submitting the assignment with the required naming convention, correct file extension, and using the software type and version required for the assignment.

Late assignments: For each day an assignment is late, a decrease in a half step letter grade will be applied to the assignment. That is, if the submission is late one day, the grade will drop from A- to a B+ due to the tardiness alone. If two days, then A- will become a B-, and so forth.

Classroom equivalency: Discussion threads, e-mails, and chat rooms are all considered to be equivalent to classrooms, and student behavior within those environments shall conform to the Student Code.

Specifically:
- Posting photos or comments that would be off-topic in a classroom are still off-topic in an online posting.
- Off-color language and photos are never appropriate.
- Using angry or abusive language is called "flaming", is not acceptable, and will be dealt with according to the Student Code.
- Do not use ALL CAPS, except for titles, since it is the equivalent of shouting online, as is overuse of certain punctuation marks such as exclamation points !!! and question marks ?????.
- Course e-mails, e-journals, and other online course communications are part of the classroom and as such, are University property and subject to GRAMA regulations and the Student Code.
communications between correspondents must not be assumed and should be mutually agreed upon in advance, in writing.

Attendance Policy for Lectures: Attendance is expected. Each session requires active participation and at times evaluation of student presentations and discussions.

Plagiarism:
Paraphrasing or quoting another’s work without citing the source is a form of academic misconduct. Even inadvertent or unintentional misuse or appropriation of another’s work (such as relying heavily on source material that is not expressly acknowledged) is considered plagiarism. If you have any questions about using and citing sources, you are expected to ask for clarification.

Plagiarism Software Policy:
The professor and/or instructors of this course may elect to use a plagiarism detection service in this course, in which case you will be required to submit any assignment. It is defined as any of the following:

A. Using the words or ideas of another, from the internet or any source, without proper citation of the sources, commonly called plagiarism.
B. Receiving external assistance during an examination or any academic exercise for credit unless expressly permitted by the instructor. This includes, but is not limited to:
   1. Providing or receiving aid not permitted by the instructor in connection with any academic assignment;
   2. Unauthorized use or possession of camera telephones, text messages, computer disks, audio recorders, calculators, solution materials, photocopies, materials from previous classes, commercial research services, notes or other means to copy or photograph materials used or intended for academic evaluation not authorized by the instructor for use during the academic evaluation nor assignment;
   3. Communication in any manner with another student not permitted by the instructor during an examination;
   4. Working with others on graded coursework, including in-class, online, and take-home examinations, unless expressly permitted by the instructor;
   5. Possessing, reading, buying, selling or using any materials intended for an academic evaluation or assignment in advance of its administration without the knowledge and consent of the instructor.
C. Turning in the same work in more than one class (or when repeating a class), unless permission is received in advance from the instructor.
D. Falsifying information for inclusion in an assigned paper, project or exercise; including inventing or altering data from a laboratory or field project, or creating fictional citations for a paper.
E. Attempting to influence or change any academic evaluation, assignment or academic records for reasons having no relevance to academic achievement. This includes, but is not limited to, bribery, threats and making unauthorized changes to any academic record.
F. Falsifying or misrepresenting hours or activities in relationship to an internship, externship, field experience, clinical activity or similar activity.
G. Acting or attempting to act as a substitute for another, or using or attempting to use a substitute, in any academic evaluation or assignment.

Exceptions: In accordance with the Attendance Policy of Montana State University Student Code, students whose religious obligations, University activities, or other legitimate obligations as determined by the instructor may interfere with their ability to fulfill any course requirements on their scheduled dates shall in advance of those dates arrange with the instructor to fulfill the requirements.
H. Facilitating, permitting or tolerating any of the above-listed items.
Special Needs Information:
Students with special needs or requiring special accommodations should contact the instructor and the Disabled Student Services Office at the earliest opportunity. Montana State University is dedicated to providing equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability Services.

Student Conduct:
Montana State University expects all students to conduct themselves as honest, responsible, and law-abiding members of the academic community and to respect the rights of other students, members of the faculty and staff, and the public to use, enjoy, and participate in the University programs and facilities. For additional information reference see www2.montana.edu/policy/student_conduct/student_conduct-code_2008-2009.htm.

Collaboration:
University policy states that, unless otherwise specified, students may not collaborate on graded material. Any exceptions to this policy will be stated explicitly for individual assignments. If you have any questions about the limits of collaboration, you are expected to ask for clarification.

Academic Misconduct:
Section 420 of the Student Conduct Code describes academic misconduct as including but not limited to plagiarism, cheating, multiple submissions, or facilitating others’ misconduct. Possible sanctions for academic misconduct range from an oral reprimand to expulsion from the university.

Academic Expectations:
Section 310.00 in the MSU Conduct Guidelines states that students must:
A. be prompt and regular in attending classes;
B. be well prepared for classes;
C. submit required assignments in a timely manner;
D. take exams when scheduled;
E. act in a respectful manner toward other students and the instructor and in a way that does not detract from the learning experience; and
F. make and keep appointments when necessary to meet with the instructor.

Course Etiquette:
- Please be punctual to class meetings, especially when presentations are scheduled. Your late arrival may disrupt or distract a speaker.
- If you will be unavoidably delayed or prevented from attending a class meeting, you must email or speak with your section’s teaching assistant about it as soon as you can (this means “in advance” unless that is impossible).
- Be a constructive audience for your peers. Your role is to help individuals clarify what they are trying to say so that it is clear to you; you don’t need to agree with them.
- When making suggestions or offering comments, be constructive and specific.
- If you eat or drink a beverage, please don’t let this be disruptive.