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| For Academic Affairs and Research Use Only | |
| Proposal Number |  |
| CIP Code: |  |
| Degree Code: |  |

**New or Modified Course Proposal Form**

**[X] Undergraduate Curriculum Council**

**[ ] Graduate Council**

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| --- |
| **[ ]New Course, [ ]Experimental Course (1-time offering), or [X]Modified Course (Check one box)** |

Signed paper copies of proposals submitted for consideration are no longer required. Please type approver name and enter date of approval.

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| John Hershberger 10/20/2020 Enter date… **Department Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **COPE Chair (if applicable)** |
| William Burns 9/30/2020 **Department Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Head of Unit (if applicable)** |
| John Hershberger 10/20/2020 Enter date…  **College Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Undergraduate Curriculum Council Chair** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date… **Director of Assessment (new courses only)** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Graduate Curriculum Committee Chair** |
| Lynn Boyd 10/26/2020 **College Dean** | Alan Utter 4/27/2021  **Vice Chancellor for Academic Affairs** |
| David Harding 4/26/2021  **General Education Committee Chair (if applicable)** |  |

1. **Contact Person (Name, Email Address, Phone Number)**

Willliam Burns, [wburns@astate.edu](mailto:wburns@astate.edu) 870-972-2535

1. **Proposed starting term and Bulletin year for new course or modification to take effect**

Fall 2021

**Instructions:**

*Please complete all sections unless otherwise noted. For course modifications, sections with a “Modification requested?” prompt need not be completed if the answer is “No.”*

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|  | **Current (Course Modifications Only)** | **Proposed (New or Modified)**  *(Indicate “N/A” if no modification)* |
| **Prefix** | **CHEM** | **NA** |
| **Number\*** | **1013** | **NA** |
| **Title** | **General Chemistry I** | **NA** |
| **Description\*\*** | Study of chemical reactions and equations, periodic re­lationships, the gaseous state, and the fundamentals of atomic theory, quantum theory, electronic structure, chemical bonding, stoichiometry and thermochemistry. Special course fees may apply. Prerequisite, MATH 1023, or ACT composite score of 23 or higher. Prior completion of CHEM 1003 or high school chemistry strongly recommended. Fall, Spring, Summer. (ACTS#: CHEM 1414) | Study of chemical reactions and equations, periodic re­lationships, the gaseous state, and the fundamentals of atomic theory, quantum theory, electronic structure, chemical bonding, stoichiometry and thermochemistry. Special course fees may apply. Prerequisite, MATH 1023 or any MATH course that requires MATH 1023 as a prerequisite, or ACT composite score of 23 or higher. Prior completion of CHEM 1003 or high school chemistry strongly recommended. Fall, Spring, Summer. (ACTS#: CHEM 1414) |

***\**** (Confirm with the Registrar’s Office that number chosen has not been used before and is available for use. For variable credit courses, indicate variable range. *Proposed number for experimental course is 9*. )

\*\*Forty words or fewer as it should appear in the Bulletin.

1. **Proposed prerequisites and major restrictions** **[Modification requested? Yes]**

(Indicate all prerequisites. If this course is restricted to a specific major, which major. If a student does not have the prerequisites or does not have the appropriate major, the student will not be allowed to register).

1. Yes Are there any prerequisites?
   1. If yes, which ones?

Completion of MATH 1023 or a higher level MATH course or a higher level math course.

* 1. Why or why not?

Mathematics is a fundamental and necessary aspect of chemistry.

1. No Is this course restricted to a specific major?
   1. If yes, which major? Enter text...
2. **Proposed course frequency [Modification requested? No]**

(e.g. Fall, Spring, Summer; if irregularly offered, please indicate, “irregular.”) *Not applicable to Graduate courses.*

Enter text...

1. **Proposed course type [Modification requested? No]**

Will this course be lecture only, lab only, lecture and lab, activity (e.g., physical education), dissertation/thesis, capstone, independent study, internship/practicum, seminar, special topics, or studio? Please choose one.

Enter text...

1. **Proposed grade type [Modification requested? No]**

What is the grade type (i.e. standard letter, credit/no credit, pass/fail, no grade, developmental, or other [please elaborate])

Enter text...

1. No Is this course dual-listed (undergraduate/graduate)?
2. No Is this course cross-listed?

*(If it is, all course entries must be identical including course descriptions. Submit appropriate documentation for requested changes. It is important to check the course description of an existing course when adding a new cross-listed course.)*

**a.** – If yes, please list the prefix and course number of the cross-listed course.

Enter text...

**b.** – **Yes / No** Can the cross-listed course be used to satisfy the prerequisite or degree requirements this course satisfies?

Enter text...

1. No Is this course in support of a new program?

a. If yes, what program?

Enter text...

1. No Will this course be a one-to-one equivalent to a deleted course or previous version of this course (please check with the Registrar if unsure)?

a. If yes, which course?

Enter text...

**Course Details**

1. **Proposed outline** **[Modification requested? No]**

(The course outline should be topical by weeks and should be sufficient in detail to allow for judgment of the content of the course.)

Enter text...

1. **Proposed special features** **[Modification requested? No]**

(e.g. labs, exhibits, site visitations, etc.)

Enter text...

1. **Department staffing and classroom/lab resources**

No change

1. Will this require additional faculty, supplies, etc.?

No

1. No Does this course require course fees?

*If yes: please attach the New Program Tuition and Fees form, which is available from the UCC website.*

**Justification**

**Modification Justification (Course Modifications Only)**

1. Justification for Modification(s)

The prerequisite is being updated to include higher level MATH courses so students that have completed a MATH course taught at a higher level than MATH 1023 will not receive a registration error.

**New Course Justification (New Courses Only)**

1. Justification for course. Must include:

a. Academic rationale and goals for the course (skills or level of knowledge students can be expected to attain)

Enter text...

b. How does the course fit with the mission of the department? If course is mandated by an accrediting or certifying agency, include the directive.

Enter text...

c. Student population served.

Enter text...

d. Rationale for the level of the course (lower, upper, or graduate).

Enter text...

**Assessment**

**Assessment Plan Modifications (Course Modifications Only)**

1. **Yes / No** Do the proposed modifications result in a change to the assessment plan?

*If yes, please complete the Assessment section of the proposal*

**Relationship with Current Program-Level Assessment Process (Course modifications skip this section unless the answer to #18 is “Yes”)**

1. What is/are the intended program-level learning outcome/s for students enrolled in this course? Where will this course fit into an already existing program assessment process?

Enter text...

1. Considering the indicated program-level learning outcome/s (from question #19), please fill out the following table to show how and where this course fits into the program’s continuous improvement assessment process.

*For further assistance, please see the ‘Expanded Instructions’ document available on the UCC - Forms website for guidance, or contact the Office of Assessment at 870-972-2989.*

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| **Program-Level Outcome 1 (from question #19)** | Type outcome here. What do you want students to think, know, or do when they have completed the course? |
| Assessment Measure | Please include direct and indirect assessment measure for outcome. |
| Assessment  Timetable | What semesters, and how often, is the outcome assessed? |
| Who is responsible for assessing and reporting on the results? | Who (person, position title, or internal committee) is responsible for assessing, evaluating, and analyzing results, and developing action plans? |

*(Repeat if this new course will support additional program-level outcomes)*

**Course-Level Outcomes**

1. What are the course-level outcomes for students enrolled in this course and the associated assessment measures?

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| **Outcome 1** | Type outcome here. What do you want students to think, know, or do when they have completed the course? |
| Which learning activities are responsible for this outcome? | List learning activities. |
| Assessment Measure | What will be your assessment measure for this outcome? |

*(Repeat if needed for additional outcomes)*

**Bulletin Changes**

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| **Instructions** |
| **Please visit** [**http://www.astate.edu/a/registrar/students/bulletins/index.dot**](http://www.astate.edu/a/registrar/students/bulletins/index.dot) **and select the most recent version of the bulletin. Copy and paste all bulletin pages this proposal affects below. Please include a before (with changed areas highlighted) and after of all affected sections.**  **\*Please note: Courses are often listed in multiple sections of the bulletin. To ensure that all affected sections have been located, please search the bulletin (ctrl+F) for the appropriate courses before submission of this form.** |

Page 451 2020-2021 A-State Undergraduate Bulletin

**CE 4263. Water and Waste Treatment** Design of physical, chemical and biological unit processes for treatment of water, wastewater and sludges. Advanced wastewater treatment processes are presented. Student papers on selected waste treatment applications are required. Prerequisites, C or better in CE 3253 and 3263. Dual listed as CE 5263. Spring.

**CE 4283. Structural Steel Design** Analysis and design of tension members, beams, columns, and beam-columns. Prerequisite, C or better in CE 3213. Dual listed as CE 5283. Spring.

**CE 429V. Special Problems in Civil Engineering** Individually directed problems in civil engi­neering for juniors and seniors. A course outline and project summary listing the goals and expected outcomes must be approved by the student advisor and the program director. Prerequisites are dependent on the nature of the special problem. Irregular.

**CE 4803. Open Channel Flow** Fundamental concepts of open channel hydraulics, ve­locity distribution, flow measurements, specific energy concept, and flow analysis for uniform flow, gradually varied flow, and unsteady flow. Corequisite, CE 3253. Spring, odd.

**CE 4813. Groundwater Hydrology** Physical principles governing groundwater flow and dynamics and the impact of human activity on the groundwater sources. Prerequisite, C or better in CE 3253. Fall, odd.

**CE 4823. Earthquake Engineering** Causes of earthquakes, characteristics of earthquake ground motions, magnitude and intensity measurements, free and forced vibration, numerical methods, elastic response spectra, soil liquefaction, general seismic code requirements. Prereq­uisites, C or better in CE 3233, CE 4251 and CE 4253. Dual listed as CE 5823. Spring, even.

**CE 4893. Sustainability and Water Resources** Fundamental concepts of sustainability, the interconnection of the water system with other systems, the environmental and socio-economic aspects of water systems, and case studies for sustainable strategies. Lecture three hours per week. Dual listed as CE 5293. Prerequisite, C or better in CE 3253 and CE 3263. Fall, even.

**Chemistry (CHEM)**

**CHEM 1003. Introduction to Chemistry** Fundamentals of chemical terms and applications to laboratory studies. Extensive drills on calculations and use of hand held calculator in problem solving. Recommended for those with no prior study of chemistry. Special course fees may apply. Corequisite or prerequisite, MATH 0003, MATH 0013, or MATH 1023. Fall, Spring.

**CHEM 1011. General Chemistry I Laboratory** Introduction and development of hands-on techniques essential to the use of fundamental equipment and glassware common in all laboratory based sub-fields of chemistry. Computer-based graphical and statistical analysis of data. Three hours per week. Special course fees may apply. Prerequisite or corequisite, CHEM 1013. Fall, Spring, Summer. (ACTS#: CHEM 1414)

**~~CHEM 1013. General Chemistry I~~** ~~Study of chemical reactions and equations, periodic re­lationships, the gaseous state, and the fundamentals of atomic theory, quantum theory, electronic structure, chemical bonding, stoichiometry and thermochemistry. Special course fees may apply. Prerequisite, MATH 1023 or ACT composite score of 23 or higher. Prior completion of CHEM 1003 or high school chemistry strongly recommended. Fall, Spring, Summer. (ACTS#: CHEM 1414)~~

**CHEM 1013. General Chemistry I** Study of chemical reactions and equations, periodic re­lationships, the gaseous state, and the fundamentals of atomic theory, quantum theory, electronic structure, chemical bonding, stoichiometry and thermochemistry. Special course fees may apply. Prerequisite, MATH 1023 or any MATH course that requires MATH 1023 as a prerequisite, or ACT composite score of 23 or higher. Prior completion of CHEM 1003 or high school chemistry strongly recommended. Fall, Spring, Summer. (ACTS#: CHEM 1414)

**CHEM 1021. General Chemistry II Laboratory** Continuation of CHEM 1011, with focus on demonstrating mastery of selected hands-on laboratory techniques and computer-assisted graphical and statistical analysis of data. Three hours per week. Corequisite or prerequisite, CHEM 1023. Prerequisite, CHEM 1011. Fall, Spring, Summer. (ACTS#: CHEM 1424)

**CHEM 1023. General Chemistry II** Study of liquids, solids, solutions and the fundamentals of chemical kinetics, chemical equilibria, acids and bases, thermodynamics, and electrochemistry. Special course fees may apply. Prerequisites, CHEM 1011 and C or better in CHEM 1013. Fall, Spring, Summer. (ACTS#: CHEM 1424)

**CHEM 1041. Fundamental Concepts of Chemistry Laboratory** Special course fees apply. Corequisite, CHEM 1043. Fall, Summer.