Boise State University
Foundational Studies Program Course Application Form

Due to the Foundational Studies Program by August 19, 2011

After the Foundational Studies Program has approved a course, departments will continue through the regular department and college procedures. The approved course should be submitted to the University Curriculum Committee by October 1, 2011.

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Instructions:
1. Complete one form per course.
2. Attach this Foundational Studies Course Application Form to the back of the University Curriculum Committee “Request for Curriculum Action” form. Both forms should be submitted to the Foundational Studies Program Office by August 19, 2011.

Part I. Course Information:

Course Number and Title: MATH 257 Geometry and Probability for Teachers

Type of Foundational Studies Course – (Choose One):

[ ] DLS (Disciplinary Lens – Social Science)
[ ] DLL (Disciplinary Lens – Literature and Humanities)
[ ] DLV (Disciplinary Lens – Visual and Performing Arts)
[ ] DLM (Disciplinary Lens – Mathematics)
[ ] DLN (Disciplinary Lens – Natural, Physical, and Applied Sciences)

Includes Lab: [ ] Yes [ ] No

[ ] CID (Communication in the Discipline)
[ ] FF (Finishing Foundations)

Delivery Format(s) – (Check all that apply):

[ ] Face to Face
[ ] Fully Online
[ ] Hybrid
[ ] Concurrent Enrollment
[ ] Other (briefly describe):
Boise State's Foundational Studies Program provides undergraduates with a broad-based education that spans the entire university experience. MATH 257: Geometry and Probability for Teachers satisfies four credits of the Foundational Studies Program Disciplinary Lens-Mathematics (DL-M) requirements. It supports the following University Learning Outcomes, along with a variety of other course-specific goals.

7. Apply knowledge and the methods of reasoning characteristic of mathematics, statistics, and other formal systems to solve complex problems.

MATH 257: Geometry and Probability for Teachers is designed to provide opportunities for students to significantly enhance their understanding of geometry and probability in preparation for a career in teaching. This course helps to achieve the goals of the Foundational Studies Program by focusing on the following course learning outcomes. After successful completion of this course, you will be able to:

- Use various systems of measurement, including the English system, the Metric system and nonstandard systems and carry out appropriate conversions.
- Reason about units of measure and conversions
- Use mathematical definitions appropriately
- Create justifications for mathematical statements
- Evaluate justifications from others
- Apply knowledge of children’s thinking to evaluation of student work
- Reason about situations involving chance
- Represent and solve problems using geometric models
- Develop conjectures within structured explorations
- Construct developmentally appropriate justifications for mathematical properties and procedures
- Use technology as a tool for mathematical reasoning

Part III. Design for Accessibility:

In the space below, briefly describe plans for providing access to course materials and activities (or equivalent alternatives) to all students in adherence with the Americans with Disabilities Act. Although these plans may vary from instructor to instructor, the descriptions provided below should be representative of intended departmental and instructor practices. (See example statements appended to this form.)

The instructor will work with the Disabilities Resource Center to provide reasonable accommodations to students upon request. Students making such requests are required to provide documentation from the Disability Resource Center, located in room 114 of the Administration Building.

Part IV. Evidence of Quality Course Design:
Please use the table below (column headings for this table should not be changed) to provide evidence that the course has been carefully designed and is clearly aligned with Foundational Studies Program desired ULOs. All sections of the course should share similar student learning outcomes. Teaching and Learning Activities and Assessment Methods may vary from instructor to instructor. Please use the table to report representative strategies that may be used. Assessment activities used for reporting to the Foundational Studies Program should be consistent across different sections of the course.

Please see table below.

**Part V. Additional Justification (Optional):**

If the brief justification provided to the University Curriculum Committee in the proposal to accompany the “Request for Curriculum Action” is not sufficient to make the case for including the course in the Foundational Studies Program, additional (optional) narrative can be added here.

**Review Committee Checklist:**

_X_ Syllabus Statement - statement introduces the student to the purpose and role of the course in the Foundational Studies Program curriculum.

_X_ An appropriate number of Course Learning Outcomes are specified for the course and are clearly designed to support the Foundational Studies Program ULOs.

_X_ Course Learning Outcomes are appropriately designed for level of the course and address both content mastery and skill-based outcomes.

_X_ The types and numbers of assessments planned for the course are appropriate for measuring the content or skills being assessed

_X_ Course learning activities are likely to promote the achievement of the stated outcomes

_X_ Course design and materials have considered best practices for accessibility to course materials and ideas by all students (e.g., alternatives to auditory and visual content)

**Feedback from Review Committee:**

Overall the proposal is well done. We recommend this proposal be accepted as written.

**Feedback from Foundational Studies Program:**

Certification for approval assumes clarification of text which departs from the approved ULO rubric criteria. Please note it is not that there is a problem with the language you have used, however, it is not language that is in the rubrics (per the column heading) and therefore should be noted as such.

Please see comments on Review Sheet (p. 5) This certification for approval assumes that changes on the course design table to denote modifications of the University Learning Outcomes rubric have been made. Suggestions on p. 5.
Boise State University  
Foundational Studies Course  

Course Number and Title: MATH 254 Applied Statistics with Computers  

<table>
<thead>
<tr>
<th>Foundation ULO 7 Criteria</th>
<th>Foundation ULO 7 Notions of Exemplary Work</th>
<th>Course Learning Outcomes: By the end of this course, each student should be able to…</th>
<th>Assessment Method: Evidence of Student Learning</th>
<th>Planned Teaching &amp; Learning Activities / Pedagogy</th>
</tr>
</thead>
</table>
| ULO 7: Apply quantitative reasoning methods to draw appropriate conclusions | • Draws reasonable conclusions from numerical and graphical information | • Use various systems of measurement, including the English system, the Metric system and nonstandard systems and carry out appropriate conversions.  
  • Reason about units of measure and conversions | • Open-ended problems  
  • Quizzes/exams | • In-class laboratory explorations (this involves small group work and class discussion around a structured set of problems)  
  • Short lectures |
| ULO 7: Communicate mathematical ideas | • Presents ideas logically, making appropriate use of representations; interprets and uses information presented in various formats | • Use mathematical definitions appropriately  
  • Create justifications for mathematical statements  
  • Evaluate justifications from others  
  • Apply knowledge of children’s thinking to evaluation of student work | • Quizzes/exams  
  • In-class discussions  
  • Reading reflections  
  • Open-ended problems | • In-class discussions on explorations and readings |
| ULO 7: Select and carry out appropriate strategies when solving problems | • Devise solution methods for unfamiliar problems; solves complex problems; correctly interprets results | • Reason about situations involving chance  
  • Represent and solve problems using geometric models | • Report on laboratory explorations  
  • Open-ended problems | • In-class laboratory explorations  
  • Short lectures |

Comment: [VS1]: As this criteria description varies from the approved rubric, please either note that difference or include under course outcomes.
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>ULO 7:</strong> Formulate and justify generalizations</td>
<td>• Exploits mathematical connections and structure across problems and contexts; creates logical arguments to support claims</td>
<td>• Create justifications for mathematical statements • Develop conjectures within structured explorations</td>
<td>• Report on laboratory explorations • Reading reflections • Open-ended problems</td>
<td>• In-class laboratory explorations • Negotiation of conjectures and justifications for them</td>
</tr>
<tr>
<td><strong>ULO 7:</strong> Use technology appropriately</td>
<td>• Selects appropriate tools; uses tools effectively; evaluates the reasonableness of technological outputs</td>
<td>• Use technology as a tool for mathematical reasoning</td>
<td>• Classroom observations • In-class discussions</td>
<td>• Classroom demonstrations • In-class laboratory explorations</td>
</tr>
</tbody>
</table>

Comment [V52]: As above. I recommend the use of italics to indicate differentiation and a footnote to explain it.