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

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 1. Course Information

<table>
<thead>
<tr>
<th>Course Number and Title:</th>
<th>Phys 301 – Analog Electronics</th>
</tr>
</thead>
</table>

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

Delivery Format(s) - (check all that apply):

- [ X ] Face to Face
- [ ] Fully Online
- [ ] Hybrid
- [ ] Concurrent Enrollment
- [ ] Other (briefly describe):

Part II. Syllabus Statement

In the space below, include the syllabus statement for this course which will appear on the first page of the syllabus for each section of this course. (Template and examples are appended to this application form.)

Boise State's Foundational Studies Program provides undergraduates with a broad-based education that spans the entire university experience. *PHYS301: Analog Electronics* satisfies three credits of the Foundational Studies Program's Communication in the Discipline requirement. It supports the following University Learning Outcomes, along with a variety of other course-specific goals:

1. Write effectively in multiple contexts for a variety of audiences.
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.)

*PHYS301: Analog Electronics* All instructors are committed to working with the university's Disability Resource Center (DRC) to meet the needs of students with documented disabilities. Students that feel they may need accommodations will be met with privately, and steered to the DRC for further coordination. Approved accommodations may include (but are not limited to): checking pdf reading assignments for readability by a screen reader, videos chosen for use in the course will be those that have been close-captioned by the content producer to provide access to students with hearing impairment, graphics in PowerPoint presentations used in class lectures will be verbally described to students on an as-needed basis, providing textual descriptions accessible by screen readers to images used on the course web site, extra time on tests and oral examinations, or other accommodations.

Part IV. Evidence of Quality Course Design

Attach a separate document including a table like the one below. (A link to the Word template that allows rows to be adjusted as needed may be found at: [Course Design Table](#). Column headings for this table should not be changed.) The purpose of the table is 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.

<table>
<thead>
<tr>
<th>Foundational Studies ULO Criteria and 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 and Learning Activities/Pedagogy</th>
</tr>
</thead>
<tbody>
<tr>
<td>These are drawn from the appropriate rubric for the ULO supported by the course.</td>
<td>All learning outcomes are listed.</td>
<td>How will the outcomes be assessed in the course? (Note key assessments to be used for reporting student learning outcomes.)</td>
<td>What kind of activities will be used to support students’ success on the planned assessments?</td>
</tr>
</tbody>
</table>

See attached

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.

CERTIFIED FOR APPROVAL 9-19-2011.

 Electronically signed by Vicki Stiehe, Director, Foundational Studies Program Boise State University

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## Foundational Studies ULO Criteria and Notions of Exemplary Work

### Course Learning Outcomes

"By the end of this course, each student should be able to…”

### Assessment Method: Evidence of Student Learning

How will the outcomes be assessed in the course? (Note key assessments to be used for reporting student learning outcomes.)

### Planned Teaching and Learning Activities/Pedagogy

What kind of activities will be used to support students' success on the planned assessments?

---

### Write Effectively:

- Focuses narrowly on a clear purpose
- Adopts an appropriate voice, tone, & level of formality
- Uses the text conventions of writing in a field professionally
- Evaluates & synthesizes ideas from sources well; documents sources
- Improves across series of drafts that are the result of drafting, revising and editing in response to feedback
- Controls mechanical features such as syntax, grammar

<table>
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</tr>
</thead>
</table>
| These are drawn from the appropriate rubric for the ULO supported by the course. | All learning outcomes are listed. | Create and interpret graphs and plots; use appropriate scientific terminology in written descriptions and explanations. Use appropriate sources of evidence for determining the currents and voltages of given circuits; relate the analysis to real applications. | L1. DC voltage divider  
L2. Kirchhoff’s law  
L3. AC Voltage divider  
L4. RC & RL Transients I  
L5. RC integrators and differentiators  
L6. Phase Shifts  
L7. Series RLC tuned circuits  
L8. RC Filters  
L9. Bandpass & Notch Filters  
L10. RLC Transients  
L11 Diodes Characteristics  
L12. Rectification  
L13. Diode circuit and Zener Diodes  
Lab reports, exams, in-class activities  
(report: distribution of scores) |

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Course Number and Title: **PHYS 301- Analog Electronics**

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Course Design Table
**Write in multiple contexts:**
- Uses genres appropriate to the discipline well
- Responds well to the needs of different rhetorical situations
- Uses wide variety of resources to locate sources
- Exploits wide range of communication strategies appropriate to contexts (including electronic ones)

| Categorize the diverse components of circuits and use observable data to apply the understanding to the other circuits. | lab reports, in-class activities, exams  
(report: distribution of scores on concept mapping report questions) | L14. BJT Characteristics  
L15. Biasing and Emitter Followers  
L16. FET Characteristics  
L17. JFET Circuits  
L18. MOSFET Circuit  
L19. Audio & Modulation  
L20. LED & Photoresistors  
L21. Photo-Transistors  
L22. Op Amp I  
L23. Op Amp II |

**Write for a variety of audiences:**
- Responds well to the needs of different audiences
- Addresses professionally the expectations of disciplinary audiences

| write the procedure of the circuit analysis, approaches, and through discussion with other students during the lab. | lab reports, in-class activities  
L25. 555 Timers  
L26. Oscillators  
L27. DC Power Supplies |
**Communicate effectively as speaker:**

- Focuses on a compelling central message that is precisely stated, appropriately repeated, memorable, and strongly supported.
- Offers a variety of supporting materials that are relevant to the central message, appropriate to the occasion, and in a variety of appropriated media (oral, written, media-supported) and establish the speaker's credibility and authority.
- Uses an organization pattern that is clear and consistently observable and makes content cohesive in creative ways.
- Makes imaginative, memorable, and compelling language choices with a tone appropriate to the audience and occasion.
- Uses compelling and appropriate delivery techniques (posture, vocal expressiveness, audience interactions) so that speaker appears prepared polished and confident.

Relate each of the circuit elements to overall circuit functions for obtaining comprehensive understanding of electronics. The circuit elements include (not limited to) resistors, capacitors, inductors, diodes, transistors, operation amplifiers, timers, etc.

While the students find the relationship between the individual elements and overall functions, they will be imaginative and memorable.

| Exams, lab reports, in-class activities (report: distribution of scores on lab report questions) | Relate each of the circuit elements to overall circuit functions for obtaining comprehensive understanding of electronics. The circuit elements include (not limited to) resistors, capacitors, inductors, diodes, transistors, operation amplifiers, timers, etc. While the students find the relationship between the individual elements and overall functions, they will be imaginative and memorable. | Individual Project |
**Communicate effectively as listener:**
- Responds with critical understanding of oral communication of ideas

<table>
<thead>
<tr>
<th>Describe the characteristics and uses of circuit theory as a listener; Explain their measurement data as supporting evidence of the theory</th>
<th>in-class activities (report: distribution of scores on lab report questions)</th>
<th>Individual Project Demonstration</th>
</tr>
</thead>
</table>
Boise State University
Foundational Studies Review Committee: Course Application Evaluation Form
Fall 2011

Course Information  PHYS 301 CID

<table>
<thead>
<tr>
<th>Course Number and Title: PHYS 301 Analog Electronics</th>
<th>Number of Credits: 3</th>
</tr>
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<tbody>
<tr>
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<td></td>
</tr>
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</tr>
</tbody>
</table>

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.

□  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:

It is not clear how the learning activities will support students achieving the learning outcomes. The learning activities are presented as a list of topics. Will students simply read about these topics? How will students learn how to "create and interpret graphs and plots," for example? How will they learn to "write the procedure for circuit analysis"?

The Activities column for written communication doesn’t seem to describe activities that will happen, but rather topics to be covered.

Foundational Studies Program comments:

While the committee has a valid concern (a desire for the learning activities to support students achievement of the learning outcomes) it appears that this proposal is not out of line with other CID proposals elsewhere in the curriculum. Although there could be more details in the learning activity column, it is assumed that PHYS 301, which is an existing course, has a well-developed set of learning activities. As the assessment process will provide feedback on students learning and will reveal gaps in the planning process, it seems reasonable to move this course into the curriculum process as is and ask the department to be cognizant of students’ learning as reflected in learning assessment data.

See certification for approval on p. 2