These two sections have learning goals and outcomes listed in the course syllabus as follows:

**LEARNING GOALS AND OUTCOMES**

**Goals:** 1. Introduction to philosophical concepts; 2. Introduction to philosophers (presented in historical order—ancient Greek; medieval/scholastic; modern; contemporary); 3. Introduction to philosophical methods of reasoning.

**Instructional Learning Outcomes:**

1. Ability to identify and explain some philosophical concepts (associated with each assigned reading);
2. Ability to identify various philosophers and identify at least one philosophical issue/question associated with a given philosopher (from assigned readings);
3. Ability to explain some elements of a given philosophical method (related to a given philosopher and the assigned reading).

Assessment of knowledge includes understanding of basic philosophical concepts associated with each reading assignment. Assessment of analytical skills is measured by the students’ ability to explain some elements of a given philosophical method, with attention to logical analysis. The latter involves application of a template for evaluation of arguments (see attached), so that the student evaluates premises in relation to given conclusion, determining whether the argument is deductive or inductive in form, and whether the premises are certainly true, probably true, doubtful, objectionable, or false.

Understanding of basic concepts is measured by short-answer question given in two midterm examinations. Three In-class Writing Exercises (IWEs) and the essay component of two midterm examinations and the final examination are used for the purpose of assessing analytical skill.

**IWE Assessment For Section 1:** Nineteen (19) out of thirty-four (34) students [56%] listed on the class roster showed improvement in performance on the IWEs. This is a good indicator of improved performance related to critical thinking skill. Five (5) [8.8%] students stayed the same, but with moderate (6, 7, out of 10 points) to high (10 points) point-value from first to third IWE. Seven (7) [20.6%] students performed less well from the first to the third IWE. Three (3) students either dropped or withdrew and were not included in the above results.

**IWE Assessment For Section 2:** Twenty-three (23) out of thirty-five (35) students [65.7%] listed on the class roster showed improvement in performance on the IWEs. This is a good indicator of improved performance related to critical thinking skill. Three (3) [8.6%] students stayed the same, but with moderate (6, 7 out of 10 points) to high (9, 10 out of 10 points) point-value from first to third IWE. Four (4) [11.4%] students performed less well from the first to the third IWE. Four (4) students either dropped or withdrew and were not included in the above results.

**ME1 Assessment for Section 1:** Twenty-seven (27) students took the first midterm examination when scheduled. The examination included a section evaluating student ability to recall basic philosophical concepts introduced at the beginning of discussion of a given reading assignment. This concerns Outcomes 1 and 2. Twenty-six (26) [96%] of these students failed to recall the meaning of the concepts. Similarly, twenty-two (22) [79%] students performed unsatisfactorily in the essay component designed to measure Outcome 3 [ability to explain some elements of a given philosophical method (related to a given philosopher and the assigned reading)]. Accounting for both the basic concept section and the essay section, the results showed 78% of students taking the examination performing unsatisfactorily (i.e., ≤13 points out of 20).
ME1 Assessment for Section 2: Twenty-seven (27) students took the first midterm examination when scheduled. The examination included a section evaluating student ability to recall basic philosophical concepts introduced at the beginning of discussion of a given reading assignment. This concerns Outcomes 1 and 2. Twenty-three (23) [85%] of these students failed to recall the meaning of the concepts. Similarly, seventeen (17) [63%] students performed unsatisfactorily in the essay component designed to measure Outcome 3 [ability to explain some elements of a given philosophical method (related to a given philosopher and the assigned reading)]. Accounting for both the basic concept section and the essay section, the results showed 59% of students taking the examination performing unsatisfactorily (i.e., ≤13 points out of 20).

ME2 Assessment for Section 1: Twenty-five (25) students took the second midterm examination when scheduled. The examination included a section evaluating student ability to recall basic philosophical concepts introduced at the beginning of discussion of a given reading assignment. This concerns Outcomes 1 and 2. Twenty-three (23) students completed this section (cases of academic misconduct excluded from the result). Student performance on this section improved over ME1. 60.9% of these students satisfactorily recalled the meaning of the concepts evaluated. 40% of these students performed satisfactorily in the essay component designed to measure Outcome 3 [ability to explain some elements of a given philosophical method (related to a given philosopher and the assigned reading)]. Accounting for both the basic concept section and the essay section, the results showed 51.6% of students taking the examination performing satisfactorily (i.e., ≥14 points out of 20).

ME2 Assessment for Section 2: Twenty (20) students took the second midterm examination when scheduled. The examination included a section evaluating student ability to recall basic philosophical concepts introduced at the beginning of discussion of a given reading assignment. This concerns Outcomes 1 and 2. Student performance on this section improved substantially over ME1. 75% of these students satisfactorily recalled the meaning of the concepts evaluated. 52.4% of these students performed satisfactorily in the essay component designed to measure Outcome 3 [ability to explain some elements of a given philosophical method (related to a given philosopher and the assigned reading)]. Accounting for both the basic concept section and the essay section, the results showed 51.8% of students taking the examination performing satisfactorily (i.e., ≥14 points out of 20).

Final Examination Essay Assessment for Section 1: The essay component of the final examination is designed to evaluate a student’s ability to engage a philosophical issue critically, i.e., to review a given set of facts, recall some basic concepts that apply, construct his/her own argument on the issue, and evaluate his/her argument according to the criteria identified (whether premises are certainly true, probably true, doubtful, objectionable, or false). Out of thirty (30) students taking this examination, eighteen (18) [60%] students performed satisfactorily on this critical thinking assessment [40% unsatisfactory, values ≤6 out of 10 points].

Final Examination Essay Assessment for Section 2: The essay component of the final examination is designed to evaluate a student’s ability to engage a philosophical issue critically, i.e., to review a given set of facts, recall some basic concepts that apply, construct his/her own argument on the issue, and evaluate his/her argument according to the criteria identified (whether premises are certainly true, probably true, doubtful, objectionable, or false). Out of thirty (30) students taking this examination, only fourteen (14) [47%] students performed satisfactorily on this critical thinking assessment [53% unsatisfactory, values ≤6 out of 10 points].

General Observations, both sections: The fact is that many students in both sections have difficulty working with a new vocabulary, exhibiting poor recall of the meaning of basic concepts. Many students use dictionaries on mobile phones during the IWE sessions as they evaluate instructions and concepts included. Many students clearly have poor English proficiency. Some students who did not perform well compounded their poor performance by not doing the reading required, either in advance or after class review of a given reading assignment. Several students were penalized for academic misconduct,
entailing a grade of “F” on the particular assignment. The critical thinking component evaluated through the IWEs could have been improved if students had taken advantage of their opportunity to use the template provided for evaluation of arguments. Most students simply did not bring this handout with them for use during IWE class sessions, even though this was allowed.

**Recommendations for Improvement of Instruction:**
1. Provide a demonstration of argument evaluation on the whiteboard as part of a basic introduction to logical analysis on the first day of class, in addition to performing such evaluation of argument in review of a given reading assignment.
2. Add one practice session for this as a pre-test (at start of semester) and perform a post-test of the same content (at end of semester), comparing results for evaluation of development of analytical skill in logical analysis.
3. Provide students copy of the argument evaluation template at each IWE session so that their use of the template is regularized. The operative hypothesis is that their critical thinking skill will improve in passing from IWE1 to IWE 3.

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**EVALUATION OF AN ARGUMENT FOR SOUNDNESS (LOGICAL COGENCY)**

Every argument submitted for our review should have premises that are relevant, reasonable, and sufficient to warrant (justify, accept) the conclusion given. Then the argument is considered “sound” or “cogent.” Consider the following table representing an argument having four premises and one conclusion. This is only an example to illustrate the point, since arguments can have fewer or more premises as evidence for a given conclusion.

<table>
<thead>
<tr>
<th>Premise</th>
<th>True (D*)</th>
<th>True p (I**)</th>
<th>Doubtful</th>
<th>Objectionable</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>T</td>
<td>Tp</td>
<td>D</td>
<td>O</td>
<td>F</td>
</tr>
<tr>
<td>2</td>
<td>T</td>
<td>Tp</td>
<td>D</td>
<td>O</td>
<td>F</td>
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<tr>
<td>3</td>
<td>T</td>
<td>Tp</td>
<td>D</td>
<td>O</td>
<td>F</td>
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<td>4</td>
<td>T</td>
<td>Tp</td>
<td>D</td>
<td>O</td>
<td>F</td>
</tr>
<tr>
<td>Conclusion</td>
<td>T</td>
<td>Tp</td>
<td>D</td>
<td>O</td>
<td>F</td>
</tr>
</tbody>
</table>

*Deduction; ** Induction

Evaluating an argument requires one to evaluate the truth-value (or lack of truth-value) of the premises in relation to the given conclusion. In a deductive argument, the premises must be certainly true (T) for the conclusion to be certainly true. In an inductive argument, the premises are presented as probably true, in which case the conclusion of an argument will be probably true. The degree of probability (high, moderate, low) depends on the quality of the evidence given.

When evaluating premises, one should consider whether a given premise is doubtful, objectionable, or false if not evidently “true” or “probably true.” The conclusion will be deductively true (T), inductively true (Tp), or doubtful (D), objectionable (O), or false (F). You can have a mixture of these values, depending on the given premise, in which case the value of the conclusion must be represented according to the evaluation of all premises taken together (i.e., whether the premises are sufficient for you to accept the conclusion).

Your task in evaluating an argument is to provide your reasons for claiming each premise is one or another of these options (certainly true, probably true, doubtful, objectionable, false) and then, accordingly, to state whether you accept the conclusion or reject the conclusion, given the premises evaluated. If you accept the conclusion, then you are claiming the argument is sound. If you reject the conclusion, then you are claiming the argument is not sound.