

SUNY Fredonia
General Education Learning Outcomes
Assessment Report, 2011-2012

Subcommittee Information		
General Education Category:	Critical Thinking	
Subcommittee Chair:	Name: Andrea Zevenbergen	Dept: PSY
Subcommittee Members:	Name: Reneta Barneva	Dept: CSIT
	Name: Chris Pacyga	Dept.: PHIL
	Name: Bruce Simon	Dept: ENG
	Name: Carl Lam	Dept: Undergraduate: Applied Music, Journalism
Semester(s) In Which Data were Collected:	Spring, 2012	
Report Written By:	Andrea Zevenbergen	
Report Date:	9/4/12	

Course Information					
Please provide the following information for each of the courses that are part of the curriculum for this outcome during the semester(s) of data collection: all courses in the CCC are part of this outcome each semester					
Department	Subject Code	Course Number	Faculty Name	# of Students Enrolled/Participated	Were assessment data collected in this course?
S/A/SW/CRMJ	ANTH	115	Bilharz	45/31	YES
S/A/SW/CRMJ	ANTH	324	LaFlamme	33/27	YES
Chemistry	CHEM	113	Mason	61/51	YES
Chemistry	CHEM	302	Gronquist	30/27	YES
Communication	COMM	105	Not available*	40/34	YES
Communication	COMM	385	Schwalbe	32/29	YES
Economics	ECON	201	Reinelt	40/25	YES
English	ENG	205	Vanwesenbeeck	21/20	YES
English	ENG	205	Steinberg	32/24	YES
English	ENG	207	Craig	25/21	YES
English	ENG	216	Simon	34/16	YES
English	ENG	312	Vanwesenbeeck	23/18	YES
English	ENG	324	McVicker	30/21	YES
English	ENG	331	Van Dette	31/24	YES
English	ENG	332	Simon	24/18	YES
Geology	GEO	165	Ruth	140/70	YES
Geology	GEO	165	Weborg-Benson	57/44	YES
Geology	GEO	311	Weborg-Benson	83/55	YES
Geology	GEO	359	Woodbury	13/12	YES
History	HIST	101	Vink	70/50	YES

* For this course, the faculty member who submitted the data did not indicate his/her name. It was someone who taught two sections of the course, as the number submitted from the two sections equaled 34.

Department	Subject Code	Course Number	Faculty Name	# of Students Enrolled/Participated	Were assessment data collected in this course?
History	HIST	102	Swansinger	35/15	YES
History	HIST	102	Meringer	70/46	YES
History	HIST	309	Lyon	23/22	YES
History	HIST	313	Staples	29/13	YES
History	HIST	315	Glodzik	24/12	YES
History	HIST	333	Hildebrand	25/15	YES
History	HIST	339	Litwicki	41/39	YES
History	HIST	361	Swansinger	17/2	YES
History	HIST	373	Fabian	25/12	YES
History	HIST	375	Iovannone	23/22	YES
Music	MUS	115	Lynch	84/58	YES
Music	MUS	433	Brady	20/17	YES
Philosophy	PHIL	106	Tuggy	16/14	YES
Philosophy	PHIL	115	Pacyga	73/66	YES
Philosophy	PHIL	313	Belliotti	35/24	YES
Philosophy	PHIL	346	Belliotti	34/23	YES
Political Science	POL	120	Jankowski	60/34	YES
Political Science	POL	120	Rushboldt	84/67	YES
Political Science	POL	241	Caviedes	49/38	YES

Political Science	POL	345	Vassoler-Froelich	36/19	YES
Political Science	POL	346	Jankowski	17/8	YES
Political Science	POL	348	Caviedes	36/29	YES
Political Science	POL	356	Vassoler-Froelich	21/16	YES
Sociology	SOC	116	Skinner	129/100	YES
Sociology	SOC	306	Bilharz	35/24	YES

Assessment of Learning Outcome 1

Outcome 1:	<i>State the first student learning outcome here.</i> Identify, analyze, and evaluate arguments as they occur in their own or others' work.
Assessment Method	<i>Describe the specific method (e.g., rubric, survey, portfolio, presentation, exam questions) used to collect or evaluate data related to this learning outcome. Include the actual test questions, prompts, rubrics, etc. with the submitted report.</i> A set of exam questions was developed based on example "Analysis of an Argument" questions from the Graduate Management Admission Test (GMAT). Exam questions were developed for 11 disciplines (i.e., ANTH, CHEM, COMM, ECON, ENG, GEO, HIST, MUS, PHIL, POL, SOC). The exam questions and instructions for students were developed initially by the assessment subcommittee members. Then, representatives from each discipline were asked to provide feedback regarding the discipline-specific queries and instructions to students. The assessment subcommittee was successful in recruiting academic department liaisons for each of the 11 disciplines for the review of the exam questions. The exam questions and instructions to students were modified based on this

	<p>feedback from liaisons.</p> <p>Attached are the 11 discipline-specific exams which were used for this assessment. There were nine different questions used as CHEM and GEO used the same measure, and ANTH and MUS used the same measure. The topics of the arguments for analysis given to the students varied according to discipline; however, the structure of the arguments was identical across the 11 exams. An example argument is as follows: "In a study of 30 elected officials, only five were actively campaigning for new environmental legislation. This comes at a time in which the public's concern for the environment is growing. Hence, elected officials have lost touch with the concerns of the public. If elected officials are truly to represent their constituents, they should increase their support of environmental legislation." The structure of the argument for each of the exams was 2-3 premises, followed by two unsubstantiated conclusions. Related to Learning Outcome #1, students were asked to analyze and evaluate the argument in the provided paragraph.</p> <p>Students were also asked on the assessment tool to indicate their name, major, and year in school.</p>
<p>Evaluation Process</p>	<p><i>Describe how assessment tools were developed and implemented.</i></p> <p>As discussed above, the assessment tools were developed by the assessment subcommittee and reviewed by department liaisons.</p> <p>A rubric for scoring the students' essay responses was developed by the subcommittee based on the SUNY Critical Thinking Rubric. The subcommittee's scoring rubric is attached to this report.</p> <p><i>Who evaluated the data or evidence?</i></p> <p>The four subcommittee members each scored approximately 290 student essays. The subcommittee Chair served as the second scorer for all the essays. In cases of scoring discrepancy between a subcommittee member and the Chair, a third scorer evaluated the student's essay, reviewed information from the two initial scorers, and made a decision about which score to apply to the student's essay.</p> <p><i>How was consistency among those evaluating the data addressed?</i></p> <p>The subcommittee practiced scoring student essays as a full group and as pairs prior to the subcommittee members' scoring of the large set of essays. To bolster reliability as much as possible, each of the four subcommittee members (Barneva, Pacyga, Simon, and Lam) were asked to score essays in their discipline areas where possible, and were given only 2-3 discipline areas to score.</p>
<p>Timing</p>	<p><i>When, specifically, were data or evidence collected?</i></p> <p>Course instructors were asked to allocate 30 minutes of time in one class to administer the exam to their students. Data were collected between February 1 and March 9, 2012.</p>
<p>Student Participation</p>	<p><i>How many and what percentage of students participated?</i></p> <p>The total number of participants was 1369; 1178 of the students' submitted essays were scored. This represents 22% of the undergraduate student population of 5398 for Fall 2011. However, 98 of the students' responses were excluded because the students had completed the measure in more than one class. When a student completed the measure in more than one class, one of the student's essays was randomly selected for inclusion in the data analyses. This exclusion of data resulted in 1079 protocols, or data from 20% of the SUNY Fredonia student population, as required by SUNY.</p> <p><i>How were students selected and from which courses were data collected?</i></p> <p>We were interested in determining if critical thinking skills would be related to student academic status (i.e., freshman, sophomore, junior, senior). To access a sample which would have an adequate number of lower-level students and upper-level students, we assessed students enrolled in Upper-Level CCC courses and students enrolled in 100-level and 200-level CCC courses. In order to be able to</p>

	<p>evaluate upper-level vs. lower-level students' performance within the same disciplines, Upper-Level CCC courses were selected for assessment if there existed lower-level CCC courses within the same discipline. For example, students enrolled in CHEM 113 and CHEM 302 were assessed using the same assessment tool. In total, students were assessed in courses with 45 separate course numbers (i.e., in some cases, multiple sections of a course were assessed). This represents excellent participation of the campus in this assessment.</p> <p><i>Is the sample representative of students enrolled in courses for that category?</i> We believe that the sample is representative of students enrolled in CCC courses as courses from 11 disciplines were included in the final sample (i.e., ANTH, CHEM, COMM, ECON, ENG, GEO, HIST, MUS, PHIL, POL, SOC).</p>										
<p>Assessment Results</p>	<p><i>Provide the specific results of the assessment(s), including actual numbers. Please use the categories of "exceeds standard", "meets standard", "approaches standard" and "does not meet standard."</i></p> <p>Exceeds Standard: 4.4% Meets Standard: 28.8% Approaches Standard: 28.5% Does Not Meet Standard: 38.4%</p> <p>Results from students in upper-level courses were compared to those of students from lower-level courses using a <i>t</i>-test for independent groups. Students in upper-level courses performed significantly better than students in lower-level courses on this learning outcome, $p < .001$.</p> <table border="0"> <tr> <td>Upper-Level Courses</td> <td>Lower-Level Courses</td> </tr> <tr> <td>Exceeds Standard: 5.6%</td> <td>Exceeds Standard: 3.5%</td> </tr> <tr> <td>Meets Standard: 36.2%</td> <td>Meets Standard: 23.6%</td> </tr> <tr> <td>Approaches Standard: 28.2%</td> <td>Approaches Standard: 28.6%</td> </tr> <tr> <td>Does Not Meet Standard: 30.0%</td> <td>Does Not Meet Standard: 44.3%</td> </tr> </table> <p>A comparison was also made between freshmen, sophomores, juniors, and seniors using a one-way analysis of variance (ANOVA) test. The sample consisted of 24.1% freshmen, 21.5% sophomores, 26.2% juniors, and 28.2% seniors. ANOVA with follow-up LSD tests revealed that freshmen scored significantly lower on Learning Outcome 1 than sophomores, juniors, and seniors.</p>	Upper-Level Courses	Lower-Level Courses	Exceeds Standard: 5.6%	Exceeds Standard: 3.5%	Meets Standard: 36.2%	Meets Standard: 23.6%	Approaches Standard: 28.2%	Approaches Standard: 28.6%	Does Not Meet Standard: 30.0%	Does Not Meet Standard: 44.3%
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<p>Level of Attainment</p>	<p><i>Provide overview of levels of attainment of student learning outcome, including ranges of scores for each level and rationale for ranges.</i></p> <p>The attached rubric provides information regarding how the essays were scored. The rubric was adapted from the SUNY Critical Thinking Rubric, and finalized by the committee members.</p>										
<p>Comparison to Previous Results</p>	<p><i>How do this year's findings compare to previous assessment findings?</i></p> <p>In 2007-2008, an assessment subcommittee used the Collegiate Assessment of Academic Proficiency (CAAP) to assess students' critical thinking skills. The sample size was 137. Although it was not possible to separate results into aspects relevant to Learning Outcome 1 and Learning Outcome 2, the compiled results were : 47% scored at or above the national mean, 28% obtained scores which were viewed as approaching the standard, and 24% obtained scores which were seen as not meeting the standard.</p> <p>It is difficult to compare the results of the present assessment to this previous assessment. However, the results of both assessments suggest that many SUNY Fredonia students are finding this category challenging.</p>										

Assessment of Learning Outcome 2

Outcome 2:	<i>State the second student learning outcome here.</i> Develop well-reasoned arguments.
Assessment Method	<i>Describe the specific method (e.g., rubric, survey, portfolio, presentation, exam questions) used to collect or evaluate data related to this learning outcome. Include the actual test questions, prompts, rubrics, etc. with the submitted report.</i> A set of exam questions was developed based on example "Analysis of an Argument" questions from the Graduate Management Admission Test (GMAT). Exam questions were developed for 11 disciplines (i.e., ANTH, CHEM, COMM, ECON, ENG, GEO, HIST, MUS, PHIL, POL, SOC). The exam questions and instructions for students were developed initially by the assessment subcommittee members. Then, representatives from each discipline were asked to provide feedback regarding the discipline-specific queries and instructions to students. The assessment subcommittee was successful in recruiting academic department liaisons for each of the 11 disciplines for the review of the exam questions. The exam questions and instructions to students were modified based on this feedback from liaisons. Attached are the 11 discipline-specific exams which were used for this assessment. There were nine different questions used as CHEM and GEO used the same measure, and ANTH and MUS used the same measure. The topics of the arguments for analysis given to the students varied according to discipline; however, the structure of the arguments was identical across the 11 exams. An example argument is as follows: "In a study of 30 elected officials, only five were actively campaigning for new environmental legislation. This comes at a time in which the public's concern for the environment is growing. Hence, elected officials have lost touch with the concerns of the public. If elected officials are truly to represent their constituents, they should increase their support of environmental legislation." The structure of the argument for each of the exams was 2-3 premises, followed by two unsubstantiated conclusions. Related to Learning Outcome #2, students were asked write a new paragraph in which they constructed a new argument for the same conclusion. They were permitted to address both conclusions from the original paragraph given to them, or address only one of them. They were instructed that they were free to introduce new information from their knowledge base, and/or generate claims that would clearly contribute to supporting the conclusion(s). Students were also asked on the assessment tool to indicate their name, major, and year in school.
Evaluation Process	<i>Describe how assessment tools were developed and implemented.</i> As discussed above, the assessment tools were developed by the assessment subcommittee and reviewed by department liaisons. A rubric for scoring the students' essay responses was developed by the subcommittee based on the SUNY Critical Thinking Rubric. The subcommittee's scoring rubric is attached to this report. <i>Who evaluated the data or evidence?</i> The four subcommittee members each scored approximately 290 student essays. The subcommittee Chair served as the second scorer for all the essays. In cases of scoring discrepancy between a subcommittee member and the Chair, a third scorer evaluated the student's essay, reviewed information from the two initial scorers, and made a decision about which score to apply to the student's essay. <i>How was consistency among those evaluating the data addressed?</i> The subcommittee practiced scoring student essays as a full group and as pairs prior to the subcommittee members' scoring of the large set of essays. To bolster

	<p>reliability as much as possible, each of the four subcommittee members (Barneva, Pacyga, Simon, and Lam) were asked to score essays in their discipline areas where possible, and were given only 2-3 discipline areas to score.</p>
Timing	<p><i>When, specifically, were data or evidence collected?</i> Course instructors were asked to allocate 30 minutes of time in one class to administer the exam to their students. Data were collected between February 1 and March 9, 2012.</p>
Student Participation	<p><i>How many and what percentage of students participated?</i> The total number of participants was 1369; 1178 of the students' submitted essays were scored. This represents 22% of the undergraduate student population of 5398 for Fall 2011. However, 98 of the students' responses were excluded because the students had completed the measure in more than one class. When a student completed the measure in more than one class, one of the student's essays was randomly selected for inclusion in the data analyses. This exclusion of data resulted in 1079 protocols, or data from 20% of the SUNY Fredonia student population, as required by SUNY.</p> <p><i>How were students selected and from which courses were data collected?</i> We were interested in determining if critical thinking skills would be related to student academic status (i.e., freshman, sophomore, junior, senior). To access a sample which would have an adequate number of lower-level students and upper-level students, we assessed students enrolled in Upper-Level CCC courses and students enrolled in 100-level and 200-level CCC courses. In order to be able to evaluate upper-level vs. lower-level students' performance within the same disciplines, Upper-Level CCC courses were selected for assessment if there existed lower-level CCC courses within the same discipline. For example, students enrolled in CHEM 113 and CHEM 302 were assessed using the same assessment tool. In total, students were assessed in courses with 45 separate course numbers (i.e., in some cases, multiple sections of a course were assessed). This represents excellent participation of the campus in this assessment.</p> <p><i>Is the sample representative of students enrolled in courses for that category?</i> We believe that the sample is representative of students enrolled in CCC courses as courses from 11 disciplines were included in the final sample (i.e., ANTH, CHEM, COMM, ECON, ENG, GEO, HIST, MUS, PHIL, POL, SOC).</p>
Assessment Results	<p><i>Provide the specific results of the assessment(s), including actual numbers. Please use the categories of "exceeds standard", "meets standard", "approaches standard" and "does not meet standard."</i></p> <p><i>Provide the specific results of the assessment(s), including actual numbers. Please use the categories of "exceeds standard", "meets standard", "approaches standard" and "does not meet standard."</i></p> <p>Exceeds Standard: 1.2% Meets Standard: 11.6% Approaches Standard: 36.5% Does Not Meet Standard: 50.7%</p> <p>Results from students in upper-level courses were compared to those of students from lower-level courses using a t-test for independent groups. There was no significant difference between students in upper-level and students in lower-level courses for this learning outcome.</p> <p>A comparison was also made between freshmen, sophomores, juniors, and seniors using a one-way analysis of variance (ANOVA) test. As mentioned above, the</p>

	sample consisted of 24.1% freshmen, 21.5% sophomores, 26.2% juniors, and 28.2% seniors. ANOVA with follow-up LSD tests revealed that freshmen scored significantly lower than juniors and seniors on Learning Outcome 2.
Level of Attainment	<i>Provide overview of levels of attainment of student learning outcome, including ranges of scores for each level and rationale for ranges.</i> The attached rubric provides information regarding how the essays were scored. The rubric was adapted from the SUNY Critical Thinking Rubric, and finalized by the committee members.
Comparison to Previous Results	<i>How do this year's findings compare to previous assessment findings?</i> In 2007-2008, an assessment subcommittee used the Collegiate Assessment of Academic Proficiency (CAAP) to assess students' critical thinking skills. The sample size was 137. Although it was not possible to separate results into aspects relevant to Learning Outcome 1 and Learning Outcome 2, the compiled results were : 47% scored at or above the national mean, 28% obtained scores which were viewed as approaching the standard, and 24% obtained scores which were seen as not meeting the standard. It is difficult to compare the results of the present assessment to this previous assessment. However, the results of both assessments suggest that many SUNY Fredonia students are finding this category challenging.

Conclusions	
What are the most important conclusions drawn from your data about attainment of student learning outcomes within the category?	<p>1) Currently, students at SUNY Fredonia are not performing very well on these two SUNY Learning Outcomes. Scores were somewhat higher for Learning Outcome 1 (i.e., "Students will identify, analyze, and evaluate arguments as they occur in their own or others' work") than for Learning Outcome 2 (i.e., "Students will develop well-reasoned arguments"). For both Learning Outcomes, students had a tendency to let their biases override critical thinking. With regard to Learning Outcome 1, students frequently stated that they agreed with the flawed arguments. They agreed with the general idea being argued (e.g., that solar energy should be used to replace fossil fuels) and seemed unable to realize that the conclusions stemming from the premises were flawed. Also with regard to Learning Outcome 1, many students failed to differentiate conclusions from premises. It should be noted that students were only required to discuss one of the premises and one of the conclusions to receive a score of 2 (i.e., "Meets Standard"). With regard to Learning Outcome 2, students had a tendency to write arguments which were illogical and included many unsubstantiated claims. Students at SUNY Fredonia may be able to engage in critical thinking in some contexts, but many do not appear to be able to do the specific tasks that SUNY requires for this part of the General Education program assessment.</p> <p>2) Students in upper-level CCC courses performed better on Learning Outcome 1 than students in lower-level CCC courses. On Learning Outcome 1, sophomores, juniors, and seniors performed better than freshmen. On Learning Outcome 2, juniors and seniors performed better than freshmen. These cross-sectional gains are likely to reflect the entire education students are receiving at SUNY Fredonia (and also possibly cognitive development), not just instruction in general education courses.</p>

<p>What factors make it difficult to draw conclusions about student learning in this category?</p>	<p>1) In some cases, it appeared that student motivation was low. A few students complained about the assessment, and some did not follow instructions (e.g., they did not strive to differentiate conclusions from premises, they did not write their own argument).</p> <p>2) It should be noted that this is a written assessment, and thus confounds writing skills and critical thinking skills to some extent. Students were not penalized for errors in writing mechanics but illogical writing yielded a lower score for Learning Outcome 2. Because students were asked to evaluate a written argument, reading comprehension skills also contributed to how well students performed on the assessment.</p>
<p>What are your recommendations for improving the process of assessment of student learning in this category?</p>	<p>During the last assessment cycle for this category, the Collegiate Assessment of Academic Proficiency (CAAP) was used, which did not yield results specific to the two separate learning outcomes. Using a campus-based measure, rather than a standardized measure, also has its limitations, however. For example, the essays took a group of six individuals over 150 hours to score. Also, while the instructors found the essay task suitable because the measures were discipline-specific, there were nine different measures used. Although all nine measures included the same structure (i.e., 2-3 premises followed by two unsubstantiated conclusions), students may have found some of the discipline-specific measures more challenging than others. Overall, the next assessment subcommittee for this category of the general education program may wish to consider using a standardized measure. Perhaps new measures have been developed over the past several years which could yield results commensurate with the SUNY requirements.</p> <p>We recommend continuation of an assessment process which can compare students across various class levels (e.g., freshmen, sophomores, juniors, and seniors). This assessment also asked students to indicate their major field(s) of study; brief reports regarding the performance of students in a particular major are being prepared for individual academic departments.</p>
<p>What are your recommendations for improving student learning in this category?</p>	<p>Unless students are taught these very specific critical thinking skills in courses, they are likely to continue to perform poorly on these two SUNY learning outcomes. Analyzing an argument formally (i.e., differentiating premises from conclusions) is not included in many of the courses at SUNY Fredonia. Faculty across campus may wish to increase instruction focused on how to put biases aside when evaluating arguments and how to develop arguments which include conclusions that are well-substantiated. As Critical Thinking is a SUNY category for instruction in the SUNY General Education program, SUNY Fredonia may wish to consider having a requirement for students to take a specific Critical Thinking course in a revised general education program, instead of “infusing” critical thinking throughout the Fredonia general education program.</p>
<p>Please share any other comments the subcommittee may have.</p>	<p>We appreciate the exceptional support we received from the faculty across the university in conducting this assessment.</p>

Critical Thinking Assessment – MUS, ANTH
General Education Program

Name: _____

Year in School (Freshman, Sophomore, Junior, Senior): _____

Current Major(s): _____

Instructions

This critical thinking assessment requires you to do three things.

- A. First, analyze the argument presented in the following paragraph by 1) identifying the conclusion(s) and the reasons presented in support of the conclusion(s), and 2) describing the intended relationship between the reasons and the conclusion(s).
- B. Second, evaluate the argument presented in the paragraph. In your evaluation, be sure to discuss such things as the quality or credibility of the reasons given, and the quality of the reasoning from the support to the conclusion(s). In other words, do you agree or disagree with the author's reasoning? Why?
- C. Third, write a new paragraph in which you construct a new argument for the same conclusion(s). Feel free to introduce new information from your own knowledge base, and/or generate claims that would clearly contribute to supporting the conclusion(s). In formulating your argument, ask yourself, "What information would be sufficient to support the conclusion(s)?" Your writing will be evaluated with regard to the critical thinking it demonstrates, not the accuracy of the claims you present in support of the conclusion(s).

“The spacing of the four holes on a fragment of a bone flute excavated at a Neanderthal campsite is just what is required to play the third through sixth notes of the diatonic scale – the seven-note musical scale used in much of Western music since the Renaissance. The bone of the cave bear used to make the flute would have been long enough to make a flute capable of playing a complete diatonic scale. Hence, the diatonic musical scale was developed and used thousands of years before it was adopted by Western musicians. These findings should be published widely.”

Critical Thinking Assessment – **CHEM, GEO**
General Education Program

Name: _____

Year in School (Freshman, Sophomore, Junior, Senior): _____

Current Major(s): _____

Instructions

This critical thinking assessment requires you to do three things.

- A. First, analyze the argument presented in the following paragraph by 1) identifying the conclusion(s) and the reasons presented in support of the conclusion(s), and 2) describing the intended relationship between the reasons and the conclusion(s).
- B. Second, evaluate the argument presented in the paragraph. In your evaluation, be sure to discuss such things as the quality or credibility of the reasons given, and the quality of the reasoning from the support to the conclusion(s). In other words, do you agree or disagree with the author's reasoning? Why?
- C. Third, write a new paragraph in which you construct a new argument for the same conclusion(s). Feel free to introduce new information from your own knowledge base, and/or generate claims that would clearly contribute to supporting the conclusion(s). In formulating your argument, ask yourself, "What information would be sufficient to support the conclusion(s)?" Your writing will be evaluated with regard to the critical thinking it demonstrates, not the accuracy of the claims you present in support of the conclusion(s).

"Costs have begun dropping for several types of equipment currently being used to convert solar energy into electricity. Moreover, some exciting new technologies for converting solar energy are now being researched and developed. Hence, we can expect that solar energy will soon become more cost effective and attractive than coal or oil as a source of electrical power. We should encourage investment in Solar Strength, a new manufacturer of solar-powered products."

Critical Thinking Assessment - COMM
General Education Program

Name: _____

Year in School (Freshman, Sophomore, Junior, Senior): _____

Current Major(s): _____

Instructions

This critical thinking assessment requires you to do three things.

A. First, analyze the argument presented in the following paragraph by 1) identifying the conclusion(s) and the reasons presented in support of the conclusion(s), and 2) describing the intended relationship between the reasons and the conclusion(s).

B. Second, evaluate the argument presented in the paragraph. In your evaluation, be sure to discuss such things as the quality or credibility of the reasons given, and the quality of the reasoning from the support to the conclusion(s). In other words, do you agree or disagree with the author's reasoning? Why?

C. Third, write a new paragraph in which you construct a new argument for the same conclusion(s). Feel free to introduce new information from your own knowledge base, and/or generate claims that would clearly contribute to supporting the conclusion(s). In formulating your argument, ask yourself, "What information would be sufficient to support the conclusion(s)?" Your writing will be evaluated with regard to the critical thinking it demonstrates, not the accuracy of the claims you present in support of the conclusion(s).

"Zonked is a musical rock group that has a series of posters, a line of clothing and accessories, and a contract with a major advertising agency to endorse a number of different products. Zweeb plays the same type of music as Zonked. Hence, to succeed financially, Zweeb needs greater name recognition. Zweeb should diversify its commercial enterprises."

Critical Thinking Assessment - ECON
General Education Program

Name: _____

Year in School (Freshman, Sophomore, Junior, Senior): _____

Current Major(s): _____

Instructions

This critical thinking assessment requires you to do three things.

- A. First, analyze the argument presented in the following paragraph by 1) identifying the conclusion(s) and the reasons presented in support of the conclusion(s), and 2) describing the intended relationship between the reasons and the conclusion(s).
- B. Second, evaluate the argument presented in the paragraph. In your evaluation, be sure to discuss such things as the quality or credibility of the reasons given, and the quality of the reasoning from the support to the conclusion(s). In other words, do you agree or disagree with the author's reasoning? Why?
- C. Third, write a new paragraph in which you construct a new argument for the same conclusion(s). Feel free to introduce new information from your own knowledge base, and/or generate claims that would clearly contribute to supporting the conclusion(s). In formulating your argument, ask yourself, "What information would be sufficient to support the conclusion(s)?" Your writing will be evaluated with regard to the critical thinking it demonstrates, not the accuracy of the claims you present in support of the conclusion(s).

"Over the past decade, the price per pound of citrus fruit has increased substantially, from 15 cents per pound for lemons to over one dollar per pound for lemons. In only one of these past ten years has the weather been unfavorable for growing citrus crops. Hence, citrus growers have been responsible for the excessive increase in the price of citrus fruits. Strict pricing regulations should be implemented to prevent them from continuing to inflate prices."

Critical Thinking Assessment - ENG
General Education Program

Name: _____

Year in School (Freshman, Sophomore, Junior, Senior): _____

Current Major(s): _____

Instructions

This critical thinking assessment requires you to do three things.

A. First, analyze the argument presented in the following paragraph by 1) identifying the conclusion(s) and the reasons presented in support of the conclusion(s), and 2) describing the intended relationship between the reasons and the conclusion(s).

B. Second, evaluate the argument presented in the paragraph. In your evaluation, be sure to discuss such things as the quality or credibility of the reasons given, and the quality of the reasoning from the support to the conclusion(s). In other words, do you agree or disagree with the author's reasoning? Why?

C. Third, write a new paragraph in which you construct a new argument for the same conclusion(s). Feel free to introduce new information from your own knowledge base, and/or generate claims that would clearly contribute to supporting the conclusion(s). In formulating your argument, ask yourself, "What information would be sufficient to support the conclusion(s)?" Your writing will be evaluated with regard to the critical thinking it demonstrates, not the accuracy of the claims you present in support of the conclusion(s).

William Golding's *Lord of the Flies* reveals how a group of well-educated boys regresses to a primitive state, including the killing of others, when the boys are left to themselves on an island. Studies conducted in the field of psychology show that girls are less likely than boys to demonstrate violence. Hence, if *Lord of the Flies* had focused on girls rather than boys, there would have been much less violence. Readers of *Lord of the Flies* should consider that the book does not depict "human nature" but "male nature."

Critical Thinking Assessment - **HIST**
General Education Program

Name: _____

Year in School (Freshman, Sophomore, Junior, Senior): _____

Current Major(s): _____

Instructions

This critical thinking assessment requires you to do three things.

- A. First, analyze the argument presented in the following paragraph by 1) identifying the conclusion(s) and the reasons presented in support of the conclusion(s), and 2) describing the intended relationship between the reasons and the conclusion(s).
- B. Second, evaluate the argument presented in the paragraph. In your evaluation, be sure to discuss such things as the quality or credibility of the reasons given, and the quality of the reasoning from the support to the conclusion(s). In other words, do you agree or disagree with the author's reasoning? Why?
- C. Third, write a new paragraph in which you construct a new argument for the same conclusion(s). Feel free to introduce new information from your own knowledge base, and/or generate claims that would clearly contribute to supporting the conclusion(s). In formulating your argument, ask yourself, "What information would be sufficient to support the conclusion(s)?" Your writing will be evaluated with regard to the critical thinking it demonstrates, not the accuracy of the claims you present in support of the conclusion(s).

"Codex Berinensis, a Florentine copy of an ancient Roman medical treatise, is undated. Its first 80 pages are by a single copyist but the remaining 20 pages are by three different copyists. A letter in handwriting identified as that of the fourth copyist mentions a plague that killed many people in Florence in 1148. Hence, Codex Berinensis was produced in that year. This conclusion is definitive and should be published widely."

Critical Thinking Assessment - **PHIL**
General Education Program

Name: _____

Year in School (Freshman, Sophomore, Junior, Senior): _____

Current Major(s): _____

Instructions

This critical thinking assessment requires you to do three things.

- A. First, analyze the argument presented in the following paragraph by 1) identifying the conclusion(s) and the reasons presented in support of the conclusion(s), and 2) describing the intended relationship between the reasons and the conclusion(s).
- B. Second, evaluate the argument presented in the paragraph. In your evaluation, be sure to discuss such things as the quality or credibility of the reasons given, and the quality of the reasoning from the support to the conclusion(s). In other words, do you agree or disagree with the author's reasoning? Why?
- C. Third, write a new paragraph in which you construct a new argument for the same conclusion(s). Feel free to introduce new information from your own knowledge base, and/or generate claims that would clearly contribute to supporting the conclusion(s). In formulating your argument, ask yourself, "What information would be sufficient to support the conclusion(s)?" Your writing will be evaluated with regard to the critical thinking it demonstrates, not the accuracy of the claims you present in support of the conclusion(s).

"We do not currently have an official code of ethics for our business. When one of our business competitors violated its own code of ethics, it received a great deal of unfavorable publicity in the media. Hence, adopting an official code of ethics regarding business practices will in the long run do our company more harm than good in the public eye. Rather than adopt an official code of business ethics, we should instead conduct a publicity campaign that stresses the importance of protecting the environment."

Critical Thinking Assessment – POL
General Education Program

Name: _____

Year in School (Freshman, Sophomore, Junior, Senior): _____

Current Major(s): _____

Instructions

This critical thinking assessment requires you to do three things.

- A. First, analyze the argument presented in the following paragraph by 1) identifying the conclusion(s) and the reasons presented in support of the conclusion(s), and 2) describing the intended relationship between the reasons and the conclusion(s).
- B. Second, evaluate the argument presented in the paragraph. In your evaluation, be sure to discuss such things as the quality or credibility of the reasons given, and the quality of the reasoning from the support to the conclusion(s). In other words, do you agree or disagree with the author's reasoning? Why?
- C. Third, write a new paragraph in which you construct a new argument for the same conclusion(s). Feel free to introduce new information from your own knowledge base, and/or generate claims that would clearly contribute to supporting the conclusion(s). In formulating your argument, ask yourself, "What information would be sufficient to support the conclusion(s)?" Your writing will be evaluated with regard to the critical thinking it demonstrates, not the accuracy of the claims you present in support of the conclusion(s).

"In a study of 30 elected officials, only five were actively campaigning for new environmental legislation. This comes at a time in which the public's concern for the environment is growing. Hence, elected officials have lost touch with the concerns of the public. If elected officials are truly to represent their constituents, they should increase their support of environmental legislation."

Critical Thinking Assessment - SOC
General Education Program

Name: _____

Year in School (Freshman, Sophomore, Junior, Senior): _____

Current Major(s): _____

Instructions

This critical thinking assessment requires you to do three things.

- A. First, analyze the argument presented in the following paragraph by 1) identifying the conclusion(s) and the reasons presented in support of the conclusion(s), and 2) describing the intended relationship between the reasons and the conclusion(s).
- B. Second, evaluate the argument presented in the paragraph. In your evaluation, be sure to discuss such things as the quality or credibility of the reasons given, and the quality of the reasoning from the support to the conclusion(s). In other words, do you agree or disagree with the author's reasoning? Why?
- C. Third, write a new paragraph in which you construct a new argument for the same conclusion(s). Feel free to introduce new information from your own knowledge base, and/or generate claims that would clearly contribute to supporting the conclusion(s). In formulating your argument, ask yourself, "What information would be sufficient to support the conclusion(s)?" Your writing will be evaluated with regard to the critical thinking it demonstrates, not the accuracy of the claims you present in support of the conclusion(s).

"When 'family-friendly' programs, such as part-time work, work at home, and job sharing, were made available at the Summit Company, only a small percentage of employees participated in them. Nadir Company is similar to Summit Company in size and products offered. Hence, Nadir Company does not need to adopt these 'family-friendly' programs. Nadir Company should instead concentrate on offering training for employees that will increase their productivity."

Scoring Rubric for Critical Thinking Assessment 2012

Learning Outcome #1

Students will identify, analyze and evaluate arguments as they occur in their own or others' work.

Exceeding: The student's work:

1. Carefully articulates the argument's conclusion(s), clearly distinguishing them from the premises.
2. Clearly and correctly assesses that the argument's premises do not provide sufficient logical support for the conclusion(s), independently of whether the premises are true.
3. Identifies at least one flaw and provides a complete explanation as to why it's a flaw.

Meeting: The student's work:

1. Distinguishes the argument's conclusion(s) from its premises.
2. Correctly assesses that the argument's premises do not provide sufficient logical support for the conclusion(s).
3. Identifies at least one flaw but provides only an incomplete explanation as to why it's a flaw.

Approaching: The student's work:

Has only 2 of the characteristics included under "meeting" the standard.

Not Meeting: The student's work:

Has 1 or 0 of the characteristics included under "meeting" the standard.

Learning Outcome #2

Students will develop well-reasoned arguments.

Exceeding: The student's work:

1. Develops a clearly articulated argument, using evidence and/or systematic logical reasoning in support of the original conclusion(s).
2. Does not include any instances of erroneous reasoning.
3. Includes information which is well-organized.

Meeting: The student's work:

1. Presents an argument using evidence and/or logical reasoning in support of a point of view.
2. Does not include any instances of erroneous reasoning.

Approaching: The student's work:

1. States a conclusion or point of view but does not organize the evidence or reasons in a logically adequate way.
2. Includes no more than one instance of erroneous reasoning.

Not Meeting: The student's work:

1. Does not clearly state a conclusion or point of view.
2. Little or no supporting reasoning or evidence is presented.
3. Includes 2 or more instances of erroneous reasoning.