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Dental Hygiene (DNTL) 2027 Critical Thinking for Health Sciences (1.5 Units) CSU
[formerly Dental Hygiene 27]

Prerequisite: Successful completion in DNTL 1517 with a grade of “C” or higher

Prerequisite knowledge and skills:

Before entering the course the student should be able to:

1. define key critical thinking terms,
2. demonstrate knowledge of the historical development of the field of critical thinking,
3. explain the purpose and applicability of critical thinking,
4. apply critical thinking methods to reach reasonable conclusions,
5. identify the presence and absence of reasoning,
6. propose viable solutions to vague reasoning,
7. judge the context of a claim and its evidence,
8. explain the structure of reasoning about causality,
9. identify and distinguish deductive and inductive arguments,
10. evaluate the acceptability of arguments,
11. construct argument maps from written texts,
12. distinguish arguments from explanations,
13. identify assumptions of arguments,
14. identify and evaluate premises of arguments,
15. identify and evaluate conclusions of arguments,
16. evaluate the use of scientific data, and
17. use scientific data effectively in argumentation and reasoning.

Advisory: Eligibility for English 1000 and Reading 1005 strongly recommended

Total Hours: 24 hours lecture

Catalog Description: This course is a continuation of Dental Hygiene 1517. Instruction consists of creating argument maps, analyzing the validity of arguments, creating valid arguments, critiquing assumptions within arguments, distinguishing between induction and deduction, and in arriving at valid and supportable conclusions. Special emphasis is placed on case studies germane to Dental Hygiene and Health Sciences.

Type of Class/Course: Degree Credit

Text: Fisher, Alec. *Critical Thinking*. Cambridge University Press, 2001. Print.

Additional Instructional Materials: Computer access with Reason!able software.

Course Objectives:

By the end of the course, a successful student will be able to:

1. apply critical thinking methods to reach reasonable conclusions.
2. identify the presence and absence of reasoning.
3. identify flaws in reasoning.
4. propose viable solutions to vague reasoning.
5. judge the context of a claim and its evidence.
6. explain the structure of reasoning about causality.
7. analyze arguments based upon causal explanations.
8. identify and distinguish deductive and inductive arguments.
9. evaluate the acceptability of arguments.
10. construct argument maps from written texts.
11. construct argument maps from spoken arguments.
12. distinguish arguments from explanations.
13. judge the effectiveness of inferences in written arguments.
14. judge the appropriateness of assumptions within deductive arguments.
15. evaluate the use of scientific data.
16. use scientific data effectively in argumentation and reasoning.
17. compare reasoning processes of different cultures.

Course Scope and Content:

UNIT ONE: Vagueness and inexact reasoning

- A. Identifying vague reasoning
- B. Arguments maps and incorrect reasoning

Learning Outcomes	Assessment
Students will correctly discern vague reasoning.	Discussions, use Reason!able
Students will offer viable solutions to vague reasoning.	Use Reason!able
Students will create argument maps that demonstrate the precise place of incorrect reasoning.	Use Reason!able

UNIT TWO: Credibility

- A. The logical structure of arguments
- B. Context as an influence of credibility
- C. Sources as evidence

Learning Outcomes	Assessment
Students will judge the acceptability of arguments based upon the viability of arguments maps that they construct.	Use Reason!able
Students will judge the context of a claim and its evidence.	Use Reason!able, discussion
Students will judge the credibility of sources.	Use Reason!able to judge: reputation, education, extent of belief, context, self interest, Quantity of evidence

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UNIT THREE: Deduction

- A. Judging inferences
- B. Deductive validity

Learning Outcomes	Assessment
Students will judge the effectiveness of inferences in written arguments.	Discussion, use Reason!able
Students will judge the appropriateness of assumptions within deductive arguments.	Discussion, use Reason!able
Students will offer a correct definition of a deductive argument.	Oral
Students will correctly assess the validity of deductive reasoning.	Discussion, use Reason!able

UNIT FOUR: Causality

- A. The structure of reasoning about causality

Learning Outcomes	Assessment
Students will explain the structure of reasoning about causality.	Discussion, use Reason!able
Students will effectively analyze arguments based upon causal explanations.	Discussion, use Reason!able

Learning Activities Required Outside of Class:

The students in this class will spend a minimum of 3 hours per weeks outside of the regular class time doing the following:

- 1. Studying
- 2. Answering questions
- 3. Completing required reading
- 4. Completing argument mapping
- 5. Completing written work

Methods of Instruction:

- 1. Lectures
- 2. Arguments mapping with Reason!able software

Methods of Evaluation

- 1. Group presentations
- 2. Written assignments
- 3. Quizzes
- 4. Argument mapping