

**Quality Enhancement Plan (QEP)
Applied Critical Thinking for Lifelong Learning and Adaptability**



CINF 5231 Strategic Information Systems Spring 2015

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Class Time: Tue 7:00-9:50pm

Applied Critical Thinking Statement:

This course has been authorized by UHCL as an Applied Critical Thinking (ACT) Course which means that in addition to learning about the specified course content, students will be engaged with some or all of the **Elements of Thought** and **Universal Intellectual Standards** of critical thinking. The objective of an ACT course is to develop the student's ability to become skilled at analysis and evaluation by applying a set of intellectual tools that may be effectively used across all disciplines (as well as to the student's personal life). Based on the Foundation for Critical Thinking model (<http://www.criticalthinking.org/>), critical thinking involves thinking for a *purpose*, asking *questions*, using *information*, applying *concepts*, drawing *inferences and conclusions*, identifying *assumptions*, anticipating *implications and consequences*, and recognizing *points of view*. The **Universal Intellectual Standards** that are applied to these **Elements of Thought** of critical thinking in order to develop **Intellectual Traits** include *clarity*, *accuracy*, *precision*, *relevance*, *depth*, *breadth*, *logic*, *significance*, and *fairness*.

Course Description

This course focuses on the many facets of strategically utilizing information systems in corporate environment in the global economy. Information systems are at the heart of virtually every business interaction, process, and decision, especially when one considers the pervasiveness of the Web. Mobile and social technologies have brought information systems to an entirely new level within firms, and between individuals in their personal lives. All of above contribute to the fact that it has become more challenging than ever to manage and make decisions on IS. An IS manager constantly has to ask the question "What

relationships exist between business strategy, information systems strategy, and organizational strategy and how do these relationships affect IS decision making?"

The course is designed to be especially useful to those who wish to become managers as knowledgeable participants in information systems decisions. The facets covered in this course include: (1) Sufficient technical background of information systems; (2) Comprehensive analysis and discussion of information systems principles, models, frameworks, and theories; (3) Real business cases as demonstration of how information systems should be used and managed and the impact of technical, organizational, and people factors in information systems. Specific topics to be covered in this course contains the basics of information architecture and infrastructure, the business of IT, the governance of the IS organization, the sourcing of information systems, project management, business intelligence, business analytics and knowledge management, and relevant ethical issues.

Critical Thinking in Information Systems

Information Systems, as an applied discipline, studies the processes of the creation, operation, and social contexts and consequences of systems that manipulate information. Information systems implemented/supported by various information technologies have progressed from a means to improve business operation to become an integral part of everyday life, a disruptor of business models, organizations, and society. The IS discipline articulates theoretical and analytical perspectives that integrates the technical and social aspects of business practice. System concepts and systems thinking are central to vital IS activities including the design, development process, operation, updating, and the control and security of systems. Critical thinking is an integral part of understanding, applying, and executing the system approach.

Fundamental and Powerful Concept(s) of the Course

In ACT vocabulary, fundamental and powerful concepts form the foundation that permeates and unites a course. In this particular course, such concepts are:

1. Businesses/Organizations need to have alignment between their IS strategy, business strategy, and organizational strategy to achieve maximum competitive advantages.
2. Information systems are one of the major tools available to business managers for achieving operational excellence.
3. The concept of Information Systems is a broader term than Information Technology for it encompasses an understanding of the people and organizational dimensions of systems in addition to the technical dimensions.

Student Learning Objectives (SLOs)

Upon completion of the course, students will be able to:

SLO1: Have **deep** understanding of the *concepts and models* of business, organization, and IS strategies and the **significance** of have IS strategy aligned with business and organizational strategies.

SLO2: Identify and apply, with **clarity, relevant** information systems *theories and models (concepts)* to help business achieve competitive advantage.

SLO3: Demonstrate **deep** understanding of the *mechanism* how organizational decisions impact IS decisions and the *implications* of the impact.

SLO4: Understand the **significant** role of Information Systems in supporting business process and business transformation/reengineering.

SLO5: Have **breadth** of knowledge on how business intelligence *solutions* are used within an organization.

SLO6: Describe and analyze **accurately** the ethical and moral *models and principles (concepts)* that bind the uses of information in business.

SLO7: Describe **accurately** the Information Systems governance *approaches*.

SLO 8: **Precisely** describe *concepts* of Information Systems architecture and infrastructure.

SLO9: **Clearly** describe the lifecycle of IT projects and the *solution* to technical, managerial, political *issues* during the lifecycle.

Vocabulary of Critical Thinking

In this course, students will learn and use the vocabulary of critical thinking which will include an understanding and use of both the **Elements of Thought** and the **Universal Intellectual Standards**.

Elements of Thought*:

In this course, we will consider and use eight (8) elements of thought:

- 1. Purpose:** Goals and objectives
- 2. Question at Issue:** Problem, issue, and misconception
- 3. Information:** Facts, data, evidence, observations, reasons, and experiences
- 4. Interpretation and Inference:** Solutions and conclusions
- 5. Concepts:** Definitions, models, laws, theories and principles
- 6. Assumptions:** Axioms, presuppositions, and a-priori facts or knowledge
- 7. Implications and Consequences:** Inferences, effects, and outcomes
- 8. Point of View:** Perspectives, frames of reference, and orientations

Universal Intellectual Standards*:

In this course, we will consider and use nine (9) universal intellectual standards including **clarity, accuracy, precision, relevance, depth, breadth, logic, significance, and fairness**.

*Paul, R., and Elder, L. (2009). *Critical Thinking: Concepts and Tools* (6th ed.). Tomales, CA: Foundation for Critical Thinking Press

Critical Thinking Process

There are four major aspects of the Applied Critical Thinking Process, termed as the 4 C's: **curiosity, connections, creativity, and communication**. In this course, the predominant C in the student learning objectives is **connections**.

Methodology

Lecture and case study. This includes class discussions, group and independent case studies, literature research and report writing. There is an extensive list of reading assigned for each class. **It is your responsibility to read them before class and attend all classes to participate in the discussion.**

Course Materials

1. Required Textbook

Keri E. Pearlson, Carol S. Saunders (2012). *Managing and Using Information Systems A Strategic Approach*, 5th Edition. Wiley. ISBN-10: 111828173X, ISBN-13: 978-1118281734.

2. Required Reading Packages: at the beginning of the semester, two reading packages as follows are going to be distributed in class

- 1) Technical background reading package
- 2) Case study package

For the copy-right content in the package, students are responsible to pay for them. For example, case study from Harvard Business Review can be assigned to you by your instructor with academia discounted rate at \$3.95 per case.

3. Class Handouts/Slides/Assignments: Available through Blackboard

(<https://blackboard.uhcl.edu/webapps/login/>)

Learning Assessment Policy

1. Grading Structure

The assessment of students' learning in this course will be evaluated using following activities: (1) two close-book exams; (2) Individual assignments; (3) Individual case study; (4) Group case study; (5) Individual Research Paper. The weight of each category is summarized in the table as follows:

| Assessment Activity | Grade Weight |
|------------------------|--------------|
| Midterm | 20% |
| Final Exam | 20% |
| Individual Assignments | 20% |
| Case Study | 25% |
| Research Paper | 15% |

After the completion of all course work, letter grades will be assigned approximately as follows:

| | | | |
|-----------|-----------|-----------|-----------|
| A | 93-100 | C | 73.0-76.9 |
| A- | 90.0-92.9 | C- | 70.0-72.9 |
| B+ | 87.0-89.9 | D+ | 67.0-69.9 |
| B | 83.0-86.9 | D | 63.0-66.9 |
| B- | 80.0-82.9 | D- | 60.0-62.9 |
| C+ | 77.0-79.9 | F | <60.0 |

2. Grading Policy

- No collaboration is allowed for individual assignments. Any violation will result in 0 grade in the assignment and incur academic dishonesty investigation.

- It is your responsibility to turn in your finished work before deadline. The submission window will be closed on Blackboard at the due date/time. **NO late submission will be accepted and there is NO exception.**

Critical Thinking Assessment

The major graded work in this course include Assignments (20% of overall grade), Exams (40% of overall grade), and Case Studies (25% of overall grade). Following is a summary of how three of the Student Learning Outcomes (SLO5, SLO6, and SLO8) will be assessed with critical thinking in mind.

1. **Midterm and final Exam:** Both exams will be individual, in-class, closed-book, closed-notes. Exams are non-cumulative. Modules will be built into the exams to assess student’s learning on the technical background of Information Systems. The details are as follows.

| Artifacts | Artifacts detail | Targeted SLO |
|--|--|---|
| Midterm Questions in format of: Multiple choice, filling blanks, short answers. | Students will be assessed on their capability to: (1) Clearly define business intelligence (2) Explain with clarity how business intelligence can be used to provide <i>solutions</i> to business <i>problems</i> (3) Demonstrate breath of <i>information</i> on current business intelligence technologies and their application (4) Design relevant business intelligence <i>solutions</i> to emphasize business/organization <i>issues</i> | SLO5: Have breadth of knowledge on how business intelligence solutions are used within an organization. |
| Final Exam Questions in format of: Multiple choice, filling blanks, short answers. | Students will be assessed on their capability to: (1) Accurately define and describe Information Systems architecture (2) Accurately define and describe Information Systems infrastructure (3) With clarity identify the major <i>components(information)</i> of IT infrastructure (4) Demonstrate in-depth and precise understanding (information) of the technical elements of IT infrastructure components | SLO 8: Precisely provide <i>definition</i> of Information Systems architecture and infrastructure |

The artifacts will be graded and an aggregate score for evaluation how well a student is doing on both learning outcomes. The following assessment levels will be considered:

- Excellent: 90% and above
- Acceptable: 70% to 89%
- Unacceptable: 69% and below

2. **Case study:** Four case studies (25% of overall grade) will be given to the students throughout the semester. A typical study requires the following:

- (1) In-depth reading of the case including acquiring of all **relevant** information. The *objectives/goals* of the study should be **clearly** identified and problems/issues should be **precisely** described.
- (2) Thorough collection of *data/information* and analysis of the case following the given guideline with **clearly** identified *assumptions*, utilize proper *theories, models*, and apply *principles* correspondingly;
- (3) **Logically** formulate *thoughts/discoveries* into professionally written report. A great focus in the report should be given to discussion of the *findings, potential solutions* to identified *problems*, possible *implications and consequences* of certain solutions.
- (4) Communicate *findings/conclusions* through formal presentations. The students should demonstrate their capability of delivering content in **clear, relevant, precise**, and interesting manner.

The following SLOs will be assessed using case studies:

SLO6: Describe and analyze **accurately** the ethical and moral *models and principles (concepts)* that bind the uses of information in business.

The deliverables (Reports and Presentations) of the case study will be graded/evaluated and following assessment levels will be considered:

Excellent: 90% and above

Acceptable: 70% to 89%

Unacceptable: 69% and below

Use of Class Products in Assessment

The University of Houston–Clear Lake may use your work in this class to generate assessment data. Any works used will be used only for educational purposes.

General Course Policy

1. Academic Honesty Policy

University of Houston–Clear Lake Honesty Code:

Students assume full responsibility for the content and integrity of the academic work they submit. The guiding principle of academic integrity shall be that a student's submitted work, examinations, reports, or projects must be that student's own work, unless clearly following the rules for allowable group work. Students shall be guilty of violating the Code and be subject to proceedings under it if they cheat, fabricate, plagiarize, and represent others work as their own. You are responsible for reading and understanding the University's policy as described in the above Web Site. If you violate the honesty code, you may subject yourself to loss of credit for the affected assignment or even a failing grade for the entire course.

Please note the guidelines for academic integrity and penalties imposed for violation of these rules. There is **ZERO** tolerance to academic dishonesty. The instructor will investigate any indication or report of potential academic dishonesty in accordance to the UHCL policies. If a student will be found guilty of academic dishonesty then the penalties will include:

- a. The student will fail the course.
- b. The instructor will recommend to the Academic Honesty Council to expel the student from the academic program and from UHCL

2. Student Academic Adjustment Policy

The University of Houston System complies with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, pertaining to the provision of reasonable academic adjustments/auxiliary aids for students with a disability. In accordance with Section 504 and ADA guidelines, each University within the System strives to provide reasonable academic adjustments/auxiliary aids to students who request and require them. If you believe that you have a disability requiring an academic adjustments/auxiliary aid, please contact your University's student disability services center. For more details, please visit <http://prtl.uhcl.edu/portal/page/portal/UAO>.

3. Class Attendance Policy

The classroom activities include a substantial amount of topic-based discussion, case presentation. Therefore, class attendance is **mandatory**. Your absence may be excused for medical or other reasons if sufficient official documents can be provided such as doctor's notes, police report etc. Each unexcused absence will result in **2 points deduction** from your final grade.

4. Incompletes

A grade of "I" (incomplete) will not be administered for this course. UHCL policy allows for the awarding of grades of "I" at the discretion of the instructor, in extreme cases which prevent a student from completing the course requirements. I will work with any student encountering such a situation to make alternative arrangements for completion of the course requirements by semester's end.

5. Classroom Conduct

Do NOT use cell phones in classes. NO talking or texting on cell phones. All ringers must be turned off. All earphones, headphones, headset or any other accessories of similar nature must be out of sight during class. Do NOT use any electronic devices such as mp3 player and tablet during class. Laptop usage is restricted to class related tasks only.

6. Drop Policy

The last day to drop this course **without receiving a grade** is Feb 4th, 2015. The last day to withdraw the class is April 14th, 2015 (Per the Academic Calendar-please verify [here](#)). It is the student's responsibility to sign and submit a course withdrawal form in the office of enrollment services in order to be formally withdrawn from the course.

Students who entered college for the first time in Fall 2007 or later should be aware of the course drop limitation imposed by the Texas 6 drop rule and the census date information for the Spring 2014 semester/session. Dropping this or any other course between the first day of class and the census date for the semester/session does not affect your 6 drop rule count. Dropping a course between the census date and the last day to drop a class for the semester/session will count as one of your 6 permitted drops. You should

take this into consideration before dropping this or any other course. Visit www.uhcl.edu/records for more information.

7. Communication Policy

E-mail and phone are the preferred ways to communicate with the instructor outside of the classroom. Send all messages to the instructor's email address at wei@uhcl.edu or call at (281) 283-3732. Note on email communication: Same code of conduct and respect as in face-to-face communication should be used for e-mail communication. Do not use chat-type or text messaging style of communication (don't use "r" for "are", "u" for "you", "2" for "to", etc.). Pay attention to spelling and grammar as I expect the body of all email messages received to contain only complete and correct English sentences. Poorly written email messages will not be replied to. All anonymous email messages will be discarded immediately.

Remember to use your UHCL email to communication with your instructor for other mail services may be considered as spam and your instructor will not see them in time.

Tentative Schedule

| Week | Date | Topics | Readings | Assignment |
|-------------|-------------|--|--------------------|-------------------|
| 1. | Jan 20 | Course Introduction Information Systems Decision Making | Reading Package 1 | Assignment 1 |
| 2. | Jan 27 | Strategies: Information Systems Strategy, Business Strategy, and Organizational Strategy | Reading Package 2 | Case study 1 |
| 3. | Feb 3 | Information systems and design of work | Reading Package 3 | |
| 4. | Feb 10 | Architecture and Infrastructure | Reading Package 4 | Assignment 2 |
| 5. | Feb 17 | Information systems for managing business processes | Reading Package 5 | Case study 2 |
| 6. | Feb 24 | Business of IT | Reading Package 6 | |
| 7. | Mar 3 | Governance of the information systems organization | Reading Package 7 | Case study 3 |
| 8. | Mar 10 | Midterm | | |
| 9. | Mar 24 | Strategic use of information resources | Reading Package 8 | |
| 10. | Mar 31 | Managing IT projects | Reading Package 9 | Assignment 3 |
| 11. | Apr 7 | Knowledge management, business intelligence, and analytics | Reading Package 10 | |
| 12. | Apr 14 | Using Information Ethically | Reading Package 11 | Case study 4 |
| 13. | Apr 21 | Information systems security | Reading Package 12 | Assignment 4 |
| 14. | Apr 28 | Information systems sourcing | Reading Package 13 | |
| 15. | May 5 | Final Exam | | |

