2019 CT² Faculty Institute

David K. Knox
Director of Clemson Thinks²
Outcomes of the Faculty Institute

- Design and develop a communication-intensive Clemson Thinks² (CT²) Seminar on the topic or subject the faculty member chooses and that integrates targeted student learning outcomes related to critical thinking;

- Redesign and redevelop existing faculty members’ course(s) to integrate the targeted student learning outcomes related to CT²;

- Develop and integrate activities and assignments into faculty members’ courses that will develop the targeted CT² skills in their students and enhance academic and engagement experiences;

- Develop strategies for engaging students and ensuring they comprehend assignments and are achieving CT² learning outcomes;

- Identify alternatives for assessing student critical thinking skills;

- Monitor and assess students’ competency in critical thinking skills using multiple assessment instruments.
Some Elements of a CT Syllabus

The following is a suggested organizational model

- Complete course information.
- Information about yourself.
- Annotated list of reading materials and locations.
- Complete course description.
- Student learning outcomes.
- Alignment with CT² SLOs.
- Discussion of critical thinking and CT².
- Instructional strategies.
- Grading scale and requirements
- Class Schedule.
- CT testing and artifacts.
- Class etiquette.
- Boilerplate: attendance, academic integrity, disability, Title IX, inclement weather, campus safety.
Let us start at the beginning:
1: Course number, section, title, days, hours, meeting place(s)
2: Course Prerequisites
3: Laboratory and/or review/tutorial sections
4: Location(s) of online course materials – websites, Canvas etc. (give URL for website, folder(s) Canvas)
About Your Instructor: Prof. Ethan Kung

I run the Cardiovascular Modeling and Experimentation Research Laboratory (http://www.cmerl.com/) which conducts investigations in cardiovascular biomechanics. My research group focuses on translational research which integrates experimental and computational tools to help advance cardiovascular medical devices, diagnostics, and clinical procedures.

My teaching philosophy is to first approach subjects from an intuitive perspective with emphasis on context, and then fit in the details piece by piece to gradually clarify parts of the overall framework. I believe that the best way for you to learn is to have an immediate place in the brain where the course material can "click" into. I will do my best to encourage this to happen and I hope you would approach your learning with this mentality as well.

I have an educational background in Electrical Engineering from Queen's University, Canada (BSc), and Bioengineering from Stanford University (MS and PhD). I performed postdoctoral research in the Mechanical and Aerospace Engineering at the University of California San Diego. I joined the Mechanical Engineering faculty at Clemson in the Fall of 2014 and am currently jointly appointed in the Bioengineering department.

My other roles at Clemson include being part of the Clemson Faculty Commons as well as helping to advise the Clemson student group “Ratio Christi” (http://ratiochristi.org/clemson), which is an apologetics group that investigates the truth behind Christianity using logic and reasoning.
A Brief, Annotated List of Reading Materials Plus Location — Bookstore, Web, Library Reserve, Canvas
COURSE DESCRIPTION: What is international law? How has it come about? Who and what does it govern? How effective is it? What obstacles does it face? How can it be improved? This course employs both a positive and normative approach to surveying issues and developments in international law. While not all-inclusive, it introduces students to the main concepts, institutions, and methodology that serve as the foundation of current international legal practice. Through detailed analysis of international conventions, customs, cases, and current events, students will acquire an understanding of the sources of international law, the relationship between international and domestic law, principles of jurisdiction, international dispute resolution, state sovereignty and responsibility, human rights law, international criminal law, international organizations, the legal use of force, and international environmental law. More importantly, once a firm understanding of the international legal process has been established, students will then assess for themselves how effective international law is in various policy areas, devise specific suggestions for ways it could/should be improved, and identify obstacles that prevent its theoretical benefits from being maximized.
"One of the most widely held misconceptions about mathematics is that a math problem has a unique correct answer."

*Most Math Problems Do Not Have a Unique Right Answer*
devlinsangle.blogspot.com - August 1, 2014

**What Are Specific Course Outcomes**

You will be able to analyze discrete problems using logical mathematical thinking.
You will be able to produce models to help interpret discrete mathematical problems.
You will be able to apply critical reasoning expressed in discrete mathematical vocabulary to justify your approach to these problems as well as to justify your proposed solution.
You will be able to implement simple proof techniques.
You will be able to apply “counting” in appropriate discrete mathematical problem solutions.

**What Discrete Math Topics Will Foster The Problems**

- sequences
- number
- probability
- logic
- set theory
- functions
- graph theory
- relations
- counting
- propositional
- algorithms
- induction
- recursion
COURSE OBJECTIVES & COMPETENCIES

Throughout the course, you will use critical-thinking to:

- Demonstrate understanding of how literature and the arts raise ethical and philosophical questions
- Discuss and debate questions raised by literature and the arts
- Formulate provocative, analytical questions about literature and the arts
- Analyze the formal structures of literature and the arts and develop arguments about them
- Recognize and implement strategies of argumentation to produce clear textual interpretations
- Identify or extrapolate connections among texts and contexts and their relevance to us today

Student Learning Outcomes
Creating Effective Student Learning Outcomes (SLOs)

- Writing Student Learning Outcomes
  - Specific
  - Measurable
  - Attainable
  - Relevant
  - Time-related
Bloom’s Taxonomy (Revised)

- **Creating**
  - Can the student create a new product or point of view?
  - assemble, construct, create, design, develop, formulate, write

- **Evaluating**
  - Can the student justify a stand or decision?
  - appraise, argue, defend, judge, select, support, value, evaluate

- **Analyzing**
  - Can the student distinguish between different parts?
  - appraise, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, test

- **Applying**
  - Can the student use information in a new way?
  - choose, demonstrate, dramatize, employ, illustrate, interpret, operate, schedule, sketch, solve, use, write

- **Understanding**
  - Can the student explain ideas or concepts?
  - classify, describe, discuss, explain, identify, locate, recognize, report, select, translate, paraphrase

- **Remembering**
  - Can the student recall or remember the information?
  - define, duplicate, list, memorize, recall, repeat, state

**Bloom’s Taxonomy**
### Clemson Thinks² Learning Outcomes

<table>
<thead>
<tr>
<th>Clemson Thinks² Learning Outcomes</th>
<th>Outcomes as realized in this course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explore complex challenges.</td>
<td>Analyze complex problems; manipulate and decompose problems; know what constitutes reliable and sufficient evidence.</td>
</tr>
<tr>
<td>Analyze multi-dimensional problems.</td>
<td>e.g., when competing interests volley for control of a situation, ethical values, such as trust, cooperation, honest representation of the facts, may be needed to improve outcomes driven only by self-interest.</td>
</tr>
<tr>
<td>Extrapolate from one conceptual context to others.</td>
<td>Certain mathematical representations and strategies used to solve one type of problem may also be useful in others.</td>
</tr>
<tr>
<td>Synthesize alternative solutions to multi-dimensional challenges.</td>
<td>It is necessary to analyze the assumptions underlying alternative solutions to contemporary problems, such as those involving medical or legal issues.</td>
</tr>
<tr>
<td>Communicate complex ideas effectively.</td>
<td>Communicate complex ideas effectively.</td>
</tr>
</tbody>
</table>

**Alignment with CT² SLOs**
Critical Thinking Student Learning Outcomes

1. Explore complex challenges associated with sustainable landscape design, installation and maintenance.
2. Analyze sustainable design problems using multiple lenses and perspectives.
3. Extrapolate from one conceptual context to others in the sustainable landscape.
4. Develop creative solutions to complex challenges.
5. Communicate complex ideas effectively.

This class is a Clemson Thinks2 (CT2) seminar – developed to increase and enhance your critical thinking skills.

Goals of the CT2 Seminar

1. Students will develop university-level competence at the activities that characterize critical thinking.
2. Students will describe the specific activities that characterize critical thinking and will reflectively report on their own use of these tools.
3. Students will apply critical thinking skills to solve problems that occur outside the academic classroom.
Clemson Thinks2: This is a CT2 course to nurture your skill to think critically. Many definitions for Critical Thinking exist, one of my favorite brief ones is that from Robert Ennis: “Critical thinking is reasonable, reflective thinking that is focused on deciding what to believe or do”. To this end, this course will feature activities focusing on metacognition, or thinking/reflecting about your thinking. Society expects you to be a mature thinker who is able to think in the abstract and consider a number of solutions to a problem. We were all immature thinkers at some point of our lives but then a fantastic journey started into increasing the quality of our thoughts. This will be an ongoing process for the rest of your life. Metacognition will help you increase the pace at which you develop your thought. Although simple in nature, it takes practice. You must develop the habit of asking yourself why you believe what you do, why do you act the way you do, and other interesting questions that are most likely to lead to unpleasant truths (see cognitive dissonance) but will help you identify the problem and become a better you. A better you can lead to better opportunities, and ultimately a better society. The purpose of making this a CT2 course is to help you strengthen your metacognition skill. Hence, you will be constantly required to think about your thinking through reflections, either individually or as a group.

Discussion of Critical Thinking & CT²
Critical thinking:

This course is a Clemson Thinks\(^2\) (CT\(^2\)) critical thinking seminar. CT2 is a campus-wide initiative developed to increase and enhance students' critical thinking skills. What is critical thinking? For the purposes of this course, we understand critical thinking to be, “a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.” (AAC&U 2009). Critical thinking is a self-aware process of thinking in a clear and systematic way in order to gain a deeper understanding. To do so requires engaging in meta-cognition, which means reflecting on our own thinking by recognizing our biases, assumptions, and considering how we create knowledge. Critical thinking does not come naturally; therefore, we must practice critical thinking – which is one of the goals of this course.

Memorizing facts and being able to regurgitate definitions or procedures is not a sufficient skill set to understand and address the complex problems facing our world today. We need to develop the ability to reason, evaluate, and decide if we are to become successful in future careers and effective stewards of our future. **We will apply this strategy to environmental claims made in research, popular culture, and news.**
We will investigate the role of water in our lives and the environment by reflecting on cross-discipline experiences from the United States and around the world. Our focus will be on understanding how sustainability of this critical resource is impacted by scientific, engineering, social, economic, and political factors. **Clemson Thinks²:** This course is part of the Clemson Thinks² (CT²) program that is aimed at improving student critical thinking skills. Memorizing facts and being able to repeat definitions or procedures is not a sufficient skill set to address the complex problems facing our world today. You need to develop the ability to reason, evaluate, and decide if you are to become successful in your career and an effective steward of our future. *(GEOL 2700)*

This is a *Clemson Thinks²* course where students develop and apply critical thinking skills by analyzing and applying ethical judgment. In this course such skills stem from learning how ethical theories apply to both hypothetical and current issues. This involves not only critically assessing theories of this field of study but also thinking about the manner in which both accurate and meaningful arguments are crafted about ethical issues. In other words, this is a course that involves not only thinking about ethics, but also thinking about this thinking. It is this second, metacognitive part that makes this a *Clemson Thinks²* course. By acquiring the reflective skills for assessing arguments, thinking through problems, and deriving sound arguments, beliefs, and courses of action, students will possess the judgment that is applicable, in principle, to all academic studies—indeed, to all facets of your life and world. *(PHIL 1030)*
**Instructional strategies employed:**

This course will be taught using numerous pedagogical methods to include, but not limited to:

1. Lectures related to ethical theory and critical thinking theory, process and technique.
2. Expert scholar presentations on related topics followed by a case study class exercise facilitated by the guest lecturer related to their area of expertise.
3. Reflective student writing exercises following topical issues presented by guest lecturers.
4. Written essays requiring a demonstration of critical thinking skills such as, but not limited to, identification; compare and contrast; evaluation; analysis; proposed solutions; cross-context application and summarization.
5. Classroom discussion and review of identified topics and issues presented by guest lecturers with a focus on ethical judgment and critical thinking process.
6. Group project involving research, debate, discussion and presentation in the class on an approved topic. Group work skills, research skills, critical thinking skills demonstration.
7. Evaluation and personal expression responses to classroom presented media presentations.
8. Personal and professional development appointments and exercises in written expression.
Classroom Strategies for Critical Thinking:

- **Modeling:** During the course of the semester, we will be doing many proofs in class. While completing these proofs, I will model my thought process for each problem. I will focus my discussion on what choices I’m making and why I’m making them.

- **“The List”/Socratic Method:** At a few points in class and always during office hours, I will use “The List” from *How to Solve It* by George Polya, which is a specialized form of the Socratic Method to help you prove various statements. “The List” will be handed out part-way through the semester and consists of a collection of questions which you can ask yourself to help organize your knowledge and choose the proper steps.

- **Analyzing Work:** Throughout the semester, we will frequently analyze proofs. To analyze a proof means to study it and to investigate its components. In particular, we will ask questions about why certain choices were made, understand how all of the conditions in the theorem were used, and consider generalizations or applications. After each lecture, you will have a short reaction assignment that asks you to analyze the proofs discussed in class. A few times in the semester we will also analyze proofs in class or on homework.
Grading Policy:
The Grading breakdown for this class is as follows:

GC3400 Grading Breakdown

- Photography: 15%
- Videography: 15%
- Web: 15%
- Other: additional lab assignments, lecture assignments, & quizzes: 15%
- Exams: 30%
- Participation: 10%

There will be some opportunities for bonus points built into certain assignments.
Grading Scale and Requirements

Puzzles, Quizzes, Homework, Etc.—This category includes a variety of assignments, including peer reviews and diagnostic tests. Not all of all of these assignments will be visible at the beginning of each module. Some will populate in Canvas as necessary.

YellowDig Critical Approaches—YellowDig is the place for you to collaborate with your colleagues and engage with course material. You will need to complete that week’s reading assignment, research the critical approach, and post a new and original idea in YellowDig.

YellowDig Essay Structure—Also in YellowDig, students will complete writing assignments that help them engage their critical thinking skills, build logically constructed arguments, and prepare for their longer essay assignments.

Word Counts—An assignment that is turned in on time but does not meet the minimum word requirement will automatically fail. Late assignments that do not meet the minimum word count will not be accepted and will be graded as zero.

Essays—These 2 major essays require you to use your knowledge of claims, evidence, critical approaches, analysis, and fallacies to present an interpretation of (new way of understanding) a course text. All papers must be submitted on Canvas on the day that they are due.

Zong Video Presentations—Students will use the appropriate critical approaches to present their analysis of a section of Zong. Students will be assigned pairs or groups to complete this project.

Late Work—Assignments are due on Canvas by the date and time specific there. In order to receive timely feedback and benefit from process-oriented tasks, you must adhere to these dates. Late work will be accepted until the last day of the month the assignment was due. (Ex. An assignment that is due on Sept. 16 will be accepted until Sept. 30. If it is not turned in by then, it will permanently become a zero on Oct. 1.) No work will be accepted after that time. No course work will be accepted after the last day of class. Final essays cannot be turned in late. I do not accept e-mailed assignments.
Grading Scale and Requirements

Grading Scale for Written Work
A-range writing (90%–100%) makes an ambitious argument that grapples with texts in a unique and perceptive fashion. It makes its argument clearly, explicating quotations in a way that enhances the argument and progresses seamlessly. There should be one thesis, supported with compelling textual evidence. The argument of A-range work should be one that adds to, rather than simply repeats, the observations that we have made about a text in class. The language should be clean, easy to understand and precise (no ambiguities). The argument is not confused by poor grammar or the lack of transitions.

B-range writing (80%–89%) makes a satisfactory argument about a selected text. While the argument may not be particularly unique, it is thoughtful and thought-provoking. It will make most of its points clearly, explicating quotations in a way that enhances the argument. It has a central thesis, even though it may get lost from time to time throughout. The argument might regurgitate claims from class discussions more so than A-range work would, but should still add something new to the scholarly discussion surrounding the selected text(s). The language should be mostly clean and mostly free of ambiguity. The argument is seldom confused by poor grammar or a lack of transitions.

C-range writing (70%–79%) has trouble making a satisfactory argument. The argument may or may not be unique, but the author’s thoughts are often lost in confusing language or in points that are not clearly related to one another. It might repeat itself over and over again, or it might not have an easily identifiable thesis. Grammar, transitions, and word choice are often problems. The language is often ambiguous.

D and F-range writing (0%–69%) shows little or no engagement with the reading from the course. D work usually has a weak argument, an unidentifiable argument, or no argument at all. It is confused by poor grammar, poor word choice, or poor transitions. An F is the result of plagiarism (see below).
## Grading Scale and Requirements

**AAC&U VALUE Rubric**

### Definition
Written communication is the development and expression of ideas in writing. Written communication involves learning to work in many genres and styles. It can involve working with many different writing technologies, and mixing texts, data, and images. Written communication abilities develop through iterative experiences across the curriculum.

Evaluators are encouraged to assign a zero to any work sample or collection of work that does not meet benchmark (cell one) level performance.

<table>
<thead>
<tr>
<th>Capstone 4</th>
<th>Milestone 3</th>
<th>Milestone 2</th>
<th>Benchmark 1</th>
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<tbody>
<tr>
<td><strong>Context of and Purpose for Writing</strong>&lt;br&gt;Includes considerations of audience, purpose, and the circumstances surrounding the writing task(s).&lt;br&gt;Demonstrates a thorough understanding of context, audience, and purpose that is responsive to the assigned task(s) and focuses all elements of the work.</td>
<td>Demonstrates adequate consideration of context, audience, and purpose and a clear focus on the assigned task(s) (e.g., the task aligns with audience, purpose, and context).</td>
<td>Demonstrates awareness of context, audience, purpose, and to the assigned task(s) (e.g., begins to show awareness of audience’s perceptions and assumptions).</td>
<td>Demonstrates minimal attention to context, audience, purpose, and to the assigned task(s) (e.g., expectation of instructor or self as audience).</td>
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<tr>
<td><strong>Content Development</strong>&lt;br&gt;Uses appropriate, relevant, and compelling content to illustrate mastery of the subject, conveying the writer’s understanding, and shaping the whole work.</td>
<td>Uses appropriate, relevant, and compelling content to explore ideas within the context of the discipline and shape the whole work.</td>
<td>Uses appropriate and relevant content to develop and explore ideas through most of the work.</td>
<td>Uses appropriate and relevant content to develop simple ideas in some parts of the work.</td>
</tr>
<tr>
<td><strong>Genre and Disciplinary Conventions</strong>&lt;br&gt;Formal and informal rules inherent in the expectations for writing in particular forms and/or academic fields (please see glossary).&lt;br&gt;Demonstrates detailed attention to and successful execution of a wide range of conventions particular to a specific discipline and/or writing task(s) including organization, content, presentation, formatting, and stylistic choices.</td>
<td>Demonstrates consistent use of important conventions particular to a specific discipline and/or writing task(s), including organization, content, presentation, and stylistic choices.</td>
<td>Follows expectations appropriate to a specific discipline and/or writing task(s) for basic organization, content, and presentation.</td>
<td>Attempts to use a consistent system for basic organization and presentation.</td>
</tr>
<tr>
<td><strong>Sources and Evidence</strong>&lt;br&gt;Demonstrates skillful use of high-quality, credible, relevant sources to develop ideas that are appropriate for the discipline and genre of the writing.</td>
<td>Demonstrates consistent use of credible, relevant sources to support ideas that are situated within the discipline and genre of the writing.</td>
<td>Demonstrates an attempt to use credible and/or relevant sources to support ideas that are appropriate for the discipline and genre of the writing.</td>
<td>Demonstrates an attempt to use sources to support ideas in the writing.</td>
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<tr>
<td><strong>Control of Syntax and Mechanics</strong>&lt;br&gt;Uses graceful language that skillfully communicates meaning to readers with clarity and fluency, and is virtually error-free.</td>
<td>Uses straightforward language that generally conveys meaning to readers. The language in the portfolio has few errors.</td>
<td>Uses language that generally conveys meaning to readers with clarity, although writing may include some errors.</td>
<td>Uses language that sometimes impedes meaning because of errors in usage.</td>
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### Grading Scale and Requirements

<table>
<thead>
<tr>
<th>Final Grading Scale &amp; Point Distribution:</th>
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<tbody>
<tr>
<td><strong>Exam (150 points)</strong></td>
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<tr>
<td>Final Exam</td>
<td>150 points</td>
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<td><strong>Introduction Speech: Facebook Speech (50 points)</strong></td>
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<tr>
<td>Speech</td>
<td>50 points</td>
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<tr>
<td><strong>Informative Speech (180 points)</strong></td>
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<tr>
<td>Topic Proposal</td>
<td>10 points</td>
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<tr>
<td>Outline &amp; References</td>
<td>30 points</td>
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<tr>
<td>Speech Presentation</td>
<td>100 points</td>
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<tr>
<td>Peer Critique</td>
<td>20 points</td>
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<tr>
<td>Self-Critique</td>
<td>20 points</td>
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<tr>
<td><strong>Persuasive Speech (230 points)</strong></td>
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<tr>
<td>Topic Proposal</td>
<td>10 points</td>
</tr>
<tr>
<td>Outline &amp; References</td>
<td>30 points</td>
</tr>
<tr>
<td>Speech Presentation</td>
<td>150 points</td>
</tr>
<tr>
<td>Peer Critique</td>
<td>20 points</td>
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<tr>
<td>Self-Critique</td>
<td>20 points</td>
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<tr>
<td><strong>Special Occasion/Ceremonial Speech (70 points)</strong></td>
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<tr>
<td>Speech Presentation</td>
<td>70 points</td>
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<tr>
<td><strong>Team Discussion Forum (160 points)</strong></td>
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<tr>
<td>Team Checkpoint</td>
<td>10 points</td>
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<tr>
<td>Outline &amp; References (Agenda)</td>
<td>15 points</td>
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<tr>
<td>Speech Presentation</td>
<td>120 points</td>
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<tr>
<td>Team Forum Paper</td>
<td>15 points</td>
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<td><strong>Other (160 points)</strong></td>
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<td>Outside Speaker Critique</td>
<td>40 points</td>
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<tr>
<td>Syllabus Quiz</td>
<td>5 points</td>
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<tr>
<td>CT² Pre-Test</td>
<td>5 points</td>
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<tr>
<td>CT² Pre-Test</td>
<td>5 points</td>
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<tr>
<td>End of Semester Course Evals 100% completion</td>
<td>5 points</td>
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<tr>
<td>Misc. (For example: Draft Reviews, Quizzes, Delivery Olympics, Participation, Surveys, etc.)</td>
<td>100 points</td>
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<tr>
<td><strong>Attendance</strong></td>
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<tr>
<td>Missed days after 1 week’s worth = -10/per day</td>
<td>0 point</td>
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<thead>
<tr>
<th>Total Possible Points (1000 points)</th>
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<tbody>
<tr>
<td>Date</td>
<td>Class Item</td>
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<tr>
<td>Aug 24 TH</td>
<td>Class overview: into questionnaire, syllabus,</td>
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<td>intro to sustainability</td>
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<tr>
<td>Aug 29 T</td>
<td>CT Critical Thinking pre-test (David Knox,</td>
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<td>Founding Director CT) Critical thinking</td>
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<td></td>
<td>introduction</td>
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<td>Aug 31 TH</td>
<td>Principles of design</td>
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<td>Sept 5 T</td>
<td>Sustainable landscape design</td>
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<tr>
<td>Sept 7TH</td>
<td>Sustainable teams</td>
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<tr>
<td>Sept 12 T</td>
<td>Socratic questioning Ricardo Urbina, (retired</td>
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<td></td>
<td>federal court judge attending</td>
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<td>Sept 14TH</td>
<td>Sustainable landscape construction</td>
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<tr>
<td>Sept 19T</td>
<td>Ecosystems and the landscape</td>
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## Class Schedule

**ENGL 3140-020**  
**SYLLABUS ITINERARY (subject to change)**

Please note that the assignments described in the Homework column are due by the next class period unless otherwise stated.

Notes: Jan. 11: Classes begin.  
Jan. 18: Last day to register or add a class.  
Jan 25: Last day to drop or withdraw from the University without a W (withdraw) grade.

<table>
<thead>
<tr>
<th>Date</th>
<th>In Class</th>
<th>Homework (due the following class)</th>
</tr>
</thead>
</table>
| W Jan. 11  | Intro  
Icebreaker  
Course Overview | Purchase textbooks and review syllabus.                                                   |
| F Jan. 13  | Critical Thinking Overview                    | Interview a professional about hiring practices and critical thinking skills and write a memo summarizing and analyzing what you learned. Submit via Canvas by the time class meets on Friday, January 20. |
| M Jan. 16  | No Class—Martin Luther King, Jr. Day          |                                                                                           |
| W Jan. 18  | Critical Thinking Pre-Test  
Please bring a functional and fully charged laptop to class!  
Last day to register or add a class | Read Markel, Chapters 1 and 2. Hiring Practices Interview Memo due Friday. |
| F Jan. 20  | Hiring Practices Interview Memo due  
Markel, Chapters 1 and 2  
Grammar Workshop | Read Markel, Chapter 9: Writing Correspondence.                                           |
| M Jan. 23  | Markel, Chapter 9: Writing  
Correspondence  
Resume and Cover Letter Exercise Assigned | Read Markel, Chapter 10: Writing Job Application Materials. Conduct a job search and post a link to a position description you would like to use for the Resume and Cover Letter Exercise. |
| W Jan. 25  | Markel, Chapter 10: Writing Job Application Materials  
Choose job postings.  
Last day to drop or withdraw from the University without a W (withdraw) grade | Read Markel, Chapter 13: Writing Recommendation Reports. Work on your Resumes and Cover Letters. |
| F Jan. 27  | Markel, Chapter 13: Writing  
Recommendation Reports  
Grammar Workshop | Work on your Resumes and Cover Letters due Monday.                                        |
CT² Pre and Post Testing

- To assess your improvement in critical thinking you will take the California Critical Thinking Skills Test (CCTST) at the beginning and end of the course. CCTST scores will be used to assess how well the instructors taught you how to think critically while they delivered material on nanotechnology. *(BIOE 3700)*

- In order to measure student’s progress in critical thinking, students will complete the California Critical Thinking Skills (CCTST) at the beginning and end of the semester. This is an online test. Students will be given information about how to access the test. Students who spend a reasonable amount of time on the test and complete it will receive 10 points. Your score on the test will not affect your credit for having taken it unless it is clear that you did not seriously attend to the test. *(SOC 4600)*

- *The California Critical Thinking Test.* You will be asked to take an online test at the beginning and end of the course as a homework assignment called the California Critical Thinking Test, this test will assess your strengths in a number of areas of critical thinking. Your scores have no impact on your grade, your standing at Clemson, or anything else. Taking these exams helps Clemson University and myself improve teaching methods to improve the quality of our student progress. These exams typically take 45-50 minutes, and do not involve any studying, preparing, or outside work. *(BIOE 4310/6310)*
The $CT^2$ program is being implemented as a campus wide research effort to improve the University’s ability to teach students critical thinking skills. As a result, you will be required to complete two general critical thinking exams (one at the beginning of the term and one at the end) that will be used to study the effectiveness of different teaching methods. The results of these exams do not count toward your grade or degree progress at Clemson and only aggregate results will be used to evaluate the teaching strategies of this course versus other $CT^2$ courses.

- California Critical Thinking Skills Test: In this course, we will use the California Critical Thinking Skills Test to evaluate and monitor your growth in critical thinking. You will receive a grade for the completion of this test.
<table>
<thead>
<tr>
<th>Week Of</th>
<th>Topics and Activities</th>
<th>Readings/Assignment</th>
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<tbody>
<tr>
<td>8/21</td>
<td>Wednesday: Introduction to Course, Meet and Greet</td>
<td>Reading: Syllabus</td>
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<td>Due: Student Information Sheet</td>
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<td>8/26</td>
<td>Monday: <strong>Assessment of Critical Thinking Pre-Test</strong></td>
<td>Monday:</td>
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<td>Wednesday: What questions are being posed currently in biology? How do current</td>
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<td>questions we see in the news relate to the big questions of biology as a science?</td>
<td>Assignment: Top 10 Discover Stories of 2014</td>
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Aug 29  TH    **CT test**
- Assignment 2: critical thinking visual essay (includes an image that is properly cited)
- Read *What is Critical Thinking?* by S. Brookfield (available on Blackboard)

**Sept 3  T**   **Sustainability: Critical thinking processes; sustainable teams: multidisciplinary and interdisciplinary; roles of team players**
- Group exercise
  - Read *Sustainable Landscape Management* chapters 3 & 4 (pp. 39-79)
  - Read *The Sustainable Sites Initiative: The Case for Sustainable Landscapes* chapter 2 (pp. 12-25)
- Assignment 2 due

**Sept 5  TH**   **Sustainable landscape construction**
- Assignment 3: critical thinking visual essay (includes an image that is properly cited)

**CT² Pre and Post Testing**
Critical Thinking Portfolio

Over the course of this semester, we will be creating a critical thinking portfolio. This portfolio will consist of a selection of your work which is designed to exhibit the growth of your critical thinking skills over the course of the semester . . . it will show you how much you’ve learned this semester.

- **Artifacts:** The artifacts in your critical thinking portfolio will come from approximately three assignments over the course of the semester. These homework assignments will be identified as critical thinking artifacts, and they will be more substantial than typical homework problems. These artifacts will include reflective questions and may involve several drafts.

- **Rubrics:** The artifacts will be evaluated using the “Problem Solving VALUE Rubric” to assess your development over the course of the semester. The artifacts will be graded, however, according to the proof grading rubric.

CT² Artifacts
• **A Note on Artifacts:** There are a variety of assignments in this course that you can utilize as artifacts to demonstrate your refinement of critical thinking skills over the term (e.g., position statements and projects). The product you create for the Naranpur project will provide you the opportunity to synthesize your work over the semester . . .

• This course is a Clemson Thinks\(^2\) Critical Thinking Seminar. Your final artifact and several other activities over the course of the semester will function as artifacts representative of Critical Thinking.

**CT\(^2\) Artifacts**
- **Classroom Etiquette**: You should consider this class as “time away” and “space apart” from the rest of your work day. This will require your full and undivided attention. To ensure the best quality time together and the best possible learning environment, please adhere to the following:

- To minimize distraction and to keep all students’ full intellectual energies inside the classroom, we do not allow the use of computers, mobile phones, Blackberries or other PDAs, iPods, or any other kind of electronic device during class.

- The only exception to this policy is for students who have official documentation from Disability Services that recommends the use of technology to accommodate verified learning needs. If this applies to you, please see one of the instructors to discuss your options.

- Class will begin and end on time. Please arrive to class on time, prepared to participate. Late arrivals are disruptive and will impact your participation grade. If you are late to class, the instructors reserve the right to disallow you from participation in class activities, including any in-class assignments.

- Please schedule your medical appointments, job interviews, service activities, and other appointments at a time other than during our class time. These are not considered as excused absences.

- Please plan to stay in class for the entire class period. If you leave early from class, you will be counted as absent, even if you have completed any in-class assignments. If the instructors are late, students are free to leave after waiting 15 minutes. (CU 2010)
Communicating with Faculty by Email (Netiquette for Nursing Students)

1. Be Friendly, Positive and Self-Reflective
   - Think before you write. Do not respond when you are angry. If you believe critique is necessary, be sure that it is constructive. Reread what you have written to be sure it is positive.

2. Use Proper Titles and Language
   - Use appropriate titles for recipients. Do not use slang or profane words. Do not use caps lock when typing as this can imply shouting.

3. Use Effective Communication
   - Again, think before you write. Reread before you send. Be sure that what you have written is clear, concise, and respectful.

4. Professionalism
   - Avoid using characters like smiley faces and instant message abbreviations. Remember to say please and thank you.

Class Etiquette: Email
Class Etiquette: Email
• Attendance Policy
• Academic Integrity Policy
• Disability Policy
• Title IX Policy
• Inclement Weather Policy
• Campus Safety Policy

My opinion is that these items are best at the end of the syllabus. Except for the Attendance and Inclement Weather policies, I recommend you use the official University wording for these elements.
• Revise your initial course syllabus to reflect the incorporation of activities specifically designed to address the development of critical thinking skills and participation in the Clemson Thinks program.

• Please resubmit by Friday, July 19th.
  ◦ Your submissions will be reviewed by a panel of experienced faculty members and their scores/comments will be given to you at our August 1st meeting.
  ◦ You will then submit a final syllabus incorporating the suggestions and improvements by September 15th.
# CT² Faculty Institute Syllabus Review

## CT² Student Learning Outcomes
- Explore complex challenges
- Analyze multi-dimensional problems
- Distinguish them from one conceptual context to others
- Synthesize alternative solutions to multi-dimensional challenges
- Communicate effectively, complex ideas

### Class

<table>
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<tr>
<th>Instructor's Name</th>
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### Please rate the syllabus on the following points:

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<tr>
<th></th>
<th>Excellent</th>
<th>Good</th>
<th>Adequate</th>
<th>Vague</th>
<th>Not Present</th>
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<tbody>
<tr>
<td>Starter Course SLs</td>
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<td>Alignment with CT² SLs</td>
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<td>Discussion of Critical Thinking</td>
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<td>Discussion of CT²</td>
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<td>CT² Pre and Post Tests in Syllabus</td>
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<td>Discussion of CT² Approaches</td>
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<td>Discussion of CT² Artifacts</td>
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<td>Overall Score</td>
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### University Requirements
- Academic Integrity Statement
- Attendance Policy
- Disability Access Statement
- Title IX Statement
- Inclement Weather Statement

### Comments

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1 to 5 scale for each item
1 = not present
2 = vague
3 = adequate
4 = good
5 = excellence
• Adding $CT^2$ activities as “add on”—examples of where we often do this
  ◦ Non-stand alone Honor’s Courses
  ◦ 4000/6000 level courses
  ◦ $CT^2$ becomes just an extra activity without being integrated into course

• SLOs are not measurable—no verb, not measurable is the rule of thumb

• It’s important to describe strategies or assignments and their relationship to $CT^2$

Avoid these common mistakes
Thank You.