I. INTRODUCTION

A. Utilization of appropriate application software to solve advanced problems and generate customized solutions.

B. This course is a capstone experience for advanced students in a specialized field associated with the IT industry and helps prepare them for employment in the general field of Information Technology. Enrollment in this course is limited to students on the Information Technology AAS degree plan.

C. Students will complete assigned tasks demonstrating their comprehensive skills gained from all previous course work. Students will apply theories, concepts, and skills using various specialized materials, tools, and equipment. They will observe regulations, laws, and acceptable interactions found within the various business, economic, social, and legal systems associated with the industry. Students will demonstrate professional interpersonal relations and teamwork, follow safety practices, and behave ethically. Students will also communicate, verbally and in writing, using the proper industry terminology and in a professional tone.

D. This course serves as a required or elective course on the IT degree plan. Curriculum plans for degrees and certificates are listed in the current Central Texas College catalog.

E. The delivery method of this course may be traditional lecture/lab, blended lecture/lab, or online.

F. Prerequisite: 30 semester hours of computer science course work

II. LEARNING OUTCOMES

Upon successful completion of this course, Application Software Problem Solving, the student will be able to:
A. Evaluate problems and project parameters. (C5, C6, C7, C8, C9, C11, F1, F2, F5, F7, F9, F10, F12, F13, F16)
B. Design and document a solution based on problems found and project parameters. (C6, C8, C9, C11, C15, C18, C19, F3, F4, F7, F8, F9, F13, F16)
C. Describe and show implementation of the solution integrating various software. (C6, C8, C9, C11, C15, C18, C19, F3, F4, F7, F8, F9, F13, F16)
D. Present a final project. (C6, C7, C8, C9, C10, C11, F2, F13, F16)

III. INSTRUCTIONAL MATERIAL

A. A capstone course is designed to bring closure to a degree and provide the student an opportunity to integrate and apply the knowledge and skills acquired in a challenging major. Therefore students will need to make use of texts and materials from prior courses, and refer back to those notes and references to complete the project requirements. Select the following link to view your Information Technology – Associate of Applied Science degree plan: http://content.ctcd.edu/courses/itsc2435/m16/docs/itsc2435_aas.rtf.
B. Lecture Classes may require a minimum of one storage device. (32 GB or smaller preferred).

IV. COURSE REQUIREMENTS

A. Attend both lecture and lab or in the case of online delivery, be actively engaged in Blackboard and maintain constant progress.
B. Be prepared to participate in discussion, team projects/assignments and take unannounced assessments relating to the lecture materials.
C. Complete all exams/assessments.
D. Submit all assignments on time.

V. ASSESSMENTS

A. Student content mastery will be evaluated in the following areas:
   • Assignments
   • Assessments (discussion, projects, etc.)
   • Final Assessment (final semester project, participation, final discussion)
B. Scheduled and unscheduled quizzes will be given at the discretion of the instructor. There is no make-up for these.
C. Exams/assessments may be composed of both subjective and objective questions plus computer output.

D. A student must take all exams/assessments. No make-up exams/assessments will be given. Both online and on campus students who know in advance that they will be absent due to school sponsored trips, military duty or orders, or any other valid reason, must arrange to take an early exam/assessment. Unexpected absences due to illness or other extenuating circumstances will require the student to see the instructor about make-up work in lieu of the missed exam/assessment.

E. Students with unexcused absences will be given a zero for any missed work.

VI. SEMESTER GRADE COMPUTATIONS

<table>
<thead>
<tr>
<th>Course Requirements</th>
<th>Points</th>
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<tbody>
<tr>
<td>Assignments</td>
<td></td>
</tr>
<tr>
<td>Project – Part 1</td>
<td>300</td>
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<tr>
<td>Project – Part 2</td>
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<tr>
<td>Assessments</td>
<td></td>
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<tr>
<td>Project – Part 3</td>
<td>300</td>
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<tr>
<td>Midterm Discussion</td>
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<tr>
<td>Final Assessment</td>
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<tr>
<td>Final Discussion</td>
<td>400</td>
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<tr>
<td>Final Project</td>
<td></td>
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<tr>
<td>TOTAL</td>
<td>1000</td>
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<table>
<thead>
<tr>
<th>Points</th>
<th>Grade</th>
<th>Quality Points</th>
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<tbody>
<tr>
<td>900-1000</td>
<td>A - Superior</td>
<td>4</td>
</tr>
<tr>
<td>800 - 899</td>
<td>B - Above Average</td>
<td>3</td>
</tr>
<tr>
<td>700 - 799</td>
<td>C - Average</td>
<td>2</td>
</tr>
<tr>
<td>600 - 699</td>
<td>D – Passing but Unsatisfactory</td>
<td>1</td>
</tr>
<tr>
<td>0 - 599</td>
<td>F - Failure</td>
<td>0</td>
</tr>
</tbody>
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VII. NOTES AND ADDITIONAL INSTRUCTIONS FROM THE INSTRUCTOR

A. Course Withdrawal: It is the student's responsibility to officially drop a class if circumstances prevent attendance. Any student who desires to, or must, officially withdraw from a course after the first scheduled class meeting must file a Central Texas College Application for Withdrawal (CTC Form 59). The student must sign the withdrawal form.

CTC Form 59 will be accepted at any time prior to Friday of the 12th week of classes during the 16-week fall and spring semesters. The deadline for sessions of other lengths is as follows.

- 10 week session: Friday of the 8th week
- 8 week session: Friday of the 6th week
The equivalent date (75% of the semester) will be used for session of other lengths. The specific last day to withdraw is published each semester in the Schedule Bulletin.

For non-GoArmyEd active military students, the effective date of withdrawal is the filing date with the Education Center. For all other students, the effective date of withdrawal is the date that the withdrawal application is received by the Central Texas College representative.

Students who used financial aid, military tuition assistance, VA benefits, or other non-personal funds may be required to repay tuition and fees to the funding agency. For specific repayment requirements, contact the Office of Student Financial Aid or Veterans Services Office before withdrawing. Military tuition assistance students should visit their military Education Center or Navy College Office.

A student who officially withdraws will be awarded the grade of "W", provided the student's attendance and academic performance are satisfactory at the time of official withdrawal. Students must file a withdrawal application with the college before they may be considered for withdrawal.

A student may not withdraw from a class for which the instructor has previously issued the student a grade of "F" or "FN" for nonattendance.

B. Instructor Initiated Withdrawals: Faculty are authorized to withdraw students who are not making satisfactory course progress to include failure to meet College attendance requirements as outlined in the section of the Catalog entitled “Satisfactory Progress Standards.” The instructor will assign the appropriate grade on CTC Form 59 for submission to the registrar.

Students who have not attended class by the 12th class day of a 16-week course or the 6th class day of an 8-week term may be administratively dropped by the instructor with a grade of "W." Students may be administratively withdrawn from any class when their absences reach a total equal to 12.5% of the class hours for the course; and in the opinion of the instructor, the student cannot satisfactorily complete the course. An example: Students attending a 48-hour class during an 8-week period normally meet 180 minutes each session for 16 sessions. Those students accumulating two (2) unexcused absences are subject to Administrative Withdrawal since the total unexcused absences equal 12.5% of class hours for the course. Those students attending a 48 hour class during a 16-week period normally meet 90 minutes each session for 32 sessions. Those students accumulating four (4) unexcused absences are subject to Administrative Withdrawal since the total unexcused absences equals 12.5% of class hours for the course. In a distance learning course the last date of attendance is the last activity by the student in the course.
C. **Administrative Withdrawal:** A student may be administratively withdrawn by a designated member of the administrative staff of the College when the student has been placed on Academic Suspension or Disciplinary Suspension; the student has an outstanding financial obligation owed to the college; or the student registered for a course without the required prerequisite or departmental permission.

The College is under no obligation to refund tuition and fees, or other costs associated with a student who is administratively withdrawn.

D. **Incomplete Grade:** The College catalog states: "An incomplete grade may be given in those cases where the student has completed the majority of the course work but, because of personal illness, death in the immediate family, or military orders, the student is unable to complete the requirements for a course...” Prior approval from the instructor is required before the grade of "IP" for Incomplete is recorded.

E. **Cell Phones and Pagers:** Students will silence cell phones and mobile devices while in the classroom or lab.

F. **Americans with Disabilities Act (ADA):** Disability Support Services provide services to students who have appropriate documentation of a disability. Students requiring accommodations for class are responsible for contacting the Office of Disability Support Services (DSS) located on the central campus. This service is available to all students, regardless of location. Review the website at [www.ctcd.edu/disability-support](http://www.ctcd.edu/disability-support) for further information. Reasonable accommodations will be given in accordance with the federal and state laws through the DSS office.

G. **Instructor Discretion:** The instructor reserves the right of final decision in course requirements and may make changes to the course outline and/or assignments as needed.

H. **Civility:** Individuals are expected to be aware of what a constructive education experience is and respectful of those participating in a learning environment. Failure to do so can result in disciplinary action up to and including expulsion.

I. **Degree Progression:** Students who receive a grade of “D” are advised not to enroll in the next course for which this course was a prerequisite.

J. **Failing Grade:** The grade of “F” or “FN” will be given for academic failure, non-attendance, or scholastic dishonesty.

K. **Scholastic Honesty:** All students are expected to maintain the highest standards of scholastic honesty in the preparation of all course work and during examinations. The college policy on scholastic honesty, including definitions on
plagiarism, collusion, and cheating can be found at the following URL:
http://online.ctcd.edu/plagiarism.cfm
VIII. COURSE OUTLINE

A. Unit One: Introduce course requirements and objectives. Introduce students to the environment and the case studies. Make group assignments.

A simple way of approaching a project is as a process with four phases or stages each of which will be turned in separately.

- **Define the project:** Visualize it and determine its scope. What are the boundaries? What will be included and what will not be included?
- **Plan the project:** Determine how you will do what needs to be done, by whom, when and in what order, where, and at what cost and using what other resources.
- **Implement and monitor the plan:** Do what is in the plan, updating and revising the plan during execution as needed.
- **Complete the project:** Reach closure in terms of final reports, releasing resources, and turning the project outcome over to others for ongoing operations and/or maintenance.

1. **Learning Outcomes:** Upon successful completion of this unit the student will be able to:
   a. Discuss course requirements as defined in the syllabus and reviewed by the instructor.
   b. Be familiar with the learning environment.
   c. Know team assignments.

2. **Learning Activities:**
   a. Instructor will cover the syllabus. (C5, F1)
   b. The instructor will review the lab procedures and Blackboard. (C5, C6, C8, C9, C19, F1, F5, F11)
   c. The students will share contact information / methods with their team. (C1, C5, C6, C16, C17, C18, C19, F1, F2, F3, F5, F9, F11, F13, F17)

3. **Unit Outline:** Follow the learning activities

B. Unit Two: Classroom questions and answers.

C. Unit Three: Classroom questions and answers.

D. Unit Four: Present first part of assigned case study -- Evaluate problems and project parameters.
   - Define the project: Visualize it and determine its scope. What are the boundaries? What will be included and what will not be included?
E. **Unit Five**: Classroom questions and answers.

F. **Unit Six**: Classroom questions and answers.

G. **Unit Seven**: Classroom questions and answers.

H. **Unit Eight**: Present second part of assigned case study -- Design and document a solution based on problems found and project parameters.
   Plan the project: Determine how you will do what needs to be done, by whom, when and in what order, where, and at what cost and using what other resources.

I. **Unit Nine**: Classroom questions and answers.

J. **Unit Ten**: Classroom questions and answers.

K. **Unit Eleven**: Classroom questions and answers.

L. **Unit Twelve**: Present third part of assigned case study -- Describe and show implementation of the solution integrating various software.
   Implement and monitor the plan: Do what is in the plan, updating and revising the plan during execution as needed.

M. **Unit Thirteen**: Classroom questions and answers.

N. **Unit Fourteen**: Classroom questions and answers.

O. **Unit Fifteen**: Classroom questions and answers.

P. **Unit Sixteen**: Present final part of assigned case study -- Present final project.
   Complete the project: Reach closure in terms of final reports, releasing resources, and turning the project outcome over to others for ongoing operations and/or maintenance.