

CIST 1510 – Web Development I

****Disclaimer Statements****

******Instructor reserves the right to change the syllabus and/or lesson plan as necessary.******

*****The official copy of the syllabus is located inside the student's online course shell or will be given to them during face to face class time the first day of the semester. The syllabus displayed in advance of the semester in a location other than the course you are enrolled in is for planning purposes only.*****



**CIST 1510
COURSE SYLLABUS
Summer Semester 2017 Fiscal Year 2017
*HYBRID
TENTATIVE – SUBJECT TO CHANGE

Semester: 201716 Summer 2017
Course Title: Web Development I
Course Number: CIST 1510
Credit Hours/ Minutes: 3/3000
Class Location: Room 812 Med Tech Bldg Vidalia Campus
Class Meets: 35% Hybrid / 65% Classroom
 Mon and Wed 10:30–12:10 / 9 wks
CRN: 60173

Instructor: John Taylor
Office Hours: 3:00-5:30 p.m. Monday-Thursday
Office Location: Office 810 Medical Technology Bldg Vidalia Campus
Email Address: jtaylor@southeasterntech.edu.
Phone: 912-538-3116
Fax Number: 912-538-3106
Instructor Preferred Method of Contact: Email

***This course is taught in a hybrid format. Hybrid classes require students to complete a portion of the required contact hours traditionally by attending classes on campus while completing the remaining portion online at the student’s convenience with respect to the instructor’s requirements.**

REQUIRED TEXT:



Murach’s HTML5 and CSS3, 3rd Edition

Anne Boehm and Zak Ruvalcaba

ISBN-13: 9781890774837

©2015 • Mike Murach & Associates, Inc. • Paper, 682 pp

You can purchase from the STC bookstore
stcbookstore@southeasterntech.edu or 912-538-3129.

REQUIRED SUPPLIES & SOFTWARE: Brackets code editor(free download), Web browser software, Internet access.

COURSE DESCRIPTION: In Web Development I, students will explore the concepts of Hypertext Markup Language(HTML), Cascading Style Sheets(CSS), XML and XHTML following the current standards set by the World Wide Web Consortium (W3C) for developing inter-linking web pages that include graphical elements.

MAJOR COURSE COMPETENCIES / OUTLINE:

1. Describe HTML, CSS, XHTML, and XML
2. Develop Web Pages with HTML, CSS, XHTML, and XML
3. Implement Graphical Elements, Hyperlinks, Tables, Forms, and Image Maps
4. Examine, Compare and Recognize W3C standards.

PREREQUISITE(S): CIST 1305 – Program Design and Development

GENERAL EDUCATION CORE COMPETENCIES: STC has identified the following general education core competencies that graduates will attain:

1. The ability to utilize standard written English.
2. The ability to solve practical mathematical problems.
3. The ability to read, analyze, and interpret information.

STUDENT REQUIREMENTS (Hybrid): Students are expected to complete all work shown on the attached assignment sheet. Students are also expected to complete all tests and comprehensive problems on the dates specified on the attached calendar. **Students will have at least one week to complete tests and assignments. All tests and assignments are due at 11:55 PM on Wednesday of each week. Assignments will be saved to the students P:/cist1510 folder on STCs network drive.** Assignments are given with numerous days to complete; therefore **no assignment will be accepted late. After the due date a grade of zero will be given.** Exceptions to the due dates of assignments due to jury duty, military duty, court duty, or required job training will be made at the discretion of the instructor. Students are responsible for policies and procedures included in the *STC Catalog*. **CIST program students must earn a minimum grade of C in this course. Unannounced quizzes/assignments may be given. Students who miss an unannounced quiz or assignment will receive a grade of 0.**

DISCUSSION BOARD TOPICS must be appropriate to the class. Spelling and grammar are considered part of the grade. Posted content should fully answer the question. Short 1 to 2 sentence posts will not be sufficient. See Discussion Board rubric attached. **Complete your initial post by Wednesday and all replies by the Monday due date.**

EMAILS: Prefer method of communication should be thru STC student EMAIL. Make sure that you always type your name and class in the subject line of every email you send me so I know which class you are in. **For example: CIST1305 Taylor**

CHECKING GRADES: A grade book is made available in the BLACKBOARD course on the main page when students log in. This grade book is for students to review and is continuously updated throughout the semester. Students can click **My Grades** on the menu at any time to see the individual grades for each assignment. The overall percentage averages should display in the grade book to help track course progress.

SURFING THE WEB WHILE IN CLASS: For each time a student is caught on Facebook or a site that is not approved by the instructor, student will be dismissed from class with an absence given for attendance.

CELL PHONE USING IN CLASS: Cell phone usage is not allowed in the classroom. Any student caught using a phone or answering a call during class will have a 5 point deduction on the next Exam/Test.

ATTENDANCE GUIDELINES: Class attendance is a very important aspect of a student's success. Being absent from class prevents students from receiving the full benefit of a course and also interrupts the learning process. Southeastern Technical College considers both tardiness and leaving early as types of absenteeism. Responsibility for class attendance rests with the student. Regular and punctual attendance at all scheduled classes is required for student success. Students will be expected to complete all work required by the instructor as described in the individual course syllabus.

Instructors have the right to give unannounced quizzes/assignments. Students who miss an unannounced quiz or assignment will receive a grade of 0. Students who stop attending class, but do not formally withdraw, may receive a grade of F and face financial aid repercussions in upcoming semesters.

Instructors are responsible for determining whether missed work may be made up and the content and dates for make-up work is at the discretion of the instructor.

Students will not be withdrawn by an instructor for attendance; however, all instructors will keep records of graded assignments and student participation in course activities. The completion dates of these activities will be used to determine a student's last date of attendance in the event a student withdraws, stops attending, or receives an F in a course.

SPECIAL NEEDS: Students with disabilities who believe that they may need accommodations in this class based on the impact of a disability are encouraged to contact Helen Thomas, 912-538-3126, hthomas@southeasterntech.edu, to coordinate reasonable accommodations.

SPECIFIC ABSENCES: Provisions for Instructional Time missed because of documented absences due to jury duty, military duty, court duty, or required job training will be made at the discretion of the instructor.

PREGNANCY: Southeastern Technical College does not discriminate on the basis of pregnancy. However, we can offer accommodations to students who are pregnant that need special consideration to successfully complete the course. If you think you will need accommodations due to pregnancy, please advise me and make appropriate arrangements with Helen Thomas, 912-538-3126, hthomas@southeasterntech.edu.

WITHDRAWAL PROCEDURE: Students wishing to officially withdraw from a course(s) or all courses after the drop/add period and prior to the 65% portion of the semester (date will be posted on the school calendar) must speak with a Career Counselor in Student Affairs and complete a Student Withdrawal Form. A grade of "W" is assigned when the student completes the withdrawal form from the course.

Students who are dropped from courses due to attendance (see your course syllabus for attendance policy) after drop/add until the 65% point of the semester will receive a "W" for the course. Abandoning a course(s) instead of following official withdrawal procedures may result in a grade of 'F' being assigned.

After the 65% portion of the semester, the student will receive a grade for the course. (Please note: A zero will be given for all missed assignments.)

There is no refund for partial reduction of hours. Withdrawals may affect students' eligibility for financial aid for the current semester and in the future, so a student must also speak with a representative of the Financial Aid Office to determine any financial penalties that may be assessed due to the withdrawal. All grades, including grades of 'W', will count in attempted hour calculations for the purpose of Financial Aid.

Remember - Informing your instructor that you will not return to his/her course does not satisfy the approved withdrawal procedure outlined above.

MAKEUP GUIDELINES: Students are required to take all tests scheduled during the semester. Failure to take Tests/Exam(s), and assignments **will result in a grade of zero. There will be no makeup of assignments or EXAMS.** If Internet or browser failure occurs, contact instructor immediately. A decision will be made at that time if the assignment/exam will be reset. Instructor reserves the right to deduct points from the scores for exceeding the scheduled time limit on the assignment/exam. **Note: If student notifies instructor about problems because of technical issues after the due date or on the last day of the semester, the student will NOT be allowed to make-up the assignment. No exceptions! Assignments must be turned in on the assigned date and will not be accepted late, a grade of zero will be given. All assignments are due according to the lesson plan.**

No Harm No Foul Policy: It is the student's responsibility to drop courses during the first three days by completing a withdrawal form with a Counselor in Student Affairs. If a student comes to class during the first three days or any day during this time, the student will be dropped with no penalty **only if** they have completed the Withdrawal Form with Student Affairs by the close of business on the third business day of the semester. (For **SUMMER semester, that day will be May 22, 2017.**) **The student must formally withdraw from classes in order to receive the no harm-no foul benefit.**

DROPPING COURSES BEFORE THE CLASS HAS BEGUN: Students wishing to withdraw from one or all courses prior to the first day of class need to go to Banner Web and drop their classes. Please note that a registration access number will be needed as well as a student's ID number and PIN. If the registration access number is unknown, the student will need to contact the registrar.

ACADEMIC DISHONESTY POLICY: The STC Academic Dishonesty Policy states All forms of academic dishonesty, including but not limited to cheating on tests, plagiarism, collusion, and falsification of information, will call for discipline. The policy can also be found in the STC Catalog and Student Handbook.

Procedure for Academic Misconduct

The procedure for dealing with academic misconduct and dishonesty is as follows:

--First Offense--

Student will be assigned a grade of "0" for the test or assignment. Instructor keeps a record in course/program files and notes as first offense. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus. The Registrar will input the incident into Banner for tracking purposes.

--Second Offense--

Student is given a grade of "WF" for the course in which offense occurs. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus indicating a "WF" has been issued as a result of second offense. The Registrar will input the incident into Banner for tracking purposes.

--Third Offense--

Student is given a grade of "WF" for the course in which the offense occurs. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus indicating a "WF" has been issued as a result of second offense. The Vice President for Student Affairs, or designee, will notify the student of suspension from college for a specified period of time. The Registrar will input the incident into Banner for tracking purposes.

STATEMENT OF NON-DISCRIMINATION: The Technical College System of Georgia and its constituent Technical Colleges do not discriminate on the basis of race, color, creed, national or ethnic origin, sex, religion, disability, age, political affiliation or belief, genetic information, disabled veteran, veteran of the Vietnam Era, spouse of military member or citizenship status (except in those special circumstances permitted or mandated by law). This school is in compliance with Title VI of the Civil Rights Act of 1964, which prohibits discrimination on the basis of race, color, or national origin; with the provisions of Title IX of the Educational Amendments of 1972, which prohibits discrimination on

the basis of gender; with the provisions of Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination on the basis of handicap; and with the American with Disabilities Act (ADA).

The following individuals have been designated to handle inquiries regarding the nondiscrimination policies:

ADA/Section 504 - Equity- Title IX (Students) - OCR Compliance Officer	Title VI - Title IX (Employees) - EEOC Officer
Helen Thomas, Special Needs Specialist Vidalia Campus 3001 East 1 st Street, Vidalia Office 108 Phone: 912-538-3126 hthomas@southeasterntech.edu	Blythe Wilcox, Director of Human Resources Vidalia Campus 3001 East 1 st Street, Vidalia Office 138B Phone: 912-538-3147 bwilcox@southeasterntech.edu

GRIEVANCE PROCEDURES: Grievance procedures can be found in the Catalog and Handbook located on STC's website.

ACCESS TO TECHNOLOGY: Students can now access Blackboard, Remote Lab Access, Student Email, Library Databases (Galileo), and BannerWeb via the mySTC portal or by clicking the Current Students link on the STC website at www.southeasterntech.edu.

Grading Policy			Grading Scale		
Chapter Work	15%	A	EXCELLENT	100-90	
Chapter Exercises	15%	B	GOOD	89-80	
Chapter Quizzes	25%	C	SATISFACTORY	79-70	
Final Exam	20%	D*	POOR	69-60	
Final Project	25%	F*	FAILING	59-0	
TOTAL	100%	* Grade of D or below results in student repeating the class			

TCSG GUARANTEE/WARRANTY STATEMENT: *The Technical College System of Georgia guarantees employers that graduates of State Technical Colleges shall possess skills and knowledge as prescribed by State Curriculum Standards. Should any graduate employee within two years of graduation be deemed lacking in said skills, that student shall be retrained in any State Technical College at no charge for instructional costs to either the student or the employer.*

CIST 1510 Final Project

General

- Develop a website that consists of at least three pages: a home page and two content pages.
- You decide what subject you're going to use for your website. It can be about you, a relative, a friend, a pet, a course, a hobby, a product, an issue...you decide.
- Be sure that you know enough about the subject of your website so it will be easy for you to create the content for your pages. If possible, you should also have three or more related image files that you can use in your web pages.

Content

The goal of these projects is to give you a chance to develop a small website using HTML and CSS, not to create content. With that in mind, you should feel free to:

- Copy content from other websites or sources and adapt it to your own website
- Copy images from other websites or sources

Skills

As you develop your website, you should of course demonstrate your HTML and CSS skills. To that end, the initial version of your website should show your mastery of:

- Headings, text, and character entities
- Links and lists
- Images
- Margins and padding
- Borders and backgrounds
- Floating
- Responsive Web Design

Design, graphics, and typography

- Use the principles and guidelines presented in this book and especially in chapter 18 to make the design of your website as effective as possible.
- Implement the first two guidelines in figure 18-5 to let the users know where they are in your website.
- Implement the typographical guidelines in figure 18-8 throughout your site.
- Do your best to implement the graphics design principles in figure 18-8.
- Do your best to write for the web by implementing the guidelines in figure 18-9.

HTML and CSS files and directories

- The HTML file for the home page should be named index.html.
- The names of the other pages should indicate what the pages represent.
- The images for the website should be stored in a directory named images, the CSS files should be stored in a directory named styles, and the HTML files should be stored in the root directory for the website.

Images

- Add links that consist of images.
- Create and add a favicon.
- Add an image to a figure that includes a caption.
- Add an image rollover using background images.
- Add an image map that links to two or more different pages.

Tables

- Add a table that presents tabular data to the site.

Forms

- Add a form that lets the user enter first name, last name, email address, and comments along with Reset and Submit buttons.
- Of course, the data won't be processed because there's no client-side or server-side script for doing that. However, the data should be submitted to a page that has a link back to the home page. Also, the data that is passed to the page should be visible in the URL for the page.

Audio and video

- Add audio or video to your site by embedding the players or files in your pages.

Fonts and printing

- Use an embedded font in your site.
- Create a style sheet for printing the home page of your site in a readable form.

CSS3 transitions, transforms, filters, and animation

- Add a transition to your site or a transform that uses a transition.
- Add an animation to your site.

CIST 1510 – Web Development I
SUMMER Semester 2017 FY201716 Lesson Plan
*****TENTATIVE – SUBJECT TO CHANGE**

Date	Ch	Content ** Gray sections indicate Hybrid (online) work	Assignments & Tests Due	*Competency Area
Week 1 (May 17 – 21)				
Wed May 17	1	Class Introduction – Syllabi, Outline, Work Ethics, Rules, and Regulations Coverage Introduction to Web Development	Logon to the course on BLACLBOARD. All students: Click the Getting Started link. Complete all tasks located under the Start Here Items . You must complete the Pledge and Student Introduction tasks within the first 3 days of class. Otherwise, you will be dropped from the class!!! Copy the cist1510 folder located in the M:\CIST folder to your P: drive. If working at home, also copy the folder to your home computer (or usb drive) and when finished working on an exercise, upload the files to the corresponding folders on your P: drive. Open web browser, go to http://brackets.io and download and install Brackets 1.9 . Your assignments are listed below and are also found under the Lessons link in Blackboard. Be sure to complete each item in order to maintain attendance for the class. You have assignments that are due each Wednesday before midnight. Read and work thru Chapter 1 pp. 4-41.	1,4 a, c, d
**			Do Chapter 1 Exercise 1-4 pp.44. Create a word document ch1ex4.docx and discuss your findings. Complete Chapter 1 Quiz on Blackboard. Save all work for this assignment in your P:\cist1510\exercises\ch01 folder. CHAPTER 1 - ASSIGNMENTS DUE 05/24 BEFORE MIDNIGHT	1,4 a, c, d
Week 2 (May 22 – 28)				
Mon May 22	2	How to code, test, and validate a web page	**Read and work thru Chapter 2 pp. 45-81. **We will not be using Aptana so ignore instructions for it!!! Be sure to save all your chapter work files for this chapter to your P:\cist1510\my_work\ch02 folder.	1,2,3,4 a, c, d
Wed May 24			Finish working thru Chapter 2 . Begin working on Chapter 2-2 & 2-3 Exercises . Complete Chapter 2 Quiz on Blackboard.	1,2,3,4 a, c, d
**	18	How to Design a Website	Complete Chapter 2 Exercises . Save all exercise work to your P:\cist1510\exercises\ch02 folder CHAPTER 2 - ASSIGNMENTS DUE 5/31 BEFORE MIDNIGHT Read Chapter 18.	1,2,3,4 a, c, d

Week 3 (May 29 - June 4)

Monday May 29 HOLIDAY (No School)

Wed May 31	3	How to use HTML to structure a web page	<p>**Read and work thru Chapter 3 pp. 81-115.</p> <p>**We will not be using Aptana so ignore instructions for it!!!</p> <p>Be sure to save all your chapter work files for this chapter to your P:\cist1510\my_work\ch03 folder.</p>	2,3,4 a, c, d
**			<p>Complete Chapter 3 Exercise 3-1 pp.120-122.</p> <p>Save all exercise work to your P:\cist1510\exercises\ch03 folder</p> <p>Take Chapter 3 Quiz on BLACKBOARD</p> <p>FINAL PROJECT: Send email to Instructor with the subject for your Final Project (3-page Web Site)</p> <p>CHAPTER 3 - ASSIGNMENTS DUE 6/7 BEFORE MIDNIGHT</p>	2,3,4 a, c, d

Week 4 (June 5 – 11)

Mon June 5	4	How to use CSS to format the elements of a web page	<p>Read and work thru Chapter 4 pp. 123-163</p> <p>Be sure to save all your chapter work files for this chapter to your P:\cist1510\my_work\ch04 folder.</p>	2,3,4 a, c, d
Wed June 7			<p>Complete Chapter 4 Exercise 4-1 pp.164-166</p> <p>Save all exercise work to your P:\cist1510\exercises\ch04 folder</p>	2,3,4 a, c, d
**	19	How to deploy a website on a web server	<p>Complete Chapter 4 Quiz on Blackboard.</p> <p>CHAPTER 4 - ASSIGNMENTS DUE 6/14 BEFORE MIDNIGHT</p> <p>Read Chapter 19.</p> <p>Begin working on Final project.</p>	1,2,3,4 a, c, d

Week 5 (June 12 – 18)

Mon June 12	5	How to use the CSS box model for spacing, borders, and backgrounds	<p>Read and work thru Chapter 5 pp. 167-196</p> <p>Be sure to save all your chapter work files for this chapter to your P:\cist1510\my_work\ch05 folder.</p>	2,3 a, c, d
Wed June 14	6	How to use CSS for page layout	<p>Read and work thru Chapter 6 pp. 201-232</p> <p>Be sure to save all your chapter work files for this chapter to your P:\cist1510\my_work\ch06 folder.</p>	2,3 a, c, d
**			<p>Complete Chapter 5 Exercise 5-1 pp.197-199</p> <p>Save all exercise work to your P:\cist1510\exercises\ch05 folder</p> <p>Complete Chapter 6 Exercise 6-1 & 6-2 pp.232-237.</p> <p>Save all exercise work to your P:\cist1510\exercises\ch06 folder</p> <p>Take Chapter 5-6 Quiz on BLACKBOARD</p> <p>CHAPTER 5 & 6 - ASSIGNMENTS DUE 06/21 BEFORE MIDNIGHT</p> <p>Work on Final project.</p>	2,3 a, c, d

Week 6 (June 19 – 25)				
Mon June 19	7	How to work with lists and links	Read and work thru Chapter 7 pp. 239-277 Be sure to save all your chapter work files for this chapter to your P:\cist1510\my_work\ch07 folder.	2,3 a, c, d
Wed June 21	8	How to use Responsive Web Design	Read and work thru Chapter 8 pp. 281-314 Be sure to save all your chapter work files for this chapter to your P:\cist1510\my_work\ch08 folder.	2,3 a, c, d
**			Complete Chapter 7 Exercise 7-1 & 7-2 pp.278-280 Save all exercise work to your P:\cist1510\exercises\ch07 folder Complete Chapter 8 Exercise 8-1 pp.315-318. Save all exercise work to your P:\cist1510\exercises\ch08 folder Take Chapter 7-8 Quiz on BLACKBOARD CHAPTER 7 & 8 - ASSIGNMENTS DUE 06/28 BEFORE MIDNIGHT Work on Final project.	2,3 a, c, d
Week 7 (June 26 – July 2)				
Mon June 26	9	How to work with images	Read and work thru Chapter 9 pp. 321-345 Be sure to save all your chapter work files for this chapter to your P:\cist1510\my_work\ch09 folder.	2,3,4 a, c, d
Wed June 28	10	How to work with tables	Read and work thru Chapter 10 pp. 347-368 Be sure to save all your chapter work files for this chapter to your P:\cist1510\my_work\ch10 folder.	2,3,4 a, c, d
**			Complete Chapter 9 Exercise 9-1 pp.346 Save all exercise work to your P:\cist1510\exercises\ch09 folder Complete Chapter 10 Exercise 10-1 pp.369-370. Save all exercise work to your P:\cist1510\exercises\ch10 folder Take Chapter 910 Quiz on BLACKBOARD CHAPTER 9 & 10 - ASSIGNMENTS DUE 07/12 BEFORE MIDNIGHT Work on Final project.	2,3,4 a, c, d

Summer Break (No School) July 3 – 9

Week 8 (July 10 – July 16)				
Mon July 10	11	How to work with forms	Read and work thru Chapter 11 pp. 371-425 Be sure to save all your chapter work files for this chapter to your P:\cist1510\my_work\ch11 folder.	2,3 a, c, d
Wed July 12			Complete Chapter 11 Exercise 11-1 pp.426-426 Save all exercise work to your P:\cist1510\exercises\ch11 folder	2,3 a, c, d
**			Take Chapter 11 Quiz on BLACKBOARD CHAPTER 11 - ASSIGNMENTS DUE 07/19 BEFORE MIDNIGHT Work on Final project.	2 a, c, d
Week 9 (July 17 – 23)				
Mon July 17	12	How to add audio and video to your website	Read and work thru Chapter 12 pp. 429-452 Be sure to save all your chapter work files for this chapter to your P:\cist1510\my_work\ch12 folder.	2,3 a, c, d
Wed July 19	13	How to work with fonts and printing	Read and work thru Chapter 13 pp. 455-472 Be sure to save all your chapter work files for this chapter to your P:\cist1510\my_work\ch13 folder.	2,3 a, c, d
**			Complete Chapter 12 Exercise 12-1 pp.453-454 Save all exercise work to your P:\cist1510\exercises\ch12 folder Complete Chapter 13 Exercise 13-1 & 13-2 pp.473-474. Save all exercise work to your P:\cist1510\exercises\ch13 folder Take Chapter 1213 Quiz on BLACKBOARD CHAPTER 12 & 13 - ASSIGNMENTS DUE 07/26 BEFORE MIDNIGHT Work on Final project.	2,3 a, c, d
Week 10 (July 24 – 26)				
Mon July 24	14	How to use CSS3 transitions, transforms, animations, and filters	Read and work thru Chapter 14 pp. 475-492 Be sure to save all your chapter work files for this chapter to your P:\cist1510\my_work\ch14 folder.	2,3 a, c, d
Wed July 26			Complete Chapter 14 Exercise 14-1 pp.493-494 Save all exercise work to your P:\cist1510\exercises\ch14 folder	2,3 a, c, d
**			Take Chapter 14 Quiz on BLACKBOARD CHAPTER 14 - ASSIGNMENTS DUE 07/31 BEFORE MIDNIGHT Take Final Exam on BLACKBOARD Final Exam DUE 07/31 BEFORE MIDNIGHT Submit Final Project . Save final project work to your P:\cist1510\final_project folder Final Project DUE 07/31 BEFORE MIDNIGHT	2,3 a, c, d

MAJOR COURSE COMPETENCIES

1. Describe HTML, CSS, XHTML and XML
2. Develop Web Pages with HTML, CSS, XHTML and XML
3. Implement Graphical elements, Hyperlinks, Tables, Forms, and Image Maps
4. Examine, Compare and Recognize W3C standards

GENERAL EDUCATION CORE COMPETENCIES

- a The ability to utilize standard written English.
- b The ability to solve practical mathematical problems.
- c The ability to read, analyze, and interpret information.
- d The ability to utilize basic computer skills.