The University of Texas at Tyler  
College of Business and Technology  
Department of  
Human Resource Development and Technology  
Topics in Technical Programs – Quality Control Technologies  
Course Syllabus

Course: TECH 5328  
Title: Topics in Technical Programs  
Section: 060  
Semester: Summer 2012  
Class Time: Online  
July 9 – August 10, 2012  
Instructor: Dr. Mark R. Miller  
Office: HPR 244  
Office Hours: Tues. Wed. & Thursdays 1-3 pm  
Other Availability: By appointment  
Phone #: 903-566-7186  
Email: mmiller@uttyler.edu

Course Description:
An overview of automatic identification systems, machine vision measurement, and programmable logic controllers that are used to insure quality in a manufacturing and distribution environment.

Course Learning Objectives:
At the end of this course, participants will be able to:
1. Understand and identify automatic identification systems.
2. Program PLC electronic devices.
3. Define and determine uses for machine vision measurement.
4. Develop an understanding of quality control by passing quizzes and exams with a 70% or better score.

Course Competencies
1. Computer-Based Skills – the student will complete online assignments using various computer software packages.
2. Communication Skills – n/a.
3. Interpersonal Skills – n/a.
4. Problem Solving (Critical Thinking) – the student will use conceptual thinking to analyze and make determinations regarding the use of industrial programming and measuring equipment.
5. Ethical Issues in Decision Making and Behavior- the student will gain an appreciation of the ethics of technology through examination of various computer controlled processing.
6. Personal Accountability for Achievement – the student will complete the modules at the time designated by the instructor.
7. Competence in Technology Principles
   a. Competence in major field and grounding in other major technology major core areas – the student will gain an appreciation of the benefits of automatic identification systems, machine vision measurement, and programmable logic controllers.
   b. Exposure to and appreciation for industrial experiences such as industrial tours, work-study options and cooperative education, senior seminars – This competency is addressed through computer simulations of industrial activities during the lab portion of the course.
**Grading Policy and Criteria to Determine Final Course Grade:**

- Automatic Identification Systems 33%
- Machine Vision Measurement 33%
- Programmable Logic Controllers 34%
- Total 100%

**Grade Scale Breakdown:**

- A=90 - 100%
- B=80 - 89%
- C=70 - 79%
- D=60 - 69%
- F=BELOW 60%

Note: 89.9999999999999999 is still a B.

**Date of Final Exam:** Self-paced.

**Date to Withdraw without Penalty:** July 27th.

**Course Content & Tentative Calendar/Schedule:**

**Weeks 1 & 2** ***Must finish the first module or you will NOT pass the course!***
- Barcodes
- Scanners
- Magnetic Stripes
- Smart Cards
- RFID
- Biometrics

**Week 3**
- Image Processing
- Cameras
- Grayscale and Binary Images
- RGB, CMYK, & HSL
- Blobs
- Image Quality and Interface Problems
- Noise
- Neighborhood & Point-to-Point Operations
- Morphological & Geometric Operations
- Arithmetic Operations

**Weeks 4 & 5**
- Programmable Logic Controllers
- Ladder Diagrams
- NOT, AND, and OR Logic
- Latching and Unlatching Output

**Attendance and Make-Up Policy:**
Must complete all the online modules/assignments or grade will be affected.

**Late Work:**
All assignments are due before 5 pm of the last day of class or they will NOT be graded. Technical difficulties are NOT an excuse so finish your assignments early.

**Required Textbooks, Materials, and Supplies:**
None
Required Activities Scheduled Outside of Regularly-Scheduled Class time (fees, tickets, procedures and/or forms required):
Read modules and complete all quizzes and final exams.

Department Website:  www.uttyler.edu/hrdt

Commencement:  Saturday, December 15, 2012 at 10:00 am

Holidays:  none

Students Rights and Responsibilities
To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link:  http://www2.uttyler.edu/wellness/rightsresponsibilities.php

Grade Replacement/Forgiveness and Census Date Policies
Students repeating a course for grade forgiveness (grade replacement) must file a Grade Replacement Contract with the Enrollment Services Center (ADM 230) on or before the Census Date of the semester in which the course will be repeated. Grade Replacement Contracts are available in the Enrollment Services Center or at http://www.uttyler.edu/registrar. Each semester’s Census Date can be found on the Contract itself, on the Academic Calendar, or in the information pamphlets published each semester by the Office of the Registrar. Failure to file a Grade Replacement Contract will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates are eligible to exercise grade replacement for only three course repeats during their career at UT Tyler; graduates are eligible for two grade replacements. Full policy details are printed on each Grade Replacement Contract.

The Census Date is the deadline for many forms and enrollment actions that students need to be aware of. These include:

- Submitting Grade Replacement Contracts, Transient Forms, requests to withhold directory information, approvals for taking courses as Audit, Pass/Fail or Credit/No Credit.
- Receiving 100% refunds for partial withdrawals. (There is no refund for these after the Census Date)
- Schedule adjustments (section changes, adding a new class, dropping without a “W” grade)
- Being reinstated or re-enrolled in classes after being dropped for non-payment
- Completing the process for tuition exemptions or waivers through Financial Aid

State-Mandated Course Drop Policy
Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the census date (See Academic Calendar for the specific date). Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Enrollment Services Center and must be accompanied by documentation of the extenuating circumstance.

Please contact the Enrollment Services Center if you have any questions.

Disability Services
In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA) the University offers accommodations to students with learning, physical and/or psychiatric disabilities. If you have a disability, including non-visible disabilities such as chronic diseases, learning disabilities, head injury, PTSD or ADHD, or you have a history of modifications or accommodations in a previous educational environment you are encouraged to contact the Student Accessibility and Resources office and schedule an interview with the Accessibility Case Manager/ADA Coordinator, Cynthia Lowery
Staples. If you are unsure if the above criteria applies to you, but have questions or concerns please contact the SAR office. For more information or to set up an appointment please visit the SAR office located in the University Center, Room 3150 or call 903.566.7079. You may also send an email to cstaples@uttyler.edu

**Student Absence due to Religious Observance**
Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second class meeting of the semester.

**Student Absence for University-Sponsored Events and Activities**
If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

**Social Security and FERPA Statement:**
It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

**Emergency Exits and Evacuation:**
Everyone is required to exit the building when a fire alarm goes off. Follow your instructor’s directions regarding the appropriate exit. If you require assistance during an evacuation, inform your instructor in the first week of class. Do not re-enter the building unless given permission by University Police, Fire department, or Fire Prevention Services.

**Academic Dishonesty:** The University of Texas at Tyler has a “zero tolerance policy” on plagiarism. Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give an unfair advantage to a student or the attempt to commit such acts. For purposes of this class, scholastic dishonesty occurs if you:

- Quote or paraphrase a source without properly citing it.
- Misquote or misrepresent an outside source.
- Pass off any portion of an outside source as your own.
- Turn in for credit any paper that has been purchased through the internet, copied from the internet, or cut and paste a source from the internet.
- Turn in a paper written by someone else.

The penalties for academic dishonesty vary, ranging from an F on an assignment, an F in the course, or expulsion from the university, depending on the severity of the incident. The Office of Student Affairs keeps records of any suspected case of scholastic dishonesty, and instructors are required to alert them if we believe a student has plagiarized or cheated in any way.

**Writing Assistance:** Each student is entitled to free writing assistance in the Writing Center. Students who take advantage of this service will receive five extra points on essay grades if they take their drafts to the Writing Center. The student must provide documentation that he or she received assistance in the Center. An appointment is strongly advised.

**Late Work:**
No late work will be accepted. Turn assignments in early if you know you will be unavailable for class.
Discrimination:
The policy of this department is to make your college experience as pleasant as possible. However, if at any
time you feel that you are being discriminated against, belittled, or not treated appropriately, please notify the
instructor either anonymously or in-person immediately after class. It is not the intention of any of the faculty
in this department to make your college experience an unpleasant one. Remember, the first step in the process
is to inform the instructor so s/he can be made aware of the problem and take corrective action. If the problem
continues to persist, please inform the chair of the department. The dean can then be notified if the problem
continues to exist after a few days. A grievance can then be filed in the Office of Student Services if there has
still been no change in the instructor’s behavior. It should be noted that filing a grievance is a serious act
and should NOT be done so just because you received a bad grade on an exam or in the course.
Communication is an effective tool to solve problems and is rarely used enough. Most people are not
deliberately trying to upset you, they are just not aware of your vantage point.