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Official TCC Course Syllabus

Discipline Prefix: EGR	Course Number: 110	Course Title: Engineering Graphics	
	Course Section: D01B		
Credit Hours: 3	Lecture Hours: 2	Clinical Hours:	Lab Hours: 2
Contact Hours: 4	Studio Hours:	Semester: Spring 2015	
Meeting Days/Time/Location: TR 8:30 – 10:20 AM, Room H-179 (Advanced Technology Center, Virginia Beach Campus)			

Instructor Information
Name: Paul E. Gordy, PE
Office Location: H-115, Advanced Technology Center, Virginia Beach Campus
Office Hours: As posted on office door and on course Blackboard site
Contact Information: 757-822-7175
Course Website (optional): www.faculty.tcc.edu/PGordy
Blackboard site: http://learn.vccs.edu
Instructor email address (college or VCCS): PGordy@tcc.edu

Course Information

Course Description
Presents theories and principles of orthographic projection. Studies multiview, pictorial drawings and sketches, geometric construction, sectioning, lettering, tolerancing, dimensioning and auxiliary projections. Studies the analysis and graphic presentation of space relationships of fundamental geometric elements; points, lines, planes and solids. Includes instruction in Computer Aided Drafting.

Prerequisites and/or Co-requisites
Prerequisites: MTH 164, MTH 166, or Placement into MTH 173
Co-requisites: None

General Education Core Competencies Supported by this Course

After completion of this course, students will be able to:
- **Communication**
  A competent communicator can interact with others using all forms of communication, resulting in understanding and being understood.
- **Critical Thinking**
  A competent critical thinker evaluates evidence carefully and applies reasoning to decide what to believe and how to act.
- **Information Literacy**
  A person who is competent in information literacy recognizes when information is needed and has the ability to locate, evaluate, and use it effectively.

- **Quantitative Reasoning**
  A person who is competent in quantitative reasoning possesses the skills and knowledge necessary to apply the use of logic, numbers, and mathematics to deal effectively with common problems and issues. A person who is quantitatively literate can use numerical, geometric, and measurement data and concepts, mathematical skills, and principles of mathematical reasoning to draw logical conclusions and to make well-reasoned decisions.
- **Scientific Reasoning**
  A person who is competent in scientific reasoning adheres to a self-correcting system of inquiry (the scientific method) and relies on empirical evidence to describe, understand, predict, and control natural phenomena.

Required Course Texts and Supplementary Materials
1) Parametric Modeling with Autodesk Inventor 2015 by Rand Shih. Schroff Development Corporation, 2014. (ISBN: 978-1-58503-882-4)
2) Engineering Graphics Workbook, Series 2, by Craig & Craig. Schroff Development Corporation, 2003. (ISBN: 978-1-887503-88-4)
3) MATLAB – An Introduction with Applications, 5th Edition, by Gilat. Prentice Hall, 2014. (ISBN: 978-1-118-62986-4)

Measurable Learning Outcomes
- Demonstrate an understanding of the engineering design process
- Demonstrate a basic level of understanding of project management methods
- Communicate engineering information in formal written and oral reports
- Participate in the successful completion of a group design project
- Produce and interpret drawings appropriate to various engineering disciplines
- Analyze and create 2D and 3D sketches to communicate graphically
- Demonstrate proficiency with 2D and 3D computer aided engineering software
- Demonstrate the ability to write computer programs for engineering analysis

Topics Covered in the Course
- Parametric modeling with Autodesk Inventor
- Engineering design and project management
- Teamwork and communication – group design project
- Product specifications
- Orthographic and pictorial sketching
- Dimensioning and tolerance
- Sectional views
- Auxiliary views
- Working drawings
- Basic topics in MATLAB, including graphing, built-in and user functions, formatted input/output, script m-files and function m-files
- Programming in MATLAB, including selection structures, repetition structures, and iterative solutions
- Team presentations

Description of Assignments/Assessments
Inventor Assignments – Individual assignments using Autodesk Inventor

Sketching Assignments – Individual assignments using sketching exercises

MATLAB Assignments – Individual MATLAB programming assignments

<u>Test</u> – A single test will be given based on course lecture material and sketching assignments

<u>Design Project</u> - Students will be divided into teams and will work together in a semester-long effort to design and model some product using Autodesk Inventor. The grade for the design project will include:
- Attendance – team members depend on each other and your grade will be reduced for each absence
- Solid modeling – the product to be designed will be modeled using Inventor and will include assembly drawings
- Report – a report on the steps of the design will be required (more details will be provided later)
- Presentation – the team will be required to make a presentation before the class on their design
- Assessment – team members will evaluate each other's level of participation in the project

Grade Policy
Course grades will be computed based on the following percentages:

Sketching Test (classroom)	20%
Sketching Assignments ($\approx$7)	20%
Inventor Assignments ($\approx$9)	22%
MATLAB Assignments ($\approx$5)	16%
Design Project (see below)	22%

Grades will be based on the following scale:
- A: 90 – 100
- B: 80 – 89
- C: 70 – 79
- D: 60 - 69
- F: 0 – 59

Final grades are made available to each student within the Student Information System (SIS) now web delivered via MyTCC or SIS.
Based on the progression of the course, the grade distribution for each assignment may change. However, if changes are made, I will notify students in a timely manner and in writing.

Course Schedule

See the following two documents for detailed class-by-class schedules.
Note that both of these schedules are tentative and may be adjusted periodically. The instructor will always announce any changes to the schedules in class and in Blackboard. Updated schedules will be posted on the course Blackboard site (with the date of the change noted):

- **EGR 110 Tentative Course Schedule**
- **Group Design Project Milestones**

Blackboard and Course Communication
Students should check Blackboard and their VCCS student email accounts regularly at least every 72 hours. The best way to reach the instructor is by email. The instructor will respond within 72 hours, although generally much sooner.

Course Policies

1. **Attendance Policy**: All students are expected to be present and on time at all scheduled class and laboratory meetings. Instructors are not required to admit a student who arrives late to the classroom. A student who adds a class or registers after the first day of classes is counted absent from all class meetings missed.

   If a student is absent more than 15 percent of scheduled instructional time, attendance may be defined as unsatisfactory. This calculation includes absences occurring during the add/drop period. See also the Withdrawal Policy in this syllabus for more information. Per the college's attendance policy, faculty has the right to develop a more stringent policy as well. Students who do not attend or participate in class by the deadline to drop for tuition refund may be deleted from the course.

2. **Late Work/Make-up Exam Policy**:
   - Sketching, Inventor, and MATLAB assignments will be accepted up to two weeks late with a 10 point penalty.
   - No assignments will be accepted more than two weeks late or after the last class meeting for the semester.
   - Assignments with grades of lower than 80 may be resubmitted for a max grade of 80, but they must be resubmitted within two weeks after the assignment was returned by the instructor. The graded assignment that was originally submitted should be stapled to the new assignment.
   - No make-up tests are allowed. Missing a test will result in a grade of 0 for the test unless the student gets approval before the tests or notifies the instructor within 24 hours of the test in case of emergency.
   - Students will not receive credit for group assignments if they were absent when the group assignment was performed or if they did not participate in the group assignment.

3. **Statement on Classroom Behavior**: TCC is committed to maintaining a social and physical environment conducive to carrying out its education mission. Therefore, all members of the TCC community are expected to demonstrate standards for civility.

   - Be moderate in speaking. Loud, obscene, argumentative, or threatening speech is disruptive to teaching and learning and is offensive to others. It has no place in an academic setting.
   - Resolve any disagreements in a positive, non-combative manner. Request the assistance of college authorities if needed.
   - Show respect for the comfort of others in an educational setting by observing acceptable standards for personal cleanliness and dress.

4. **Electronic Devices Policy:** [Include the electronic devices policy here, or use TCC's statement on communication devices (found in the *Student Handbook*): Cell phones, pagers, and other communication devices are prohibited from use in classrooms, laboratories, and libraries, unless authorized by the appropriate faculty or staff. Although soundless communication devices such as cell phones and pagers are permissible in classrooms, college offices, and/or meeting rooms, they must not be answered during class.]

5. **Disposition of Classes for Emergency Shutdown of the College:** [Required] To comply with Policy 2106 Disposition of Classes for Emergency Shutdown of the College, 4.4. All faculty will include the following statement, or a statement developed under 4.3.2., in their course syllabi to address how students will be graded and/or complete a course for a grade in the event of an extended emergency shutdown.

In the event of an emergency shutdown of the college, the president and her executive staff may elect to conclude the term in session if eighty-five percent or more of that term has been completed. If the term in session is concluded, faculty shall compute final grades of students based on coursework completed at that point.

Academic Policies

Students are responsible for being aware of the policies, procedures, and student responsibilities contained within the current edition of the TCC *Catalog* and *Student Handbook*. Students should familiarize themselves with the college's policies regarding misconduct and inclement weather found in the *Student Handbook*.

Withdrawal Policy

Students who wish to withdraw without academic penalty should contact a counselor to determine the appropriate procedure. Withdrawals through completion of 60 percent of a session will result in a **W** grade. After 60 percent of a session is completed, a withdrawal will result in a grade of **F** in a credit course or a grade of **U** in a developmental course, except under mitigating circumstances that must be documented by the instructor and approved by the academic dean. Dynamic session classes have unique refund and withdrawal dates. Contact a campus Enrollment Services Office for more information, or visit http://www.tcc.edu/students/calendar/academic/Dynamic.htm.

A student who drops after the last day to withdraw does not receive a "W." He/she receives an "F," in which case there is both an academic and financial penalty. A student who withdraws by the deadline faces a financial penalty, but not an academic penalty.

1-26-15	Deadline to drop for tuition refund
3-26-15	Deadline to withdraw without academic penalty and to receive a grade of **W** for the course

Academic Integrity

TCC will expect students to demonstrate personal and academic integrity, to be open to new ideas, and to share in a community where individuals from diverse backgrounds and cultures help one another grow intellectually, socially, and personally.

TCC expects students to achieve, not just to get by. And while many caring and talented faculty and staff are here to help, students must take responsibility for their own learning. Students should strive for a high level of academic performance and to be responsible, contributing citizens within the college and in outside communities. Above all, TCC wants students to develop a love of learning that will last a lifetime, along with a life-long interest in maintaining emotional and physical wellness.

Student Outcomes Assessment Requirement

Work products submitted by students to fulfill course requirements may be used by the college to evaluate its academic programs and general education requirements.

Statement on Plagiarism and Academic Misconduct

Academic misconduct includes, but is not limited to, the following actions: cheating on an examination or quiz—either giving or receiving information; copying information from another person for graded assignments; using unauthorized materials during tests; collaboration during examinations; buying, selling or stealing examinations; arranging a substitute for oneself during examinations; substituting for

another person, or arranging such a substitution; plagiarism—the intentional or accidental presentation of another's words or ideas; collusion with another person or persons in submitting work for credit in class or lab, unless such collaboration is approved in advance by the instructor.

Faculty members who have reliable evidence of academic misconduct will (1) investigate the matter, and (2) review the facts of the matter and the proposed penalty with the appropriate academic dean. They may then take one or more of the following actions:

- Require the work to be accomplished again
- Give no credit for the test, paper, or exercise
- Assign a grade of **F**, **U**, or **W** for the course
- Refer the matter to the campus Dean for Student Services or designee for possible disciplinary sanction through the college's disciplinary procedure

If the faculty member chooses to refer the matter to the campus Dean for Student Services or designee for disposition, the Plenary Disciplinary Procedure shall be followed, and the student's dismissal from the college is a possibility.

Educational Accessibility (Formerly Disability Services)

Students who have documented, diagnosed disabilities, and who need special accommodations for tests, etc., are advised to see the Educational Accessibility Disabilities Services staff in Student Services so that the instructor may be notified of what accommodations are appropriate in each case. Requests for accommodations should be made to the designated campus Educational Accessibility counselor at least 45 days before classes begin. Documentation must be provided to support the need for accommodations.

For assistance with disabilities, contact the campus Educational Accessibility Counselor/Provider or the Coordinator of Educational Accessibility Services: call 822-7752, visit Student Services/Development, or visit the Educational Accessibility webpage at http://www.tcc.edu/students/specialized/disabilityservices/index.htm

Emergency Procedures

In the event of a bomb threat, tornado, or fire, students and staff may be directed to evacuate the building or move to an internal assembly area location within the building. Evacuation routes are posted in each classroom. The map indicates the route to the nearest exit. Students should review the map to make sure that the exit routes for the building are clearly understood. The information regarding locations of the Emergency Assembly Areas and Internal Assembly Areas for all classrooms or spaces used on the various campuses is available at the following link: http://www.tcc.edu/emergency/cemp.htm. If you will require assistance during an evacuation, let your instructor know at the end of the first class.

Tidewater Community College uses TCC Alerts to immediately contact and inform faculty, staff and students of a major crisis or emergency. TCC Alerts delivers important emergency alerts, notifications, and updates via:

- Email account (work, home, other)
- Cell phone
- Pager
- Smartphone/PDA (BlackBerry, Treo & other handhelds)

When an incident or emergency occurs, authorized senders will be instantly notified via TCC Alerts. TCC Alerts is a personal connection to real-time updates, instructions on where to go, what to do, or what not to do, who to contact, and other important information. New users may also register by sending a text message to **411912** keyword: **TIDEWATER.** To cancel the service, text **TIDEWATER STOP** to **411911**.

Student Success Resources

[Required] Include the following information verbatim:

The following resources are available to TCC students. See the *Student Handbook* or visit http://www.tcc.edu/forms/handbook/ for more information about student services and locations.

Library
A library is located at each TCC campus and at the Visual Arts Center. These libraries are intended for research and study, and they contain materials in print and digital format to support the courses, curricula, and mission of the college. The research materials include books, newspapers, magazines, journals, DVDs, streaming media and an extensive collection of indexes, abstracts and full-text databases. Faculty members may place materials on reserve in the libraries for their students. Visit this site for more information: www.tcc.edu/library/

Academic Support Services
Each campus provides various kinds of academic assistance. One-on-one tutoring, math and computer labs, and other forms of individual and group assistance may be available. Students can also find free help for writing, from short questions about commas and comma splices to a comprehensive review of research papers in progress, in the Writing Centers.

[Strongly Recommended: Be specific. Services and hours may vary by campus. Consult the academic dean for additional information. List any other academic support services available on campus that will help or enhance student success.]

Online Help Desk
[Required] Include the following statement:
Visit the following eLearning Resources for Students website for information about computer skills, technical support, library services for online students, and much more: http://www.tcc.edu/eLearning/

Important Websites
- College Website: www.tcc.edu
- Blackboard and Student E-mail: https://tcc.my.vccs.edu/jsp/home.jsp
- Student Handbook: http://www.tcc.edu/forms/handbook/
- TCC *Catalog*: http://www.tcc.edu/forms/catalog/
- Class Schedule: http://www.tcc.edu/schedule/   (or log-in to SIS for current course offerings)
- Academic Calendar: http://www.tcc.edu/students/calendar/academic/index.htm
- eLearning Resources: http://www.tcc.edu/eLearning
- For current financial aid information and assistance, visit http://www.tcc.edu/students/finaid/ or http://studentaid.ed.gov/.

Revision History: