COURSE SYLLABUS
MFG 150-01
Statics and Strength of Materials
3 Semester Hours

Spring 2017

Faculty: Mrs. Sheila Kintz
Office: AAB 313
Telephone: 302-236-9598 (C)
E-mail: skintz@worwic.edu or reliance95@comcast.net
Office Hours: Call or email instructor to set up an appointment
Class Time: Lecture: Online – Accessible through Blackboard
Lab: Wednesday – 5:00 – 7:00 p.m. BH 306

COURSE DESCRIPTION

This course includes the fundamental concepts of statics and coplanar force systems, the analysis of structures, friction, spatial force systems and area moments of inertia. Strength of materials covers simple stresses and strains, mechanical properties of materials, torsion, shear forces, load and resistance factors, and beam composite and strength. Also included are accuracy and precision, rolling resistance and the solution of simultaneous equations. Corequisite: MTH 154 or permission of the department head. This course is usually offered in the spring.

Laboratory exercises will be supplemented with teacher provided materials.

Workbook: NA
Software:

Statics Tutor will be a supplemental program for student learning and will be installed on BH 306 computers. Students do not purchase any software for this course.

Blackboard is being used as a supplementary site in this course. To use course content in Blackboard you need to have access to a computer with an Internet connection, (other requirements may apply). Computers that meet these requirements are available for your use on campus (see information under Computer: section).
Please follow these directions to access course syllabi and any other materials posted for this course:

**Login Information**

1. From Wor-Wic home page, point to "Quick Links" (top-right) and click the "Blackboard Login" link.

2. Enter your Wor-Wic user ID and password (same as your Wor-Wic email user ID and password).

   **Example:** if your Wor-Wic email is jdoe0001@live.worwic.edu, your Blackboard user name will be jdoe0001 and your password is the same password you use to access your Wor-Wic email.

   Don’t know your user ID or password? Contact [Student Services](mailto:).

Once logged in, you can pick the course you want to work in and start navigating through the course.

All students logging into Blackboard affirm that they understand and agree to follow Wor-Wic Community College policies regarding academic integrity and the use of College resources as described in the college catalog.

**Computer:** A Pentium-based processor with a printer. Computer must have Microsoft Office Word, Microsoft PowerPoint, Microsoft Excel, Internet access through an Internet Service Provider (ISP), and Microsoft Internet Explorer or Firefox to access Blackboard and the information within Blackboard. Also students can download a free Word, Excel or PowerPoint viewers and will be able to access (read only) files without having to purchase the software. Please visit the [Downloads and Plug-Ins page at](http://www.worwic.edu/Academics/DistanceEducation/DownloadsAndPlugins.aspx)

In addition, computers that meet these requirements are available in MTC 200, AAB 217, HH 100, GH 204, ADH 108, and WDC 305.

**If students do not have a computer with these requirements available at home, they will need to gain access to them through the college or other means.**

**REQUIRED ORIENTATION**

**Blackboard Student Tutorial:**

If you have not previously used Blackboard, you will be required to complete the Blackboard orientation online. You can either log into Blackboard, access the Blackboard Student Tutorial, or access the Blackboard Student Tutorial website directly at:

[http://www.worwic.edu/Academics/DistanceEducation/StudentTutorial/](http://www.worwic.edu/Academics/DistanceEducation/StudentTutorial/)
COURSE OBJECTIVES, ASSESSMENT GOALS AND ASSESSMENT STRATEGIES

This course is to familiarize the student with the basics of Statics and the application of Statics in structural systems.

Course objective 1. Explain the definition of Statics and how it is applied in everyday life.

The student will participate in several lectures, labs and view films of statics structures
The student will complete a quiz for competency
Assessment Strategy: Exam questions, quizzes and lab exercises.

Course Objective 2. Solve math problems through algebra, geometry and trigonometry.

The student will participate in a math review and exercises in algebra, geometry and trigonometry
The student will participate in class exercises in algebra, geometry and trigonometry to solve active problems
Assessment Strategy: Exam questions, quizzes and lab exercises.

Course Objective 3. Explain how forces and moments operate on particles and bodies.

The student will participate in a lecture and complete a lab on forces
The student will complete a computer learning program module on forces
Assessment Strategy: Exam questions, quizzes and lab exercises.

Course Objective 4. Solve the equations of equilibrium as used for statics structure.

The student will complete a computer learning program module (Statics Tutor) on the above
The student will complete class exercises on equations of equilibrium
The student will complete a quiz on equations of equilibrium
Assessment Strategy: Exam questions, quizzes and lab exercises.

Course Objective 5. Express and describe the differences between concentrated and distributive loads.

The student will participate in a lecture and complete a lab on concentrated and distributive load
The student will complete a computer learning program module (Statics Tutor) on the above
The student will complete a quiz on concentrated and distributive load problems for competency
Assessment Strategy: Exam questions, quizzes and lab exercises
Course Objective 6. Using group processes produce a team project. Teams of students will build a bridge and report as a team on the use of trusses, frames and their functions concerning statics.

Each student will complete a computer learning program module (Statics Tutor)  
The team of students will complete a hands on project on trusses  
The team of students will explain frames and their functions  
Each student will complete a quiz on friction problems for competency  
The student will complete a quiz on truss and frames problems for competency  
Assessment Strategy: Exam questions, quizzes and lab exercises

Course Objective 7. Explain the difference between external and internal forces.

The student will complete a computer learning program module (Statics Tutor) on the above  
The student will complete a quiz on equations of equilibrium for competency  
The students will describe the difference between concentrated and distributive loads  
The student will complete a computer learning program module (Statics Tutor) on the above  
The student will explain the friction in Statics problem  
The student will participate in a lecture and complete a computer learning program module (Statics Tutor) on the above  
The student will complete a quiz on friction problems for competency  
The student will complete a quiz on concentrated and distributive load problems for competency  
Assessment Strategy: Exam questions, quizzes and lab exercises.

Satisfies GEO 1,2,3,7

Grading/Exams

Grading will be determined on the basis of tests, reading assignments, homework assignments, quizzes, Electronic Library project, laboratory assignments, projects and final exam. This course will include a comprehensive final exam. Final grade will be weight as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework and Quizzes</td>
<td>15%</td>
</tr>
<tr>
<td>Two Exams</td>
<td>20%</td>
</tr>
<tr>
<td>Lab Assignments</td>
<td>15%</td>
</tr>
<tr>
<td>Discussion Topic</td>
<td>10%</td>
</tr>
<tr>
<td>Building Project(s)</td>
<td>10%</td>
</tr>
<tr>
<td>Electronic Library Project</td>
<td>5%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>25%</td>
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</tbody>
</table>

Conversion of numeric average to Final (Letter) Grade:

- 90 - 100 = A
- 80 - 89  = B
- 70 - 79  = C
- 60 - 69  = D
- 0 - 59   = F
TENTATIVE CLASS SCHEDULE  (Please see Blackboard for specific information concerning each week)

<table>
<thead>
<tr>
<th>Week</th>
<th>Chapters</th>
<th>All assignments, quizzes, and labs for week due no later than:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Math Review, Ch. 1</td>
<td>01/25/2017</td>
</tr>
<tr>
<td>2</td>
<td>Math Review</td>
<td>02/01/2017</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>02/08/2017</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>02/15/2017</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>02/22/2017</td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>03/01/2017</td>
</tr>
<tr>
<td>7</td>
<td>5</td>
<td>03/15/2017</td>
</tr>
<tr>
<td>8</td>
<td>6</td>
<td>03/22/2017</td>
</tr>
<tr>
<td>9</td>
<td>7</td>
<td>03/29/2017</td>
</tr>
<tr>
<td>10</td>
<td>8</td>
<td>04/05/2017</td>
</tr>
<tr>
<td>11</td>
<td>9</td>
<td>04/12/2017</td>
</tr>
<tr>
<td>12</td>
<td>10</td>
<td>04/19/2017</td>
</tr>
<tr>
<td>13</td>
<td>Review</td>
<td>04/19/2017</td>
</tr>
</tbody>
</table>

**  Subject to change

Attendance Policy

Absence / Lateness is strongly discouraged. School is like a job. It is a commitment and absence or lateness will not be tolerated as it would not be tolerated in the workplace. If you miss or are late for classes, you miss important material and you will fall behind. This will affect other students in class if you are not prepared. It is YOUR RESPONSIBILITY to make up any missed class work.

Please note that if you miss more than 3 class periods, whether face-to-face or online, you will not pass this course.

Electronic Lab Assignment

An electronic library assignment will be due during the semester. The assignment will consist of directions that will require you to complete an assignment through the use of online research. Please refer to the Electronic Library Assignment directions under Course Content in Blackboard for further requirements. You must provide an electronic address; first page of each used must be turned in after presentation.
**Discussion Topics**

Discussion questions for students will be posted each week throughout the semester in the discussion section of Blackboard. Students will answer discussion question (10 points) and respond to one other student’s posting (10 points). There will be a total of 13 discussion assignments worth 20 points each.

*Initial responses to a discussion question should be posted by 11:59 p.m. on the Sunday prior to weekly class time.* Late responses will not be graded. Responses to classmates’ postings can occur anytime up to the next weekly class start time. After that time, discussion topic will be closed, and you will no longer be allowed to post. Postings will be given points according to the quality of thought behind the posting. A response to a posting that only says that “I agree with you” or “that’s a good comment” will not receive any points.

**Late Assignment Policy**

All homework, laboratories, and reading assignments should be submitted on time. Any LATE work must be made up within 7 days of the due date. If you do not do your homework, labs and reading in a timely manner, you will not be able to keep up with the class. Class information will be provided on Blackboard. It is your responsibility to look at it.

**Quizzes and Exams**

If you miss a quiz or an Exam, you will receive ZERO (0) points for that quiz or exam. If you miss any quizzes or Exams, it will be at the discretion of the Instructor whether it can be taken, and if so, it must be made up within 7 days of the original exam date. The Quizzes and Exams will be based on the text, lecture material, lab exercises, and handouts.

**Course Evaluation**

“This course is participating in a college-wide pilot project to investigate converting the end-of-course evaluation from a paper to an online process. The College has selected SmartEvals as the vendor with whom to conduct the pilot. SmartEvals maintains the highest level of security with the evaluation information and the information resides only on SmartEvals’ computer servers. Faculty are unable to identify individual evaluations and any data which has the potential to reveal the identity of a student (i.e. the only male in a class) is blocked from viewing. Please disable your pop-up blockers on your internet browser in order to access the evaluation. Your cooperation in completing the online evaluation at the designated time is greatly appreciated. The results from the course evaluation provide valuable feedback to your instructor in order to make changes as needed with curriculum and teaching. Please direct any questions about the online course evaluation system to Hope Ellis at hellis@worwic.edu. Please complete the course evaluation, print out the SmartEvals confirmation page, and turn it in to me for credit. Credit will be a minimum of 5 points to add to your final test score. See Blackboard calendar for dates towards the end of the semester to complete this evaluation.
**Academic Honesty Policy**

Students are required to maintain a high level of academic performance. All work submitted to the instructor will be regarded as the work of the student taking the course. Cheating and plagiarism are defined in Wor-Wic’s Student Conduct Policy found in the College Catalog. Infractions of this policy will result in disciplinary action including failure of the assignment, test, or the course.

**Acceptable Computer Use Policy**

All students logging into Blackboard affirm that they understand and agree to follow Wor-Wic Community College policies regarding academic integrity and the use of College resources as described in the college catalog. Wor-Wic Community College considers the following as violations of the computer usage policy:

- Using the campus computing network and facilities to violate the privacy of other individuals
- Sharing of account passwords with friends, family members or any unauthorized individuals

**Emergency Information Statement**

In the event of severe inclement weather or other emergency, information about the closing of the college will be communicated via e2Campus and the College's website. Faculty will communicate with students about their courses and course requirements, such as assignments, quiz and exam dates, and class and grading policies, via Blackboard. Students will be responsible for completing all assignments in accordance with class policies.

**Services for Students with Disabilities**

Wor-Wic provides reasonable accommodations for students with disabilities, in compliance with the Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973. If you are in need of accommodations, please contact the counseling office at (410) 334-2899. For more information, see Wor-Wic's Services for Students with Disabilities web page.

**Sexual Violence Disclosures**

Wor-Wic Community College seeks a campus free of sexual violence which includes sexual harassment, domestic violence, dating violence, stalking, and/or any form of sex or gender discrimination. Please be aware that if a student discloses a personal experience verbally or in writing as a Wor-Wic student to a faculty or staff member, the employee cannot maintain confidentiality and has the mandatory responsibility to notify one of the college’s Title IX coordinators. However, if you’d like to make a confidential disclosure of any such violence, you can contact Wor-Wic’s director of counseling (X-2900) or you can contact the Life Crisis Center at 410-749-HELP or 2-1-1.