GEORGIA TECH LORRAINE

GEORGIA INSTITUTE OF TECHNOLOGY

The George W. Woodruff School of Mechanical Engineering

COE-3001-R: Mechanics of Deformable Bodies

Fall Semester 2022

Course objective: The course introduces elementary notions in mechanics of materials. The definition of strain and stress states in a loaded material is the major concept introduced. It is applied to elementary loading modes existing in structural members (tension, compression, torsion, bending and buckling). The students will apply their skills in statics and mathematics to solve various problems, with focus on structural analysis (i.e. maximum admissible loads), design (i.e. choice of materials) and optimization (i.e. geometry).

Expected Course outline:

- Introduction to stresses and strains
- Axially loaded members
- Torsion
- Bending
- Analysis of stresses and strains
- Plane stress
- Deflection in beams
- Statically indeterminate beams
- Buckling

Lectures: In-class lectures are ~1:15 hour long. Online classes will be recorded with BlueJeans and will be available on Canvas.

Instructor: Dr. Taupin Vincent
Phone GTL: to be defined / Office GTL: to be defined
Phone LEM3: +33(0)372747827 / Office LEM3: Room DN3-027

Email: vincent.taupin@univ-lorraine.fr

Office hours: TBD. Students can also ask to meet the instructor after class. Students are also encouraged to ask whenever needed for in-person/virtual appointments at any date through e-mail.

Course prerequisite: COE 2001 Statics

Text: James M. Gere & Barry J. Goodno,
Mechanics of Materials,
Cengage Learning, Ninth Edition, SI.

Honor code: GT Academic Honor Code is strictly enforced at GT Lorraine. Adherence to the Georgia Tech Honor Code is expected and all suspected instances of academic misconduct will be reported to the Dean of Students. It is your responsibility to ask for clarification if collaboration guidelines, test-taking policies, etc. are not clear. You will find detailed information at http://osi.gatech.edu/content/honor-code.

Grading: Your grade will be determined using the following weighting:

Homework	20%
Test # 1	20%
Test # 2	20%
Final Test	40%

Homework will be graded and no late assignment will be accepted. Unless specifically identified as group work, exams, projects and homework are to be completed alone.

Students are strongly encouraged you to work on extra problems from the textbook.

Major Emergencies: If students have some sort of major life emergency - serious illness or injury, death in the family, etc. - that seriously impedes their progress in the class, they should inform the instructor as soon as possible so as to find adapted solutions.

Disabilities: Georgia Tech offers accommodation to students with disabilities. This policy is also enforced at GT Lorraine, if you need any accommodation let Dr Bertrand Boussert and Corinne Guyot know.

Important dates: A tentative calendar is

First Day of Class	~August
Test # 1	~September
Test # 2	~November
Final Test	~December

The dates of tests #1 #2 will be confirmed 2 weeks in advance, exception from students requesting special treatment is not accepted.