ADDITIONAL/EXTRA ASSIGNMEMT FOR STUDENTS WHO HAVE ENROLLED IN "FINITE ELEMENT" COURSE UNDER 8xx LEVEL (SUCH AS CEE-8xx, or MSIM-8xx, ETC….)

[A] Backgrounds: Due to the requirement of SACS (for accreditation purpose), students registered at the higher level courses (such as CEE-8xx, or MSIM-8xx, or MAE-8xx " = formerly known as ME-8xx, or AE-8xx", ECE-8xx etc….) will be required to do additional work (as comparing to those students registered under lower level courses (such as CEE-7xx, or MSIM-7xx, etc….).

[B] Because of the above requirement, you are asked to complete "any" ONE (based on your most preferable choice)of the following EXTRA assignments:

Assignment # (1)

Given the following Ordinary Differential Equation (ODE)

-u'' = cos (pai*x)

Where: pai = 3.1416 radians; u'' = second derivative of u(x) with respect to x; x = [0, 1]

U(@ x=0) = 0 = u(@ x=1)

(a) Find the "weak" form of the given ODE, and its associated boundary conditions ??
(b) Find the 2-term (N=2) RITZ approximated solution u_approx(x) = …. ??
(c) Send (by Email) to the course instructor's (Prof. NGUYEN's) Email DNguyen@odu.edu your completed items (a & b), as attachment file(s).

"OR"

Assignment # (2)

Used the GOOGLE advanced search engine, with the following "key words" :

"Finite Element Simultaneous Linear Equation Solver"

(a) Search, find , store (as an attachment file) and read "ANY ARTICLE" (of your choice) found on the internet (related to the above key words".
(b) Summarize (not exceeding 1 page) your understanding about the KEY /MAIN IDEAS about the particular article that you have read.
(c) Send (by Email) to the course instructor's (Prof. NGUYEN's) Email DNguyen@odu.edu your completed items (a & b), as attachment file(s).