CE 95 Final Exam Review

Thursday, May 21, 2015
7:15 a.m. – 9:30 a.m., ENG 189
Open Book, Closed Notes (one 8.5” x 11” note sheet O.K.)

- Be guided by the problems and concepts presented in Homework sets 1 through 8;
- Practice by solving problems;
- Homework solutions at: [http://www.engr.sjsu.edu/vukazich/ce_160.htm](http://www.engr.sjsu.edu/vukazich/ce_160.htm);

Force Vectors, Resultants, Components, Vector Operations.........................2.1–2.6
Unit Vectors, Cartesian Vectors ........................................................................2.7–2.8
2-D Equilibrium of a Particle, Free-Body Diagram (FBD).................................2.9–2.11
Forces in 3-D Space, Components, Cartesian Vectors .....................................2.12–2.14
3-D Equilibrium of a Particle, Free-Body Diagram (FBD)..................................2.15
Vector Product, Moment of a Force about a Point ............................................3.1–3.8
Scalar Product, Moment of a Force about an Axis .............................................3.9, 3.11
Moment of a Couple, Force-Couple System.....................................................3.12–3.16
Equivalent Force-Couple System ....................................................................3.17–3.18
FBD, Reactions, Equilibrium of a 2-D Rigid Body.............................................4.1–4.4
Equilibrium of 2 and 3 force bodies ....................................................................4.6–4.7
Trusses – Method of Joints .................................................................................6.1–6.5
Trusses – Method of Sections .............................................................................6.6
Frames ..................................................................................................................6.8–6.10
Machines .............................................................................................................6.11
Dry Friction .........................................................................................................4.10–4.13
Centroids, Centroids of composite bodies ..........................................................5.1-5.5
Finding centroids of areas using integration.....................................................5.6
Distributed loads on beams .................................................................................5.8
Moment of Inertia of areas using integration......................................................7.1-7.3
Polar Moment of Inertia, Radius of gyration .....................................................7.4-7.5
Parallel Axis Theorem, Moment of Inertia of composite areas ...........................7.6-7.7
Internal Forces, Shear and Bending Moment ....................................................12.1-12.2