SYSE 591 Introduction to Systems Approach/Engineering

1. **Basic Information:**
   a. Course Number: SYSE 591
   b. Course Title: Introduction to Systems Approach/Engineering
   c. Credit Hours: 4
   e. Class Location: Online [http://d2l.pdx.edu]
   f. Class Hours: Online – New “Week” begins on Mondays
   g. Texts:

   {Required (3)}
   Systems Engineering Guidebook: A Process for Developing Systems and Products
   [Martin]
   ISBN 978-0849378379
   MSRP: $124.95

   NASA Systems Engineering Handbook
   [NASA]
   Available in Course at no cost as a PDF

   Systems Engineering Fundamentals
   [US Department of Defense]
   Available in Course at no cost as a PDF

   h. Software: Microsoft Excel and VISIO [or eqv] is suggested.
   i. Office Hours: By appointment
   j. Phone: 503-422-6022
   k. Skype: william.eisenhauer
   l. Email address: wde@pdx.edu or through BlackBoard
   m. Mailbox: CECS Dean’s Office, Engineering Building Suite 500
   n. Final Exam: Online Direct2Learn – Self Schedule During Exam Week

2. **Course Description**
   a. This course provides the beginning knowledge and skills necessary to engineer complex, multi-disciplinary systems. It serves as a cornerstone course for the Systems Engineering program.

   b. The student will gain interdisciplinary knowledge and skills necessary to:
      i. Define the system life cycle and the particulars of stakeholder involvement
      ii. Cover critical tools and methods for implementing Systems Engineering
      iii. Explain the various structure and tasks of the Systems Engineering process

3. **Specific Goals and Objectives:**
   Upon completion of this course, each student should be able to:
   a. Understand systems engineering as an interdisciplinary process.
   b. Demonstrate the value of systems concepts in the development of products, processes, and services.
   c. Access case studies, templates, and checklists that support the systems engineering approach.
   d. Describe the key areas and activities in Systems Engineering Process and Management.
   e. Understand document systems and methodologies for both the system and the systems engineering process surrounding the system.
4. **Logistics:**
   Success in this course will require:
   a. Reading and completing weekly assessments by the assigned date
   b. Posting assignment results on, or before, the assigned date
   c. Successful completion of Mid-Term and Final Examinations
   d. Active participation in online discussions in the forums

5. **Metrics for Student Progress**
   a. Total of 700 points
      i. Written Assignments [10] (400 points total)
      ii. Weekly Discussion Participation [10] (100 points total)
      iii. Mid-Term Exam (75 points)
      iv. Final Exam (125 points)
   b. Grades will be assigned as follows (this is the minimum guaranteed distribution, the instructor reserves the right to adjust the lower thresholds as needed to ensure adequate representation of effort)
      i. 700-661 : A
      ii. 660-622 : A-
      iii. 621-583 : B+
      iv. 582-544 : B
      v. 543-505 : B-
      vi. 504-466 : C
      vii. 465-000 : F
   c. **Assignments are due at 8AM PST the next Monday!!!**
      i. *There is a 5 point penalty per day late*
      ii. Please notify me in advance of due date if travel or family issues preclude turn in on time to make arrangements

6. **Tentative Fall 2012 Week Plan [Assignments Due by 8AM PST Monday]**
   a. Week 1 [Sep 24 – Sept 30]: Introduction to Systems Engineering
   b. Week 2: [Oct 1 – Oct 7]: Systems Concepts
   c. Week 3: [Oct 8 – Oct 14]: Process Concepts
   e. Week 5: [Oct 22 – Oct 28]: Systems Engineering Process Overview II
   f. Week 6: [Oct 29 – Nov 4]: Mid Term
   g. Week 7: [Nov 5 – Nov 11]: SE Process Tailoring
   h. Week 8: [Nov 12 – Nov 18]: SE Management Subprocess
   i. Week 9: [Nov 19 – Nov 25]: SE Requirements and Arch. Definition Subprocess
   j. Week 10: [Nov 26 – Dec 2]: SE System Integration and Verification Subprocess
   k. Week 11: [Dec 3 – Dec 9]: Finals Week. **Final must been in by 11PM PST**