

## 2016 PEO MECHANICAL ENGINEERING EXAMINATIONS TEXTBOOKS REFERENCE LIST

NOTE: Please feel free to use the most recent edition of textbooks referenced in this list

### **16-Mec-A1 Applied Thermodynamics and Heat Transfer**

Fundamentals of Engineering Thermodynamics by Michael J. Moran and Howard N. Shapiro, John Wiley and Sons Incorporated

Heat and Mass Transfer by Yunus A. Çengel and Afshin J. Ghajar, McGraw Hill Publishing Company  
Moran, M.J., H.N. Shapiro, B.R. Munson and D.P. DeWitt, Introduction to Thermal Systems Engineering: Thermodynamics, Fluid Mechanics, and Heat Transfer. John Wiley and Sons.

### **16-Mec-A2 Kinematics and Dynamics of Machines**

Inman, D.J., Engineering Vibrations, latest edition. Prentice-Hall.

Waldron, K.J., and Kinzel, G.L., Kinematics, Dynamics and Design of Machinery. John Wiley & Sons.

### **16-Mec-A3 System Analysis and Control**

Bissell, C.C., Control Engineering, latest edition. Taylor & Francis.

Franklin, Feedback Control of Dynamic Systems.

### **16-Mec-A4 Design and Manufacture of Machine Elements**

Juvinall, Robert C., and Kurt M. Mershek, Fundamentals of Machine Component Design, latest edition. Wiley.

Groover, Mikell P., Fundamentals of Modern Manufacturing: Materials, Processes, and Systems, latest edition. Wiley.

### **16-Mec-A5 Electrical and Electronics Engineering**

Edminister, J. A., and M. Nahvi, Electric Circuits, latest edition. Schaum's Outlines.

Nasar, S., Electric Machines and Electromechanics, latest edition. Schaum's Outlines.

Rizzoni, G., Principles and Applications of Electrical Engineering, latest edition. McGraw Hill.

### **16-Mec-A6 Advanced Fluid Mechanics**

White, F.M., Fluid Mechanics, latest edition. McGraw-Hill.

### **16-Mec-A7 Advanced Strength of Materials**

Ugural, Ansel, & Saul Fenster, Advanced Strength & Applied Elasticity, latest edition. Prentice Hall Englewood Cliffs New Jersey.

Budynas, R.G., Advanced Strength & Applied Stress Analysis, latest edition. McGraw-Hill.

Boresi, A.P., and R.J. Schmidt, Advanced Mechanics of Materials, latest edition. John Wiley & Sons.

### **16-Mec-B1 Advanced Machine Design**

Shigley and Mischke, Mechanical Engineering Design, latest edition (metric/english edition) McGraw Hill.

### **16-Mec-B2 Environmental Control in Buildings**

F.C. McQuinston & G.D. Parker, Heating, Ventilating, & Air Conditioning – Analysis & Design, latest edition. John Wiley & Sons.

Jennings, Environmental Engineering, International Test Book Co.; Carrier & Trane System Manuals; ASHRAE Handbooks; ASHRAE Environmental Control Principles & Education Supplement to ASHRAE Handbook Fundamentals Volume.

### **16-Mec-B3 Energy Conversion and Power Generation**

Weston, K.C., Energy Conversion. West Publishing Co. (available as an online e-book at

<http://onlinebooks.library.upenn.edu/webbin/book/lookupid?key=olbp33597>)

Khartchenko, Nikolai, Advanced Energy Systems. CRC Press Llc.

**16-Mec-B4 Integrated Manufacturing Systems**

Groover, Mikell P., Automation, Production Systems, and Computer-integrated Manufacturing, latest edition. Prentice Hall.

**16-Mec-B5 Product Design and Development**

Prime Texts:

Ulrich, Karl T. & Steven D. Eppinger, Product Design and Development, latest edition. McGraw Hill.

Boothroyd, G., W.A. Knight & Peter Dewhurst, Product Design for Manufacture and Assembly, latest edition. Marcel Dekker Inc.

Supplementary Texts:

Ullman, David G., The Mechanical Design Process, latest edition. McGraw Hill.

**16-Mec-B6 Fluid Machinery**

Dixon, S.L., Fluid Mechanics and Thermodynamics of Turbomachinery, latest edition. Butterworth-Heinemann.

Finnemore, E.J. & J.B. Franzini, Fluid Mechanics with Engineering Applications, latest edition. McGraw-Hill.

**16-Mec-B7 Aero and Space Flight**

Anderson, J.D., Introduction to Flight, latest edition. McGraw Hill.

Barnes W. McCormick Aerodynamics, Aeronautics & Flight Mechanics latest edition. Wiley.

**16-Mec-B8 Engineering Materials**

Prime Text:

Ashby, Michael and D.R.H. Jones, Engineering Materials 1: An Introduction to Properties, Applications and Design, latest edition. Butterworth-Heinemann.

Ashby, Michael and D.R.H. Jones, Engineering Materials 2: An Introduction to Microstructures, Processing and Design, latest edition. Butterworth-Heinemann.

Supplementary Texts:

Courtney, Thomas H., Mechanical Behavior of Materials, latest edition. Waveland Pr. Inc.

Ashby, Michael, Materials Selection in Mechanical Design, latest edition. Butterworth-Heinemann.

**16-Mec-B9 Advanced Engineering Structures**

Prime Text:

Dowling, Norman E., Mechanical Behavior of Materials, latest edition. Prentice Hall.

Megson, T.H.G., Aircraft Structures for Engineering Students, latest edition. Butterworth-Heinemann.

Supplementary Texts:

LeMaitre, J., Handbook of Materials Behavior Models. 3 vol. Set. Elsevier.

Bruhn, E.F., Analysis and Design of Flight Vehicle Structures. Jacobs Pub.

Reddy, J.N., Mechanics of Laminated composite Plates and Shells: Theory and Analysis, latest edition. CRC Press.

Dutton, Stuart, Donald Kelly, and Alan A. Baker (Editors), Composite Materials for Aircraft Structures, latest edition. American Institute of Aeronautics & Astronautics.

**16-Mec-B10 Finite Element Analysis**

Cook, R.D., Finite Element Modeling for Stress Analysis. John Wiley & Sons, Toronto.

Frank L. Stasa, Applied Finite Elements for Engineers, Holt, Reinhart.

Logan, A First Course in Finite Element Method, P.W.S. Engineering, latest edition.

W. Bickford, A First Course in Finite Element Method, Irwin.

**16-Mec-B11 Acoustics and Noise Control**

Prime Text:

Barron, Randall F., Industrial Noise Control and Acoustics. Marcel Dekker.

Supplementary Texts:

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Bell, Lewis H. and Douglas H. Bell, Industrial Noise Control: Fundamentals and Applications, latest edition, Marcel Dekker.

Irwin, J.D., Industrial Noise and Vibration Control. Prentice-Hall.

Wilson, Charles E., Noise Control: Measurement, Analysis, and Control of Sound and Vibration. Krieger, 1994.

### **16-Mec-B12 Robot Mechanics**

Paul, R.P., Robot Manipulators - Mathematics, Programming and Control. MIT Press.

Craig, J.J., Introduction to Robotics: Mechanism and Control. Addison-Wesley Publishing Co.

Mark W. Spong, Seth Hutchinson, M. Vidyasagar, Robot Modeling and Control, 2nd Edition

### **16-Mec-B13 Biomechanics (04-Bio-A4)**

Berger, S.A., W. Goldsmith and E.R. Lewis, Introduction to Bioengineering. Oxford University Press.

Nordin, Margareta and Victor H. Frankel, Basic Biomechanics of the Musculoskeletal System. Lippincott Williams & Wilkins, latest edition.