EE-1

Electrical Engineering PE Refresher Thursdays, August 19 – October 21, 2010 Amundson Hall 162, 6:10-9:00 PM

Class Web Site: www.ece.umn.edu/class/ee0001

WEEK	DATE	TOPIC	INSTRUCTOR
1	08/19/2010	Introduction & Fundamentals	Dan
2	08/26/2010	Introduction & Fundamentals	Dan
3	09/02/2010	Power System Review, Complex Math	Tom
4	09/09/2010	Per-Unit Systems, Transformers – Models, Impedance & Connection	
5	09/16/2010	Transformer Nameplates, Induction Machines	on Tom
6	09/23/2010	Energy Measurement	Dan
7	09/30/2010	Synchronous Machines, VAR Compensation	Tom
8	10/07/2010	Transmission Lines, Symmetrical Components	Tom
9	10/14/2010	Symmetrical Components, Short Circuit Analysis	Tom
10	10/21/2010	Finance & Wrap-up	Dan & Tom

Board of Architecture, Engineering, Land Surveying, Landscape Architecture, Geoscience & Interior Design

85 E 7th Place Suite 160

St. Paul 55101

Phone: (651) 296-2388 Key person: Jordan Daoust Phone: 651-757-1519

Email: jordan.daoust@state.mn.us

Web site: http://www.aelslagid.state.mn.us

Future PE Exam dates are:

<u>PE Examination</u> <u>MN Board Deadline</u> <u>ELSES Registration Deadline</u>

October 29, 20	August 16, 20	0 Septembe	r 12, 2010
Year	Spring Date	Fall Date	
2010	April 16	October 29	
2011	April 8	October 28	
2012	April 13	October 26	
2013	April 12	October 25	

08/19/2010 -1-

This course is a review of electrical engineering fundamentals required to pass the National Council of Engineering Examiners Principles and Practice Examination in the discipline of Electrical Engineering in the Power Emphasis. It is designed to aid the electrical engineer in preparation for the PE examination by presenting an organized review of material ordinarily contained in a college electrical engineering curriculum. Primary emphasis will be on problem solving with orientation as close as possible to the type of questions contained in the exam.

Additional instruction and material is available for other Electrical Engineering exam options. Please consult instructors.

Prerequisite: Engineering or equivalent degree

4 years electrical engineering experience

Instructors:

Tom Ernst, P.E. (218) 722-1972 x2654 (o) (715) 374-2092 (h)

(218) 720-2793 (FAX) (218) 590-1921 (cell)

E-mail: t.w.ernst@ieee.org

Dan Nordell, P.E.(612) 330-5822 (o)

(612) 786-7674 (h) (612) 573-4029 (FAX)

E-mail: d.nordell@ieee.org

- 1) **Electrical Engineering, A Referenced Review**, Fourth Edition, 2005 (Bentley and Shaalan) available from Kaplan AEC Education, a division of Dearborn Financial Publishing, 30 South Wacker Drive, Chicago, Il 60606-7481, Phone: (312) 836-4400, www.kaplanaecengineering.com
- 2) Electrical Engineering Reference Manual for the Power, Electrical and Electronics, and Computer PE Exams, 8th ed. (John A. Camara, PE, 2009) available from Professional Publications, Inc., 1250 Fifth Ave., Belmont, CA 94002 Phone: 800-426-1178 or 650-593-9119. http://www.ppi2pass.com/ ISBN: 1-59126-111-2 Note: This edition is written for the new depth-only exam format.
- 3) Electrical Engineering Practice Problems for the Power, Electrical and Electronics, and Computer PE Exams, 8th ed. (John A. Camara, PE, 2009) available from Professional Publications, Inc., 1250 Fifth Ave., Belmont, CA 94002 Phone: 800-426-1178 or 650-593-9119. http://www.ppi2pass.com/ ISBN: 1-59126-112-0 Note: This edition is written for the new depth-only exam format.
- 4) Electrical Engineering Sample Examinations for the Power, Electrical and Electronics, and Computer PE Exams, 3rd ed. (John A. Camara, PE, 2009) available from Professional Publications, Inc., 1250 Fifth Ave., Belmont, CA 94002 Phone: 800-426-1178 or 650-593-9119. http://www.ppi2pass.com/ ISBN: 978-1-59126-156-8 Note: This edition is written for the new depth-only exam format.
- 5) Electrical Engineering Quick Reference for the Power, Electrical and Electronics, and Computer PE Exams, 3rd ed. (John A. Camara, PE, 2009) available from Professional Publications, Inc., 1250 Fifth Ave., Belmont, CA 94002 Phone: 800-426-1178 or 650-593-9119. http://www.ppi2pass.com/ ISBN: 978-159126-113-1 Note: This edition is written for the new depth-only exam format.
- 6) **Electrical Metermen's Handbook** published by Edison Electric Institute, 750 Third Avenue, New York, NY 10017 ASIN: 0931032113

- 7) **Electrical Transmission and Distribution Reference Book** published by ABB Power T&D Company, Inc, Transmission Technology Institute, Centennial Campus, 1021 Main Campus Drive, Raleigh, North Carolina 27606; (919) 515-6000, (919) 515-6043(FAX); \$125.00.
- 8) **Electronics Designers' Handbook** (Giacoletto) published by McGraw-Hill
- Handbook of Chemistry and Physics published by Chemical Rubber Co., 18901 Cranwood Parkway, Cleveland, Ohio 44128
- 10) 2008 National Electrical Code published by National Fire Protection Association, Batterymarch Park, Quincy, Mass 02269, available from Minnesota Electrical Association, 3100 Humboldt Ave S., Mpls 55408, phone 827-6117
- 11) Radio Amateur's Handbook published by American Radio Relay League, Newington, Conn.
- 12) **Reference Data for Radio Engineers** (ITT) published by Howard W. Sams & Co, Inc., Indianapolis, Indiana 46268
- 13) Standard Handbook for Electrical Engineers (Fink) published by McGraw-Hill
- 14) **Standard Mathematical Tables** published by Chemical Rubber Co., 18901 Cranwood Parkway, Cleveland, Ohio 44128
- 15) **Pocket Ref** by Thomas J. Glover, published by Sequoia Publishing, P.O. Box 620820 Dept 101, Littleton, Colorado 80162-0820. www.sequoiapub.com, ISBN 1-885071-00-0
- 16) Pocket PCRef by Thomas J. Glover and Millie M. Young, published by Sequoia Publishing

Note: The Radio Amateur Handbook and the two Pocket reference documents (#8, 12, 13) are available locally from Radio City, 2663 County Road I, Mounds View, MN 55112, phone (612) 786-4475, (800) 426-2891, www.radioinc.com

Additional aids include compass and triangle, scientific calculator, and basic college texts.

Format of the course will be a combination of lecture and group and individual problem solving. The student should identify and bring with him to class reference materials which he will find useful in taking the professional engineering exam.

Topics which will be covered during the ten class sessions will include the following:

Nature and presentation of the PE exam

Basic Circuits

Transformers, power systems, National Electrical Code

Machinery

Control Theory

Electronics

Logic design

Communications

**** This page intentionally left blank ****

EE-1

Electrical Engineering PE Refresher Thursdays, August 19 – October 21, 2010 Amundson Hall 162, 6:10-9:00 PM

Class Web Site: www.ece.umn.edu/class/ee0001

Please complete the following:				
Name:				
Address:				
Phone: Office:				
Home:				
FAX:				
E-MAIL:				
Additional information to help us get to know you better:				
Year graduated:				
Degree earned:				
Institution:				
Major specialty of interest:				
When do you plan to take the PE exam?				
Where do you work?				
What type of work do you do there?				
Why are you seeking professional registration?				