

University of Delaware
Professional Engineering Outreach
111 S. Main St., Newark, DE
October 23-27, 2017 Agenda

(Revised 8-31-2017)

Monday– RAILROAD FUNDAMENTALS

8:00 am ON-SITE REGISTRATION & CONTINENTAL BREAKFAST

8:30 am THE RAILROAD INDUSTRY AND RAILROAD SAFETY

- Welcome and Introduction to the Course–Lakofsky
- US Railroad Industry – Structure & Organization – Gallamore
- Organization and Management of Railroad Companies – Gallamore
- Overview of Railroad Safety – Zarembski
- Principles of Safe Train Operations – Zarembski

12 noon Lunch Break

1:00 pm GOVERNMENT AGENCIES DEALING WITH RAILROADS

- Government Agencies Dealing with Railroad Safety:
Federal Railroad Administration, Pipeline and Hazardous Materials Safety
Administration, National Transportation Safety Board - Gallamore
- Surface Transportation Board - Gallamore
- National Mediation Board and the Railway Labor Act –
Gallamore
- Other Government Agencies Dealing with Railroads – Gallamore
Association of American Railroads and American Shortlines and Regional
Railroad Association- Gallamore

4:30 pm Adjourn

Tuesday – RAILROAD ECONOMICS AND FINANCE

8:30 am ECONOMIC AND FINANCIAL MATTERS

- Ten Principles of Transportation – Gallamore
- *American Railroads: Decline and Renaissance in the Twentieth Century* –
Gallamore (Highlights from Brookings Presentation)

- Understanding Railroad Financial Statements – Gallamore
- Industry Analysis – Industry Structure – Gallamore
- Measures and Metrics for Railroad Analyses – Gallamore

12 noon Lunch Break

1:00 pm ECONOMIC AND FINANCIAL MATTERS (continued)

- Overview of RR Merger History and Economics – Gallamore
- Economic Evaluation of Projects – Gallamore

2:00 pm RAILROAD INTERACTION WITH CUSTOMERS (Marketing Principles, Carload Traffic and Intermodal Services) -McClellan

4:30 pm Adjourn

Wednesday – INTRODUCTION TO RAILROAD TECHNOLOGY ISSUES

8:30 INTRODUCTION TO RAILROADS AND RAILROAD TECHNOLOGY

- Introduction to the Physics of Railroading – Zarembski
- Railroad Track and Structures – Zarembski
- Railroad Rolling Stock and Mechanical Structures- Zarembski

12:00 Lunch Break

1:00 INTRODUCTION TO RAILROAD TECHNOLOGY (Cont)

- Heavy Axle Loads – Zarembski
- AAR vs UIC Standards – Zarembski
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2:30 pm NEW TECHNOLOGIES– Zarembski and Gallamore

- PTC/NextGen Train Control – Gallamore
 - o Positioning/Track Mapping
 - o Communicating Authority
 - o Braking Algorithms
 - o Fixed vs. Moving Block
 - o Operating Rules Enforcement
- New Generation Inspection Technologies

- o Rolling stock- Zarembski
- o Track- Zarembski
- o Grade crossing protection/separation- Zarembski

4:30 pm Adjourn

Thursday – CURRENT RAILROAD ISSUES

8:30 am SOME OLD AND NEW PASSENGER RAILROAD ISSUES

- How Amtrak Came to Be – Gallamore
- How Amtrak works with its host railroads – Gallamore
- Current and Future Organization and Finance Issues Regarding Amtrak – Gallamore
- Commuter Railroads -Gallamore

12 noon Lunch

1:00 pm SOME CURRENT FREIGHT RAILROAD ISSUES

- Alternatives to Coal Traffic for Railroads – Short-haul Intermodal? – Gallamore
- Network Flows and the Service reliability Imperative – Gallamore
- Which will be First: Driverless Trains or Trucks- Gallamore

3:00 pm The Challenge of Strategic Leadership – Lafferty

4:30 pm Adjourn

Friday – STRATEGIC LEADERSHIP FOR RAILROADERS

8:30 am STRATEGIC LEADERSHIP – Lafferty

- Conceptual Capacity
- Interpersonal Skills
- Leading Effective Teams
- Leading Change

MANAGEMENT ESSENTIALS FOR THE RAILROAD INDUSTRY

11:30 am WRAP -UP – Zarembski, Lafferty, Gallamore

12 noon Adjourn