

## Course Syllabus - Fall Semester 2015 Railroad Operations and Safety (RTE 303)

Instructor: Bryan W. Schlake

### Contact Info:

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**Office Hours:** 1:00-4:00 pm Tues & Weds (or by appointment)

### Class Meeting Times and Locations:

- Lectures Mon, Wed, and Fri 10:00am-10:50am  
(Location: 001 Downtown Altoona Shtz Ctr)



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Cassandra Railroad Overlook

### Course Description:

*Railroad Operations and Safety* is a critical component in railroad transportation. RTE graduates must obtain a good working knowledge of the technical requirements of railroad operations, the context in which operations take place, and the coordination between the various railroad operating departments. Railroad Operation is intended to give the student a thorough understanding of the principles underlying the scheduling, formation, and operation of trains. The student will be introduced to network planning and the problems of interchange with other railroads. RTE303 is a prerequisite to RTE 402, Railroad Operations Practicum.

### Course Expectations:

Students will be introduced to a broad understanding of the impact of railroad engineering solutions in a global, economic, environmental and societal context. Students will also gain an understanding of professional and ethical responsibility as related to railroad operations and safety.

### Prerequisites: RTE 301 (concurrent)

Students who do not meet these prerequisites may be dis-enrolled during the first 10-day free add-drop period after being informed in writing by the instructor (see: <http://www.psu.edu/dept/oue/aappm/C-5.html>). If you have not completed the listed prerequisites, then promptly consult with the instructor if you have not done so already. Students who re-enroll after being dis-enrolled according to this policy are in violation of Item 15 on the Student Code of Conduct (<http://studentaffairs.psu.edu/conduct/codeofconduct/>).

### Required Textbooks:

- Armstrong, J. H., *The Railroad, What it is, What it Does*, 5th Edition, Simons Boardman Books, 2008.

### Course Content (Armstrong Chapters):

- Part I: Railroad Safety (Introduction, 1, 2, additional readings)
- Part II: Engineering Department Operations (3, additional readings)
- Part III: Mechanical Department Operations (4, 5, 6, 9, 10)
- Part IV: Transportation Department Operations (7, 8, 11, 12)
- Part V: Network Planning (13, 14, 15, 17)

**Attendance:**

This course abides by the Penn State Class Attendance policies given at <http://senate.psu.edu/policies/42-00.html#42-27>, <http://www.psu.edu/oue/aappm/E-11.html>, <http://www.psu.edu/ufs/policies/44-00.html#44-35>, <http://studentaffairs.psu.edu/health/welcome/illnessVerification/>, and <http://www.psu.edu/oue/aappm/R-4.html>.

Students who miss class for legitimate reasons will be given a reasonable opportunity to make up missed work, including exams and quizzes. Students are not required to secure the signature of medical personnel in the case of illness or injury and should use their best judgment on whether they are well enough to attend class or not; the University Health Center will not provide medical verification for minor illnesses or injuries. Other legitimate reasons for missing class include religious observance, family emergencies, and regularly scheduled university-approved curricular or extracurricular activities. Students who encounter serious family, health, or personal situations that result in extended absences should contact the Office of Student and Family Services for help: <http://studentaffairs.psu.edu/familyservices/>. Whenever possible, students participating in University-approved activities should submit to the instructor a Class Absence Form, available at [www.psu.edu/oue/aappm/classabs.pdf](http://www.psu.edu/oue/aappm/classabs.pdf), at least one week prior to the activity.

**Classroom and Field Safety:**

All students are expected to conduct themselves at all times in a manner that promotes safety to both self and others.

**Cell Phone Policy:**

Cell phones must be silenced during all class sessions. Only emergency calls will be allowed. Texting will not be allowed during instructional times, except by permission of the instructor.

**Grading Calculation:**

Assessment	Weight	Pts
Homework	15%	150
Presentations	15%	150
Tests	35%	350 (50-100 per test)
Final Exam	15%	150
Research Paper	20%	200
Total	100%	1000

\*Extra credit for participating in the Engineering & Business Case Competition: 25pts

**Course Plan:****Grade Determination:**

Test / Presentation / Paper	Points	Date
Job Safety Briefing & Abstract	25	Sept. 7
Test 1 - Safety	50	Sept. 11
Test 2 - Engineering Dept	100	Sept. 28
Research Outlines	50	Oct. 2
AREMA Presentation	25	Oct. 9
Test 3 - Mech Dept	100	Oct. 30
Research Presentations	100	Nov. 2-6
Final Research Paper	150	Nov. 20
Thanksgiving Break	--	Nov. 23-27
Test 4 - Transportation Dept	100	Nov. 30
AMTRAK Lab	40	Dec. 2
Final Exam	150	Dec 14-18

A (94-100)	C+ (77-79)
A- (90-93)	C (70-76)
B+ (87-89)	D (60-69)
B (84-86)	F (0-59)
B- (80-83)	

\*Schedule does not include hw assignments

**Grading Policy**

All assignments must be turned in promptly on the due date. A 10% late penalty will be assessed for each day the assignment is late.

## Internet Materials and Links

\*\*\*Additional materials will be made available electronically on Angel \*\*\*

### Academic Integrity Statement:

Students in this class are expected to write up their assignments individually, to work the exams on their own, and to use their own words (using proper citations) for all assignments. Class members may work on the problem sets in groups, but then each student must write up the answers separately. Students are not to copy problem or exam answers from another person's paper and present them as their own; students may not plagiarize text from papers or websites written by others. Students who present other people's work as their own will receive at least a 0 on the assignment and may well receive an F or XF in the course. For information about the Earth and Mineral Sciences Academic Integrity Policy, which this course adopts, please see: [http://www.ems.psu.edu/current\\_undergrad\\_students/academics/integrity\\_policy](http://www.ems.psu.edu/current_undergrad_students/academics/integrity_policy).

### Accommodations for Students with Disabilities:

The Office of Disability Services (<http://equity.psu.edu/ods/>) requests and maintains disability-related documents; certifies eligibility for services; determines academic adjustments, auxiliary aids, and/or services; and develops plans for the provision of academic adjustments, auxiliary aids, and/or services as mandated under Title II of the ADA Amendments Act (ADAAA) of 2008 and Section 504 of the Rehabilitation Act of 1973. A list of these services is provided at <http://equity.psu.edu/ods/student-information>.

### Campus Emergencies and Hazardous Weather:

Campus emergencies, including weather delays, are announced on Penn State News (<http://news.psu.edu/>) and communicated to cellphones, email, the Penn State Facebook page, and Twitter via PSUTXT (to sign up, please see <http://psutxt.psu.edu>). Please feel free to contact your instructor with questions about weather – related delays or cancellations.

### Absence for Illness or Emergency

Students should inform instructors when missing classes for reasons beyond their control (e.g., illness, family emergency, etc.). If circumstances prevent a student from contacting instructors, the Altoona Registrar's office, [814-949-5035](tel:814-949-5035), will notify the appropriate departments. Students should make contact with instructors as soon as circumstances permit and provide documentation if requested.

