



## COURSE SYLLABUS

Course Title	<b>Explosion Science &amp; Post-Blast Investigations</b>
Instructor Name	<b>Paul F. Ayres</b>
Instructor E-mail Address	<b>paul.ayres@pyrology-ffc.com</b>
Instructor Phone Number	<b>214-549-0131</b>

### **Course Description**

This course provides a basic review of explosions in the first module, followed by a more in-depth study of explosions involving energetic materials and fuel-air mixtures. The final module will discuss best practices for multi-disciplinary post-blast investigations. The course is organized into four modules, each being a 2-hour presentation, providing a total of 8 hours of continuing education.

### **Learning Outcomes**

Upon completion of this course, the student should demonstrate a mastery of the following learning outcomes: 1) identify the different types of explosions, 2) describe the various effects produced by an explosion, 3) differentiate between explosions involving energetic materials and fuel-air mixtures, 4) describe best practices for conducting post-blast investigations.

### **Outline of Course Schedule**

<b>Module</b>	<b>Topics</b>
1	Basic Review of Explosions
2	Energetic Materials and Seated Explosions
3	Fuel-Air Mixtures and Unseated Explosions
4	Post-Blast Investigations

### **Recommended Readings**

NFPA. (2020). Chapter 22 explosions. In *NFPA 921: Guide for Fire and Explosion Investigations* (2021 ed., pp. 247-270). National Fire Protection Association.

Thurman, J.T. (2019). *Practical Bomb Scene Investigation* (3<sup>rd</sup> ed.). CRC Press.