

Colossal Failures in Engineering

**Joint Subject Spring 06
School of Engineering
School of Humanities**

Subject Description

This subject focuses on the design, construction, and management of large engineering systems. For such systems there is almost always a good understanding of each of the multitude of individual components comprising the system. Even so, occasionally “colossal failures” of such systems occur. Invariably, the failures, while always involving specific engineering components, can be traced back to failures in management, and in particular to a lack of effective communication.

Colossal Failures in Engineering describes two such failures: (1) the Columbia Shuttle accident and (2) the meltdown at Three Mile Island. In addition five other mini-failures will be discussed. Students will learn the basic technical and engineering issues involved in each accident and then dig beneath the surface to really learn what happened. Perhaps surprisingly students will see how poor communication contributed in a major way to the final failures.

Who should take the subject?

The subject is aimed primarily at freshmen and sophomores but is open to all undergraduates.

Subject Registration:

Students should register for either **ESD.032** in the School of Engineering or **21.W780** in the School of Humanities and Social Sciences. ESD.032 meets MWF1-2 (Room 24-121). Recitation scheduled for Thursday 2-3 (Room 24-121).

Note: In the School of Humanities “Colossal Failures in Engineering” is Section (2) of the general writing subject 21W.780 “Communicating in Technical Organizations”. Consequently, students registering for 21.W780 can use the subject to satisfy both a **HASS Elective requirement** and a **CI-H requirement**.

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