



World of Cold

Cryogenic Training for Science and Industry

World of Cold is a hands-on, practical approach to providing a foundation for developing technical capability in cryogenics. A total business viewpoint considers the interplay among science, industry, and societal needs in regional and global marketplaces. Real-world engineering applications and demonstrations with liquid nitrogen and vacuum are an integral part. The course is divided into four modules which can be offered on-site and tailored to a specific need:

- Module I – Cryogenics 101 (Production and Application of Cold)
- Module II – Cryogenic Systems Design and Operations
- Module III – Vacuum, Instrumentation, and Measurement
- Module IV – Applications, Markets, and Research

The term *cryogenics*, in this context, concerns the use of cold temperatures for one of two reasons: 1) using the cold to do something useful (*putting the cold to work*) or 2) storing a lot of molecules in a small space (*energy density*). Cold temperatures are any below the ambient but cryogenic temperatures are often defined as below 123 K (-240 °F).

As new markets come about and more cryogenic applications proliferate, practical training is needed to meet these demands and ensure business success. To build technical capabilities, the related key aspects of safety, processes, equipment, product development, marketing, and education of both customers and suppliers are addressed in *World of Cold*.

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Energy Efficient Cryogenics – We're cold but we care