Generic Fundamentals Training
Balancing Instructor Priorities

Mastering the fundamentals is a key building block in the operator training program. Understanding the “Why” not just the “How” is critical at 2:00 am. But teaching fundamentals can create challenges for your training department.

This training occurs infrequently. It requires a wide-ranging knowledge of several complex subjects. And so, training departments are often hard-pressed to balance their everyday challenges with the need to maintain an experienced staff with the recent practice and long-term experience to provide top-notch fundamentals training.

Hidden Costs

Based upon your training program structure, your instructors may not have taught the course in 18 to 36 months. Not every SRO Instructor can be or wants to be a GFE Instructor, it’s a very fast and intense course. Instructors often prefer to teach more advanced courses. And while conducting fundamentals training, a plant’s most talented and experienced instructors are no longer available for advanced training or other critical tasks such as:

- Developing courses and updating lesson plans.
- Evaluating and updating training materials.
- Improving existing courses and upgrading their own credentials and capabilities.
- Maintaining the existing accreditation of the plant’s training system.

All of which can result in overworked training staffs, poor morale, overtime costs, and training managers struggling to efficiently and sufficiently fulfill their training obligations.

Outsourcing: A Simple Solution

A simple solution to this stress is to supplement the existing staff, as needed, with highly experienced and well-trained experts from outside the organization. Hyperspring LLC maintains a large staff of fully qualified Basic Fundamentals instructors, who are always up-to-speed and always available.

The typical Hyperspring instructor has over 20 year’s industry experience, is eager to teach the course, and teaches fundamentals regularly, rather than every 18 months or much longer.

With its focus on fundamentals, and keen insight into the areas where students tend to struggle, Hyperspring has established a long record of success within the training industry.

Hyperspring offers several potential advantages to any struggling training department, whether the needs are long-term or temporary.

- Our instructors are experts who teach GFE subjects all of the time, know how to relay the information, and enjoy teaching it!
- We can bring simulation and visualization into the classroom to augment the learning material.
- Our instructors can evaluate student strengths and weaknesses, and determine when and how to remediate students to achieve the best results.
- We carefully monitor Instructor performance and guarantee customer satisfaction!
## Course List

### Components
- Valves
- Pumps
- Heat Exchangers
- Demineralizers & Ion Exchange
- Motors & Generators
- Breakers, Disconnects & Relays
- Sensors & Detectors
- Controllers & Positioners

### Reactor Theory
- Neutron & Nuclear Properties
- Neutron Lifecycle, Production & Losses
- Reactor Kinetics & Neutron Sources
- Reactivity Coefficients
- Control Rod Design & Operation
- Fission Product Poisons Production & Removal
- Fuel Depletion & Burnable Poisons
- Reactor Operations Physics

### Thermodynamics
- Properties & Units
- Energy Forms & Balances
- Steam Production & Uses
- Thermodynamic Processes
- Thermodynamic Cycles
- Fluid Static & Dynamic Operation
- Heat Transfer & Heat Exchanges
- Thermal Hydraulic Principles
- Thermal Hydraulic Limitations

## Summary
Hyperspring maintains a large staff of experienced instructors and access to an equally large and experienced auxiliary staff, as necessary. The typical instructor has over 20 year’s relevant nuclear power plant experience and several years training experience.

Augmenting your training staff will help ensure that your investment in operator training pays off in highly qualified plant personnel, who pass their certification exams the first time through.

## About Hyperspring
Hyperspring, LLC provides training program development and delivery as well as specialized plant support services. The company was formed as a veteran-owned business in 2004 and has served the energy industry with innovative and competitive professional services provided by the most qualified personnel available in the market.

Hyperspring is a GSE Systems, Inc. subsidiary. For more information on GSE visit www.gses.com.