Outline For Certified Maintenance Specialist Course

A. Course Overview & Curriculum
- Safety & Health
  - Tool Safety
  - Chemical Safety
- Electrical Safety
  - Hazardous Materials
  - Suction Entrapment
  - Layers of Protection
  - Recreational Water Illnesses
- Practical Knowledge
  - Customer Service
    - Company Policies – agreements and warranty coverage
    - Billing and collection
    - Customer relations skills
  - Health and Safety for customers
    - Equipment
    - Drains
    - Electrical
    - Chemicals
  - Legal considerations
    - Liability
    - Codes and regulations

B. Pool Math
- Area, volume & capacity
- Bather load
- Make up water
- Area
- Chemical Dosages

C. Water Quality
- MSDS sheets
- Handling & Transporting Chemicals
- OSHA & SARA rules
- pH
- Water Clarity
- Temperature
- Water Balance
- Chlorine and other Sanitizers
- Algicides
- Stain Control
- Water testing

D. Pool Structures
- Structure types
  - Concrete Pools
  - Vinyl Liner Pools
  - Fiberglass pools
  - Metal Pools
  - Spas
- Structure Problems
  - Cracks
  - Leaks & Leak testing
  - Flotation
- Pool finishes
  - Plaster
  - Tile
  - Coping
  - Cantilever decks
  - Fiberglass liner
  - Paint

E. Circulation
- Turnover, Flow Rate and Velocity
- Circulation Components
  - Suction side components
  - Discharge Side Components
  - Filters
  - Valves and Gages
  - Flow meters
  - Controllers
- Piping

F. Filtration
- Types of filters
  - Pressure and Vacuum Systems
  - Filter safety
- Filter efficiency and performance
- Media types
  - Sand
  - Cartridge
  - D.E.
- Filter Problems

G. Electrical
- Electrical Safety
- Introduction to electricity
- Electrical Terms
- Electrical Testing
- Underwater lighting systems
- Heaters
- Heater types
- Sizing Heaters
  - Pools
  - Spas
- Gas Heaters
  - Plumbing & Operation
  - Components & Problems
- Electric Immersion Heaters
  - Plumbing & Operation
  - Components & Problems
- Heat Pumps
  - Plumbing & Operation
  - Components & Problems
- Solar Heaters
  - Plumbing & Operation
  - Components & Problems

H. Control Systems
- Purpose
- Operations controlled
- Basic Troubleshooting
- Types of switches
- Electrical Controls
- Modern PCB's and Error Messages

The Exam is open book. You can use the workbook and a calculator