

پیشنهاد 1 دوره آموزشی با عنوان زیرساخت فیزیکی و همچنین مدیریت مراکز داده که توسط شرکت Schneider Electric که یکی از بزرگترین شرکتهای حاضر در این صنعت در جهان می باشد و تحت عنوان Datacenter University در تمام جهان در حال تدریس میباشد که محتوای آن مجموعه ای تلفیقی از چندین استاندارد بین المللی و مرتبط با این صنعت همچون IEC ، TIA-942 و Uptime Institute می باشد و امکان ارائه وجود دارد.

قابل توجه است که بر اساس رنکینگ سایت itcertificationmaster دوره فوق الذکر جزو 10 مدرک بین المللی برای مهندسين IT و در رتبه اول می باشد .

<http://www.itcertificationmaster.com/top-10-certifications-for-data-center-professionals>

- **Advantages of Row and Rack-Oriented Cooling Architectures I**

Room cooling is an ineffective approach for next-generation data centers. Latest generation high density and variable density It equipment create conditions that room cooling was never intended to address, resulting In cooling systems that are inefficient and unpredictable. Row-oriented and rack-oriented cooling architectures have been developed to address these problems. This course is a follow-up to fundamentals of cooling architecture and will focus primarily on contrasting The three cooling architectures (room, Row, and rack) and illustrate why Row-oriented cooling will emerge as The preferred solution for most next generation data centers.

- **Advantages of Row and Rack-Oriented Cooling Architectures II**

Data center cooling is one of the most critical yet least understood of all the NCPI components. Today's data center manager will need to have a thorough understanding of the unique challenges involved in the deployment of a particular cooling architecture. This course expands upon the topics explored in Advantages of Row and Rack-Oriented Cooling Architectures Part 1. Topics for part two include these special issues; capacity utilization, humidification, electrical efficiency, water or other heat transport piping, location, and redundancy. The most appropriate way to deal with these challenges in the data center environment will also be explored.

- **Examining Fire Protection Methods in the Data Center**

Fire in any area of a business can result in millions of dollars of losses and even business failure. However, fire in the data center represents one of the greatest risks to any company or institution. This is a foundational course which will introduce the basic theory, prevention, detection and suppression of fire specific to data centers. At the completion of this course you will have a better understanding of the safeguarding methods that are used to protect a data centers hottest commodity, information.

- **Fundamental Cabling Strategies in the Data Center**

From a cost perspective, building and operating a data center represents a significant piece of any Information Technology (IT) budget. The key to the success of any data center is the proper design and implementation of core critical infrastructure components. Cabling infrastructure, in particular, is an important area to consider when designing and managing any data center.

The cabling infrastructure encompasses all data cables that are part of the data center, as well as all of the power cables necessary to ensure power to all of the loads. It is important to note that cable trays and cable management devices are critical to the support of IT infrastructure as they help to reduce the likelihood of downtime due to human error and overheating. This course will address the basics of cabling infrastructure and will discuss cabling installation practices, cable management strategies and cable maintenance practices. We will take an in-depth look at both data cabling and power cabling.

- **Fundamentals of Availability**

Today businesses must operate at lightning speed In order to be successful. The cost of just one major episode of downtime can cripple a business. The importance of maintaining a constantly available network is felt from the Board room to the data center itself. Now more than ever, it is critical for data center professionals to have a sound understanding of the factors that lead to high availability, and the threats to availability. This course explores the dimensions of availability and measuring business value, costs due to downtime, calculating downtime, and factors that affect availability and reliability.

- **Fundamentals of Cooling Architectures**

Selecting the appropriate cooling architecture is one of the key components in data center design. Matching the right architecture to your data center requirements will be foundational to the long term success of your data center. This course will explore the various approaches to cooling the data center, along with the appropriate application, for each of the architectures discussed.

- **Fundamentals of Cooling, Part 1**

In every data center excess heat has the potential to create downtime. In addition, the performance and lifespan of IT equipment is directly related to the efficiency of cooling equipment. If you're involved with the operation of computing equipment it's critical that you understand the importance of cooling in the data center environment. This foundational course explains the fundamentals of air conditioning systems, covering such topics as the refrigeration cycle, ideal gas law, condensation, convection and radiation, heat generation and transfer, and precision vs. comfort cooling.

- **Fundamentals of Cooling, Part II - Humidity in the Data Center**

Data center cooling is one of the most critical yet least understood of all IT environmental issues. A thorough understanding of the fundamental principles of cooling is essential in order to achieve peak performance of your mission-critical systems. This course expands upon the principles learned in Fundamentals of Cooling, Part 1. Topics include humidity, temperature measurement and control, humidification strategies and systems, demand fighting, and methods used to prevent it, and appropriate operating thresholds for maximum efficiency and cost savings.

- **Fundamentals of Physical Security**

Today's Data Centers must consider not only network security, but also physical security. This course defines what physical security means for mission critical facilities and identifies what assets it needs to protect. Also discussed are the different means to control facility access, common physical security methods, security devices, and budget considerations related to physical security.

- **Fundamentals of Power**

Before you can understand the power needs of the Data Center, you must first understand the basic concepts and terms related to power measurement, electric power forms, and its generation. This elementary level course explains these power elements and some of today's power problems.

- **Generator Fundamentals**

Consider these statistics. According to Contingency Planning Research power related events such as blackouts and surges account for 31% of computer downtime episodes lasting more than 12 hours, power failure and surges account for 45.3% of data loss, and according to IDC power disturbances account for about one third of all server failures. A standby generator is one critical equipment components that will keep you from becoming one of these statistics. Understanding the basic functions and concepts of standby generator systems helps provide a solid foundation allowing IT professionals to successfully specify, install, and operate critical facilities. This course is an introduction to standby generators and the subsystems that power a facility's critical electrical loads when the utility cannot.

- **Optimizing Cooling Layouts for the Data Center**

A challenging predicament for facility Managers is striking a balance between the complicated and drastic heat output of IT equipment and preventing that heat from damaging the very equipment that creates it. Further, humidity and temperature levels outside the recommended range can detrimentally alter computer components making them vulnerable to future failures. Although obtaining proper cooling equipment is important, equally important is the distribution and layout of that equipment. This course discusses various types of cooling equipment, and deployment methods for optimal system performance and improved data center efficiency.

- **Physical Infrastructure Management Basics**

While considerable effort is focused around maintaining and managing the software and hardware aspects of a data center, managing the physical infrastructure is often overlooked. This foundational module identifies the physical infrastructure challenges for incident, availability, capacity, and change management. It also explains basic Information and strategies concerning: physical infrastructure Enterprise Management systems, Building Management systems, Element Managers, and an physical infrastructure Element Manager.

- **Power Distribution I**

Selecting an appropriate technique for power distribution within the data center is the key to ensuring reliability and uptime. This course will explain and compare the various ways to provide electrical power to data centers and network rooms. Issues addressed include voltage, various types of transformers, service entrance and the different power distribution/configuration models.

- **Power Distribution II**

Selecting an appropriate technique for power distribution within the data center is the key to ensuring reliability and uptime. This course expands upon the topics explored in Power Distribution Part I. Topics for Part II include: the basic elements involved with power transmission to the data center; determining voltage and power density requirements, as well as differentiating rack powering requirements.

- **Power Distribution III**

Power distribution is the cornerstone to availability in today's data center. This course expands upon the topics explored in Power Distribution Part I and Part II. Topics for Part III include: selecting an appropriate power distribution system as well as a distribution selection strategy for high density data centers. Additionally, the ability for the rack power system to adapt to changing requirements is identified and quantified.

- **Power Redundancy in the Data Center**

Power may be the most critical Element of the physical data center today, impacting availability, performance and budgets. This foundational course explores common commercial AC voltage types, transformers and turns ratios, K-rating and Delta-Wye configuration. It also discusses voltage distribution, current ratings and electric fuses. Different types of circuit breakers, their sizing, and grounding requirements are also explained.

- **Rack Fundamentals**

2-post, 4-post, U's, cable entry, seismic ratings, placement, service access, power and cooling integration. When did Racks become so complicated and how have they evolved to meet the changing needs of Data Centers? This course covers rack standards, rack types, and rack enclosures. It discusses best practices for rack system selection, and explores the physical considerations for rack layout.