

**ITS PCB  
University  
Workshop**



**September 23, 2016**

**Online Materials that can be  
Utilized by Universities for FREE**



# What is CITE?

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- Consortium for ITS Training and Education
- A unique consortium of over 100 university and industry partners
- **Provide interactive online advanced transportation courses**
- Types of offerings
  - Certificate Programs
  - Independent Study Courses
  - Blended Courses
  - Full Semester Courses





# CITE'S AUDIENCE

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- University/College Students
  - Courses taken from University Partners
  - College credit given for completion through partners
- Industry professionals
  - Courses taken directly through CITE
  - CEU's given for completion





# CITE & ITS PCB PARTNERSHIP

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- Development of Online Courses and Offered through CITE
- Offering all Courses for FREE to public agencies \*
- Updating Courses to New Format
- Joint Marketing of online courses

\* Connected Vehicle 101 Offered for FREE to everyone





# NEWEST COURSES AVAILABLE

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- Archived Data for Planning, Operations and Safety
- Connected Vehicles 101
- Cyber Security
- Performance Measurement
  - Intro to Operations Performance Measures and Management
  - Nuts and Bolts of Operations Performance Measurement
  - Operations Performance Management: Real-time Operations to Long Term Planning
- Travel Time (Vehicle Probe Data)





# OTHER COURSES AVAILABLE

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- Fundamentals of Database Management Systems
- Improving Highway Safety with ITS
- Introduction to Systems Engineering
- Introduction to the National ITS Architecture
- ITS Applications in transit Management and Operations
- Managing High Technology Projects in Transportation
- Network Design and Deployment Considerations for ITS Managers and Professionals
- Overview of Operations
- Principles and Tools for Road Weather Management
- Telecommunications and Networking Fundamentals
- Tools of Advanced Transportation Management Systems
- Traffic Signal Timing





# Certificate Programs

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- Students Take (3) core courses & (3) electives
- One year time frame to complete
- (5) Certificate Programs Available
  - ITS Project Management
  - ITS Systems
  - Performance Measurement
  - Road Weather Management
  - Traffic Engineering and Operations



# SAMPLE COURSE PAGE

DBMS Course - Lesson 1

**Databases and DBMSs**

Slide Title

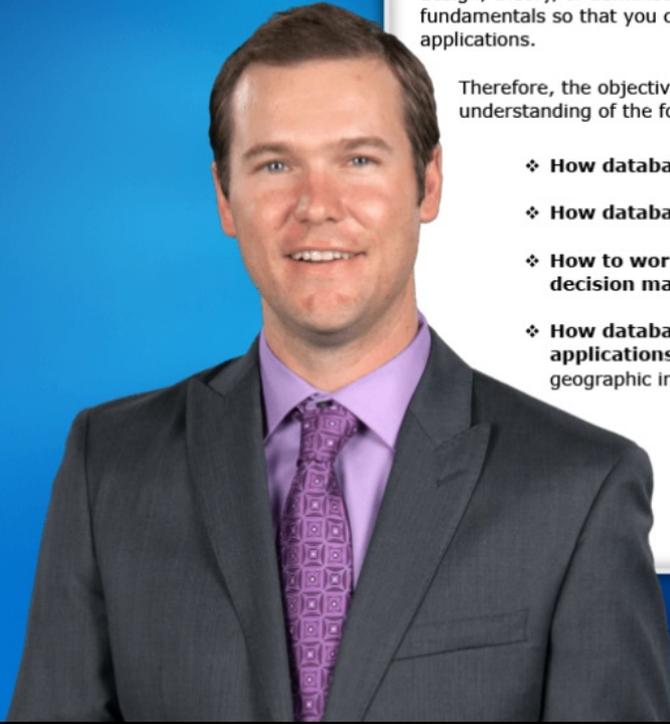
- Learning Outcomes
- Databases
- Database Management System (D...
- Relationships
- DBMS Roles in ITS
- Big Data
- What Do You Need To Know
- Learning Outcomes Review
- Knowledge Check

## What You Need To Know about DBMSs

As a transportation professional, you do not need to become an expert in database design, theory, or administration. However, it is important that you understand the fundamentals so that you can make effective use of databases in transportation applications.

Therefore, the objective of this course is to provide you with a basic understanding of the following:

- ❖ **How databases work**
- ❖ **How databases are designed**
- ❖ **How to work with databases to support decision making**
- ❖ **How databases are used for advanced applications** (namely data warehousing and geographic information systems (GIS))



Video player controls: Play, Previous, Next, Progress bar, Full Screen, CC

Credit: CITE - [www.citeconsortium.org](http://www.citeconsortium.org)



# SAMPLE COURSE PAGE

**Introduction to SE**

**L1. Overview of SE**

Slide Title

- Lesson Intro
- Learning Outcomes
- What Is a System?
- Parts of a System
- What Is Systems En...
- SE: Purpose & Focus
- Systems Engineering...
- Who Performs Syste...
- SE: Capability & Parti...
- SE: Benefits
- Potential Risk Factors
- Consider: How Risky ...
- Transportation Engin...
- Traditional vs Comple...

00:59 / 02:17 Minutes

## Participants in the Systems Engineering Process

Click on each participant below for information about how they interact with the system



**Users**



**Systems Engineers**



**Stakeholders**

**SYSTEMS ENGINEERING**

- ❖ Document user needs, requirements, verification and validation processes and outcomes



**Design Engineers & Developers**



**Project Managers**



**Customers**

*Note: Agency professionals may fill any or all of these roles, but are mostly likely to be users, stakeholders, project managers, and customers.*

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# SAMPLE KNOWLEDGE CHECK

DBMS Course - Lesson 2

**How Databases Work**

- Slide Title
- Learning Outcomes
- Why Use a Database?
- What Is a Relational Database?
- Relational Database Structure
- Relational Database Tables
- Relating Tables with Keys
- Normalizing Databases
- Relational Database Tutorial
- Learning Outcomes Review
- Knowledge Check
- Workshop #1

## Knowledge Check

Question 1 of 3

Match each term on the left with the corresponding definition on the right.

*Select your answer and then click Submit Answer*

### Terms

- Table
- Records
- Fields
- Primary Key
- Join

### Definitions

1. Single field that uniquely identifies each and every record
2. Columns of a table
3. When keys are used to relate two tables
4. The core structure of a relational database
5. Rows of a table

Submit Answers





# **BENEFIT of CITE to UNIVERSITIES**

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- Universities have **FREE** access to ALL of CITE's courses
  - Need to become a CITE Partner
  - That's **FREE** too
- Materials used to supplement existing courses





# HOW TO BECOME A CITE PARTNER

1. Visit CITE website [www.citeconsortium.org](http://www.citeconsortium.org)
2. Click on “Partners: Become a Partner”
3. Download and complete forms
4. E-mail forms to Denise Twisdale

[mztwiz@umd.edu](mailto:mztwiz@umd.edu)





# CONTACT INFORMATION

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