



School of Engineering  
*Information  
Technology Program*

**ITP 482: Engineering Database Applications**  
**Units: 3**  
**Fall 2020 – Tuesday/Thursday 12:30-1:50pm**

**Location:** Zoom

**Instructor:** Kimberly Rubal  
**Office Hours:** Online, by Appointment  
**Contact Info:** rubal@usc.edu  
**Contact Cell:** 626-399-9539

**Course Management:** USC Blackboard

**IT Help:** Provided by Viterbi IT  
**Hours of Service:** 8am – 5pm, Mon-Fri  
**Contact Info:** (213) 740-0517  
**Email:** engrhelp@usc.edu

## Course Description

This course explores the engineering of software applications that are based on relational databases. It uses the lifecycle of software development: planning, analysis, design, implementation, testing, and, operation and maintenance. Scalability, expandability and security are emphasized.

## Learning Objectives

At the completion of the course, students will be able to

- Describe the importance of database applications in engineering, industry and commerce.
- Perform advanced data modeling and analysis
- Create data definitions and constraints
- Demonstrate data retrieval and manipulation
- Implement security and usability in applications
- Use and compare commercial development tools, distributed/multi-tier environments and integration of databases
- Build a complete Web based database application. Examples – manufacturing, quality assurance, research and development, distribution, construction, non-profit organizations etc.
- Manage the development lifecycle
- Explain new developments in WebServices

**Prerequisite(s):** CE 108 or EE 155 or ITP 115 or ITP 165 or ITP 168 or ISE 150 or CSCI 102 or CSCI 103) and 1 from (DSO 435 or ISE382)

## Technological Proficiency and Hardware/Software Required

Students should have access to their own computers running either Windows, MacOS, or Linux and should be familiar with the basic operation of the operating system. Also will be using the following software: HTML, CSS, PHP, MYSQL, Adobe Photoshop and Drupal.

## USC technology rental program

We realize that attending classes online and completing coursework remotely requires access to technology that not all students possess. If you need resources to successfully participate in your classes, such as a laptop or internet hotspot, you may be eligible for the university's equipment rental program. To apply, please [submit an application](#).

### USC Technology Support Links

[Zoom information for students](#)

[Blackboard help for students](#)

[Software available to USC Campus](#)

## Communication

Don't hesitate to use email, call or text me to notify me of any problems that you are having. I should be able to reply to you within 24 hours.

## Grading Breakdown

The following percentage/point breakdown will be used in determining the grade for the course.

Online Participation	8%	30 points
Homework (9 TOTAL)	50%	170 points
Midterm Exam	21%	75 points
Final Project	21%	75 points

## Grading Scale

Course final grades will be determined using the following scale:

A+	97% or up
A	94% - 96%
A-	90% - 93%
B+	87% - 89%
B	84% - 86%
B-	80% - 83%
C+	77% - 79%
C	73% - 76%
C-	70% - 72%
D+	67% - 69%
D	63% - 66%
F	62% or below

## Policies

### Exams

No make-up exams (except for documented emergencies) will be offered

### Online Participation

Attendance will be taken but not required for the weekly Zoom sessions. However, It is expected students participate weekly in watching Zoom recordings and reviewing other online videos/resources.

## **Late Homework Assignments**

Homework/Projects turned in after the deadline will automatically have 2 points per day deducted. Exceptions must be approved by Professor

## **Zoom etiquette**

VIDEO: preferred but optional, consider your background environment

VOICE: mute your microphone, raise hand or unmute to ask question

CHAT: chats are allowed but should be directed to entire class

## **Sharing of course materials outside of the learning environment**

USC has a policy that prohibits sharing of any synchronous and asynchronous course content outside of the learning environment.

*SCampus Section 11.12(B)*

*Distribution or use of notes or recordings based on university classes or lectures without the express permission of the instructor for purposes other than individual or group study is a violation of the USC Student Conduct Code. This includes, but is not limited to, providing materials for distribution by services publishing class notes. This restriction on unauthorized use also applies to all information, which had been distributed to students or in any way had been displayed for use in relationship to the class, whether obtained in class, via email, on the Internet or via any other media. (See Section C.1 Class Notes Policy).*

# Engineering Database Applications

## ITP 482 (3 Units)

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<p><b>Week 1: August 18 and 20</b> <b>CMS and Drupal</b> Course Overview Client/Server Defining Drupal HTML/CSS Three-tier Client-Server Architectures <i>Homework 1</i></p> <p><b>Week 2: August 25 and 27</b> <b>Installing Drupal</b> Installing WAMP and MAMP Installing Drupal</p> <p><b>Week 3: September 1 and 3</b> <b>Getting to know Drupal</b> Drupal Structure What is Middleware? ODBC Architecture <i>Homework 2</i></p> <p><b>Week 4: September 8 and 10</b> <b>Deeper into Drupal</b> Nodes Modules WYSWYG/CKEDITOR Menus XML Overview and RSS <i>Homework 3</i></p> <p><b>Week 5: September 15 and 17</b> <b>Content Types</b> Building Content Types Field Types Devel Module Web-based Database Applications Web Servers <i>Homework 4</i></p> <p><b>Week 6: September 22 and 24</b> <b>Views</b> Views Overview Views Display Types Contextual Filter Views Aggregation Web Services <i>Homework 5</i></p>	<p><b>Week 7: September 29 and October 1</b> <b>Themes, Menus and Roles</b> Changing a Theme/Adding Regions Menus Security: Users, Permissions, Roles <i>Homework 6</i></p> <p><b>Week 8: October 6</b> <b>Context and Blocks</b> Context, Layout Builder and Paragraphs Prepare for Midterm Exam</p> <p><b>Week 8: October 8 – Midterm Exam</b></p> <p><b>Week 9: October 13 and 15</b> <b>eCommerce</b> Taxonomy eCommerce and Drupal Commerce <i>Homework 7</i></p> <p><b>Week 10: October 20 and 22</b> <b>Image and Galleries</b> Image Styles and Formatting Creating a Gallery <i>Homework 8</i></p> <p><b>Week 11: October 27 and 29</b> <b>Calendar and Final Project Overview</b> Administrating Drupal Calendar <i>Homework 9</i></p> <p><b>Week 12: November 3 and 5</b> <b>Start working on Final Project</b></p> <p><b>Week 13: November 10 and 12</b> Work/Meet offline Mobility and Final testing</p> <p><b>Week 14: November 17 and 19</b> <b>Finalize Final Project</b> <b>Team Demos</b></p>
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# Statement on Academic Conduct and Support Systems

## Academic Conduct

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, “Behavior Violating University Standards” <https://policy.usc.edu/scampus-part-b/>. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, <http://policy.usc.edu/scientific-misconduct>.

## Support Systems

*Student Counseling Services (SCS) - (213) 740-7711 – 24/7 on call*

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

<https://engemannshc.usc.edu/counseling/>

*National Suicide Prevention Lifeline - 1-800-273-8255*

Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. <http://www.suicidepreventionlifeline.org>

*Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-4900 - 24/7 on call*

Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

<https://engemannshc.usc.edu/rsvp/>

*Sexual Assault Resource Center*

For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: <http://sarc.usc.edu/>

*Office of Equity and Diversity (OED)/Title IX Compliance – (213) 740-5086*

Works with faculty, staff, visitors, applicants, and students around issues of protected class. <https://equity.usc.edu/>

*Bias Assessment Response and Support*

Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response. <https://studentaffairs.usc.edu/bias-assessment-response-support/>

*The Office of Disability Services and Programs*

Provides certification for students with disabilities and helps arrange relevant accommodations. <http://dsp.usc.edu>

*Student Support and Advocacy – (213) 821-4710*

Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. <https://studentaffairs.usc.edu/ssa/>

### *Diversity at USC*

Information on events, programs and training, the Diversity Task Force (including representatives for each school), chronology, participation, and various resources for students. <https://diversity.usc.edu/>

### *USC Emergency Information*

Provides safety and other updates, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible, <http://emergency.usc.edu>

*USC Department of Public Safety – 213-740-4321 (UPC) and 323-442-1000 (HSC) for 24-hour emergency assistance or to report a crime.*

Provides overall safety to USC community. <http://dps.usc.edu>