WEBD 236
Web Information Systems Programming

Midterm Exam Review
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What will the midterm look like?

- General characteristics
  - 11 short answer questions worth 50 points total
  - 2 rather substantive essay questions worth 30 points total
  - 5 problems/programming questions worth 80 points total
- You may bring in one 8.5 x 11 sheet of notes, front and back, with anything on it you desire.

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What will the midterm look like?

- You may bring in one 8.5 x 11 sheet of notes, front and back, with anything on it you desire.
- You will have 2 hours (120 minutes) to complete 150 points worth of questions
  - That's approximately 1.25 points per minute
  - Alternately, that's a 10-point problem in 8 minutes.

How should I study?

- Examine the outcomes for the course and for each week in the course. Ask yourself, "can I do these things?"
- Is there anything you can eliminate?
  - Yes. You need not study string functions, date functions, or array functions. Looking up those things is what the Internet is for.

Really? 80 points of programming?

- Yes
  - I don't expect you to code perfectly. Small syntax or logic errors are expected (although logic errors are more egregious). But, can you convince me that you know what you're doing?
  - The programming/problems are based on what you have done in lab assignments, homework assignments, or what has been demonstrated in the recitations.

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zOMG. What outcomes?

- Course outcomes
  - Design, code, test, and debug programs using a server-based scripting language.
  - Persist objects in a relational database.
  - Compare and contrast Model 1 and Model 2 web-architectures.
  - Implement object-oriented model, view, and controller components.
  - Implement basic security techniques for web information systems.

zOMG. What outcomes?

- Week 1
  - Install and use a web database development environment.
  - Describe the request/response cycle.
  - Distinguish between POST and GET web methods.
  - Employ a form and server-side processing to solve a simple programming problem.

zOMG. What outcomes?

- Week 2
  - Use DDL to create tables and indices in a DBMS.
  - Use SQL to extract rows that match given criteria.
  - Create server-based scripts to interactively query a data source and display the resulting rows in an HTML page.

zOMG. What outcomes?

- Week 3
  - Distinguish between Model 1 and Model 2 architecture web applications
  - Employ the Model-View-Controller design pattern in web development
  - Utilize RESTful URLs for clean design
  - List the advantages to unit testing

zOMG. What outcomes?

- Week 4
  - Create HTML forms
  - Access form data from a script
  - Construct algorithms using selection and repetition structures.

zOMG. What outcomes?

- Week 5
  - Employ string functions to manipulate character-based data
  - Employ date and time functions to manipulate date-based data

zOMG. What outcomes?

- Week 6
  - Employ algorithms to work with arrays and associative arrays.
  - Use common array functions.
  - Describe the security implications of session tracking.
  - Employ sessions to maintain per-user data on the server.

zOMG. What outcomes?

- Week 7
  - Employ advanced features of functions (pass by reference, closures, variable argument lists) to solve problems.
  - Distinguish between objects and scalar data types.
  - Describe the five properties of object-orientation.
  - Employ encapsulation, inheritance, and polymorphism to build web applications.

Anything else?

- Yes
  - Database ERD and normalization