BIS 3523 -- Advanced Languages I
Fall 2010

Class Time: 3:30-4:45pm MW
Location: McCool 234

Instructor: Dr. Rodney Pearson
e-mail: rodney.pearson@msstate.edu
Office: McCool 302E
Phone: 325-1995 (office, voice mail)
        325-3928 (MIS Dept secretary)
        324-7806 (home)

Web site: http://misweb.cbi.msstate.edu
(Go to your instructor's faculty profile page, then scroll down to the Courses Taught section.)

Course Description:
This course covers several aspects of World Wide Web programming, including HTML,
Javascript, and PHP programming (including mysql database programming). We will
cover specifics such as the syntax of each programming tool and the procedures to build
your own site of web pages, as well as advanced programming concepts such as the
characteristics of object-oriented programming. The focus of all of our efforts will be on
business applications of the technologies that we cover.

The semester begins with a short coverage of HTML, primarily so we can generate valid
HTML code from our Javascript and PHP programs to build dynamic web pages. We will
then write Javascript routines that add dynamic functionality to web pages, such as
validating form input, randomizing actions, or responding to mouse events. Finally, we
will write server-side programs (using the PHP programming language) to develop web
pages that can, for instance, collect data from input forms and save that data in server-
based files. Our final PHP programs will manipulate data in mysql database tables.

Prerequisites:
To take BIS 3523, you must have made a B or higher in both BIS 1733 (Visual Basic
Programming) and BIS 1753 (Business Applications Using COBOL). Alternatively, you
may take BIS 3523 if you have made a B or higher in any 6 hours of university level
computer programming. You may also take BIS 3523 if you are a graduate student.

Hardware and Software Requirements:
We will be using several different software packages during the semester. All software
used in the course is available, free of charge, on an Advanced Languages CD that will be
made available for you to use during the semester. In Assignment #2, you will install
software from the Advanced Languages CD onto your computer.

You need a flash drive for working in the lab, and for your programming exams.
Study Materials:
Course Packet containing Course Information, Course Syllabus, all assignments for the semester, programs for in-class discussion, and previous years’ exams. Each student must have a copy of this packet. You absolutely must bring your Course Packet to class each day. The Course Packet is available at Copy Cow, 320-4000. (The Course Packet is required. You must also bring it to class every day, including the first day of class.)


Grading:
The following table shows the allocation of the weights that will be assigned in calculating the final grade.

<table>
<thead>
<tr>
<th>Item</th>
<th>weight</th>
<th>weight</th>
<th>grade * weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes</td>
<td>.10</td>
<td>.10</td>
<td>10.0</td>
</tr>
<tr>
<td>Programming assignments</td>
<td>.10</td>
<td>.10</td>
<td>10.0</td>
</tr>
<tr>
<td>Exam #1 (written/programming)</td>
<td>.20</td>
<td>.20</td>
<td>20.0</td>
</tr>
<tr>
<td>Exam #2 (written/programming)</td>
<td>.20</td>
<td>.20</td>
<td>18.0</td>
</tr>
<tr>
<td>Exam #3 (written)</td>
<td>.20</td>
<td>.20</td>
<td>20.0</td>
</tr>
<tr>
<td>Exam #4 (programming)</td>
<td>.20</td>
<td>.20</td>
<td>16.0</td>
</tr>
<tr>
<td>Final average</td>
<td></td>
<td></td>
<td>94.0</td>
</tr>
</tbody>
</table>

You might want to use a spreadsheet to keep track of your grades. Your spreadsheet would look something like:

If you ever have a question about a grade, you need to raise that question within seven calendar days of when the grade is posted in the Online Gradebook System (described later in this document). After a grade has been posted for seven days, the grade will not be changed.
Letter Grades:

Your final average will be calculated to one decimal place, with standard rounding, and final letter grades will be calculated on a 10-point scale. This means that 89.94 will round to 89.9, which is a B, and 89.95 will round to 90.0, which is an A.

Your grades will be based on your performance on the various components described elsewhere in this document. Your grade will not be changed for extraneous reasons, such as "if I don't make a B, my dog will dis-own me" or "I HAVE to have a C in this course because I've already made too many D's". If you need a particular grade, be sure to work hard enough to earn the grade; when you do that, you WILL get the grade.

Grading procedures:

You are not competing against other students for grades. Your grade will be based on your work, and the points that you earn. If everyone has a 90+ average, everyone will receive an A.

In grading programs (both assignments and programming exams), virtually all points will be based on whether a feature works or does not work. Very rarely will you receive points for effort, or for something "almost working". Having a few components working correctly is much better (and will actually earn you some points) than having no components working (which will earn you no points).

Preparation for class:

You are responsible for being prepared for each class meeting. The Course Outline shows the subject for each class meeting. If the day's schedule shows a program that we will go over, you should review the program prior to class to see what it does. The programs are all available on your Advanced Languages CD, so you can look at them (and run them) there. Many of them are available on the web as well.

Class Participation:

You are encouraged to participate in class! Employers sometimes say that communication skills are a problem area for some of our graduates. I encourage you to work on your communication skills in this class. Ask questions. Answer questions. Volunteer. Be bold. Go for it. Many people refuse to speak up for fear of looking stupid. Let me tell you from my own experience, once you have looked stupid enough times, it will no longer bother you. Believe me, I know! And, seriously, it is highly unlikely that your classmates will actually think you are stupid. It would be virtually impossible for a stupid person to make it this far through the BIS curriculum; no, it is more likely that every person in our class is smart, not stupid. But no one knows everything, so we will all sometimes answer questions incorrectly, and we will all sometimes say something that is wrong. We may even ask a silly question. And we may all laugh about it. That will be a growing experience in itself. You are encouraged to participate in this class!
Class Attendance:
Class is important. Attendance will be checked at each class meeting. It would be good to develop the habit of getting to class on time (this will help you prepare for upcoming jobs in the workplace).

You have the opportunity to either add points to, or subtract points from, your final class average, based on your class attendance. If you have two or fewer absences for the semester, you will get $2^{-n}$ bonus points added to your final average. If you have more than 2 absences, $2^{-n-3}$ points will be deducted from your final average. The table below shows your attendance bonus points for various numbers of absences.

<table>
<thead>
<tr>
<th>Total absences</th>
<th>Bonus points</th>
<th>Total absences</th>
<th>Bonus points</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2</td>
<td>5</td>
<td>-4</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>6</td>
<td>-8</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>7</td>
<td>-16</td>
</tr>
<tr>
<td>3</td>
<td>-1</td>
<td>8</td>
<td>-32</td>
</tr>
<tr>
<td>4</td>
<td>-2</td>
<td>9</td>
<td>-64</td>
</tr>
</tbody>
</table>

If you are more than ten minutes late to a class meeting, you will be counted as absent. You should still come to class, but you will be counted absent officially.

Classroom Etiquette:
Please get to class on time, and remain seated, reasonably quiet, and attentive throughout class if possible. Don't start packing up your belongings until class is over. How would you like to be on a date and see the other person start packing up to go home while you were in the middle of what you thought was scintillating conversation?

If you have a pager or cell phone, please turn it off while you are in class to avoid disruptions. Please don't bring food or drinks to class. As per normal etiquette, caps should not be worn indoors unless the sun is shining so brightly in the room that it's hurting your eyes.

Do not let your cell phone ring during class!
Homework:

Completion of programming assignments is required. **Assignments will not be accepted late.** For each assignment, you must complete an online Programmer Project Review Form (a link to each form is provided in the Private Course Web Site, which you can access by checking your grades in misweb’s Online Gradebook System). This form must be completed by the assignment deadline. Programs will be graded, online, at some point after that deadline. You do not need to turn in a printed copy of your program.

Most of your learning in this class will probably come from the hours that you spend working on the homework programming assignments. It is absolutely essential that you do your best to complete and learn from these assignments.

<table>
<thead>
<tr>
<th><strong>Do your own work on your programming assignments.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>The programming assignments are your best preparation for our programming exams. If you can truly write these assignments on your own, and you understand what you are doing, you should do very well on the programming exams. If you use someone else's work on your assignments, or if you blindly type what someone else has written, you will probably do very, very poorly on the programming exams.</td>
</tr>
</tbody>
</table>

Exams:

You need to take your exams as scheduled. If you need to miss an exam, you need to let your instructor know ahead of time, if at all possible. Either call and leave voice mail, or send e-mail.

The exams are scheduled on the course outline. Plan ahead. If you have any type of exam conflict, you need to let your instructor know at least two weeks ahead of time.

Programming Exams:

All exams will be comprehensive. Written exams will be closed book, online multiple choice exams. For programming exams, you will be able to use your textbook, your course packet, and your old programs. You will not be allowed to use any other aids during the programming exams.
Registering for misweb.cbi.msstate.edu:
This class uses the "misweb system" for course management. Your first step in using misweb is to "register" for the system. To do this, go to:

http://misweb.cbi.msstate.edu/editor

Enter your Banner net id, such as abc123, and your Banner net password. Click on the Log in button. If you have already registered for misweb, you will go straight to your Edit Routine. If you have not previously registered for misweb, you will go to a short form which will allow you to register. Complete and submit the form.

Register for misweb immediately!

The misweb system gives you a password-protected account that you can use to publish an online student profile page that is accessed through the COBI web site. You need to publish a good page as part of that site, if only to provide your instructor with information about your background. This system is intended to help you provide valuable information to instructors, fellow students, employers, and anyone else who visits COBI's web site.

To go to the misweb system in the future, go to:  http://misweb.cbi.msstate.edu

Course Web Site:
We have both a Public Course Web Site and a Private Course Web Site. The Public site includes items that we make available to the entire world. The Private site includes everything that is on the Public site, plus links to items that are restricted to students in our class. In general, you will want to access the Private site. To access the Private Course Web Site, check your grades in the Online Gradebook System.
1. Go to http://misweb.cbi.msstate.edu
2. Go to your teacher's faculty profile page
3. Scroll down to the Courses Taught section
4. Click on any link to Online Grades.
5. Select your class from the list of online gradebooks, enter your net id and your net password, and click on the Continue button.
6. Once you log in, you will see a page which contains various buttons, for various course technology components, including your online grades, the private course web site, and more.

Class Calendar:
All of your assignments and exams are scheduled in the Course Syllabus at the end of this section of the Course Packet. It is unlikely that any of these dates will change.

Assignment due dates, exam dates, and other pertinent dates are also listed in an online Class Calendar. If any due dates, exam dates, etc. are changed during the semester, the online Class Calendar will be updated to reflect the changes. You can check your class's Class Calendar any time that you check your grades in the Online Gradebook System.
Class Communications:
One item that you will maintain as part of your misweb page is your desired email address. Class email will be sent to whatever address you have recorded on your misweb student profile page. Be sure to have your correct email address in your misweb page.

Class email is considered business communication. Please write professionally, not as if you were in a chat room. Write complete sentences, spell correctly, use correct grammar, and capitalize where appropriate. Make sure that your message makes sense. Again, write professionally.

When you send email, be sure to include your name in your message.

Archived EMail:
Many messages that are sent to the class will be saved in a Class EMail Archive. You can read your class's archived messages any time that you check your grades in the Online Gradebook System (when you look at your grades, you will see a button to click for the Class EMail Archive). The EMail Archive has search capabilities, so you can easily find all messages that mention a particular topic.

Class Message Board:
A Class Message Board has been created for your use. This Board is for student use, to allow you to communicate with each other. You can create a new Topic on the Board (also known as a new Thread) asking a question, you can add a message to an existing Topic, or you can just read what other people have to say. You are encouraged to use this tool any time that it might be useful to communicate with your fellow students.

You have several “notification” options relating to the Class Message Board. By default, you will not receive any automatic email when someone posts a new message on the Class Message Board. It is highly recommended that you use the Class Message Board, both to post your own messages, and especially to read what other people post. Access the Class Message Board (via your Online Grades) to change your notification option. You can get an immediate automatic email any time that someone posts a new message (highly recommended! the class message board can be an invaluable tool when you are working on your homework assignments). Alternatively, you can ask for a Daily Summary notification (a once-a-day report of all messages posted the previous day). Be sure to access the Class Message Board, and set your "notification level" to your preferred setting.

The Class Message Board is there for you to use. It will not be monitored, other than by your classmates. Obviously, you should maintain an appropriate level of professionalism and decorum in your participation on the Board. You know what is right, and what is wrong. Don’t do anything wrong!
Online Quizzes:
We will have an online quiz due along with each homework assignment. The link to each quiz is on the Private Course Web Site.

The online quizzes are intended to be useful to you, for review purposes. Your quiz will be pre-graded as soon as you submit it; you will be told how many questions you have correct, and how many you have wrong. You will have the opportunity to correct any answers before finally submitting your quiz. You really should make 100 on each on-line quiz.

You will have the opportunity to ask for an email confirmation of your quiz. Be sure to get this confirmation, and save the message. If something happens, and your quiz grade is not recorded, or somehow gets lost, your email confirmation message will be your proof that you did indeed submit your quiz. If your grade is lost, and you don't have your confirmation message, you will not get credit for the quiz. Be sure to save your confirmation message!

You also have the option, at the end of each quiz form, to check to see if you have already submitted a quiz. You can use this option at any time (it is at the very bottom of the quiz’s login page) to see if you have successfully submitted a quiz.

Online quizzes should be turned in on time, but will be accepted late. You will lose 10 points for each day that the quiz is late (minus 10 points if turned in at any time on the day following the due date; minus 20 if turned in at any time the day after that, etc.). You must let your teacher know if you submit a quiz late, because he will receive no other automatic notification.

You have an Online Quiz due along with each Programming Assignment.

Academic Integrity:
Mississippi State University has an approved Honor Code that applies to all students. The code is as follows:

"As a Mississippi State University student I will conduct myself with honor and integrity at all times. I will not lie, cheat, or steal, nor will I accept the actions of those who do."

Upon accepting admission to Mississippi State University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor Code. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the MSU community from the requirements or the processes of the Honor Code. For additional information please visit:

http://students.msstate.edu/honorcode
You are expected to maintain the highest levels of academic integrity in this class. All work that you submit must be your own, original work, done specifically for this class, this semester. That means that you should not copy anyone else's work, you should not use work that you did for another class, you should not use work that you did for this course during a previous attempt in the course, etc. If you ever have any question as to whether something is acceptable or not, please ask your instructor!

Our programming assignments are NOT group assignments. You may talk with other students about your program, you may even let another student look at your program to help you with your program, but you may not look at anyone else’s program for the purpose of using their code as your own. You should never look at another student’s code without that student’s explicit permission.

Academic misconduct will result in an XF in the course, and will be reported to the Dean of Students.

**VERY IMPORTANT NOTICE**

In our exams, we will program web pages. These pages will be available to the world, including to other students who are taking the exam.

Accessing another student’s web site during an exam is a clear case of academic misconduct. Web servers keep log files of every resource that is ever accessed on that server. The log file indicates the address of the computer that requested the resource, the date and time that the request was submitted, and the name of the resource that was requested. These log files are examined after each of our exams, and provide concrete evidence if a student accesses some other student’s exam. To be very clear: if you access some other student’s web site during an exam, it will be discovered, and it will be considered academic misconduct. If such an incident is found (in the log file), the student will get an XF in the course, and the incident will be reported.

Accessing another student’s exam during the exam time is a very, very serious offense, and it will be taken very, very seriously.

Unconditional Guarantee:

If you attend every class during the semester, pay attention in class, and complete each programming assignment, I give you my personal guarantee that you will become a better programmer. If you fulfill your obligations as herein stated and do not feel that you have become a better programmer by the end of the semester, you may sit in on this class again in the future, as many times as you choose, absolutely free.
I (your teacher) will be happy (perhaps even ecstatic) to help you with your programs during the semester. You must request this type of assistance via the class message board. You can email or contact me otherwise about other issues directly, not going through the class message board, but programming requests must go via the class message board, so the entire class can see the entire discussion.

There are some requirements for your programming assistance requests: I will help you pretty much to the same extent that you help me. You cannot, for instance, just write and say “my program doesn’t work. what’s wrong with it?”. You must tell me something, indicating:

- symptoms: what is your program doing incorrectly?
- effort: what you have done to try to debug the problem?
- prognosis: what do you think is wrong?

If you give me some good information, I will be able to help you much more quickly, and much more effectively.

Your program also must be WELL-WRITTEN, following good programming style, before you seek assistance. The program must be DOCUMENTED, you must have used good variable names, it must be neatly indented... you must follow the programming rules of the course (HTML does not have to be documented; Javascript and Perl must be.)

If you do your job, I guarantee you that I will try my very best to help you with your programs.

Finally, I will check the class message board many, many times throughout the day, so it will probably be a good way for you to contact me. I do sometimes go to sleep relatively early (9:00 is early, right?), but I also wake up early, and I will respond to your email first thing in the morning.

One more thing: do not send me copies of your files via email. Upload your files to your mislab account. I will check them there.

**Beating the Spam Filter**

As mentioned earlier, you can email me directly about items other than programming debugging requests (which must go through the class message board). When you do email me, you should put “BIS 3523" in the subject of your message, because my spam filter should automatically let that message through.
# BIS 3523 – Advanced Languages I

## Course Outline

<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Assignment</th>
</tr>
</thead>
</table>
| Wed  | 08/18 | Course Introduction  
Required software, acquisition and installation.  
Beginning HTML Programming. HTML Frames.  
Nutshell: Chapter 2: HTML Overview  
Chapter 3: HTML Reference (do not read, for future reference)  
Packet: beginningHtml.html, moreHtml.html |
| Fri  | 08/20 | Assignment 1: misweb registration due (11:00pm)  
Online Quiz #1 due (11:00pm) |
| Mon  | 08/23 | HTML Frames  
Nutshell: Chapter 4: Frames  
Packet: beginningFrame.html, beginningFrameUpper.html  
multipleFrames.html, multipleFramesLeft.html,  
multipleFramesRightUpper.html |
| Wed  | 08/25 | HTML Tables  
Nutshell: Chapter 5: Tables  
Packet: beginningTables.html, moreTables.html |
| Fri  | 08/27 | Assignment #2: mislab account setup due (11:00pm)  
Online Quiz #2 due (11:00pm) |
| Mon  | 08/30 | HTML Forms  
Nutshell: Chapter 6: Forms  
Packet: beginningForm.html, tableForm.html |
| Wed  | 09/01 | Introduction to JavaScript Programming. Web Browser Object Model.  
Nutshell: Chapter 11: Javascript (read 177-211; 212-262 for reference)  
Packet: jsIntro1a.html, jsIntro1b.html  
jsError1.html, jsError2.html, jsError3.html, jsError4.html |
| Fri  | 09/03 | Assignment #3: Frames page due (11:00pm)  
Online Quiz #3 due (11:00pm) |
<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon</td>
<td>09/06</td>
<td>University holiday</td>
</tr>
<tr>
<td>Fri</td>
<td>09/10</td>
<td><strong>Assignment #4: Dynamic Buttons due (11:00pm)</strong></td>
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<td><strong>Online Quiz #4 due (11:00pm)</strong></td>
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<tr>
<td>Fri</td>
<td>09/17</td>
<td><strong>Assignment #5: Data validator due (11:00pm)</strong></td>
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<td></td>
<td></td>
<td><strong>Online Quiz #5 due (11:00pm)</strong></td>
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<tr>
<td>Mon</td>
<td>09/20</td>
<td>Working with Windows and Frames. Creating Smart Forms. Packet: jsForm2.html</td>
</tr>
<tr>
<td>Wed</td>
<td>09/22</td>
<td>Working with Forms. Formatting output. Packet: jsForm3.html, jsForm3a.html, jsForm3b.html, jsFormatter.html, NumberFormat.js</td>
</tr>
<tr>
<td>Fri</td>
<td>09/24</td>
<td><strong>Assignment #6: Loan Calculator due (11:00pm)</strong></td>
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<tr>
<td></td>
<td></td>
<td><strong>Online Quiz #6 due (11:00pm)</strong></td>
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<tr>
<td>Mon</td>
<td>09/27</td>
<td>Exam #1 (Written/Programming Exam) in McCool 233 (3:30-5:50pm)</td>
</tr>
<tr>
<td>Wed</td>
<td>09/29</td>
<td>Working with images Packet: lightsOn.html</td>
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<tr>
<td></td>
<td></td>
<td>redGreenBlue.html</td>
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<tr>
<td>Fri</td>
<td>10/01</td>
<td><strong>Assignment #7: Dynamic Images (11:00pm)</strong></td>
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<td></td>
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<td><strong>Online Quiz #7 due (11:00pm)</strong></td>
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</tbody>
</table>
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<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Assignment</th>
</tr>
</thead>
</table>
| Mon   | 10/04  | Working with images  
|       |        | Packet: lightsTableStatic.html, uniqueNumbers1.html, uniqueNumbers2.html |
| Wed   | 10/06  | Working with images |
| Fri   | 10/08  | Assignment #8: Sliders Game, part 1 due (11:00pm)  
|       |        | Online Quiz #8 due (11:00pm) |
| Mon   | 10/11  | Fall break |
| Tue   | 10/12  | Fall break |
| Wed   | 10/13  | Multi-threaded programming  
|       |        | Packet: showTime.html |
| Fri   | 10/15  | Assignment #9: Sliders Game, part 2 due (11:00pm)  
|       |        | Online Quiz #9 due (11:00pm) |
| Wed   | 10/18  | Cookies and State Maintenance  
|       |        | Packet: jsCookie.html, jsCookie-a.html, jsCookie-b.html, jsCookie-c.html  
|       |        | jsCookie2.html, jsCookie2-a.html |
| Wed   | 10/20  | Exam #1 (Written/Programming Exam) in McCool 233 (3:30-5:50pm) |
| Fri   | 10/22  | Assignment #10: Sliders Game, part 3 due (11:00pm)  
|       |        | Online Quiz #10 due (11:00pm) |
| Mon   | 10/25  | Beginning PHP programming  
| Wed   | 10/27  | PHP programming.  
|       |        | Packet: randomImage.php |
| Fri   | 10/29  | Assignment #11: State Data due (11:00pm)  
|       |        | Online Quiz #11 due (11:00pm) |
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<table>
<thead>
<tr>
<th>Day</th>
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</table>
| Mon | 11/01 | PHP programming  
Packet: form1.html, form1.php |
| Wed | 11/03 | PHP programming.  
Packet: form2.html, form2.php |
| Fri | 11/05 | Assignment #12: Data Entry due (11:00pm)  
Online Quiz #12 due (11:00pm) |
| Mon | 11/08 | PHP database programming.  
Packet: dbTrivia1.php, dbTrivia2.html, dbTrivia2.php |
| Wed | 11/10 | PHP programming. Session tracking.  
Packet: dbCoursesLoad.php, selectCourses.php, showCourses.php |
| Fri | 11/12 | Assignment #13: Web-based Trivia due (11:00pm)  
Online Quiz #13 due (11:00pm) |
| Mon | 11/15 | Course review/buffer |
| Wed | 11/17 | Course review/buffer |
| Fri | 11/19 | Assignment #14: Database Trivia due (11:00pm)  
Online Quiz #14 due (11:00pm) |
| Mon | 11/22 | Course review/buffer |
| Wed | 11/24 | University holiday |
| Mon | 11/29 | Course review/buffer |
| Wed | 12/01 | Exam #3 (Written Exam) in McCool 233 (3:30-4:45pm) |
| Tue | 12/07 | Exam #4 (Programming Exam) in McCool 218 (3:00-6:00pm) |