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Syllabus for MA114-004, 005, 006 Fall 2007

MA114 is second semester calculus. Here is summary contact information as well as times and locations of class meetings and the like.

<table>
<thead>
<tr>
<th>MA 114 Sections 4, 5, 6</th>
<th>Lecture</th>
<th>Recitation 004</th>
<th>Recitation 005</th>
<th>Recitation 006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructor</td>
<td>Ken Kubota</td>
<td>Weifeng Zhi</td>
<td>Weifeng Zhi</td>
<td>Fernando Camacho</td>
</tr>
<tr>
<td>Office</td>
<td>955 P.O.T.</td>
<td>902 P.O.T.</td>
<td>902 P.O.T.</td>
<td>702 P.O.T.</td>
</tr>
<tr>
<td>Phone</td>
<td>257-3641</td>
<td>257-7216</td>
<td>257-7216</td>
<td>257-6804</td>
</tr>
<tr>
<td>E-Mail</td>
<td><a href="mailto:keni@ms.uky.edu">keni@ms.uky.edu</a></td>
<td><a href="mailto:wzhi@ms.uky.edu">wzhi@ms.uky.edu</a></td>
<td><a href="mailto:wzhi@ms.uky.edu">wzhi@ms.uky.edu</a></td>
<td><a href="mailto:camacho@ms.uky.edu">camacho@ms.uky.edu</a></td>
</tr>
<tr>
<td>Office Hours</td>
<td>M12-1</td>
<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
</tr>
<tr>
<td>Mathskeller Hours</td>
<td>WF10-11:30</td>
<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
</tr>
<tr>
<td>Class</td>
<td>MWF 9 CB238</td>
<td>TR 12:30 FB 213</td>
<td>TR 2 CB345</td>
<td>TR 9:30 FB 213</td>
</tr>
</tbody>
</table>

In addition to normal Office Hours and Mathskeller Hours, you can also make appointments to see any of the instructors -- just see them before or after class or send e-mail. Also, if you feel that a group problem session is preferable, just ask that it be organized.

The exam schedule:

<table>
<thead>
<tr>
<th>Exam</th>
<th>Date</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam 1</td>
<td>Tues Sept 18, 2007</td>
<td>7:30-9:30 P.M.</td>
<td>TBA</td>
</tr>
<tr>
<td>Exam 2</td>
<td>Tues Oct 16, 2007</td>
<td>7:30-9:30 P.M.</td>
<td>TBA</td>
</tr>
<tr>
<td>Exam 3</td>
<td>Tues Nov 13, 2007</td>
<td>7:30-9:30 P.M.</td>
<td>TBA</td>
</tr>
<tr>
<td>Final Exam</td>
<td>Fri Dec 14, 2007</td>
<td>8:00-10:00 A.M.</td>
<td>CB238</td>
</tr>
</tbody>
</table>

Generals: MA 114 (Calculus II) is a second course in calculus. Its prerequisites are MA 113 (Calculus I) and MA 112 (trigonometry) with a grade of `C' or better. A high school trigonometry course with a grade of `C' or better will generally provide adequate preparation in trigonometry.

Credit: MA114 earns four credit hours. In addition, pass/fail credit of one hour can be be received by enrolling concurrently in MA 194. All students are required to attend all lecture and recitation sessions of MA 114 regardless of whether or not they are concurrently enrolled in MA 194.

Instructors and Class Meetings: All sections have a common lecturer in addition to a recitation instructor. Lectures are MWF 9:00-9:50 in CB 236. Recitations are TR at different times and places for different sections as shown in the table above. Each recitation session is 75 minutes in length. Attendance at all lectures and all recitation sessions for a section is required.

Textbook: The textbook is Calculus by James Stewart, fifth edition, Thomson Brooks/Cole 2003. The fourth edition textbook is substantially (over 90%) identical to the fifth edition and probably can be obtained at a substantially reduced cost.

Homework: This course uses a web based homework system called WHS. Students use the system to obtain homework assignments as well submit them for grading and, in general, to aid in communicating with their instructors as well as for tracking their progress in the class. There are typically five to seven assignments in preparation for each examination. Each student has a personal version of each assignment which must be completed before the assignment deadline. There are typically two recitation sessions and a lecture on the material before the final assignment deadline. The system records the number of problems which are submitted with a correct answer. If you submit an incorrect answer, you are allowed to submit again (as many times as needed) until you have the answer correct. There is no penalty for submitting an incorrect answer. Students are permitted and, in fact, encouraged to work together on the homework problems. Submissions of versions other than the student's personal version as well as submissions after the deadline (midnight of the due date) receive no credit.

Examinations: There will be three mid-term examinations and one final exam. The examinations will be scheduled as shown in the table above; they will be the same examinations for all three sections. Each of the examinations will be focused primarily on the material from the lectures, recitation, and homework for that exam. However, students are responsible for all material covered up to that exam, including material from previous exam periods. The final will be over all the material of the class.

Exams are paper tests and will be hand-graded by the instructors whose primary concern will be an evaluation of the understanding of the material communicated by the student's work. Students are both permitted and expected to use calculators on the examinations for routine arithmetic and built-in function evaluation. Sophisticated features may be used for such things as gaining intuition about a problem or cross-checking answers. However, 'answers' simply taken as output from calculator routines will generally not receive any credit.

Course Topics: The following are the general topics planned for the individual examinations. These are subject to change, depending on the progress of the course.

Exam 1: The basic calculus of the exponential, logarithmic, and trigonometric functions and their inverses, indeterminate forms, L'Hopital's rule, integration by parts, and trigonometric integrals. This material is discussed in Chapter 7, the first part of Chapter 8, and the section on exponential growth and decay in Chapter 10 as well as in Appendix F.

Exam 2: Formal integration, trigonometric integrals, trigonometric substitutions, partial fractions, approximate integration, improper integrals, sequences, series, conditional and absolute convergence, tests for convergence of sequences and series. This material is discussed in Chapters 8 and 12 of the textbook.

Exam 3: Power series, tests for convergence of series, Taylor's formula, Taylor series and polynomials, parametric equations and the calculus of parametrically defined curves. This material is covered in Chapters 11 and 12 and Appendix F of the text.

Final Exam: The final examination will be over all the material of the course. New material will include calculus in polar coordinates, which is discussed in Chapter 11 of the text.

Grades: There are a total of 500 points to be earned in the course. The grading scale is:
A At least 90% or at least 450 points
B At least 80% or at least 400 points
C At least 70% or at least 350 points
D At least 60% or at least 300 points
E Below 60% or below 300 points

These points can be earned through the following activities:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
<th>Percentage of Course Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exams and Final</td>
<td>385</td>
<td>77%</td>
</tr>
<tr>
<td>Online homework</td>
<td>40</td>
<td>8%</td>
</tr>
<tr>
<td>Attendance and participation</td>
<td>25</td>
<td>5%</td>
</tr>
<tr>
<td>Recitation</td>
<td>50</td>
<td>10%</td>
</tr>
<tr>
<td>Total</td>
<td>500</td>
<td>100%</td>
</tr>
</tbody>
</table>

Exams and Homework: Each exam counts 100 points including 90 points for the exam itself and 10 points for the on-line homework. The exam part of the grade is curved by adding a non-negative integer adjustment so as to make the overall mean score on the exam no smaller than 75%. The homework points are the portion of the homework problems that were answered correctly times 10, rounded to the nearest integer.

The calculation for the final exam is similar to that of the other exams except that there are 115 points for the final and 10 points for the homework, giving a total point count of 125.

Attendance and Participation: Attendance will be taken at each lecture and students will complete a weekly online course log in which they will report their status in the course and how they are spending the time they invest in the course. The survey must be completed each week between Thursday and Sunday in order to count. It should normally take no more than 5 minutes per week to complete.

There are 15 attendance points. Each student is allowed two unexcused absences from lecture. Each unexcused absence beyond those two deducts two attendance points. There are 10 course log points. Each student is allowed to miss one log submission. Each missed submission beyond this first one causes a deduction of 3 course log points.

Recitation: Recitation points will be assigned by the recitation instructor. The assignment will be on the basis of attendance, participation, and in-class graded work which may be done both individually and in groups.

modified: Tuesday, August 21, 2007

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Logging in To MathClass

MathClass is the website you will use for your homework in this class. You can use it to retrieve and submit homework assignments, check on the status of your homework and exam records in the class, and contact your instructors.

Logging in for the first time In order to access your homework and records, you need to be logged in. Accounts are created for you, typically within a 24 hour day after you have been registered in the class; accounts are not created over the weekend.

Mathclass allows you to login using credentials (login name and password) from your campus active directory computer account as well as those for a password database used only in MathClass. Because of this added complexity, it is important that you follow the steps below in order to secure your account:

a. Go to one of the Student Computer Services (SCS) computers running Microsoft Windows (or to the Mathskeller, Room 65 in the basement of Whitehall Classroom Building). The SCS computers are in labs all over campus as well as in the dormitory complex and Young Library, but there are also other open computing labs on campus. Make sure you are at an SCS lab as MathClass requires special software which has been installed at all SCS Labs but not at other labs. (In general, MathClass can be made to work on most Microsoft Windows and Macintosh computers; but you are asked to do these steps at an SCS lab so as to make sure that you don't have to do the additional software setup before using the site.)

b. Start up a web browser, either Internet Explorer version 7 or Mozilla Firefox version 2.0 (later versions are ok too). (IE will not work on a Macintosh.) Enter the url http://www.mathclass.org/

After the page comes up, click on the link labeled Login to WHS

c. First you will login to your account authenticating with the local MathClass password database. To do so, enter the last 8 digits of your student Id number as the User Name and for the password, use us followed by the last 6 digits of your student Id number. You can find your student Id number on your student Id card; it is a 9 digit number of which the first digit is always a 9. Click on the Log In button to complete the login.

If the login did not work and it is more than 24 hours since you registered in the class (not counting weekends), on the login page, click on the link labeled 'Don't know which User Name or e-mail to use?' Then enter your last name -- if you don't see your account listed, it has not yet been created. Use the Help link to send a Help Request asking why your account has not been created; make sure you mention which class you are in and your full name and Id number.

d. Assuming that the login worked, a page the main MathClass web page will be displayed. At the top of the page will be a link labeled 'Maintain Your Account'. Click on it. On the page that comes up are several additional links:

i. You should change your local MathClass password because your student Id is not a secret number. To do this, click on the link labeled 'Change Password'. Enter the old password (which starts with us). Then type in the New Password. You need to do it twice and then click on Change Password. I recommend that you actually write down your new password down in a secure location as you will probably not be using it very often.

ii. The security question and answer are used by the automated password reset mechanism which you can invoke to have your password changed and e-mailed to you should you ever forget what it is. The default one asks for the last 6 digits of your student Id number. So, it probably should also be changed. To do this, go back to Maintain Your Account and click on the link labeled 'Change Security Question and Answer'. Enter your newly changed password, type in a new security question and answer. Good questions have answers which remain correct for a long time (at least for the entire semester) and can be looked by you in some manner but not by anyone else.

iii. The e-mail address associated with your account is your UK e-mail. If you wish to use another e-mail, then go back to Maintain Your Account, and click on the link labeled 'Change Registered E-mail Address'.

iv. As a last step, click on the link labeled 'Logout' at the top of the page. When the login screen appears, login again to make sure that your new password works.

Logging in after the first time To login you should bring up either Internet Explorer 7.0 or Firefox 2.0 on a Microsoft Windows computer or Firefox 2.0 on a Macintosh OS X computer. You can login using:

a. Using your campus active directory login credentials: For User Name, use ad\UserName where UserName is your active directory account name. You use your active directory password for the password.

b. Using the e-mail address of your MathClass account. For User Name, use your registered e-mail address. This was initially UserName@email.uky.edu where UserName is your campus active directory account name. But you may have changed it to something else using the link under Maintain Your Account. You must use the actual e-mail address that is associated with your account; other e-mail addresses including mail aliases will not work. For the password, you use your local MathClass password.

c. Using your sap identifier; this is the last 8 digits of your student Id number. For User Name, use the last 8 digits of your student Id number and your local MathClass password for the password.

Using other computers In order to use computers other than those in Mathskeller and Microsoft Windows computers in Student Computing Services labs, you should make sure that appropriate software is installed.

a. If the computer is in a public lab that is not an SCS lab, then you will not be able to install software. Look for the
Firefox browser. If they have Firefox 2.0 installed, it will probably work, but some mathematical equations may not be displayed right. If it is a Macintosh, then you cannot depend on the equations being correct -- there are likely to be minus signs that are dropped out! The workaround is to go to an SCS lab.

b. If the computer is one for which you have administrative control, e.g. your own computer, then you should be able to install software:

i. If it is a Microsoft Windows computer, and you wish to use Firefox. Check to see that the version is 2.0. Version 1.5 will work with a few glitches and earlier versions will probably not work at all as far as the display of mathematical expressions goes. To upgrade your browser, you can pick up a (free) copy at http://www.mozilla.com

The browser should pretty much work immediately. But depending on the homework assignment, you may need to install additional fonts -- the browser should warn you if this is the case. These fonts can be picked up (for free) at http://www.mozilla.org/projects/mathml/fonts/

ii. If it is a Microsoft Windows computer, and you wish to use Internet Explorer 7.0 (or version 6.0 will probably work), then you will need to install two plugins. You need to install the Design Science MathPlayer plug-in used to display equations -- you can pick up a (free) copy from http://www.dessci.com/. Click on the MathPlayer icon and look for download instructions. You also need to install the Adobe SVGViewer plug-in (used to display scalar vector graphics) which is available (for free) from http://www.adobe.com/svg/. If you do not install both plugins, expect that the homework assignment pages will not work.

iii. If the computer is a Macintosh using OS X, then Safari and Internet Explorer will NOT work. You must use Firefox 2.0 which can be downloaded for free from http://www.mozilla.com. After it is installed, you should be able to login, but mathematical equations will not display correctly. The following workaround should be done: login to MathClass and in the yellow post it menu, select General (using the triangle to the left of the word General), and then select FAQ. In the answer to the first question is a link for downloading a set of fonts. Download these and put them in your personal fonts directory. (DO NOT use the fonts on the mozilla website as these will not work properly at all.) After the fonts are installed, restart the Firefox 2.0 browser. Mathematical expressions should display almost correctly. Occasionally you will see that some quantities are not displayed at the proper distance above the baseline, but there should be no dropouts of minus signs and it should be pretty much impossible to incorrectly interpret the equations -- i.e. the anomalies are just aesthetic.

Every year there are a number of students who have difficulty in setting up their personal computers properly. The best approach is to start off the semester using SCS labs, leaving the modification of the software on your computer until you have time for it. In particular, if your instructor will not be sympathetic if you are late in getting homework done because you have been messing with your computer.

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https://www.mathclass.org/mc/Postings.aspx

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