*MA 114 Calendar* *Fall 2009*

| Date | Section | Topic |
|---|---|---|
| | | **Sequences and Series** |
| W 8/26 | §11.1 | Sequences |
| F 8/28 | §11.1 | Sequences (continued) |
| M 8/31 | §11.2 | Series |
| W 9/2 | §11.2 | Series (continued) |
| F 9/4 | §11.4 | Comparison tests |
| M 9/7 | | Labor Day |
| W 9/9 | §11.5 | Alternating series |
| F 9/11 | §11.6 | Absolute convergence; Ratio and root tests |
| M 9/14 | §11.7 | Strategy for testing series |
| W 9/16 | §11.8 | Power series |
| F 9/18 | §11.9 | Representations of functions as power series |
| M 9/21 | | Review |
| **T 9/22** | | **Exam I** |
| | | **Taylor Series and Integration** |
| W 9/23 | §11.10 | Taylor and Maclaurin series |
| F 9/25 | §11.10 | Taylor and Maclaurin series (continued) |
| M 9/28 | §5.5 | The substitution rule |
| W 9/30 | §6.1 | Area between curves |
| F 10/2 | §6.2 | Volumes |
| M 10/5 | §6.3 | Volumes by cylindrical shells |
| W 10/7 | §6.4 | Work (optional) |
| F 10/9 | §7.1 | Integration by parts |
| M 10/12 | §7.2 | Trigonometric integrals |
| W10/14 | §7.3 | Trigonometric substitution |
| F 10/16 | §7.3 | Trigonometric substitution (continued) |
| M 10/19 | | Review |
| **T 10/20** | | **Exam II** |
| | | **Integration and Differential Equations** |
| W 10/21 | §3.11 | Hyperbolic functions |
| F 10/23 | §8.1 | Arc length |
| M 10/26 | §7.4 | Partial fractions |
| W 10/28 | §7.5 | Strategy for integration |
| F 10/30 | §7.7 | Numerical integration |
| M 11/2 | §7.7 | Numerical integration (continued) |
| W 11/4 | §7.8 | Improper integrals |
| F 11/6 | §11.3 | Integral test |
| | | ***Last day to withdraw*** |
| M 11/9 | §9.1 | Modeling with differential equations |
| W 11/11 | §9.2 | Direction fields and Euler's method |
| F 11/13 | §9.3 | Separable equations |

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| M 11/16 | | Review |
| **T 11/17** | | **Exam III** |
| | | **Applications, Parametric equations, Polar coordinates** |
| W 11/18 | §9.4 | Population growth |
| F 11/20 | §10.1 | Parametric equations |
| M 11/23 | §10.2 | Calculus with parametric curves |
| W-F | | Thanksgiving Break |
| M 11/30 | §10.2 | Calculus with parametric curves (continued) |
| W 12/2 | §10.3 | Polar coordinates |
| F 12/4 | §10.4 | Areas and lengths in polar coordinates |
| M 12/7 | §10.4 | Areas and lengths in polar coordinates (continued) |
| W 12/9 | | Review |
| F 12/11 | | Review |
| **F 12/14** | | **Final exam 10:30 a.m.-12:30 p.m.** *for §003-004* |

# Course Syllabus for MA 114 - Fall 2009

Calculus II 4 hrs. credit Prereq: $\geq$ C in MA 113 or MA 132, Trig.

**Lecture:** MWF 9:00–9:50 a.m. CB231
**Instructor:** Dr. Lawrence Harris 939 POT Office Hours: MWF 3–4

Recitation: Mr. John Mosley 722 POT Hours: Tues. Thurs. 11:00–12:00
section 003 Tues. Thurs. 2:00– 3:15 CB 345
section 004 Tues. Thurs. 9:30–10:45 FB 213

**Text:** *Calculus, Early Transcendentals*, Sixth Edition (Custom Edition for UK), James Stewart, ISBN: 0-495-56339-0

We will cover most of Chapters 6, 7, 9, 11. This includes infinite sequences and series, volumes and work, techniques of integration, and differential equations.

The course grade will be computed (with 90–100% A, 80–89% B, 70–79% C, 60–69% D, 0–59% E) on the basis of 500 points earned as follows:

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|---|---|
| 3 one hour exams | 100 points each |
| Recitation score | 100 points |
| 1 final exam | 100 points |

The hour exams will be given Tuesday evenings from 7:30–9:30 p.m. on September 22, October 20 and November 17 in BS 107 (Biological Sciences). The final exam is comprehensive and will be held on Monday, December 14, from 10:30 am -12:30 pm in our classroom. Students may use a graphing calculator on exams but may not use any machine with the ability to do symbolic computations such as the TI-89, TI-92, HP48 or a laptop. Cell phones must be turned off and put away out of sight during an examination. During regular class periods cell phones must be turned off and laptops may not be used.

A quiz will be given in Friday lecture except in exam weeks. Homework is due at the beginning of class on the date assigned. (See http://www.ms.uky.edu/~larry/ma114.html.) No late homework will be accepted unless there is a documented excuse. Quizzes will count for 50% of your recitation score and the remaining 50% will be determined by your score on the homeworks. At the end of the semester, your lowest quiz grade will be dropped.

MA 194 is an additional hour of pass-fail credit that a student in MA 114 can receive provided that the student's has at most 2 unexcused absences in recitation and passes MA 114. (MathExcel sections receive 2 credit hours.) It is important that students register in the same section of MA 194 that they are registered in for MA 114.

The Mathskeller is a mathematics resource center in room 65 of the basement of the Classroom Building. Tutorial help is available there for all 100-level mathematics courses. After this week, the hours are 9 a.m.–5 p.m. M–F.

*You are required to present FULL documentation that any makeups you request are required by University rules.*

# Format for submitted homework

1. On the upper left-hand corner of the first page
   (a) **print** your name,
   (b) write your section number,
   (c) give the date due.
2. Each problem solution should begin with the section number and the problem number. For example, §11.1-12. Solutions should be written out neatly and well organized.
3. Problem solutions must be given in the order assigned. If you want to defer a solution until later, you can leave a space for the solution to be filled in later or you can just start a new page and insert the solution when it is done.
4. Before you hand in your homework staple the pages together in the proper order.
5. On the date due, put your paper in the stack for your section on the front desk of the lecture hall.

Math 114 Calculus II

# Recommended additional homework problems

Chapter 3
§3.11 (1, 7, 8, 23, 24, 31, 32, 48)

Chapter 5 (Work on in recitation)
§5.5 (1, 51, 52, 53, 54, 55, 58, 61, 65, 75)

Chapter 6
§6.1 (7-15 odd, 19-25 odd, 27)
§6.2 (3, 5, 6, 7, 11, 12, 13, 15, 19, 23, 27, 31, 33, 35, 51, 53, 57, 59, 61, 65b)
§6.3 (3-9 odd, 13, 17, 19, 21, 23, 25, 31)
§6.4 (1, 5, 7, 11, 15, 21)

Chapter 7
§7.1 (3-17 odd, 21-29 odd, 33, 37, 44, 48)
§7.2 (3-11 odd, 15-31 odd, 35, 37, 41, 45, 49, 56, 67, 68)
§7.3 (3-31 odd)
§7.4 (1-41 odd, 47)
§7.5 (3, 5, 9-17 odd, 21-29 odd, 33, 37, 41, 43, 45, 51, 57, 67, 69, 73)
§7.7 (3, 5, 7, 15, 17, 19, 21, 29, 30)
§7.8 (5, 9-23 odd, 27, 31, 35, 49, 51, 53, 57, 59)

Chapter 8
§8.1 (3-17 odd, 31, 33)

Chapter 9
§9.1 (1, 3, 5, 9, 11, 14)
§9.2 (3, 5, 9, 11, 18, 19, 23, 24, 27, 28)
§9.3 (1, 3, 11, 17, 21, 34, 41, 43, 45)
§9.4 (1, 5, 7, 9, 13, 17)

Chapter 11
§11.1 (3, 5, 9, 13, 15, 17, 19, 29, 33, 36, 39, 55, 59, 61, 63)
§11.2 (3, 7, 9, 11, 13, 17, 23, 27, 31, 33, 35, 47, 59, 73a)
§11.3 (3, 7, 11, 13, 17, 19, 21, 25, 27, 31, 35)
§11.4 (3, 11, 13, 17, 21, 25, 27, 29, 33, 37)
§11.5 (3, 5, 7, 9, 11, 13, 17, 19, 23, 25, 27, 32)
§11.6 (1, 3, 5, 7, 13, 15, 19, 21, 25, 29, 31, 33, 38)
§11.7 (1, 3, 5, 9, 15, 17, 19, 25, 31, 35, 37)
§11.8 (3, 7, 11, 15, 13, 17, 19, 27, 29)
§11.9 (3, 5, 7, 9, 13, 15, 17, 23, 27, 33, 35)
§11.10 (1, 5, 9, 13, 17, 25, 27, 29, 41, 43, 45, 55, 57, 63, 67)

Chapter 10
§10.1 (3, 5, 9, 12, 17, 21, 24, 25, 28, 37)
§10.2 (5, 11, 17, 19, 29, 31, 34, 41, 43, 48, 51)
§10.3 (1, 3, 5, 7, 11, 13, 17, 25, 31, 33, 35, 39, 56, 59)
§10.4 (1, 5, 7, 17, 21, 27, 31, 37, 41, 45, 47)