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BRAZOSPORT COLLEGE

MATH 2414 – CALCULUS II

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COURSE SYLABUS

Term: Spring 2011
Course #: 2414.51
Course Schedule: MW 17:15-18:55
Course Location: F-142

Instructor: Dr. Calin Agut,
Office: J-202, Department of Mathematics
E-mail: Calin.Agut@brazosport.edu
Phone: 230-3274
Office Hours: (TBA) _____

Final Exam (tentative): 5/09/11, 17:00-19:00
Withdraw last date: 04/01/11

Course Description/Overview

Calculus II is a second level course in higher mathematics, with a lot of application in other science fields and real life. It will include, but not limited to, definite integrals, improper integrals, approximations and series. The main mathematical concepts used here are functions, series and equations. The student will be able to extend the application horizon started in Calculus I.

Credits: 4.

Textbook

The course textbook is *Thomas' Calculus*, 11th Edition by George B. Thomas, Jr. The students are required to have the textbook and use it during the class meetings.

Calculator/Graphing utilities:

A Graphing Calculator, TI-83 or better is suggested to be used. The utility will be used most of the time in class and also for homework. It is the student's responsibility to have basic knowledge about using his/her own calculator. The work performed by calculator will not substitute the steps required for any assignment.

Prerequisites:

MATH 2413 (Calculus I) and strong College-level math skills. These include, but are not limited to: operations with numbers, set theory, functions, equations, graphs, logic, geometry, limits, asymptotes, continuity, differentiation, convergence.

Format

The course is designed as a regular course.

In the lecture/teaching classes the student will perform regular activities, asked by the instructor. The corresponding lesson/work will be taught at this time.

The homework and/or projects will be performed outside of class.

Assessments:

During the Semester there will be several unannounced quizzes, projects, challenge exercises, Tests and one Final Exam.

Any written open-answer assessment must contain all the steps performed in order to get the solution and must be presented in a mathematical methodical manner.

Grading Policy/Evaluation:

The grades will be counted in the following way:

| | |
|-------------|-----|
| Quizzes | 25% |
| Project(s) | 15% |
| Test(s) | 30% |
| Final Exam: | 30% |

Final Exam

The Final Exam is mandatory and comprehensive. Any possible change will be announced in class and is the student's responsibility to be informed. Missing the Exam might be reflected as failure of the course.

No make-up is allowed for the Final, under any circumstances.

Homework:

The instructor will regularly assign homework (see attach). Even the homework will NOT be collected, it is the students' responsibility to practice on all of the assigned exercises. Most of the questions on any Quiz, Class Assignment or Exam will be chosen from the homework sets, or similar.

The students are expected to prepare the next class' lesson listed on the attached schedule.

Projects

Each student will have assigned a Project at the beginning of the semester. He/She will prepare and present the Project in class, based on the schedule (provided by the instructor). The Project is individual and must be elaborated on the

assigned topic. Must be presented on a written form (typed and printed) and sustained orally in class for no more than 10 minutes.

Please consult with your instructor for all the details or see attached.

Quizzes:

Several unannounced quizzes from the homework can be given at any time during the class. No make-up for quizzes is allowed, under any circumstances.

Test(s)

Several Tests will be administrated in the regular class. They might be on open-answer or multiply-choice format. If the tests will be open-answer tests and the students are required to show all the work performed on the tests' paper in a methodical manner. A poor mathematical presentation on the work may be reflected in a lower grade.

The dates for the Tests are stated on the Schedule (see attached), as tentative; the instructor will announce the exact date and time in the class, prior. For this reason, no make-up test is allowed, unless extraordinary circumstances. If so, the make-up must be completed within 3 days after the regular date for the test (in LAC).

Grading Scale:

Unless an announced in changes is made, the following scale will be applied for this course:

- A: 90-100;
- B: 80-89;
- C: 70-79.
- D: 60-69
- F: < 60.

Attendance:

The students are strongly encouraged to attend every lecture class. Each class meeting is considering as an entity. After 4 absences the instructor will consider "excessive absences" and may fail the student.

To avoid unnecessary class disruptions, the students are expected to arrive on time and remain seated until the class is dismissed. If a student is coming late in or is leaving earlier the class, the instructor may consider it as an absence or an obstruction to the academic process.

During the time spent in the class, the student will follow the instructor's directives and will respect the School's student conduct (including academic honesty, see attached).

Dropping policy

No dropping will be initiated by the instructor at any time, unless extraordinary circumstances, official documented.

To be eligible for a reinstatement, the student must bring official documents and have an average of at least 70% in his/her class participation.

Time requirement:

Taking into account the volume of the information and the homework assigned, a minimum of 6 hours a week outside of class is required.

Students with disabilities:

Please address any request to the School Staff so that we can arrange for proper accommodation. It is my policy and priority to allow equal opportunity for every student.

Miscellaneous

No electronic recording device is allowed in the class. The students may only take written notes from the class.

No cell phones are allowed to be used during the class, quizzes, tests or exams. Please turn off any electronic device which may disturb the class activity.

No food is allowed to be brought into the class and be consumed, at any time.

No other electronic device, including laptop, palm, iPod is allowed to be brought and used in class, at any time.

If the student does not comply with those requirements, an academic action may be immediately taken by the instructor (mark absent for the entire meeting, grade of 0 for the assignment, invite to leave the class, etc).

IMPORTANT:

Any further information will be presented in class by the instructor and is the student's responsibility to be informed.

Information may be provided via email (the one you use for coursecompass.com) and is recommended to be checked often, at least twice per week.

It is at the instructor's discretion to provide a Diagnostic Test at any time during the semester; this one will not be graded.

Course Outcomes:

Upon completion of the course, the student will be able to:

1. Use the definite integral to find the area between two given curves.
2. Use the definite integral to find the volume of a solid of revolution.
3. Use the definite integral to find the center of mass of a plane region of uniform density.
4. Find the derivative of a function that is a composition of functions containing the natural logarithm function.
5. Find the derivative of a function that is a composition of functions containing the exponential function.
6. For a given equation, use logarithmic differentiation to find $\frac{dy}{dx}$.
7. Find integrals of functions containing the natural logarithm.
8. Find integrals of functions containing the exponential function.
9. Find integrals requiring a simple substitution.
10. Find integrals requiring integration by parts.
11. Find integrals requiring trigonometric substitutions.
12. Approximate definite integrals using an approved calculator.
13. Decide if a given improper integral converges or diverges.
14. Decide if a given sequence converges and justify their conclusion.
15. Decide if a given infinite series converges and justify their conclusion.
16. Classify a series of constant terms as absolutely convergent, conditionally convergent, or divergent.

Academic Honesty:

Brazosport College assumes that students eligible to perform on the college level are familiar with the ordinary rules governing proper conduct including academic honesty. The principle of academic honesty is that all work presented by you is yours alone. Academic dishonesty including, but not limited to, cheating, plagiarism, and collusion shall be treated appropriately. Please refer to the BC Student Guide for more information, this is available online at <http://www.brazosport.edu>, click on the link found on the left side of the homepage.

Students with disabilities:

Brazosport College is committed to providing equal education opportunities to every student. Brazosport College offers services for individuals with special needs and capabilities including counseling, tutoring, equipment, and software to assist students with special needs. Please contact Phil Robertson, Special Populations Counselor, 979-230-3236 for further information.

Other student Services Information:

Your course on WebCT: <http://webster.brazosport.edu>

Information about study skills and tutoring for math, reading, writing, biology, chemistry and other subjects is available in the Learning Assistance Center (LAC), see www.brazosport.edu/~lac or call 979-230-3253.

The Student Services provides assistance in the following:

| | |
|-------------------------|--------------|
| Counseling and Advising | 979-230-3040 |
| Financial Aid | 979-230-3294 |
| Student Activities | 979-230-3355 |

To reach the Information Technology Department for computer, email, or other technical assistance call the Help Desk at 979-230-3266.

Calculus II

MATH 2414

LESSONS/HOMEWORK SUMMARY

| Lesson | Homework | Schedule (Tentative) |
|-------------------|---------------------------------------|--------------------------------|
| Review | | |
| 5.6 | 1-70 ($6n+1$) | Week 1-15 |
| 6.1 | 1-47 ($4n+1$) | Week 1-15 |
| 6.2 | 1-24 (odd) | Week 1-15 |
| 6.3 | 1-24 (odd) | Week 1-15 |
| 6.4 | 1-36 ($4n+1$) | Week 1-15 |
| 6.5 | 1-20 (odd) | Week 1-15 |
| 7.1 | 1-44 ($4n+1$) | Week 1-15 |
| 7.2 | 1-65 ($6n+1$) | Week 1-15 |
| 7.3 | 1-66 ($6n+1$) | Week 1-15 |
| 7.4 | 1-74 ($6n+1$) | Week 1-15 |
| 7.5 | 1-14 (all) | Week 1-15 |
| Review | Will be provided | Week 1-15 |
| Test 1 | Will be open answer Test | 3/7/2011 |
| 8.1 | 1-75 ($6n+1$) | Week 1-15 |
| 8.2 | 1-30 (odd) | Week 1-15 |
| 8.3 | 1-44 ($4n+1$) | Week 1-15 |
| 8.4 | 1-38 ($4n+1$) | Week 1-15 |
| 8.5 | 1-40 ($4n+1$) | Week 1-15 |
| 8.8 | 1-64 ($6n+1$) | Week 1-15 |
| 11.1 | 1-70 ($6n+1$) | Week 1-15 |
| 11.2 | 1-55 ($6n+1$) | Week 1-15 |
| 11.3 | 1-28 (odd) | Week 1-15 |
| 11.4 | 1-36 ($4n+1$) | Week 1-15 |
| 11.5 | 1-44 ($4n+1$) | Week 1-15 |
| 11.6 | 1-42 ($4n+1$) | Week 1-15 |
| Review | Will be provided | Week 1-15 |
| Test 2 | Will be open answer Test | 5/2/2011 |
| Review | Will be provided | |
| Final Exam | May be open-answer or multiple-choice | Mon, 05/09, 5:00 - 7:00 |

Note: start with $n=0$

For $4n+1$: 1,5,9,13,17,21,25,29,33,37,41,45,49,53,...

For $6n+1$: 1,7,13,19,25,31,37,43,49,55,61,67,73,...

The Schedule for the Tests and Final Exam is just a tentative.

The instructor may operate changes at any time.