Math 123: Syllabus and Review of Integration

Ryan Blair

CSU Long Beach

Tuesday January 19, 2016

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Syllabus and Review of Integration

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1 Syllabus Highlights





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Syllabus Highlights

Course Webpage: http://www.csulb.edu/~rblair/Math123S16/index.html

Here you will find

- Lecture slides
- Ourse Calendar
- A link to WebAssign
- Instructions for accessing WebAssign
- A copy of the syllabus
- A link to Beachboard (where your quiz, homework and test scores are posted)
- Other useful links

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Required Text: Stewart, Essential Calculus: Early Transcendentals, Second Edition + **Supplemental Materials** (These are available in a bundle from the book store or for free online).

Required Homework Platform: A subscription to WebAssign. **Homework for today:** Log in to WebAssign!!!!

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Redesigned Calc. Sequence

Big Changes

- Ocordinated homeworks, exams and content.
- Ø More emphasis an test preparation.
- Mandatory supplemental instruction for students that are not exempt (However, all students are welcome).
- Ollaborative work in Activity Sections.
- Goal: Get more students to pass Math 123!!!

Grading

- 20% Homework, Benchmarks and Quizzes
- I0% Maintenance and Improvement
- I 15% Midterm 1
- 15% Midterm 2
- I5% Midterm 3
- 25% Final

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Homework

- Online on WebAssign (http://www.webassign.net/)
- Class key is csulb 3921 6411.
- Solution Access Code is sold with the text book package from the library.

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There will be both announced and unannounced quizzes in lecture and in activity section.

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Mark your calendars

- Midterm 1: February 18
- Midterm 2: March 17
- Midterm 3: April 21
- Final: May 12

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Classroom Decorum:

- No Talking
- No Texting
- Cellphone Ringers Off
- Laptops and cell phones only used for class activities.

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Adding the Course

Speak to me about adding the class after class.

Space is limited.



Grades will be computed by the following absolute scale:

- A 85 100%
- ❷ B 75 − 85%
- S C 65 − 75%
- D 55 65%
- S F 0 − 55%

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- Accommodations because of a disability
- Withdraw
- Academic Integrity

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Theorem

(Fundamental Theorem of Calculus, Part 2) If f is continuous on [a, b], then

$$\int_{a}^{b} f(x) dx = F(b) - F(a)$$

Where F is any antiderivative of f.

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$$\int_0^1 x^2 + 1 dx$$
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U-Substitution for definite integrals

Theorem

If u = g(x) is a differentiable function and f is continuous, then

$$\int_a^b f(g(x))g'(x)dx = \int_{g(a)}^{g(b)} f(u)du$$

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Examples: Evaluate $\int_0^1 x e^{x^2} dx$. **Examples:** Evaluate $\int tan(x) dx$.

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Example: Derive the above formula from the product rule for derivatives and the fundamental theorem of calculus.

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Example: Find $\int xe^x dx$.

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Example: Find $\int xe^x dx$. **Example:** Find $\int x^2 sin(x) dx$. **Example:** Find $\int cos(x)e^x dx$. **Example:** Find $\int ln(x) dx$.