

Closing Thu: TN 5

**Final** Sat, June 2<sup>nd</sup>, 5:00-7:50pm,  
KANE 130

**Seating** CA, CB (Collin) – Balcony  
All others – Main Floor

*Entry Task (I'll give you 10-15 min)*

Get out computer/phone, do eval:

**126B Course Eval (9:30 Lecture)**

[uw.iasystem.org/survey/192076](http://uw.iasystem.org/survey/192076)

**126C Course Eval (10:30 Lecture)**

[uw.iasystem.org/survey/192079](http://uw.iasystem.org/survey/192079)

### **Evaluation Notes**

- This eval. is for me (your TA has a different one).
- I will not see the results until next quarter (I never see your name)
- Comments only go to me.

*Course best described as...:*

“In your major” means you’re a math major. For the vast majority of you, this course is a “core/distribution requirement”.

*If you finish the eval, try this:* Give a Taylor series answer for

$$\int_0^1 e^{-t^2} dt$$

Example (*from HW*)

Write down the Taylor series for  $\sin(t)$  based at 0. Then use it to give the Taylor series for

$$A(x) = \int_0^x \frac{\sin(t)}{t} dt$$

Math 126 Final

Saturday, June 2

5:00-7:50pm in Kane 130

CA/CB (Collin) in balcony

All other section on main floor.

1. Bring some form of photo ID.

We will check ID's.

2. Final grades will be posted by Friday of next week.

3. Allowed:

(a) One 8.5 by 11 inch sheet of handwritten notes (front and back)

(b) Ti-30x IIS calculator (this model only)

4. ***Coverage***

Eight pages of questions.

Exam is comprehensive (covers everything).

Quick Review:

Ch. 12: 3D Basics (vector facts,  
lines, planes, basic surfaces, ...)

Ch 13: 3D Curves

(accel/vel/position, tangent  
vector, unit tangent, tangent line,  
normal vector, curvature, ...)

Ch 14/15: 3D Surfaces (traces,  
partial deriv, max/min, double  
integrals, ...)

TN: Taylor Polynomials and Series

(use deriv. to find Taylor Poly.,  
error bounds, Taylor series  
patterns, ...)

*A Recent Final Question on  
Taylor Polynomials and Series*

**Winter 2018 / Problem 7**

Let  $f(x) = x^2 \sin(x^3) + \frac{1}{8-x^3}$ .

- (a) Find the 6<sup>th</sup> Taylor polynomial based at 0.
- (b) Give the open interval of convergence of the Taylor series for  $f(x)$  based at 0.

## Winter 2018 / Problem 8

Let  $g(x) = \sqrt{3 + x^2}$ .

- (a) Find the 1<sup>st</sup> Taylor polynomial based at 1.
- (b) Give a bound on the error over the interval  $[0.5, 1.5]$ .