

MATH 2120-09: Calculus II

Spring 2020

Instructor: Tony Shaheen

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Office Hours: to be announced in class.

Course Website: Follow the link from <http://www.calstatela.edu/research/ashahee/>

Lectures: MTWR, 12pm—12:50pm, in BIOS 334.

Corresponding workshop: Math 2121-09, MW, 1:00pm—1:50pm, in BIOS 334.

Textbook: Calculus: Early Transcendental 2nd ed. Briggs, Cochran, Gillett.

1. ebook and MyMathLab: ISBN 978-0-321-19991-1 available at www.mymathlab.com

Other Options:

2. Hard copy with MyMathLab: ISBN 978-0-321-96516-5

3. Hard copy only: ISBN 978-0-321-94734-5

General course description: Prerequisites: MATH 2110 with a minimum C grade; students with a grade of less than B- in MATH 2110 must enroll concurrently in MATH 2121. Integration of transcendental functions, methods of integration, limits of sequences and series, power series, Taylor series, three-dimensional analytic geometry.

Student Learning Outcomes: Students who successfully complete Math 2120 will be able to:

1. Compute definite, indefinite, and improper integrals using the various techniques of integration.
2. Sketch curves described by parametric equations or polar coordinates and use calculus to study these curves.
3. Compute the limit of a convergent sequence algebraically.
4. Determine whether or not a sequence converges.
5. Apply the limit rules for sequences to find the limit of a sequence.
6. Compute the sum of a geometric series or a telescoping series.
7. Use tests (integral, comparison, limit comparison, alternating series, ratio, and root) to determine whether a series converges.
8. Determine whether a series is absolutely convergent.
9. Compute the radius of convergence and interval of convergence of a power series.
10. Represent functions by their Maclaurin and Taylor series and determine the interval of convergence.
11. Multiply, divide, integrate, and differentiate power series.
12. Perform operations on vectors (scalar multiplication, length of a vector, unit vectors, dot product, cross product, angle between two vectors, project one vector onto another).
13. Use the parametric equation of a line to solve problems.
14. Sketch the graphs of vector functions; differentiate and integrate vector functions; find the tangent vector to a vector function.
15. Find the arc length and curvature of a curve.

Homework: Homework will be assigned, but not collected. The homework problems will be posted on the course website.

Exams: There are three tests and a cumulative final. All exams are in the regular classroom. The tentative dates and times of the exams are below. The final exam time/day is scheduled by the school and it may change. We will know by March 9th if the final time changes.

Test 1: **Wednesday, March 4.**

Test 2: **Wednesday, March 25.**

Test 3: **Wednesday, April 22.**

Tentative final exam date: Tuesday, May 12, 12:00—2:00pm.

Grading: The lowest of your three test grades will be dropped. The remaining two tests will each be worth 1/3 of your grade. The cumulative final exam is worth 1/3 of your grade.

ADA statement: Reasonable accommodation will be provided to any student who is registered with the Office of Students with Disabilities and requests needed accommodation. Please let me know in the first week of class if you will be taking tests at the OSD office.

Academic honesty statement: Students are expected to do their own work. Copying the work of others, cheating on exams, and similar violations will be reported to the University Discipline Officer, who has the authority to take disciplinary actions against students who violate the standards of academic honesty.

Student responsibilities: Students are responsible for being aware of all announcements that are made in class, such as changes in exam dates, due dates of homework and papers, and cancellation of class due to instructor's absence. Students are responsible for announcements made on days that they are absent.

Students must check their CSULA email account regularly for information from the instructor and the Department. Failure to do so may result in missed deadlines or other consequences that might adversely affect students. Note that you can forward this email account to any other account of your choosing.