MATH 2110 – FINAL EXAM REVIEW

Date: Monday, May 3
Time: 8:00 – 10:00 a.m.

Topics:

1. Determine the center and radius of a sphere
2. Application of vectors
3. Vector operations – dot product, cross product and the properties associated with each (i.e., finding the angle between two vectors, area of a parallelogram, etc.)
4. Determine if a pair of lines are parallel, intersecting, or skew
5. Find the equation of a plane
6. Tangent line to a space curve
7. Modeling projectile motion using a vector function
8. Find and sketch the domain of a function of two variables
9. Equation of the tangent plane and its use as a linear approximation for a function of two variables
10. Chain Rule
11. Directional derivative and the gradient vector
12. Find the maximum and minimum values and saddle points for a surface using the Second Partials Test
13. Use Lagrange multipliers to optimize a function subject to a constraint
14. Evaluate a double integral over a bounded region in the xy-plane – may need to reverse the order of integration
15. Evaluate a double integral by converting to polar coordinates
16. Find the mass of a lamina
17. Triple integrals, including spherical and cylindrical coordinate conversions
18. Transformations of Double Integrals