3D Coordinates – Distance formula – Spheres p.797 #8,13,16


Dot Product – Angle between vectors – Orthogonal vectors – Projection of one vector onto another p.812 #18,22,29,38,47,48, 52

Cross Product – Right hand rule – Area of a parallelogram – Scalar triple product p.820 #15,24,28,30,35

Lines and Planes in 3 Space – Parametric equations – Normal vector – Distance from a point to a plane p.829 #7,10,22,28,31,34,41,52,65

Parametric Curves p.656 #8,12,33

Tangents and Areas p.666 #5,13,17,29,32,36

Arc Length and Surface Area p.666 #37,48,57,66

Vector functions – Curves in 3D – Intersection of surfaces p.855 #12,26,34

Calculus of vector functions – Tangent vector and line – Unit tangent vector – Integrals p.861 #8,12,17,26,37

Arc length – Parametrizing with respect to arc length – Unit normal vector and binormal vector – Curvature – Normal plane – Osculating plane p.868 #3,9,13,17,25,39,42

Motion in 3D – Velocity, speed and acceleration – Projectiles – Tangent and normal components of acceleration p.878 #7,14,25,35

Also review: class notes, book examples, homework problems.