Know the following. If you don’t know it, relearn it (you’ve done all this before).

- Vector manipulations in $\mathbb{R}^3$
  - Addition
  - Dot product and cross product
  - Multiplication by a scalar
  - (Simple) Geometric interpretation (a vector is a line segment, so $\mathbf{v}t$ is a line)

- Basic matrix operations (addition, multiplication, determinants)
  - Adding two matrices of size $n$ by $m$
  - Multiplying an $n$ by $m$ matrix with an $m$ by $p$ matrix
  - Determinant of an $n$ by $n$ (not just 2 by 2!) matrix

- Solving a system of $n$ equations with $n$ unknowns using the elimination method
- Writing a system of $n$ equations with $n$ unknowns as a matrix equation

Come to the first day of class with the following.

- A good math joke (“good” is also fine)
- An example (application) of a 5th-dimensional vector
- One formal mathematical proof of your choice, rewritten in your own style, *that you fully understand* (one from, e.g., calculus or precalculus is fine)
- The air speed velocity of an unladen swallow