Topics for Math 1060, Fall, 2002
Plane Trigonometry

- Angles (section 4.1)
  - measuring angles in degrees and radians; converting between the two
  - coterminal angles
  - reference angles (secretly hiding in section 4.4)
- the trigonometric functions
  - definitions in terms of a unit circle (section 4.2)
  - definitions in terms of right triangles (section 4.3)
  - using trigonometric functions to find sides of a right triangle (section 4.3)
  - which values can these functions assume? (section 4.2)
  - periodicity (section 4.2)
  - Pythagorean identities (section 4.2)
- graphs of sin and cos (section 4.5)
  - basic graphs
  - even vs. odd
  - the equation $\sin(\theta) = \cos(\theta - \pi/2)$
  - changing the amplitude, period, phase shift and displacement (these are, respectively, the vertical scaling, horizontal scaling, horizontal translation and vertical translation)
  - modeling real phenomena with sin and cos
- graphs of other trigonometric function (section 4.6)
  - basic graphs
  - changing the amplitude, period, phase shift and displacement
- inverse trigonometric functions (section 4.7)
  - basic definition
  - making a choice for arccos, arcsin, etc.
  - how your calculator lies to you
- using trigonometric identities to solve equations (section 5.1)
- creating new trigonometric identities from old (section 5.2)
- solving trigonometric identities (section 5.3)
  - using algebraic manipulation
  - using trigonometric identities
  - combining the two

- angle sums and differences (section 5.4)
  - using them to evaluate sin and cos of certain angles
  - using them to solve trigonometric equations
- double and half angle formulas (section 5.5)
  - using them to evaluate sin and cos of certain angles
  - using them to solve trigonometric equations
  - using them to simplify trigonometric identities
- the law of sines (section 6.1)
  - the law of sines
  - congruence of triangles
  - area of triangles
- the law of cosines (section 6.2)
  - the law of cosines
  - congruence of triangles revisited
  - area of triangles revisited