

SYLLABUS

MATH 11022 – Trigonometry

(3 Credit Hours)

Catalog Information: Solution of triangles, trigonometric equations and identities. Prerequisite: MATH 10774 or MATH 10775 or MATH 11010 with a minimum C (2.0) grade; or minimum 67 ALEKS® math placement assessment score.

Text: Trigonometry, 9th edition, Larson, Pearson. **Software:** Enhanced Webassign.

Introduction to Trigonometric Functions (7 days)

- Radian and degree measure, arc length
- Trigonometric functions: the unit circle
- Right triangle trigonometry
- Trigonometric functions of any angle
- Applications using right triangles

Graphs of the Trigonometric Functions (8 days)

- Graphs of the sine and cosine functions
- Transformations of graphs of the sine and cosine functions
- Graphs of the other trigonometric functions
- Transformations of the graphs of the other trigonometric functions

Trigonometric Identities (7 days)

- Fundamental identities
- Sum and difference identities for cosine, sine, and tangent
- Double-angle identities, half-angle identities
- Verifying trigonometric identities

Solving Trigonometric Equations (7 days)

- Inverse trigonometric functions
- Basic trigonometric equations
- Multiple-angle equations
- Trig equations of quadratic type

Applications of Trigonometry (8 days)

- The Law of Sines and The Law of Cosines
- Vectors and applications

Review and Exams (8 days) – 45 days total