

## COLLEGEWISE COURSE OUTLINE OF RECORD

MAT121 – Geometry-Trigonometry (Online), Summer 2005

**Course Title:** Geometry-Trigonometry

**Course No.:** MAT121

**Course Section No.:** 11I

**Prerequisites:** Successful completion of MAT 111 Intermediate Algebra or demonstrated competency through appropriate assessment

**Division:** General Education

**Program:** General Education

**Credit Hours:** 3

**Contact Hours:** Lecture: 3

**Date of Last Revision:** Spring, 2004

**Effective Date of This Revision:** Summer, 2005

**Catalog Description:** Includes polygons, similar figures, geometric solids, properties of circles, constructions, right triangles, angle measurements in radians and degrees, trigonometric functions and their application to right triangles, Pythagorean Theorem, laws of sine and cosine, graphing of trigonometric functions, trigonometric identities, vectors and polar coordinates. Introductory study of geometry and trigonometry

**Major Course Learning Objectives:** Upon successful completion of this course the student will be expected to:

1. Apply the Pythagorean Theorem
2. Find the angles of regular polygons
3. Apply properties of intersecting lines, transversals and angles
4. Use proportion as applied to similar figures
5. Identify the parts of a circle
6. Determine the area of circles, sectors and segments
7. Perform common constructions using a straightedge and compass
8. Use lateral area, surface area, and volume formulas of common figures to find same or unknown measures of parts
9. Define trigonometric functions
10. Convert between degree measure and radian measure

11. Use trigonometric tables and calculators to find sine, cosine and tangent of an angle and use the inverse functions to find an angle
12. Solve right triangles
13. Solve oblique triangles using the laws of sine and cosine
14. Graph the sine and cosine functions
15. Convert between rectangular and polar coordinates
16. Use trigonometric identities
17. Solve vector problems
18. Solve applications of technology requiring geometric and trigonometric knowledge
19. Use a scientific and/or graphing calculator proficiently as related to coursework
20. Use computer technology which may include the Internet, the Web, email, or computer tutorials to enhance the course objectives

**Course Content:** Topical areas of study include –

- Polygons
- Similar figures
- Geometric solids
- Circles
- Constructions
- Right and oblique triangles
- Radians and degrees
- Trigonometric functions
- Pythagorean Theorem
- Graphs of Sine and Cosine functions
- Trigonometric identities
- Vectors
- Polar coordinates

**Academic Honesty Statement:**

The College is committed to academic integrity in all its practices. The faculty value intellectual integrity and a high standard of academic conduct. Activities that violate academic integrity undermine the quality and diminish the value of educational achievement.

Cheating on papers, tests or other academic works is a violation of College rules. No student shall engage in behavior that, in the judgment of the instructor of the class, may be construed as cheating. This may include, but is not limited to, plagiarism or other forms of academic dishonesty such as the acquisition without permission of tests or other academic materials and/or distribution of these materials and other academic work. This includes students who aid and abet as well as those who attempt such behavior.

**ADA Statement:**

Ivy Tech State College Region 9 seeks to provide effective services and accommodations for qualified individuals with documented disabilities. If you need an accommodation because of a documented disability, please contact Desiree Polk Bland, Director of Student Support and Development, Office of Disability Support Services, Ivy Tech State College Region 9, 2325 Chester Boulevard, Richmond, IN, 765-966-2656 ext. 334, for Disability Support Services. If you will require assistance during an emergency evacuation, notify your instructor immediately. Look for evacuation procedures posted in your classrooms.

(For other issues such as facility closing, grants & loans, on-campus learning resources, etc., see “*Course Outline Addendum*” in Blackboard’s “**Course Information**”)

**Additional Course Learning Objectives:**

- 1) Be able to follow online instructions and weekly assignment schedule
- 2) Meet the deadlines of required coursework
- 3) Use e-mail effectively in communicating with instructor
- 4) Use Blackboard as an online learning platform

**Required Texts:**

- 1) *Geometry Supplement*, 2004, by Bittinger/Beecher, ISBN 0-321-22387-X
- 2) *Trigonometry*, 8<sup>th</sup> Edition, 2005, by Lial/Hornsby/Schneider, ISBN 0-321-22736-0

**Required Consumable Materials/Equipment:** None

**Instructor:** Charles Wang

**Instructor E-mail:** [chwang@ivytech.edu](mailto:chwang@ivytech.edu)

**Instructor Phone Number:** 302/893-1055

**Instructor Office Hours:** E-mail normally answered within 48 hours, leave voice message any time

**Method of Instructional Delivery:**

This online course uses Internet-based course management software Blackboard. The instructions and assignments are posted in online classroom via <https://elearning.ivytech.edu/>.

See documents from the office of information technology for computer hardware/software requirements for this Internet course.

Special notes on how this online course is organized, how to participate the class discussion forums, how the tests and the final exam are conducted, how to check grades in the online gradebook, effective learning methods, the use of e-mail, etc. are in “*Course procedures*” in Blackboard’s “**Course Information**”.

**Method of Evaluation:**

6 (class discussion forums) × 10 (points each) = 60 (points)

3 (tests) × 100 (points each) = 300 (points)

Final exam: 200 points

Total 60 + 300 + 200 = 560 (points)

The final course grade is from above class discussions, tests and final exam only.

No extra credit.

**Grading Scale:**

A: 90-100%; B: 80-89%; C: 70-79%; D: 60-69%; F: below 60%

**Make-up Policy:** you must submit all coursework by the due dates; no make test will be given without proof of emergency

**Attendance Policy:** you’re required to log in to the online course at least once a week. The Blackboard automatically keeps tracking every time you log in and your class attendances through login are reported to school on a regular basis. Weekly e-mail check-in is not required.

**Activities Schedule (Weekly Schedule Overview):**

<b>Week</b>	<b>Readings</b>	<b>Class discussion &amp; Tests/Exam</b>
Week 1 (5/23-5/29)	Course orientation; <i>Geometry Supplement</i> : 6.1-6.2	
Week 2 (5/30-6/5)	6.3-6.4	
Week 3 (6/6-6/12)	6.5-6.8	Class discussion #1 (Chapter 6); Test #1 ( <i>Geometry Supplement</i> )
Week 4 (6/13-6/19)	<i>Trigonometry</i> : 1.1-1.4	Class discussion #2 (Chapter 1)
Week 5 (6/20-6/26)	2.1-2.5	Class discussion #3 (Chapter 2)
Week 6 (6/27-7/3)	3.1-3.3	Class discussion #4 (Chapter 3); Test #2 ( <i>Trigonometry</i> Chapters 1-3)
Week 7 (7/4-7/10)	4.1-4.2	Class discussion #5 (Chapter 4)
Week 8 (7/11-7/17)	5.1-5.6	Class discussion #6 (Chapter 5)
Week 9 (7/18-7/24)	7.1-7.5, 8.1-8.2	Test #3 (Chapters 4-5, 7-8)
Week 10 (7/25-7/31)	Final exam week	

\* See “**Assignments**” in Blackboard for detailed weekly assignments-what chapters/sections and examples to read, what problems you need to work on, and how to participate the class discussions.

**Last Date of Drop Course without Grade:** Fri, 7/15 (Call 800/659-4562 or 765/966-2656 Student Services at the Richmond Campus for course drop questions)

**The Name and Location of the Disability Service Coordinator:**

Desiree Polk-Bland  
Ivy Tech State College  
2325 Chester Blvd.  
Richmond, IN 47374  
1-800/659-4562 or 1-765/966-2656

**Right of Revision Statement:**

**Disclaimer:** The course objectives and schedule are tentative, and subject to change.