LINC 53B: INTEGRATING TECHNOLOGY INTO MATHEMATICS GRADES 6-8

Foothill College Course Outline of Record

Heading	Value
Units:	0.5
Hours:	6 lecture per quarter (6 total per quarter) This course meets 1 time per quarter.
Advisory:	Basic computer skills and knowledge of Macintosh or Windows operating systems; familiarity using Web browsers, email, bookmarking, searching and downloading; fundamental understanding of content topics in LINC 53; not open to students with credit in LINC 263T.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

Student Learning Outcomes

- Identify and select appropriate technologies for use in the mathematics curriculum
- Identify academic content standards for mathematics in grades 6 - 8
- Design a technology rich mathematics lesson for classroom use

Description

This intermediate course for middle grades (6th - 8th) mathematics educators promotes and encourages the use of technology in mathematics instruction to support and enhance mathematics teaching and learning and increases the use of technology for visualization and multiple representations of math concepts. Other topics include the assessment of technology enhanced math projects, California Mathematics Content Standards, state-approved mathematics textbooks, ISTE Technology Standards, California Technology Standards, and the emerging Common Core Standards.

Course Objectives

The student will be able to:
A. Identify academic content standards for mathematics in grades 6-8
B. Identify and select appropriate technologies for use in the mathematics curriculum
C. Design a technology rich mathematics lesson for classroom use
D. Design assessment tools for lessons, assignments or projects
E. Integrate a standards based student-centered lesson that uses technology as a logical learning tool into the classroom

Course Content

A. Identify online academic contents standards for grades 6-8
1. Information on Standards Based Instruction
2. Information on the CA and National Mathematics Content Standards
3. Information on Technology Standards
4. Lesson, Unit Project Ideas and Samples
B. Identify technologies for use in a Mathematics Curriculum
1. Overview of the technology tools
2. Select appropriate tools for content or assessment
C. Designing a Technology Rich, Standards Based Lesson, Unit Project
1. Models of Project Based Learning (Seven elements and 6 'A's of Project Based Learning)
2. Integrating Technology into your Mathematics Curriculum
3. Multiple Intelligences
4. Higher Order Thinking skills
D. Design assessment tools for lessons, assignments or projects in mathematics
1. Mathematics Curriculum content
2. Non-technology assessment methods
3. Technology enhanced assessment methods
E. Implementation
1. Plan for integration
2. Integrate the designed lesson into the curriculum
3. Evaluate the outcomes of the lesson
4. Revise the lesson

Lab Content

Not applicable.

Special Facilities and/or Equipment

A. When offered on/off campus: Lecture room equipped with LCD projector, whiteboard, and a demonstration computer connected online. Computer laboratories equipped with online PCs and/or Macintosh computers, network server access, and printers.
B. When taught via the Internet: Students must have current email accounts and/or ongoing access to computers with email software, web browsing capability, and access to the World Wide Web.

Method(s) of Evaluation

The student will demonstrate proficiency by:
A. Developing an integrated student-centered, technology enhanced mathematics lesson plan or activity.
B. Presenting the project to peers for feedback.
C. Making constructive contributions to class discussions.

Method(s) of Instruction

During periods of instruction the student will be:
A. Listening actively to lecture presentations delivered in student-centered learning style by taking notes, following demonstrations, or completing an activity
B. Participating in facilitated discussions of live presentations, readings or video presentations
C. Presenting in small group and whole class situations

Representative Text(s) and Other Materials

Van De Walle, John, Karen Karp, and Jennifer M. Bay-Williams. Elementary and Middle School Mathematics: Teaching Developmentally. 9th ed. Pearson, 2015.

Teacher assigned notes and materials.

When course is taught online: Additional information, notes, handouts, syllabus, assignments, tests, and other relevant course material will be delivered by email and on the World Wide Web, and discussion may be handled with internet communication tools.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

A. Writing assignments include an instructional design plan, peer evaluations, and critical analysis of educational projects, technology tools, systems, or processes.

B. Outside assignments include conducting project development, writing the instructional plan, reading, and participating in online peer collaboration activities.

Discipline(s)

Instructional Design/Technology