

Course Title: Developing Time Concepts: *It's About Time*
Instructor's Name: Dave Youngs, AIMS Education Foundation
Course Number: MAT 946
Number of Credit Units: 3 semester units

Course Content/Description:

This course seeks to build a foundation for teaching and understanding concepts of time. It is supported by classroom lessons written and compiled within the *AIMS* publication, *It's About Time*, which forms the nucleus of the course.

The book itself contains hands-on experiences designed to build the necessary foundation for developing meaning and understanding of time including these basic concepts:

1. Developing a sense of time
2. Quantifying time
3. Reading the clock (analog and digital)

Additional lessons provide a context for application of concepts and playful, intelligent practice of related skills and problem solving.

Primary Learning Outcomes

Students will:

1. Participate in opportunities for implementation and sustained use of hands-on experiences in mathematics in a classroom setting
2. Engage in reflective practice through the use of instructional planning, focused questions, and reflective responses
3. Make connections for conceptual understanding by showing alignment of instructional experiences with national reform documents and state content standards for mathematics
4. Develop positive attitudes and confidence in teaching and learning
5. Expand their knowledge base of mathematics education
6. Will make connections to professional literature regarding content, theory and practice
7. Will identify State or National Standards that apply to the selected AIMS activities by alignment learning goals with State or National Content Standards.

Course Materials

AIMS Book – *It's About Time*

• **Big Time Learning Clock** – A 5" plastic student clock with removable stand. The hidden gears maintain correct hour and minute relationships as you demonstrate time telling concepts.

An Overview of AIMS (online- PDFs;

<http://www.aimsedu.org/downloads/pdf/download.php?file=sps.pdf>)

with required reading and application of ideas from the following:

A Model of Learning

The Skills for Thinking

(If Internet is not available to download the pdfs, AIMS can mail copies of these pages. Please email spscourses@AIMSedu.org or call 1-888-733-2467 ext 120 to request copies.)

Focus questions and guidelines for responses based on understanding and application of materials and ideas.

Overall plan for Implementation within a four to six week period

Summary of Alignment with State Content Standards

Application of the Model of Mathematics

Application of Thinking Skills and Alignment with Standards and Learning Goals

Reflective Response and Focus Questions

Professional Growth and Reflection: A Response to Articles and Experience

Essential Course Components and Related Student Outcomes

Option A- With a Classroom of Students

1. Read completely the related AIMS publication *It's About Time*.
2. Read the selected articles in **An Overview of AIMS** (online- PDFs; <http://www.aimsedu.org/downloads/pdf/download.php?file=sps.pdf>) with required reading and application of ideas from the following:
A Model of Learning
The Skills for Thinking
(If Internet is not available to download the pdfs, AIMS can mail copies of these pages. Please email spscourses@AIMSedu.org or call 1-888-733-2467 ext 120 to request copies.)
3. Design a plan for implementation of ten (10) experiences from *It's About Time*, including a summary of and rationale for the selection of AIMS lessons.
4. Choose one lesson and describe how it addresses the four learning environments of the Model of Mathematics/Learning.
5. Implement ten (10) lessons in the classroom with students over a three to four week period.
6. Prior to teaching each lesson, apply the *Skills for Thinking* to the design of tasks and discussion questions reflecting important concepts, skills and processes integral to each lesson. Student will record these on pages labeled **Applying Thinking Skills**. Student will also record the Learning Goal and appropriate State Standards on pages labeled "Applying Thinking Skills."
7. After each lesson, reflect upon your teaching by responding to the Reflective Response focus questions.

8. Show summary of alignment of learning goals with **State Content Standards**. Content Standards for each state may be found at this Web-site address:
US Department of Education has links to the state department of education for each state.
http://wdcrobcolp01.ed.gov/Programs/EROD/org_list.cfm?category_ID=SEA
9. Complete a Professional Growth and Reflection form describing how the selected articles (see number 2 above) and the teaching experience impacted you and your teaching.

Method of Assessment:

Provide evidence of the design, implementation, evaluation and reflection of the collective experiences by returning the completed assignments.

Unless otherwise indicated, students successfully completing this course will earn a Credit/No credit grade or where a letter grade is requested in writing, a letter grade of B will be issued. In order to earn a letter grade of A, additional work beyond what is described will be required. (See Requirements for an A.)

The discernment between an A or a B is at the discretion of the instructor of record based on the quality of the evidence submitted.

Additional requirement for an earned letter grade of A

Choose one of the content clusters, *Developing a Sense of Time* or *Clock Reading*. Develop and submit an assessment plan that addresses all five areas of the AIMS Skills for Thinking.

Option B - Without a Classroom of Students

1. Read completely the related *AIMS* publication, *It's About Time*.
2. Read the selected articles in **An Overview of AIMS** (online- PDFs; <http://www.aimsedu.org/downloads/pdf/download.php?file=sps.pdf>) with required reading and application of ideas from the following:
A Model of Learning
The Skills for Thinking
(If Internet is not available to download the pdfs, AIMS can mail copies of these pages. Please email spscourses@AIMSedu.org or call 1-888-733-2467 ext 120 to request copies.)
3. Design a plan for implementation of ALL experiences from *It's About Time* including a summary of and rationale for the teaching of these experiences.
4. Choose one lesson from *It's About Time* and describe how it addresses the four learning environments of the **Model of Mathematics/Learning**.
5. Apply the **Skills for Thinking** to the design of tasks and discussion questions reflecting important concepts, skills and processes integral to each lesson. Students will record these on pages labeled **Applying Thinking Skills**. Students will also record the Learning Goal and appropriate State Standards on pages labeled "Applying Thinking Skills."
6. Show summary of alignment of learning goals with **State Content Standards**. Content Standards for each state may be found at this Web-site address:
US Department of Education has links to the state department of education for each state.
http://wdcrobcolp01.ed.gov/Programs/EROD/org_list.cfm?category_ID=SEA

7. Select 8 - 10 AIMS activities to integrate into the Language Arts/Reading, Science, or Social Studies curriculum. Design a plan including your rationale for your selection of activities and how you are going to connect these activities with other subject areas.
8. Complete a **Professional Growth and Reflection** form describing how the selected articles (see number 2 above) and the AIMS investigations **will** impact your teaching.

Method of Assessment:

Provide evidence of the design, implementation, evaluation and reflection of the collective experiences by returning the completed assignments.

Unless otherwise indicated, students successfully completing this course will earn a Credit/No credit grade or where a letter grade is requested in writing, a letter grade of B will be issued. In order to earn a letter grade of A, additional work beyond what is described will be required. (See Requirements for an A.)

The discernment between an A or a B is at the discretion of the instructor of record based on the quality of the evidence submitted.

Additional requirement for an earned letter grade of A

Choose one of the content clusters, Developing a Sense of Time or Clock Reading. Develop and submit an assessment plan that addresses all five areas of the AIMS Skills for Thinking.

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