

Teaching Elementary School Mathematics II

Loyola University Chicago



Fall MMXI CIEP 105/Math 148 Syllabus

CIEP 105/Math 148-003 T 8:30 – 11:15 Mund 408

Dr. R. James Breunlin, NBCT

Office phone: 773-508-8321

Cell phone: 630-269-4331

E-mail: rbreunl@luc.edu

Office hours: Granada 431 Mondays 12:00 to 2:30 or by appointment

Required Instructional Material

- *Mathematics for Elementary Teachers* S. Beckmann 3rd edition C2011 ISBN 9780321646941 (Text only. Activity manual not required)
- *Principals and Standards for School Mathematics* NCTM (free electronic edition available at <http://www.nctm.org/standards>) Dr. B will demo how to access this during the first class

Conceptual Framework

The School of Education at Loyola University Chicago supports the Jesuit ideal of knowledge in the service of humanity and the advancement of social justice. In fact the conceptual framework of the School of Education is “Professionalism in Service of Social Justice.” CIEP 105 emphasizes the importance of ethical teacher behavior, equitable student access to a quality education, and strong support for the success of all. It is through a unique bond between instructor and learner that enables schools to leave no child behind and realize social justice.

CF1: Candidates demonstrate an understanding of a current body of literature and are able to critically evaluate new practices and research in their field.

CF2: Candidates demonstrate knowledge and skills in a variety of school and professional settings.

CF3: Candidates demonstrate an understanding of issues of social justice and inequity.

CF4: Candidates demonstrate skills that will enable them to work effectively with diverse clients.

CF5: Candidates demonstrate technological knowledge and skills which enhance education.

CF6: Candidates demonstrate professional decision-making skills and behaviors in advancing social justice and service.

CF7: Candidates demonstrate how moral and ethical decisions shape actions directed toward service to others.

CF8: Candidates apply ethical principles in professional decision-making.

Diversity

Loyola University Chicago strives to partner with schools and community agencies in the Chicago area. This provides students with the opportunity to embrace the challenges and benefits of diversity that enhance the environment for learning. In CIEP 105, students will study and discuss important social structures that may affect students' prior knowledge and attitudes.

Technology

This course will integrate technology into mathematics instruction facilitate inductive inquiry and provide multiple representations. Teacher candidates will view videotapes of student responses to high quality instruction. Specific technology utilized includes: graphing calculator, and computer productivity tools such as spreadsheets. Candidates are expected to be expert in the use of internet to find and use excellent mathematical sites such as <http://mathforum.org/> to research historical information about mathematical topics; <http://www.history.mcs.st> and <http://www.ac.uk/~history/>; and to make connections with mathematics and other topics such as art at <http://library.thinkquest.org/16661/>; tessellations of M Escher

This course will contain a core assessment of **Conceptual Framework Standard 5:** Candidates demonstrate technological knowledge and skill which enhance education

Core Assessment Rubric

Conceptual Framework Standard	Target	Acceptable	Unacceptable
CF5: Candidates demonstrate technological knowledge and skill which enhance education NCTM 2003 6.1	Targeted Performance is evidenced by the selection of an appropriate technological tool, such as but not limited to, spreadsheets, dynamic graphing software, computer algebra systems, calculators, and presentation software, that promotes conceptual understanding of a mathematical concept or facilitates student construction of knowledge	Acceptable performance is evidenced by the use of appropriate technology, as a curriculum amplifier (use of technology to replicate an existing task. e.g. electronic flashcards). The activity provide motivation for students	Unacceptable performance is evidenced by the use of technology as a curriculum amplifier that is not motivational
Overall Score			

Course Description

This course sequence provides the fundamental knowledge base for teaching elementary and middle school mathematics. This is the second of two courses. The focus is on numeration, algebra, probability/statistics and problem solving. Candidates study the underlying principals of mathematics appropriate for grades K – 9. Candidates use Principals and Standards for School Mathematics from the National Council of Teachers of Mathematics (<http://www.nctm.org/standards>) and compare the national standards to

the Common Core State Standards (<http://www.corestandards.org/the-standards/mathematics>) and local mathematics standards such as the Chicago Academic Framework from the Chicago Public Schools (<http://intranet.cps.k12.il.us/standards/CAS.html>)

Course Objectives

NCATE / NCTM Program Standards

Standard 1: Knowledge of Mathematical Problem Solving

Candidates know, understand and apply the process of mathematical Problem solving.

Standard 3: Knowledge of Mathematical Communication

Candidates communicate their mathematical thinking orally and in writing to peers, faculty, and others.

Standard 4: Knowledge of Mathematical Connections

Candidates recognize, use, and make connections between and among mathematical ideas and in contexts outside mathematical understandings.

Standard 5: Knowledge of Mathematical Representation

Candidates can vary representations of mathematical ideas to support and deepen students' mathematical understanding

Standard 6: Knowledge of Technology

Candidates embrace technology as an essential tool for teaching and learning mathematics.

Standard 7: Disposition

Candidates support a positive disposition toward mathematical processes and mathematical learning..

Standard 9: Knowledge of Numbers and Operations

Candidates demonstrate computational proficiency, including a conceptual understanding of numbers, ways of representing numbers, relationships among numbers and number systems, and the meaning of operations.

Standard 10: Knowledge of Different Perspectives on Algebra

Candidates emphasize relationships among quantities including functions, ways of representing mathematical relationships, and the analysis of change.

Standard 12: Knowledge of Data analysis, statistics, and Probability

Candidates demonstrate an understanding of concepts and practices related to data analysis, statistics, and probability.

Standard 13: Knowledge of Measurement

Candidates apply and use measurement concepts and skills

CTPP Outcomes

K-8 MATHEMATICS TEACHER COMMON OUTCOMES

In order to teach young children, teachers should understand and accurately use knowledge in the following areas.

NUMBER AND OPERATIONS

NO

▪ **Use the understanding of the multiple interpretations of addition, subtraction, multiplication, and division to model these operations.**

1. Use a variety of models for addition and subtraction, including discrete objects and length-based models (e.g., cubes connected to form lengths), to demonstrate add-to, take-from, put-together, take-apart, and compare situations;
2. Understand and demonstrate the meanings of multiplication and division of whole numbers through activities and problems involving equal-sized groups, arrays, and area models;
3. Understand that multiplication is finding an unknown product, and division is finding an unknown factor in these situations;
4. Applications of these models and interpretations.

▪ **Use the understanding of place value to represent, compare, order, and round numbers.**

5. Use numerals with place value to 1,000,000 and millionths and understand how place value permits efficient representation of whole numbers and finite decimals;
6. Understand the value of each place is ten times larger than the value of the next place to the right;
7. Use place value understanding to order, estimate, round, and compare the relative magnitude of numbers;
8. Use place value understanding to describe equivalent representations of the same whole number by decomposing to a smaller unit and recomposing to a larger unit.

▪ **Use the understanding of place value and properties of numbers to calculate with standard and non-standard algorithms for addition, subtraction, multiplication, and division, and to perform mental calculations.**

9. Perform multi-digit calculations accurately, including fluency with standard algorithms, "mental math," and non-standard methods created by students that are efficient and generalizable;
10. Understand the reasoning behind the calculation procedures, how the base-10 structure of number is used in calculations;

11. Understand, apply, and justify fundamental ideas of number theory, including prime and composite number, least common multiple, greatest common factor, and divisibility, and their connections to elementary and middle school mathematics.

▪ **Understand and use the properties of whole numbers and the four operations as extended to the rational number system.**

12. Understand concepts of integers and rational numbers, including what integers and rational numbers are (represented as fractions and decimals), equivalent fractions, and a sense of their relative sizes;

13. Understand how addition, subtraction, multiplication, and division of whole numbers and properties of whole numbers extend to integers and rational numbers;

14. Convert easily among fractions, decimals, and percents and achieve a unified understanding of number that each of these are different representations of rational numbers.

15. Use knowledge of numbers and operations, estimation, approximation, and exact methods to solve both real-world problems and mathematical problems;

16. Interpret results and judge their reasonableness.

▪ **Use the understanding of proportionality to solve problems.**

17. Develop, analyze and explain methods in problem situations that involve proportional relationships, including ratio and rate;

18. Distinguish between proportional relationships and other relationships;

19. Solve a wide variety of percent applications including discounts, interest, taxes, tips, percent increase and decrease;

ALGEBRA AND FUNCTIONS

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▪ **Apply and extend previous understandings of arithmetic to algebraic expressions.**

1. Understand the use of variables in mathematical expressions;

2. Understand the difference between expressions and equations;

3. Write expressions and equations that correspond to given situations;

4. Evaluate expressions and use expressions and formulas to solve problems;

5. Understand that expressions in different forms can be equivalent and use the properties of operations to rewrite expressions in equivalent forms;

▪ **Use properties of operations to generate equivalent expressions.**

6. Recognize commutativity, associativity, distributivity, identities, and inverses as properties of operations on a given domain;

7. Understand computation algorithms as applications of particular axioms;

8. Demonstrate algebraic skills and understand the reasoning behind standard algebraic manipulations

▪ **Reason about and solve one-variable equations and inequalities.**

9. Understand that the solutions of an equation/inequality are the values of the variables that make the equation/inequality true;
10. Understand that when using the properties of equality and the concept of logical equivalence that the solutions of the original equation are maintained.
11. Construct and analyze tables (such as tables of quantities that are in equivalent ratios) and use equations to describe relationships between quantities (such as $3x = y$).
12. Represent and justify general arithmetic claims using variables, equality, and inequalities;
13. Use symbolic, numeric, graphical, and geometric representations to represent calculations, express identities, describe situations, and to solve problems.

▪ **Understand the connections between proportional relationships, lines, and linear equations.**

14. Recognize equations for proportions ($y/x = m$ or $y = mx$) as special linear equations ($y = mx + b$);
15. Understand that the constant of proportionality (m) is the slope and that the graphs of $y = mx$ are lines through the origin; understand that the slope (m) of a line is a constant rate of change, so that if the input or x-coordinate changes by an amount A , the output or y-coordinate changes by the amount $m \cdot A$;
16. Use a linear equation to describe the association between two quantities in bivariate data (such as arm span vs. height for students in a classroom)

▪ **Analyze and solve linear equations and pairs of simultaneous linear equations.**

17. Use properties of operations and the idea of maintaining the equality/inequality of both sides of an equation/inequality efficiently to implement procedures to solve linear equations/inequalities in one variable;
18. Solve systems of two linear equations in two variables and relate the systems to pairs of lines in the plane; these intersect, are parallel, or are the same line; use linear equations, systems of linear equations, linear functions, and their understanding of slope of a line to analyze situations and solve problems.

▪ **Define, evaluate, and compare functions, and use functions to model relationships between two quantities.**

19. Understand the concept of a function as a rule that assigns to each input exactly one output;
20. Understand that functions describe situations where one quantity determines another;
21. Translate among representations and partial representations of functions (noting that tabular and graphical representations may be partial representations), and describe how aspects of the function are reflected in the different representations.
22. Construct a function to model a linear relationship between two quantities, and describe their relationship by analyzing a graph of the function.

Tentative Schedule of Discussion Topics
Assignments will be listed in class and on Blackboard

Class date	Topics or Issues	Reading assignment in Text
August 30	<ul style="list-style-type: none"> • Introductions • Teaching Developmentally • NCTM Standards, III State Learning Standards, Common Core State Standards • Number Types and Place Value 	<ul style="list-style-type: none"> • Chapter 1, 3, 4
September 6	First Day at Hayt: No Class	
September 13	<ul style="list-style-type: none"> • ISAT Extended Response • Addition Multiplication and Subtraction with whole numbers • Order of operation and properties 	<ul style="list-style-type: none"> • Chapters 6,7
September 20	<ul style="list-style-type: none"> • Division • Proportional reasoning • Percents 	<ul style="list-style-type: none"> • Chapter 2
September 27	<ul style="list-style-type: none"> • Fractions: 3 uses ... ratio, part of a whole, division • Equivalent Fractions 	<ul style="list-style-type: none"> • Chapter 5
October 5	<ul style="list-style-type: none"> • Operations with Fractions decimals and negative numbers 	
October 11	<ul style="list-style-type: none"> • Midterm Exam 	<ul style="list-style-type: none"> • Chapter 9
October 18	<ul style="list-style-type: none"> • Algebraic Reasoning • Number Tricks/ algebraic representations • Patterns to Numeric Sequences 	
October 25	<ul style="list-style-type: none"> • Symbolic, Graphical and Numeric Representations • Linear Functions • Spreadsheets • Spreadsheets: Core Assessment Assigned 	
	<ul style="list-style-type: none"> • No Class 	<ul style="list-style-type: none"> • Chapters 15

November 2	<ul style="list-style-type: none"> • Dr B is presenting at AEA in Anaheim CA 	
November 8	<ul style="list-style-type: none"> • Solving equations (linear and quadratic) • Graphing non- linear equations • Symbolic, Graphical and Numeric Representations 	Chapter 16
November 15	<ul style="list-style-type: none"> • Counting Principles • Probability • Getting a Job Strand 	
November 22	<ul style="list-style-type: none"> • Statistics and Data Analysis (in the context of data driven decision making) • Getting a Job Strand • 	
November 29	<ul style="list-style-type: none"> • Technology used to increase student achievement in mathematics education. • Getting a Job Strand 	
December 6	<ul style="list-style-type: none"> • Catch –up day 	
Final Exam Week	<ul style="list-style-type: none"> • Final Exam 	

This calendar is subject to change at the professor's discretion

Course Policy

Academic Honesty

Academic honesty is an expression of interpersonal justice, responsibility and care, applicable to Loyola University faculty, students, and staff, which demands that the pursuit of knowledge in the university community be carried out with sincerity and integrity. The School of Education's Policy on Academic Integrity can be found at: http://www.luc.edu/education/academics_policies_integrity.shtml. For additional academic policies and procedures refer to: http://www.luc.edu/education/academics_policies_main.shtml

Accessibility

Students who have disabilities which they believe entitle them to accommodations under the Americans with Disabilities Act should register with the Services for Students with Disabilities (SSWD) office. To request accommodations, students must schedule an appointment with an SSWD coordinator. Students should contact SSWD at least four weeks before their first semester or term at Loyola. Returning students should schedule

an appointment within the first two weeks of the semester or term. The University policy on accommodations and participation in courses is available at: <http://www.luc.edu/sswd/>

Harassment (Bias Reporting)

It is unacceptable and a violation of university policy to harass, discriminate against or abuse any person because of his or her race, color, national origin, gender, sexual orientation, disability, religion, age or any other characteristic protected by applicable law. Such behavior threatens to destroy the environment of tolerance and mutual respect that must prevail for this university to fulfill its educational and health care mission. For this reason, every incident of harassment, discrimination or abuse undermines the aspirations and attacks the ideals of our community. The university qualifies these incidents as incidents of bias.

In order to uphold our mission of being Chicago's Jesuit Catholic University-- a diverse community seeking God in all things and working to expand knowledge in the service of humanity through learning, justice and faith, any incident(s) of bias must be reported and appropriately addressed. Therefore, the Bias Response (BR) Team was created to assist members of the Loyola University Chicago community in bringing incidents of bias to the attention of the university. If you believe you are subject to such bias, you should notify the Bias Response Team at this link: <http://webapps.luc.edu/biasreporting/>

Course Requirements

1. Attendance: Important³! Time is short and there is much to be done. Absences should be for extreme circumstances only. Students should inform the instructor of such circumstance.

2. Assignments: There will be homework, papers, midterm exam and a final exam. All written work should be handed in (hard copy or electronic) on the due date. **Late assignments are penalized 50% . An assignment is considered late if it is not submitted by the end of the class session on the due date.** Exceptions to this policy are rare and are for extreme cases supported by documentation such as a doctor's note.

- **3. Clinicals:** This course and The Hayt Experience includes a required clinical component at Hayt Elementary. Please be sensitive to all bell schedules. Successful completion of clinicals, as judged by the Loyola Faculty Supervisor, Teacher candidates will receive a Pass/Fail for the clinical component. A failing grade is typically the consequences for:
 - not attending clinicals
 - not conducting themselves in a professional manner, or
 - not completing the related coursework.

Course work to be completed at clinicals included a UbD Lesson Plan, This will account for 2-5 % of the course grade. In addition you will have a specific assignment for this course that can only be completed during the clinical experience.

Students will produce a lesson plan that will be evaluated using the following rubric:

CIEP 105: Mathematics Lesson Plan Rubric (35 points)
(Understanding by Design format)

Element /Standard	Target	Acceptable	Unacceptable
<p>Content Knowledge: Standard 1.0 Development Learning Motivation—Candidates know, understand, and use the major concepts, principles, theories, and research related to development of children and young adolescents to construct learning opportunities that support individual students’ development, acquisition of knowledge, and motivation.</p>	<p>Teacher candidate’s plan demonstrates a thorough understanding of the developmental, learning and motivational elements of this age student. Standards, objectives, strategies, assessment and attention to individual needs are well represented throughout the plan. Candidate considers and respects diverse language, learning and cultural needs.</p>	<p>Teacher candidate’s plan demonstrates recognition of the developmental, learning and motivational elements of this age student. Standards, objectives, strategies, assessment and attention to individual needs are represented throughout the plan. Candidate considers and respects diverse language, learning and cultural needs.</p>	<p>Teacher candidate’s plan does not demonstrate recognition of the developmental, learning and motivational elements of this age student. Standards, objectives, strategies, assessment and attention to individual needs are inappropriate or missing from the plan. Evidence that the candidate considered diverse language, learning and cultural needs of students is missing .</p>
<p>Content Knowledge: Curriculum Standard 2.1 Reading, Writing, and Oral Language—Candidates demonstrate a high level of competence in use of English language arts and they know, understand, and use concepts from reading, language and child development, to teach reading, writing, speaking, viewing, listening, and thinking skills and to help students successfully apply their developing skills to many different situations, materials, and ideas;</p>	<p>Literacy lesson plan thoroughly addresses diverse learners’ individual developmental, linguistic, learning and interest needs in the areas of reading, writing, listening, speaking and viewing. A variety of evidence based strategies are used appropriately to teach students to decode, comprehend, respond to and enjoy written texts in a balanced approach that addresses both word and text level skills. Critical responses to text are encouraged and supported. Plan provides specific steps and details for before, during and after reading/writing to guide students in their literacy learning based on the identified curriculum standards and objectives.</p>	<p>Literacy lesson plan addresses instructional considerations for teaching reading, writing, listening, speaking and viewing by attending to individual learner’s developmental, linguistic, learning and interest needs. Evidence based strategies are used purposefully to engage students and to allow them to respond to text in a balanced approach that includes critical and creative responses. Plan provides details for before, during and after reading/writing and it is aligned with the curriculum standards and objectives.</p>	<p>Literacy lesson plan fails to consistently provide adequate standards/objectives and instructionally aligned details needed to teach reading, writing, listening, speaking or viewing or to effectively address the needs of individual and diverse learners. Evidence based strategies may not be appropriately or purposefully used in order to engage learners or to help them develop both word and text level skills. Additional specific details may be needed in some or all of the before, during or after reading/writing instructional elements.</p>
<p>Content Knowledge: Curriculum Standard 2.2 Science—Candidates know, understand, and use fundamental concepts of physical, life, and earth/space sciences. Candidates can design and implement age-appropriate inquiry lessons to teach science, to build student understand for personal and social applications, and to convey the nature of science.</p>	<p>Science lesson plan thoroughly addresses the nature of science and fundamental concepts related to more than one of the following content areas: physical, life, earth/space science.. Major concepts and principles that are used in the applicable science disciplines are appropriately addressed and the interrelationships between concepts are clearly emphasized. A thorough and thoughtful plan that engages students in scientific inquiry and emphasizes personal and social applications is included. The lesson</p>	<p>Science lesson plan addresses the nature of science and/or fundamental concepts related to at least one of the following content areas: physical, life, earth/space science. Major concepts and principles that are used in the applicable science discipline are addressed and the interrelationships between concepts are discussed. A plan that engages students in scientific inquiry and contains personal and social applications is included. The lesson includes a focus on identifying problems and on designing, implementing and evaluating possible</p>	<p>Science lesson plan does not adequately address the nature of science or fundamental concepts related to at least one of the following content areas: physical, life, earth/space science. Major concepts and principles that are used in the applicable science discipline are mentioned but not clearly addressed, and the interrelationships between concepts are not discussed. The plan does not engage</p>

	clearly conveys the nature and utility of science by including a focus on identifying problems and on designing, implementing and evaluating possible solutions.	solutions.	students in scientific inquiry and does not contain personal and social applications. The lesson is missing a focus on identifying problems and on designing, implementing and evaluating possible solutions.
<p>Content Knowledge: Curriculum Standard 2.3 Mathematics Candidates know, understand and use the major concepts and procedures that define number and operation, algebra, geometry, measurement and data analysis and probability. In doing so they consistently engage problem solving, reasoning and proof, communications, connections, and representations</p>	Mathematics lesson plan thoroughly addresses diverse learners' individual developmental needs, knowledge and understanding of major concepts and procedures in more than one of the following content areas: number and operation, algebra, geometry, measurement and data analysis and probability. A variety of evidence based strategies are used appropriately to teach students more than one of the following: problem solving, reasoning and proof, communications, connections, and representations	Mathematics lesson plan addresses instructional considerations that develop knowledge and understanding of concepts and procedures in at least one of the following content areas: number and operation, algebra, geometry, measurement and data analysis and probability. Evidence based strategies are used to purposefully engage students in problem solving, reasoning and proof, communications, connections, or representations	Mathematics lesson plan fails to develop conceptual understanding of mathematical concepts, and instead concentrate on procedures and skills. Evidence based strategies may not be appropriately or purposefully used in order to engage students in problem solving, reasoning and proof, communications, connections, or representations
<p>Content Knowledge: Curriculum Standard 2.4 Social Studies Candidates know, understand, and use the major concepts and modes of inquiry from the social studies – the integrated study of history, geography, the social sciences, and other related areas – to promote elementary students' abilities to make informed decisions as citizens of a culturally diverse democratic society and interdependent world.</p>	Social studies lesson plan thoroughly addresses diverse learners' individual developmental needs, knowledge, and understanding of major concepts and modes of inquiry from the integrated study of history, geography, the social sciences and other related areas. The lesson plan incorporates a variety of evidence-based strategies to promote students' abilities to make informed decisions as citizens of a diverse society and world.	Social studies lesson plan addresses instructional considerations that develop knowledge and understanding of major concepts and modes of inquiry from the study of history, geography, the social sciences and other related areas. The lesson plan incorporates evidence-based strategies that promote students' abilities to make informed decisions as citizens of a diverse society and world.	Social studies lesson plan fails to provide instruction to develop knowledge and understanding of social studies concepts and modes of inquiry. Evidence based strategies may not be appropriately or purposefully used in order to promote students' informed decision making as citizens of diverse society and world.
<p>Standards Standard 3.1 Integrating and applying knowledge for instruction—Candidates plan and implement instruction based on knowledge of students, learning theory, subject matter, curricular goals, and community.</p>	Teacher candidate has identified highly appropriate learning standards (from content specific or common core**) and has used this effectively to build a purposeful lesson that incorporates knowledge of learning theory and subject matter. These components are represented clearly in all parts of the lesson plan and in the instruction.	Teacher candidate has identified appropriate learning standards (from content specific or common core**) and has used the standards to build a lesson that incorporates knowledge of learning theory and subject matter. These components are represented in all parts of the lesson plan and in the instruction.	Teacher candidate has failed to identify appropriate learning standards (from content specific or common core**) and has created a lesson plan that is not focused; it lacks evidence of knowledge of learning theory and subject matter
<p>Objectives Standard 4.0 Assessment for instruction—Candidates know, understand, and use formal and informal assessment strategies to plan, evaluate and strengthen instruction that will promote continuous intellectual, social, emotional and physical development of each elementary student.</p>	Teacher candidate has written measureable objectives specifically aligned with the standards and plan for assessment. These are written in appropriate format with the action verb, conditions and criteria. Appropriate domains are presented.	Teacher candidate has written measureable objectives generally aligned with the standards and plan for assessment. These are written in appropriate format with the action verb, conditions and criteria. Appropriate domains are presented.	Teacher candidate has failed to provide measureable objectives and has not aligned objectives with the standards and plan for assessment. Objectives are not written in appropriate format with the action verb, conditions and criteria. Appropriate domains are missing.

<p>Assessment Standard 4.0 Assessment for instruction—Candidates know, understand, and use formal and informal assessment strategies to plan, evaluate and strengthen instruction that will promote continuous intellectual, social, emotional, and physical development of each elementary student.</p>	<p>Teacher candidate has developed a coherent and cohesive plan for assessing the outcomes of the lesson and has provided the results or data from the lesson if possible or appropriate. Formative or summative assessment data along with analysis of instructional procedures is used to determine future plans for instruction.</p>	<p>Teacher candidate has developed a plan for assessing the outcomes of the lesson. Formative or summative assessment data is considered in the analysis of instructional procedures and is used to determine future plans for instruction.</p>	<p>Teacher candidate has not developed a plan for assessing the outcomes of the lesson. Formative or summative assessment data is missing or is not considered in the analysis of instructional procedures and is not used to determine future plans for instruction</p>
<p>Materials</p>	<p>Teacher candidate identifies, develops and utilizes a variety of curricular materials and text genres appropriate for developmental, motivational, and diverse learning needs that support the curriculum and teaching of the standards.</p>	<p>Teacher candidate identifies, develops and utilizes curricular materials and text genres appropriate for developmental, motivational, and diverse learning needs that support the curriculum and teaching of the standards.</p>	<p>Teacher candidate fails to identify, develop and use curricular materials and text genres appropriate for developmental, motivational, and diverse learning needs that support the curriculum and teaching of the standards</p>
<p>Procedure- Standard 3.2 Adaptation to diverse students—Candidates understand how elementary students differ in their development and approaches to learning, and create instructional opportunities that are adapted to diverse students.</p>	<p>Lesson details demonstrate a thorough understanding of the developmental level and skills, strengths and weaknesses of the individual students to whom this lesson will be taught. Specific, creative and targeted strategies and approaches are clearly presented that respond directly to the needs of diverse students. Specific elements designed to differentiate the instruction are described in order to meet the needs of each individual learner.</p>	<p>Lesson details demonstrate an understanding of the developmental level and skills, strengths and weaknesses of the individual students to whom this lesson will be taught. Strategies and approaches are presented that respond directly to the needs of diverse students. Elements designed to differentiate the instruction are described in order to meet the needs of each individual learner.</p>	<p>Lesson details fail to demonstrate an understanding of the developmental level and skills, strengths and weaknesses of the individual students to whom this lesson will be taught. Strategies and approaches are generic and do not respond directly to the needs of diverse students. Differentiation of instruction is not specified.</p>
<p>Standard 3.3 Development of critical thinking, problem solving, performance skills—Candidates understand and use a variety of teaching strategies that encourage elementary students' development of critical thinking, problem solving, and performance skills.</p>	<p>Lesson details provide specific activities and evidence based practices for engaging students and encouraging individual responses to instruction that include critical thinking, problem solving and performance skills.</p>	<p>Lesson details provide activities and evidence based practices for engaging students and encouraging individual responses to instruction that include critical thinking, problem solving and performance skills.</p>	<p>Lesson details lack activities and evidence based practices for engaging students and encouraging individual responses to instruction that include critical thinking, problem solving and performance skills.</p>
<p>Standard 3.4 Active engagement in learning—Candidates use their knowledge and understanding of individual and group motivation and behavior among students at the K-6 level to foster active engagement in learning, self motivation, and positive social interaction and to create supportive learning environments.</p>	<p>Details include varied evidence based strategies, approaches, materials, resources and technology designed to effectively engage students in the lesson. Management strategies are employed to motivate, guide, and support students to become independent learners. Candidate demonstrates recognition of cultural and gender differences and responds accordingly.</p>	<p>Details include evidence based strategies, approaches, materials, resources and technology designed to engage students in the lesson. Management strategies are employed to motivate, guide, and support students to become independent learners.</p>	<p>Details do not include evidence based strategies, approaches, materials, resources and technology designed to engage students in the lesson. Strategies to motivate, guide, and support students to become independent learners are missing.</p>
<p>Communication Skills Standard 3.5 Communication to foster collaboration—Candidates use their knowledge and understanding of effective verbal, nonverbal, and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the elementary classroom</p>	<p>Teacher candidate models effective use of English in written and spoken discourse and encourages a variety of opportunities for supportive, collaborative and interactive communication among students. Media communication used to effectively support active learning. Instructional practices promote active and creative thinking and problem solving.</p>	<p>Teacher candidate models appropriate use of English in written and spoken discourse and encourages opportunities for supportive, collaborative and interactive communication among students. Media communication is included when appropriate. Instructional practices promote active and creative thinking and problem solving.</p>	<p>Teacher candidate does not use appropriate language skills in written and spoken discourse. No effort to include media communication is present. There is a lack of evidence that the candidate would encourage opportunities for supportive, collaborative and interactive communication among students.</p>
<p>Reflection</p>	<p>Teacher candidate provides a</p>	<p>Teacher candidate provides a</p>	<p>Teacher candidate provides a</p>

<p>Standard 5.1 Professional growth, reflection and evaluation—Candidates are aware of and reflect on their practice in light of research on teaching, professional ethics, and resources available for professional learning; they continually evaluate the effects of their professional decisions and actions on student, families and other professionals in the learning community and actively seek out opportunities to grow professionally</p>	<p>thoughtful and perceptive analysis of the lesson in specific and detailed terms. Suggestions are provided for future lessons and data from the assessment is considered. Support or connections to this from research is provided. Candidate may suggest a plan for professional development or collaboration with other professionals.</p>	<p>thoughtful analysis of the lesson. Suggestions are provided for future lessons and data from the assessment is considered. Support or connections to this from research is provided. Candidate may suggest a plan for professional development or collaboration with other professionals.</p>	<p>cursory analysis of the lesson. While suggestions are provided for future lessons, the data and research support for the suggestions is missing.</p>
<p>Overall Grade</p>			

3. Participation and Responsibility: Participation is more than talking in class. Participation means allowing one self to become engaged in the learning process. The following are examples of good class participation

- Contribute interesting insightful comments
- Presenting good examples of the comments on hand
- Raising good questions
- Listening and responding appropriately to others comments
- Being sensitive to your level of participation, making attempts to increase or decrease it if necessary
- Arriving on time for class

(Source: RE550 syllabus, Iowa State University)

4. Evaluation: A wide variety of evaluation strategies are used. A point system is used, so the percentages are approximate.

- Homework , Activities, and Projects 45-48 %
Candidates are expected to complete assigned homework each week and hand it in the next class. Late assignments are awarded 50% credit. Students will make reflective statements at the end of each class relative to the content covered in class. Due to the nature of these reflection, they can not be made up when absent.
- Clinical Activities 2-5 %
Candidates will participate in Clinicals at Hayt Elementary. Instructor observation and assignments will serve as assessment tools
- Midterm 25%
- Final Exam 25%

Grade Assignment ("+" and "-" grades are the percentage point at the high and low ends of the stated grade ranges)

- A 93-100%
- B 92-85%
- C 84-78%
- D 77-70%
- F 69-0%