Note:

Course content may be changed, term to term, without notice. The information below is provided as a guide for course selection and is not binding in any form, and should not be used to purchase course materials.
COURSE SYLLABUS
EDUC 301
INSTRUCTIONAL PRACTICES FOR MATH TEACHERS

COURSE DESCRIPTION
This course provides professional development for preservice and inservice teachers in mathematics instruction. Students will examine the principles of instruction for number systems, computation, and problem solving and apply theories to classroom settings.

RATIONALE
Mathematics is a core curricular area integrated into all other content areas and essential for productive citizenship. The processes and procedures for teaching mathematics are thus conceptually essential to the development of competent teachers who will be using their skills and knowledge to positively impact students in PK–12 settings. The structure of this course allows the pre-service teacher to explore effective instructional practices in terms of field experiences, to validate basic competencies, and to reexamine the basic principles of effective instructional practices in terms of the application of those practices within his/her classroom. Supported by recommendations from the National Council for the Teachers of Mathematics and a research base descriptive of best practices, this course provides foundational precepts for the development of competence in reflective, research-based, instructional practices.

I. PREREQUISITE
For information regarding prerequisites for this course, please refer to the Academic Course Catalog.

II. REQUIRED RESOURCE PURCHASE
Click on the following link to view the required resource(s) for the term in which you are registered: http://bookstore.mbsdirect.net/liberty.htm

III. ADDITIONAL MATERIALS FOR LEARNING
A. Computer with basic audio/video output equipment
B. Internet access (broadband recommended)
C. Microsoft Office

IV. MEASURABLE LEARNING OUTCOMES
Upon successful completion of this course, the student will be able to:
A. Analyze the implementation of effective instructional strategy in terms of the needs of PK–6 students of varying modality when evaluating the strengths of an electronic tutorial.
B. Evaluate proposed strategies in terms of their potential for effectiveness when presented with scenarios depicting instructional strategies and processes.

C. Compute the sum, difference, product, or quotient when presented with basic computational exercises with whole numbers, fractions, or decimals.

D. Select the most appropriate tool and process when presented with scenarios for mathematics instruction.

E. Develop instructional strategies which use differentiation practices to meet the needs of diverse students.

F. Implement effective instructional procedures when teaching a lesson.

G. Apply reasoning processes necessary to solve non-computational and word problems.

H. Integrate biblical concepts within mathematics activities.

V. COURSE REQUIREMENTS AND ASSIGNMENTS

A. Textbook readings and presentations

B. Course Requirements Checklist

After reading the Course Syllabus and Student Expectations, the student will complete the related checklist found in Module/Week 1.

C. Discussion Board Forums (7)

Discussion boards are collaborative learning experiences. Therefore, the candidate is required to post 1 thread of 250 words. The candidate will post 2 replies of 150 words. Each thread must be supported with at least 1 citation in current APA format. Each reply must cite at least 1 source in current APA format as well. Acceptable sources include peer-reviewed journals, articles, the course textbook, and the Bible.

D. Math Autobiography

The candidate will write a mathematics autobiography. He/she will describe his/her past study of mathematics and success in it, and discuss his/her feelings about mathematics at the elementary level and at the higher levels. Also, the candidate will identify any experiences or mentors he/she has had in learning mathematics. The paper must be 2–3 pages in current APA format.

E. Literature Integration

The candidate will select a piece of children’s literature and complete a 2-page paper in current APA format with at least 1 reference discussing the math concept that could be taught using the chosen book. The candidate will also discuss the Standards of Learning of his/her state as a part of the paper.

F. Folder Games
The candidate will create 2 games using folders. Each game will cover a different Standard of Learning and be grade-specific. The games must include directions and pictures or a detailed description of the completed game.

G. Problem Solving Essay

The candidate will write a critique of the article “Never Say Anything a Kid Can Say!” The paper must be 2–3 pages in current APA format and must be submitted through the SafeAssign link.

H. Lesson Plan and Reflection

Using a provided template, the candidate will create a math lesson plan for a specific grade level. The lesson plan will be submitted via LiveText.

After creating the lesson plan, the candidate will teach his/her lesson either in classroom or with friends/family. The candidate will then complete the Lesson Reflection to give his/her input about the lesson plan.

I. Final Assignment

Depending on the candidate’s interest, 1 question will be selected from a provided list of choices. The candidate will write a 4–6-page response in current APA format to the question (title and reference pages are not part of the page requirement; they are in addition). There are to be at least 5 scholarly resources besides the textbook.

J. Math Attitude Survey

The candidate will complete a Math Attitude Survey consisting of 14 true/false questions.

K. Math Content Assessments (2)

There will be 2 Math Content Assessments in this course. The assessments will have a variety of questions including multiple-choice, true/false, matching, short answer, and ordering. There will be a 1-hour time limit and all questions are from the textbook.

VI. COURSE GRADING AND POLICIES

A. Points

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<tr>
<th>Category</th>
<th>Points</th>
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<tbody>
<tr>
<td>Course Requirements Checklist</td>
<td>10</td>
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<tr>
<td>Discussion Board Forums (7 at 50 pts ea)</td>
<td>350</td>
</tr>
<tr>
<td>Math Attitude Survey</td>
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<tr>
<td>Math Autobiography</td>
<td>60</td>
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<tr>
<td>Literature Integration</td>
<td>60</td>
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<tr>
<td>Folder Games</td>
<td>60</td>
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<tr>
<td>Problem Solving Essay</td>
<td>60</td>
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<tr>
<td>Lesson Plan and Reflection</td>
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<td>Final Assignment</td>
<td>125</td>
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<tr>
<td>Math Content Assessment 1 (Chapters 3–6)</td>
<td>40</td>
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<td>Math Content Assessment 2 (Chapters 7–10)</td>
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B. Scale
A = 900–1010   B = 800–899   C = 700–799   D = 600–699   F = 0–599

C. LiveText Submission Policy
Assignments that are to be submitted to LiveText must be submitted there in order to receive credit for them. This includes assignments that are also submitted in Blackboard, including those submitted to SafeAssign.

D. Late Assignment Policy
If the student is unable to complete an assignment on time, then he or she must contact the instructor immediately by email.

Assignments that are submitted after the due date without prior approval from the instructor will receive the following deductions:

1. Late assignments submitted within one week of the due date will receive a 10% deduction.
2. Assignments submitted more than one week late will receive a 20% deduction.
3. Assignments submitted two weeks late or after the final date of the course will not be accepted.
4. Late Discussion Board threads or replies will not be accepted.

Special circumstances (e.g. death in the family, personal health issues) will be reviewed by the instructor on a case-by-case basis.

E. Disability Assistance
Students with a documented disability may contact Liberty University Online’s Office of Disability Academic Support (ODAS) at LUOODAS@liberty.edu to make arrangements for academic accommodations. Further information can be found at www.liberty.edu/disabilitysupport.
# Course Schedule

**EDUC 301**


<table>
<thead>
<tr>
<th>Module/Week</th>
<th>Reading &amp; Study</th>
<th>Assignments</th>
<th>Points</th>
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| 1           | Ridener & Fritzer: chs. 1–2  
1 presentation  
8 websites | Course Requirements Checklist  
Class Introductions  
DB Forum 1  
Math Autobiography  
Math Attitude Survey | 10  
0  
50  
60  
15 |
| 2           | Ridener & Fritzer: chs. 3–4  
Haycock selection  
1 presentation  
1 reading guide  
3 websites | DB Forum 2  
Literature Integration | 50  
60 |
| 3           | Ridener & Fritzer: chs. 5–6  
1 presentation  
1 reading guide  
6 websites | DB Forum 3  
Math Content Assessment 1 | 50  
40 |
| 4           | Ridener & Fritzer: chs. 7–8  
1 presentation  
1 reading guide  
3 websites | DB Forum 4  
Folder Games | 50  
60 |
| 5           | Ridener & Fritzer: chs. 9–10  
1 presentation  
1 reading guide  
3 websites | Problem Solving Essay  
Math Content Assessment 2 | 60  
30 |
| 6           | Haycock selection  
1 presentation | DB Forum 5  
Lesson Plan and Reflection | 50  
200 |
<table>
<thead>
<tr>
<th>MODULE/ WEEK</th>
<th>READING &amp; STUDY</th>
<th>ASSIGNMENTS</th>
<th>POINTS</th>
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</table>
| 7           | Ridener & Fritzer: chs. 11–12  
1 presentation  
2 websites | DB Forum 6  
DB Forum 7 | 50  
50 |
| 8           | 1 presentation  
2 websites | Final Assignment | 125    |
|             |                         | **TOTAL**          | **1010** |

DB = Discussion Board

NOTE: Each course module/week (except Module/Week 1) begins on Tuesday morning at 12:00 a.m. (ET) and ends on Monday night at 11:59 p.m. (ET). The final module/week ends at 11:59 p.m. (ET) on Friday.