COURSE OUTLINE

Course: EDUC 6797.81 Multisensory Mathematics Instruction for Students with Disabilities
2-3 credits

Instructor: 
Email: 
Telephone: 
Office Hours: 

Schedule: 

Additional remediation hours required

DESCRIPTION:
This course will address and overview of the causes, characteristics, and intervention for students with mathematics disabilities. Strategies and instructional materials for assessing and instructing students in calculations, word problems, and fluency will be explored.

REQUIRED NOVELL AND WEBCAMPUS (BLACKBOARD) ACCOUNTS
All students in this course are required to obtain an FDU student web mail account in order to access the Blackboard (on-line) component of this course. In order to access WebCampus, you must have a Webmail account and be officially registered for classes.

If you have a FDU Webmail Account, your username and password for WebCampus are identical to your Webmail username and password (e.g. Einstein@student.fdu.edu). Please note: there will be a delay of up to 36 hours after creating a Webmail account before you can access WebCampus. Passwords must be 6-8 characters in length and are case-sensitive (i.e. capitalization counts)

If you do not have a Webmail account, you must first create you webmail account at http://alpha.fdu.edu/edtech and click on student resources for specific information. Click on “Create New Account” and follow the on-line instructions. There will be a delay of up to 36 hours after creating a Webmail account before you can access WebCampus.

If you are having trouble creating your Webmail account or logging into WebCampus, please contact the FAIRLEIGH DICKINSON UNIVERSITY Technical Assistance Center (FDUTAC) at 973-443-8822 or email at fdutac@fdu.edu. Assistance is available 24 hours a day for WebCampus users.
To access Blackboard:
WEBSITE: http://webcampus.fdu.edu
Click on Login on the top left of the screen
At this point, you will be asked for your username and password
Once you log in, scroll down to the box called My Courses. Click on EDUC 6797
From then on, you will be able to access the various components of the course.

Each student is required to obtain a webmail account in order to access Blackboard, which is a computer platform where course material will be posted.

1. Course Outline

A. NJPST Standards

Standards available at
http://www.state.nj.us/njded/profdev/profstand/standards.pdf
Standard 1: Content
Standard 3: Diverse Learners
Standard 4: Instructional Planning and Strategies
Standard 5: Assessment
Standard 6: Learning Environments
Standard 7: Special Needs
Standard 10: Professional Development
Standard 11: Professional Responsibility

B. Council for Exceptional Children Standards (CEC): Standards available at
http://www.cec.sped.org/ps/perf
Standard 4: Instructional Strategies
Standard 7: Instructional Planning
Standard 8: Assessment
Standard 9: Professional and Ethical Practice

C. NJ Core Curriculum Content Standards
Standard 4: Mathematics
Standard 9: Career Education and Consumer, Family, and Life Skills

D. Common Core State Standards

All teaching candidates must be familiar with the new Common Core State Standards (the Standards) for English Language Arts and Mathematics and demonstrate an understanding of the Standards with respect to the design and delivery of instruction for students with disabilities. The Standards can be found at: http://www.corestandards.org/
ESSENTIAL QUESTIONS

How can the results of formal and informal assessment measures be used to plan effective mathematics intervention for students with disabilities?

What are the researched based teaching methods and strategies for mathematics that inform intervention for enhanced academic performance in remedial and replacement settings?

How can instruction be modified and/or accommodated in major academic areas to best meet learner needs and ensure that core concepts and procedures are learned?

How can learner accomplishments be evaluated and monitored through a diagnostic teaching model?

COURSE OUTCOMES DERIVED FROM ESSENTIAL QUESTIONS:

Upon completion of this course participants will:

1. Interpret assessment results and develop academic goals based on results and individual differences in learning.

2. Select, implement, and evaluate a variety of logically ordered instructional approaches to learning for students with disabilities.

3. Make appropriate adaptations in the environment, equipment, technologies, and/or devices needed to organize a variety of learning opportunities.

4. Practice assessment and remediation in the academic discipline of mathematics.

5. Implement methods and strategies to best meet learner needs in the area of mathematics.

REQUIRED TEXT:

(Bookstore)

Companion Website: www.ablongman.com/gurganus1e

Websites for Math Software:

www.sunburst.com Sunburst: Geometric, superSupposer
www.intellitools.com IntelliTools: Number Concepts 1 &2; MathPad and MathPad Plus, Intellimathics
www.broderbund.com Broderbund: James Discovers Math
http://www.modelschools.org/ this site has helpful links and model lessons for all academic areas. Click on the Math/Science link or the Special Education link for helpful information and resources.
http://matti.usu.edu/nlvm2/nav/ Library of virtual manipulatives
http://illuminations.nctm.org/ NCTM
www.cldinternational.org math series-6 articles related to mathematics disabilities and instruction
www.internet4classrooms.com/skills_1st.htm
www.school.familyeducaiton.com/math/study_sk115/33577.html
www.parentcenter.babycenter.com/refcap/bigkid/glearning/66998.html
www.ldonline.org/ld_indepth/math_skills/garnett.html
www.nctm.org
www.ldonline.org/indepth/math

Instructional Material Resources

Building Mathematical Thinking Skinny Concepts, Marsha Stanton
EPE, www.epsbooks.com, 1-800-225-5750

Topics from fourth grade mathematics curriculum broken down for further review with teacher guidelines
Part A and Part B: cumulative mathematics curriculum for upper-elementary and middle-school students

Great Leaps Addition and Subtraction Facts; Multiplication and Division Facts, Mercer, Mercer, and Campbell, www.greatleaps.com, 877-475-3277
Series of three books addressing the four basic operations and more
Problem solving approach

Strategic Math Series, Miller & Mercer, Edge Enterprises, Inc., P.O. Box 1304,
Lawrence, Kansas, 66044-1993
Series of books including 4 basic operations and place value; provides systematic
approach to the C-R-A teaching sequence

Textbooks/Articles for Research, Theory, and Application

A Mathematics Source Book for Elementary and Middle School Teachers: Key
concepts, Teaching Tips, and Learning Pitfalls: A Report by Bay Area Mathematics


On Cloud Nine: Visualizing and Verbalizing for Math, Kimberly Tuley and Nanci Bell,

Teaching Mathematics to Students with Learning Disabilities, Bley, N. & Thornton, C.

Mathematics Education for Students with Learning Disabilities: Theory to Practice
Edited by Diane Pedrotty Rivera, 1998, Pro-Ed.

Developmental Teaching of Mathematics for the Learning Disabled, John F. Cawley,
1984, Pro-Ed.


Singlar Publishing Group, Inc. San Diego, CA

Learning Study committee, J. Kilpatrick & J. Swafford, Eds., Center for Education,
Division of Behavioral and Social Science and Education). Washington, D.C.: National
Academy Press.

Foundations for Success: The Final Report of the National Mathematics Advisory Panel,

Learning Disability Quarterly (Spring 2008) The effects of tier 2 intervention on the
mathematics performance of first-grade students who are at risk for mathematics
difficulties, Diane Pedrotty Bryant, Brian R. Bryant, Russell M. Gertsen, Nancy N. Scammacca, Catherine Funk, Amanda Winter, Minyi Shih and Cathy Pool.

Reading & Writing Quarterly (2004). Focus on Inclusion, Reciprocal teaching as a comprehension strategy for understanding mathematical word problem, Delinda Van Garderen State University of New York at New Paltz, , 20: 225-229,

RECOMMENDED MATERIALS:

Manipulatives for math instruction such as base ten blocks for student use, base ten blocks for the overhead projector, fraction bars/circles, unifix cubes, Cuisenaire rods, etc

Course outline

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<td>Strand A Strand B</td>
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<td>Strand C Strand D</td>
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<td>Strand E Chapter 5</td>
<td>6th remediation session; discussion of preparation of final informal assessment</td>
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<td>Ch 5 Ch. 7</td>
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<td>Final Quiz Wrap up</td>
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COURSE ASSIGNMENTS/Requirements:

1. Readings: the assigned readings for each class are included on the course schedule. Additional readings may be added during the semester. Students should be ready to discuss these readings during the class session designated. Additionally, students are expected to participate in class activities which necessitate the readings to be completed PRIOR to class.

2. Informal Mathematics Assessment: Design, administer, and interpret a mathematics probe for one student. Directions and rubric will be provided in class. (10 points) Due:

3. Research software that would enhance the learning of students experiencing difficulties with mathematics. The software can be used to enhance acquisition of basic facts, algorithms, word problems, metacognitive skills, etc. Include at least one review of the software from an independent source. Additional information to be provided in class. (10 points) Due:

4. Math Concept/Manipulative Demonstration: Give a 15 minute demonstration of a powerful mathematics concept with one manipulative that would enhance its instruction. Provide a one-page handout to your classmates. A sign-up list, specific directions, and rubric will be provided in class. (10 points) Due:

5. Mathematics Lesson Plans & Remediation: Develop and implement the following:

   1. Six lesson plans based upon the results of your informal assessment (5 points each= 30 points)
   2. A plan for continuous progress monitoring and changes to instruction based upon the results of progress monitoring (5 points)
   3. A final informal assessment and summarization of overall progress noted over the course of the six weeks of intervention. (10 points) Waypoint Lesson Plan Rubric required Due:

6. In class Final (25 points)

   Data on student performance on the mathematics unit will be collected in this course for the purpose of CEC/TEAC accreditation. All data will be reported in aggregate form.
Grading and evaluation policies

1. Grades: 95 and above = A; 90-94 = A-; 87-89 = B+; 83-86 = B; 80-82 = B-; 77-79 = C+; 73-76 = C; Below 73 = F

2. Change of Letter Grades: “No instructor shall change a grade from one letter grade to another based upon submission by the student of additional work unless the same opportunity has been made to all other students in the class.” A change of grade is always legitimate and appropriate when the recorded grade is the result of an error by an university employee.

3. Students who receive two or more grades of C in graduate coursework will be warned, and if they do not demonstrate improvement in their academic performance they will be asked to withdraw.

I. Degree Requirements and Academic Probation:

The MA in Learning Disabilities Program requires a minimum 3.25 GPA for retention in the program and for graduation.

Students whose GPA falls below a 3.25 will be placed on probation for one semester. If the GPA does not reach a 3.25, the student will be asked to withdraw from the program.

A graduate program of study must be completed within a period of five years from the time the student first registers for graduate study.

II. Recommended additional/supplemental readings

See above citations.

III. Recommended related websites


IV. FDU, School of Education, and Instructor policies

a. Attendance

Students are required to participate in all discussion boards as outlined including response to video cases. Class attendance and participation are essential to academic progress.

b. FDU Academic Integrity Policy

Students enrolled at Fairleigh Dickinson University are expected to maintain the highest standards of academic honesty. Students have the responsibility to each other to make know the existence of academic dishonesty to their course instructor, and then, if necessary, the department chairperson or the academic dean of their College. Course instructors have the added responsibility to state in advance in their syllabi any special policies and procedures concerning examinations and other academic exercises specific to their courses. Students should request this information if not distributed by the instructor.

c. Graduate Programs – Grading and similar policies

Grades:

Weighted grades: A, A-, B+, B, B-, C+, C, and F. (Grades of C- or D are not acceptable grades in graduate programs.) The minimum passing grade for the graduate programs is a C.
Incompletes (not a grade but a temporary status): STUDENTS HAVE THE RESPONSIBILITY TO COMPLETE ALL WORK IN A COURSE IN THE PRESCRIBED TERM. A student has the added responsibility to notify the course instructor of circumstances that will prevent the student from completing the required coursework on time. An incomplete should be given only in exceptional or emergency circumstances at the discretion of, and after consultation with, the instructor. The students will have through the third week of the next full semester (fall or spring) to complete the requirement for the course or the incomplete automatically will change to a failure. If appropriate, the instructor can request an extension of the incomplete, which requires the approval of the school director and the college dean.

Change of Letter Grades: “No instructor shall change a grade from one letter grade to another based upon submission by the student of additional work unless the same opportunity has been made to all other students in the class.” A change of grade is always legitimate and appropriate when the recorded grade is the result of an error by any university employee.

i. Repeat Courses: The Learning Disabilities Program does not permit students to repeat courses.

V. Student Academic Services
a. The University attempts to meet the needs of all students with special needs. On the Metropolitan Campus, The Office of the Provost coordinates, through appropriate campus offices, services that would provide reasonable accommodations for students with special needs.

b. If special accommodations are required, contact the Provost as early in the semester as possible to that appropriate arrangements can be made. (FDU, 2002, p.5)

VI. Policy on course completion
a. In order to maintain matriculation status, students must register consecutively for the fall and spring semesters. If consecutive registration is not maintained, students must reapply to the Admissions Office.

b. A leave of absence allows students to interrupt their graduate studies if necessary. Please see the Student Handbook for specific details.

VII. Instructor-specific policies

Disclaimer:
This syllabus is subject to change as the need arises. Students will be given ample notice of any changes in assignments and due dates.

VIII. References
