

New Course Request

MAY 08 2009

Indiana University

South Bend Campus

Check Appropriate Boxes: Undergraduate credit Graduate credit Professional credit 95

1. School/Division Education 2. Academic Subject Code EDUC

3. Course Number K508 (must be cleared with University Enrollment Services) 4. Instructor Staff

5. Course Title Math and Science Methods for Special Education

Recommended Abbreviation (Optional) _____
(Limited to 32 Characters including spaces)

6. First time this course is to be offered (Semester/Year): Fall 2009

7. Credit Hours: Fixed at 3 or Variable from _____ to _____

8. Is this course to be graded S-F (only)? Yes _____ No x

9. Is variable title approval being requested? Yes _____ No x

10. Course description (not to exceed 50 words) for Bulletin publication: This course examines the various approaches to teaching and adapting mathematics and science for students with special needs. Special attention will be given to writing instructional objectives and accommodations for classrooms and Individualized Education Programs.

11. Lecture Contact Hours: Fixed at 45 or Variable from _____ to _____

12. Non-Lecture Contact Hours: Fixed at n/a or Variable from _____ to _____

13. Estimated enrollment: 20 of which 100 percent are expected to be graduate students.

14. Frequency of scheduling: 1/yr. Will this course be required for majors? _____

15. Justification for new course: This course is necessary to stay current with developments in the field.

16. Are the necessary reading materials currently available in the appropriate library? yes

17. Please append a complete outline of the proposed course, and indicate instructor (if known), textbooks, and other materials.

18. If this course overlaps with existing courses, please explain with which courses it overlaps and whether this overlap is necessary, desirable, or unimportant.

19. A copy of every new course proposal must be submitted to departments, schools, or divisions in which there may be overlap of the new course with existing courses or areas of strong concern, with instructions that they send comments directly to the originating Curriculum Committee. Please append a list of departments, schools, or divisions thus consulted.

Submitted by: Terry Sly Date 12/10/2008
Department Chairman/Division Director

[Signature] Date 3/5/09
Dean of Graduate School (when required)

Approved by: _____ Date _____
Dean Graduate School

Chancellor/Vice-President

University Enrollment Services

After School/Division approval, forward the last copy (without attachments) to University Enrollment Services for initial processing, and the remaining four copies and attachments to the Campus Chancellor or Vice-President.

INDIANA UNIVERSITY SOUTH BEND

Course Title: Math and Science Methods for Special Education

Course Number: K508

Section: (required each semester)

Credit Hours: 3 Semester Hours

SCHOOL OF EDUCATION MISSION STATEMENT:

The School of Education prepares professionals to be leaders in and beyond P-12 classrooms. In our initial programs, future teachers become classroom leaders who are competent, ethical, reflective, and ready to promote learning for a diverse student population. In our advanced programs, teachers, counselors, and principals build on these classroom leadership responsibilities to become advocates, decision-makers, researchers, and partners in school and community settings.

Instructor:

Phone:

Office:

Office Hours:

E-mail:

COURSE DESCRIPTION:

This course examines the various approaches to teaching and adapting mathematics and science for students with special needs. Special attention will be given to writing instructional objectives and accommodations for classrooms and Individualized Education Programs.

COURSE PREREQUISITES: K 505 or equivalent, Graduate Student Standing.

COURSE TEXT:

Coyne, M. D., Kame'enui, E. J., & Carnne, D. W. (2007). *Effective teaching strategies that accommodate diverse learners* (3rd ed.). Upper Saddle, NJ: Merrill.

If you have a disability and need assistance, special arrangements can be made to accommodate most needs. Please notify the instructor within the first week of class if a reasonable accommodation for a disability is needed for this course. The instructor will require a letter from the Office of Disabled Student Services.

Commitment to Professionalism

All students in the School of Education are expected to maintain the highest professional and ethical standards. It is your responsibility to familiarize yourself with our Code of Ethics at <http://www.dsa.indiana.edu/Code/>.

Commitment to Diversity

The School of Education at IUSB is committed to preparing pre-service teachers, school leaders, and school counselors to support learning for **all** students. Each class and learning experience helps candidates develop the knowledge, dispositions, and performances needed to meet the needs of students in today's diverse classrooms. One

example from this class is to develop Individualized Education Programs.

Commitment to Technology

The School of Education at IUSB is committed to preparing pre-service teachers, school leaders, and school counselors who have the knowledge, dispositions, and performances needed to effectively use technology to help all students learn. Candidates are expected to incorporate technology throughout their course work and clinical experiences. One example from this class is including assistive technology in the lesson plan.

COURSE OBJECTIVES (CEC Standards)

By the completion of the course, students should be able to:

1. Demonstrate knowledge of the educational implications of characteristics of various exceptionalities on academic and functional performances (CEC Standard CC2K2).
2. Select and use evidence-based instructional strategies to individualize instruction for individuals with exceptional learning needs (CEC Standard 4).
3. Select, adapt, and use instructional strategies and materials according to characteristics of individual with exceptional learning needs (CEC Standard CC4S3).
4. Implement appropriate methods to teach [reading and] mathematics to individuals with disabilities ((CEC Standard GC4S4; GC4S5).
5. Plan instruction in a variety of educational settings (CEC Standard GC5S3).
6. Identify and prioritize areas of the general curriculum and accommodations for individuals with exceptional learning needs (CEC Standard CC7S1).
7. Identify and organize materials to implement daily lesson plans (Standard CC7S10; GC7S1).
8. Identify and select instructional content, resources, and strategies that respond to cultural, linguistic, and gender differences (CEC Standard CC7S8).

COURSE ASSIGNMENTS:

1. **Participation:** Students are expected to be active participants throughout the semester. This course is designed to be highly interactive and students' contributions are critical to its success. To make the class interesting and enriching, students are expected to share their knowledge and experience with the class. Students are expected to attend every scheduled class meeting. The University defines certain types of absences as "excused" such as: confining illness, serious illness or death in the family. Any student who persists in being absent from class without satisfactory explanation will be suspended from class after the fourth absence.
2. **Lesson Plans:** Students will develop a unit of instruction including two lesson plans for math and two lesson plans for science using the IUSB Lesson Plan Template. The lesson plans must include appropriate accommodations/adaptations for diverse students. Beyond accommodations and adaptations, the unit of instruction should include evidence of variable tasks, curriculum materials, assessment strategies, flexible groupings, and use of

technology.

3. **Lesson Plan Presentation:** Students will present a lesson in either science or math based on completed lesson plans. These lessons must include modifications and adaptations for children with disabilities. The grade will be based on the quality of the lesson presented, appropriateness for grade/age level, and the appropriateness of the modification and adaptations provided.
4. **Case Study/IEP:** Given a case study, students will collaboratively develop one IEP for a student with a disability. The IEP must include appropriate accommodations and modifications in the IEP. Students will submit a 1-2 page reflection on the process.
5. **Examinations:** There will be four examinations for this course.

UNIVERSITY AND SCHOOL OF EDUCATION POLICIES:

Electronic Mail: Electronic mail (email) is the official means of communication with students at Indiana University South Bend.

For this course, that e-mail should be routed through Oncourse. All assignments, sent as attachments, questions and requests must be sent via Oncourse.

A student's failure to receive or read official university communications sent to the student's official email address does not absolve the student from knowing and complying with the content of the official communication. It is recommended that students check email messages at least once daily. The university provides a simple mechanism for students to forward email from the official university email address to another email address of the student's choice. However, students who choose to have email forwarded to another email address do so at their own risk.

Accommodations for Religious Observances Statement: If any student will require academic accommodations for a religious observance, please provide me with a written request to consider a reasonable modification for that observance by the end of the second week of the course. Contact me after class, during my office hours, or by individual appointment to discuss the issue. If after discussion we reach no consensus, either party or both should seek the advice of the Department Head or the Dean, and if no consensus is reached, then the advice of the Vice Chancellor of Academic Affairs ("VCAA"). Either the instructor or the student may appeal the VCAA's decision to the Office of Affirmative Action within ten business days of the determination.

Disability Statement: If you have a disability and need assistance, special arrangements can be made to accommodate most needs. Contact the Director of Disabled Student Services (Administration Building, room 149, telephone number 574-520-4832), as soon as possible to work out the details. Once the Director has provided you with a letter attesting to your needs for modification, bring the letter to

me. For more information, please visit the web site for Office of Disabled Student Services www.iusb.edu/~sbdss/services.shtml

Academic Honesty Statement: It is the responsibility of the student to know of the prohibited actions such as cheating, fabrication, plagiarism, academic, and personal misconduct, and thus, to avoid them. All students are held to the standards outlined in the code. Please reference the entire code for a complete listing (www.dsa.indiana.edu/Code/). Any violation may result in serious academic penalty, ranging from receiving a warning, to failing the assignment, to failing the course, to expulsion from the University.

Plagiarism

Plagiarism is defined as presenting someone else's work, including the work of other students, as one's own. Any ideas or materials taken from another source for either written or oral use must be fully acknowledged, unless the information is common knowledge. What is considered "common knowledge" may differ from course to course.

- a. A student must not adopt or reproduce ideas, opinions, theories, formulas, graphics, or pictures of another person without acknowledgment.
- b. A student must give credit to the originality of others and acknowledge indebtedness whenever:
 - (1) directly quoting another person's actual words, whether oral or written;
 - (2) using another person's ideas, opinions, or theories;
 - (3) paraphrasing the words, ideas, opinions, or theories of others, whether oral or written;
 - (4) borrowing facts, statistics, or illustrative material; or
 - (5) offering materials assembled or collected by others in the form of projects or collections without acknowledgment.

The Copyright Act of 1976 grants to copyright owners the exclusive right to reproduce their works and distribute copies of their work. Works that receive copyright protection include published works such as a textbook. Copying a textbook without permission from the owner of the copyright may constitute copyright infringement. Civil and criminal penalties may be assessed for copyright infringement. Civil penalties include damages up to \$100,000 and imprisonment.

Field Experience Note: You may be required to provide a criminal history check to school districts before participating in field placements and/or student teaching. School districts may deny a field placement or student teaching assignment based on a misdemeanor or felony conviction. The application process for a teaching license in Indiana requires a current criminal history check. Convicted felons may not hold a teaching license in Indiana.

Please Note: *Students in the School of Education are required to post select artifacts as required by the Unit Assessment System. The instructor will notify you if you are required to post assignments.*

STUDENT EVALUATION: Students must attain a grade of C or better in all required education courses.

Assignments are due when indicated on the Calendar of Class Activities. Late assignments will not be accepted. All assignments are due on OnCourse by 10:00 pm of the due date. If a student is going to be absent on the day an assignment is due, it is their responsibility to turn in the assignment prior to the due date.

Please note that students who do not participate in a professional manner (e.g., coming to class on-time, being courteous to others, turning in assignments on-time, etc.) may receive a letter of concern.

Participation	10 Points
Lesson Plan	15 Points
Lesson Plan Presentation	15 Points
Case Study/IEP	10 Points
Two Exams	20 points
Mid-Term Exam	15 points
Final Exam	<u>15 points</u>
Total:	100 Points

Grading Scale:	94 - 100/A
	90 - 93/A-
	87 - 89/B+
	84 - 86/B
	80 - 83/B-
	77 - 79/C+
	74 - 76/C

TENTATIVE CLASS SCHEDULE:

Date	Topic	Readings	Assignments
	Introduction and Overview of Class	Chapter 1: Introduction	
	Characteristics of Students with Diverse Learning and Curricular Needs	Chapter 2: Characteristics of Students with Diverse Learning and Curricular Needs	
			Examination #1: Chapters 1-2, and notes.
	Inclusion		

	Teaching Mathematics	Chapter 7: Effective Strategies for Teaching Mathematics	
	Teaching Mathematics	Chapter 7: Effective Strategies for Teaching Mathematics	
			Examination #2: Chapter 7, and notes.
	Strategies for Teaching Science	Chapter 8: Effective Strategies for Teaching Science	
	Strategies for Teaching Science	Chapter 8: Effective Strategies for Teaching Science	
			Mid-Term: Chapters 1-2, 7, 9, and notes.
	Development of the Individualized Education Plan and Accommodations		
	Accommodations and Lesson Plans		IEP Case Study
	Lesson Plans Presentation		Lesson Plans Lesson Plans Presentation
	Lesson Plans Presentation		Lesson Plans Presentation
			Final Examination

BIBLIOGRAPHY:

- Baker, S., Gersten, R., Dimino, J. A., & Griffiths, R. (2004). The sustained use of research-based instructional practice: A case study of Peer-Assisted Learning Strategies in mathematics. *Remedial and Special Education, 25*(1), 5-24.
- Bradley, S. W., & Riccomini, P. J. (2009). *Computation of fractions: Math intervention for elementary and middle grades students*. Upper Saddle, NJ: Merrill.
- Calhoon, M. B., & Fuchs, L. S. (2003). The effects of peer-assisted learning strategies and curriculum-based measurement on the mathematics performance of secondary students with disabilities. *Remedial and Special Education, 24*(4), 235-245.

- Freer Weiss, D. M. (2006). Keeping it real: The rationale for using manipulatives in the middle grades. *Mathematics Teaching in the Middle School*, 11(5), 238-245.
- Furner, J. M., Yahya, N., & Duffy, M. L. (2005). Teach mathematics: Strategies to reach all students. *Intervention in School and Clinic*, 41(1), 16-23.
- Maccini, P., & Calvin Gagnon, J. C. (2006). Mathematics instructional practices and assessment accommodations by secondary special and general educators. *Exceptional Children*, 72(2), 217-234.
- National Council of Teachers of Mathematics (NCTM). (2000). *Principle and standards for school mathematics*. Reston, VA: Author.
- Polloway, E. A., Pattom, J. M., & Dowdy, C. A. (2008). *Teaching students with special needs in inclusive settings* (5th ed.). Upper Saddle, NJ: Merrill.
- Polya, G. (2004). *How to solve it: A new aspect of mathematical methods*. New Jersey: Princeton University Press.
- Rotter, K. M. (2004). Simple techniques to improve teacher-made instructional materials for use by pupils with disabilities. *Preventing School Failure*, 48(2), 38-43.
- Tucker, B. F., Singleton, A. H., & Weaver, T. L. (2002). *Teaching mathematics to all children: Designing and adapting instruction to meet the needs of diverse learners*. Upper Saddle River, NJ: Pearson.
- Van Garderen, D., & Whittaker, C. (2006). Planning differentiated, multicultural instruction for secondary inclusive classrooms teaching. *Exceptional Children*, 38(3), 12-20.