HIGH POINT UNIVERSITY
Stout School of Education

M.Ed Elementary Education &
M.Ed Special Education
Comprehensive Exam Booklet
2021-2022

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The Comprehensive Examination for M. Ed. Candidates in the Educator Preparation Department

Purpose
The Comprehensive Exam is designed to ensure that candidates receiving their M.Ed. degree in Elementary, Special Education or Secondary Mathematics have firmly grasped the foundational knowledge expected of candidates pursuing mastery in their respective fields of education.

The Comprehensive Examination is required of all candidates completing the M.Ed. in Elementary Education, Special Education or Secondary Mathematics or the MAT degree (PHASE II) in Elementary Education or Secondary Mathematics. It should be taken during the semester in which the candidate plans to graduate and covers the following broad areas/themes: (1) theory and its application into practice, (2) research methodology, (3) 21st century technology, (4) curriculum development (5) literacy instruction, (6) leadership in 21st century schools, (7) content knowledge (depends on which concentration has been selected), (8) thematic and integrated instruction, (9) formative and summative assessment, (10) parents and families, (11) diversity and multicultural education and (12) 21st century teaching and learning. The Comprehensive Examination is three hours in length and is administered on-campus, in a computer format. A passing score is required for obtaining the M.Ed. or MAT degree.

Application for the Exam
The comprehensive exam will be offered two times per semester (fall and spring). The exam is not offered in the summer. Graduate candidates consult the School of Education website for application deadlines and administration dates for the comprehensive examination. Candidates should complete the application (see page 10) and submit to the School of Education Office by the identified deadline. After you have been approved to take the exam, an email notification will be sent to inform you of the testing location.

The Exam
The Comprehensive Exam should be taken within the last 6 to 9 hours of coursework. The three-hour exam is administered on-campus as a computer exam. Passing this exam is a mandatory requirement for obtaining the M. Ed. degree. There is one opportunity to reattempt the comprehensive exam if it was not initially passed. The exam may be taken no more than 2 times.

On the day of the exam, candidates will be presented with a list of six (6) questions and candidates will select three (3) to answer. The questions will address both the general core classes and the student's area of specialization (e.g., Elementary, Special Education). The list will contain three (3) general core questions and (3) specialty area questions. The student must choose at least one (1) of the general core questions and at least one (1) of the specialty area questions. The third question is the candidate's choice.
- Answers will be typed using 12-point font, Times New Roman, double-spaced, with standard 1 inch margins on all sides. Only your student identification number should be inserted into the header of the document along with page numbers. (Please bring your identification number with you to the exam. It is found on your Passport or in your "My Stuff" account.) There is no limit to the number of pages you may use to answer the questions.
- Special accommodations will be made for candidates with documented disabilities. Requests must be made through OARS.
- All references cited in the exam must identify the original author.
- At least two reliable and credible examples from professional literature should be used. APA format is expected for all written responses.

- Candidates for the Comprehensive Exam may create a list of references using the template (See Appendix C. This reference list must be submitted via email to Heather Slocum hslocum@highpoint.edu) no later than five days in advance of the exam date. This document will be reviewed for compliance with the guidelines below and any references not in compliance will be removed. Each candidate will receive a printed copy of his or her own reference list on the day of the exam. No modifications to this document may be made once submitted.
- No additional notes are allowed during the exam.
- On the day of the exam, candidates will be given their Reference Form (submitted and approved), blank pieces of paper for brainstorming and a writing utensil.

All candidates are held responsible for any information or notifications related to the exam, thus it is important to check your HPU email account regularly.

Preparing for the Exam

You will be asked questions relevant to your graduate studies based on readings and experiences you have gained in and out of the classroom over the course of your studies at High Point University. The areas of concentration that will be covered on the exam reflect the major pedagogical beliefs, theories, and practices that have been discussed in your courses. In order to adequately prepare for the exam, we urge you not to study and commit to memory every major article and publication covered in your courses, rather review articles and literature that you feel are important and reflect you interests in education, then analyze how the publications are connected to the areas of concentration discussed on the following pages. You should be knowledgeable of the author's name and the year of publication and/or title of literary works or policy documents that best support your beliefs, knowledge, and dispositions towards education. Carefully review the topic information list below.

Topic Information by Course

The following section should help you prepare for the "comprehensiveness" of the questions. Be familiar with the literature and materials discussed in your core and specialty classes.

Core and Specialty Courses

The following information should help the candidate prepare for the exam. It is organized under each of 8 objectives of the Graduate Program's Conceptual Framework. The Elementary Education Program is divided into ten themes or broad areas that have been addressed throughout your courses: (1) theory and its application into practice, (2) research, (3) technology, (4) curriculum development, (5) literacy instruction, (6) thematic and integrated instruction, (7) assessment, (8) parents and families, (9) diversity, and (10) 21st Century teaching and learning. Many of the discussions below are appropriate for the Special Education Program of Study. Exceptions are noted at the end of this section.

To enhance powers of inquiry, breadth of knowledge, command of written and spoken language and insight into ethical behavior through the commitments outlined in the mission of the university.

Theory into practice: Historical, political, and social factors influence past and current systems of education in the United States. Throughout the history of education in the U.S., there has been emerging policies and practices that have influenced the way current systems of education are implemented. Ground breaking and controversial movements (i.e., *Brown v. Board of Education*, charters schools, privatization, bi-lingual education) each have left an indelible mark on what candidates of education are being taught, and what teachers are (and should be) doing in their

classroom. This topic calls for you to examine the history of education through socio-political lens to present your understanding of the current systems of education based on historic events and changes in society. Tasks may include:

- Analyze the roles of education systems of schooling.
- Evaluate different systems of schooling.
- Analyze common themes and trends across educational systems.
- Identify current trends in education.

To demonstrate an advanced understanding and application of content for the licensure area(s).

Research in critical reading and literacy: What does it mean when a second grade teacher identifies a student who is struggling to read and write using a first grade text? What are the implications of this situation on teacher preparation? Perhaps even more important, what are the implications on the student's dispositions towards schooling and self? Examine the role of reading and literacy through a critical lens by questioning and engaging in reflection of the state of the reading and literacy movement in the U.S. and its response to reading and literacy as content, as well as a paradigm for student empowerment. Other areas may include the following tasks:

- Theoretical perspectives of education psychology
- Human development in relation to learning theories
- Psychological implication of family interactions as related to schooling
- Classroom management techniques

To demonstrate an advanced understanding and application of research-based techniques and strategies to meet the needs of diverse learners.

Diversity issues: Increasingly teachers have become more cognizant and responsive to the concerns and interest of candidates with special needs. There are a growing number of candidates with special needs in general education classrooms who require teachers to adapt their lesson appropriately. The issue of disability is often compounded by other factors such as ethnicity and social class. What are the dilemmas that confront candidates with disability and teachers in inclusive classrooms? How should teachers be prepared to adapt their instruction, including the gifted and talented student population? How does the increasing number of inclusive classroom influence policy to the end of providing equitable education for all candidates? The following tasks may be used:

- Describe in general terms the steps to perform in any research study, i.e., the research process.
- Describe a quantitative research study, describing what characteristics make it a quantitative study. Discuss the question you intend to study, how you will gather data, analyze it, and report findings.
- Describe a qualitative research study, describing what characteristics make it a qualitative study, and how the approach different from a quantitative study. Discuss the question you intend to study, how you will gather data, analyze it, and report findings.
- Discuss the variables to be considered in a study, how the study sample is to be determined, how one deals with potential bias in a study, and how internal and external reliability and validity would be determined.

To demonstrate advanced skills in the ability to effectively collaborate with members of the school community – including parents, families, colleagues, and community.

Collaboration with parents and families: There are several reasons why school/family partnerships are important. Schools that foster partnerships among administrators, faculty families, and candidates are more likely to have high levels of trust than are schools where partnerships are

fragile or nonexistent. Student achievement increases when parents are partners with their children's educators. Family-professional partnerships enhance families' quality of life. (Turnbull & Turnbull) With that said, how can teachers create and enhance school/family partnerships? How can teachers "walk in the shoes" of a parent? How can teachers overcome cultural and language barriers to foster collaboration?

To demonstrate advanced technological skills necessary for effective educational practices.

Technology. The classroom of today has changed considerably over the last two decades. Notebooks, pencils, and textbooks are being replaced by laptops, tablets and interactive white boards. Instructional technology has the potential of transforming education and training. How does the technology of today impact teacher training programs? What is a reasonable expectation of computer and technology competency that teachers should have? What are the implications of the World Wide Web for education according to your view, expert opinion, and research findings? In particular, what are the major educational developments that are unfolding on the internet today that directly benefit K-12 education and other education and training situations What are some of the problems of and obstacles to using the WWW in classrooms? How can general education classroom teachers use technology to enhance the education of diverse candidates (i.e, candidates with disabilities, English language learners) in their classroom?

- Current trends in technology
- Current research of effectiveness of technological aspects (e.g., software, Internet)

To demonstrate advanced skills in the areas of problem-solving and reflection.

Curriculum development and mastery teaching: As teachers we must be able to develop or adapt curriculum to meet the needs of our candidates. Moreover, we are challenged to develop authentic, reliable and valid methods of assessment as well as integrate and meet the goals of state mandated standards. Curriculum development is a formidable task, and teachers must take into consideration several elements to facilitate meaningful and purposeful learning. What should be considered in order to develop curriculum? How do we intersect the instructional goals with individual student needs? We often hear of student-centered instruction and other pedagogical strategies, yet how do we put this into practice? Such questions raise our awareness of the complexity of curriculum development and adaptation to diverse candidates, school and community settings. Evaluate the impact of identified trends on educational policy, procedure, and outcomes.

- Analyze pros and cons of identified trends.
- Synthesize a position in regard to the trend, and defend it in terms of educational outcomes.
- Propose procedures for initiating and/or directing change relative to identified trends.
- Evaluate the implication of current research for the classroom setting.
- Create a research proposal, including a detailed review of the literature.

To demonstrate ability to serve as leaders and mentors for members of the school community.

This objective is met through the capstone experience involving the Product of Learning and the Internship options.

To demonstrate the ability to incorporate "21st Century Thinking" into the teaching and learning process.

21st Century Skills: Today's education system faces irrelevance unless we bridge the gap between how candidates live and how they learn. Schools are struggling to keep pace with the astonishing rate of change in candidates' lives outside of school. Candidates will spend their adult lives in a

multitasking, multifaceted, technology-driven, diverse, vibrant worlds, - and they must arrive equipped to do so. We must also commit to ensuring that all candidates have equal access to this new technological world, regardless of their economic background. (Partnership for 21st Century Skills) How can teachers expand the core subjects beyond mere basics to understanding at higher levels of comprehension and application in the real and virtual world? How can teachers incorporate learning skills into classrooms more deliberately, strategically, and broadly? What solutions are available to conquer the "digital divide" in schools?

Area of concentration: Special Education Candidates in the Special Education Program of Study should use the commentary and objectives of the Conceptual Framework as outlined in the section above. Note that the objectives are in bold print.

To demonstrate advanced skills in the areas of problem-solving and reflection.

The Diagnostic-Prescriptive Model has been the basis of special education since its inception. A related model, the Applied Behavioral Analysis Model, has been added in recent years with the huge increase of children identified as Autistic. These models have provided the standard for assessment that guides the development and curriculum and instruction for candidates with mental disabilities. The individualized education plan still drives the specially designed instruction as required by law. What is the impact of No Child Left Behind on IDEIA '04? There is a continued emphasis on goal-oriented outcomes that must address post-secondary employment and living conditions. How can teachers prepare candidates appropriately for the employment opportunities of the future? It has been said that technology is the great equalizer for people with disabilities. How can teachers access technology and use it to the candidates' greatest benefit? Evaluate the impact of identified trends on educational policy, procedure, and outcomes.

- Analyze pros and cons of identified trends.
- Synthesize a position in regard to the trend, and defend it in terms of educational outcomes.
- Propose procedures for initiating and/or directing change relative to identified trends.
- Evaluate the implication of current research for the classroom setting.
- Create a research proposal, including a detailed review of the literature.

Evaluation Criteria

Each of your essays will be evaluated by two faculty members in the School of Education. The faculty will use the criteria listed on the *Evaluation for Comprehensive Exam Rubric* (see Appendix A) to evaluate your responses. The exam will be graded as "Pass" or "Fail" and each question is worth **100 points.** Notification of the comprehensive exam results will be made available via email approximately 1 month after the exam.

Scoring Procedures:

An anonymous identification number codes candidate responses. Two (2) faculty members will score questions blindly. Faculty evaluations will be averaged together to provide a score for each question. If a candidate does not pass TWO (2) or more questions, the entire exam will need to be retaken at the next schedule date. If a candidate does not pass ONE (1) question, a similar question will need to be retaken at the next schedule date. Only one (1) reexamination is allowed. If a candidate fails the exam twice, that candidate will be unable to receive the master's degree and will be removed from their program of study.

Appealing Decisions

Candidates have the right to appeal decisions. See the Norcross Graduate School Bulletin for the appeal procedure.

Tips for Writing a Successful Comprehensive Examination

The emphasis of the exam is on the application of skills and knowledge learned in the program to practical issues in teaching. Graduate comprehensive exams are closed book, and prepared notes are not allowed. Notes of resource references are allowed if proper protocol is followed (See Appendix B).

It is recommended that the candidate develop a plan describing what you need to respond to each question and then follow the plan. Most graduate students employ a four to eight (4-8) week study plan. Length of study and preparation for comprehensive exams is dependent on your current level of knowledge and your current level of comfort to take the exam. To reduce your stress level, prepare thoroughly for the exam.

General Study Tips:

- Set up a schedule for your studying – early morning, lunch time, after dinner…. Try to stick to your schedule.
- Carefully review the topic information.
- Write down key words, terms, theories, and theorists that could be used to build a strong response.
- Study at a broad overview level rather than tiny details. The questions are broad with more than one reasonable mode of answering. A broad overview helps in synthesizing the materials. This does not mean you should neglect detail in your exam answers. Details can add much to your answers by showing a real grasp of the material when integrated with more general explanations and examples.
- Review your course materials from your graduate courses; be aware of key issues and authors in the field. Be prepared with **at least two** relevant professional references for each response. ***For example: According to Smith (2006), phonics is a consequence of learning to read not a pre-requisite.***
- Prepare reference guide following protocol (Appendix B)
- Prepare outlines, charts, visual summaries, pneumatic devices, etc.
- If you feel you need to strengthen your writing skills, have someone with good writing skills go over a couple of your essays or you can contact the University's Writing Center which is located in the Smith Library. Their email is: writingcenter@highpoint.edu.
- Consider studying with peers in your program.
- Study guides/points are provided in Appendix C to assist you with items that may be covered on the exam. If you do not see a course or professor listed, please contact the chair of the academic department related to your degree.

Tips for composition:

When you are asked to respond to a multi-part essay question and are required to cite sources, the following strategy can be used to ensure that you meet the minimum criteria for an acceptable response.

- Break the essay down into its constituent parts. Consider webs, concept maps during prewriting.
- Make sure that you establish a "working thesis" statement (*The exact topic + your approach toward that topic.)*
- Create an introductory paragraph that introduces the question and your main points.

- Directly answer the question.
- Write a minimum of five paragraphs that address the question.
- Summarize the question and your main points in a concluding paragraph.
- Use APA style to cite the source of your information. Use third person unless the question asks for your opinion or reaction.

Final Note: Study …… Study…… Study….. Study…… And then study some more! Do not walk into the comprehensive exam cold – You must study extensively in order to pass. Look at this as an opportunity to review everything you have learned, plus studying the latest trends and issues in the field. Challenge yourself to learn as much as possible about EVERYTHING you think might be on the exam. So, challenge yourself and be proud of what you are doing to better yourself.   Good luck and happy studying!

University Honor Code

As a Graduate Student, you will be responsible for upholding High Point University's Honor Code.

University students have the right and responsibility to live and learn in an environment free from fraudulence and dishonesty. The High Point University Honor Code which has been officially adopted and endorsed by the faculty and by the Board of Trustees affirms that:

- Every student is honor-bound to refrain from conduct which is unbecoming of a High Point University student and which brings discredit to the student and/or to the University.

- Every student is honor-bound to refrain from cheating

- Every student is honor-bound to refrain from collusion

- Every student is honor-bound to refrain from plagiarism

- Every student is honor-bound to confront a violation of the University Honor Code

- Every student is encouraged to report a violation of the University Honor Code

HIGH POINT UNIVERSITY
STOUT SCHOOL OF EDUCATION
APPLICATION TO TAKE GRADUATE COMPREHENSIVE EXAMINATION

To be eligible to take the comprehensive examination, a graduate student must be fully matriculated in a graduate program at High Point University and have a cumulative grade point average of at least 3.0 at the graduate level.

Complete Section I of this form and forward this application to Heather Slocum in the Stout School of Education, Room 237.

Comprehensive Exam Date	Comprehensive Exam Application Deadline
Fall Exam:	Fall Application Deadline:
Spring Exam I:	Spring Application Deadline:
Spring Exam II:	
Summer Exam Date:	Summer Application Deadline:

Section I: Candidate Information

Name: HPU ID Number:

                                                         Telephone Number:

Address:

City/State/Zip: Email Address:

Anticipated Graduation Date:

Program of Study:

Signature of Candidate: Date of Request:

Section II: Permission (this section will completed by the SOE office)

The above named candidate has completed appropriate course work and is recommended to take the comprehensive examination on the date requested.

Signature of SOE Representative: _____   Date:

☐ Approved   ☐ Denied

Reason for Denial:

Signature: _____   Date:

Copy to:	☐ *Norcross Graduate School*	☐ *Graduate Advisor*	☐ *Student*

Appendix A: Evaluation Rubric

High Point University • Stout School of Education

Evaluation of M. Ed. Comprehensive Examination

Candidate #:   Date:

Reader: Question:

> *Instructions: Please read the enclosed comprehensive examination question and the candidate's response.   Score the question and place points earned in the chart below.*

Area	Points	
Content: *80 Points* Focus: Content of the candidate's response to the comprehensive exam question or prompt. Points earned with a content focus are based on the following: • Explicitly addresses the prompt • Aligns with the content of the course/topic • Includes accurate and substantive references to research and theory • Includes at least two references relevant for the topic/course • Appropriate knowledge (not opinion) is demonstrated • Demonstrates knowledge of course content (not personal opinion) • Includes clearly stated claims supported by relevant evidence • Demonstrates depth of knowledge through adequate and relevant details • Includes synthesis of concepts and ideas	Possible Points: **80**	Earned Points:
Organization and Presentation: *20 Points* Focus: Organization and language conventions of the candidate's response to the comprehensive exam question or prompt. Points earned are based on the extent the candidate's submitted response meets the following: • Organization is coherent and well-structured with appropriate paragraph and/or headings	Possible Points:	Earned Points:

• Consistently utilizes conventional grammar (mechanics, spelling, punctuation, capitalization, syntax, etc.) • Applies APA conventions (Including in-text citations, formatting, and references) • Utilizes professional language and tone		
Total Points Candidate must ==*average at least 80 points*== from the two readers in order to pass this question. If the candidate does not earn at least 8o points, list areas of deficiency below:	Possible Points :	Earned Points:

Revised 10.1.19

Appendix B: Reference Page

Comprehensive Exam References

Candidates for the Comprehensive Exam may create a list of references using this template. This reference list must be submitted via email to Heather Slocum hslocum@highpoint.edu) no later than five days in advance of the exam date. For example, if you are taking your exam on a Saturday, this means the comprehensive exam referenced must be submitted by Monday at 8:00 AM. This document will be reviewed for compliance with the guidelines below and any references not in compliance will be removed.

Each candidate will receive a printed copy of their own reference list on the day of the exam. No modifications to this document may be made once submitted and no additional notes will be allowed during the exam. However, candidates may make reference to additional sources not listed. There is no limit on the number of references candidates may list in this template – simply add additional rows.

Relevant Course	Citation (APA)	Key words/reminders (NO MORE THAN 5 WORDS)
(*Guidelines*) You may include the course number and title	Use APA style to format all citations. Accurate citation format is the responsibility of the candidate.	Include no more than 5 words per entry to serve as key words or reminders regarding this source. Any entries with more than five words will be removed from the reference list.
(*Example*) EDU 5134: Foundations of Reading	Anonymous, A. A., & Nobody, A. A. (2016). Reading in the elementary classroom. *Journal of Reading, 7*(2), 14-27.	Reading workshop, constructivism, peer conferencing

Appendix C: Study Guide/Topics

Core Courses

EDU 5010: Advanced Instructional Technology for the 21st Century (Elementary Ed-Literacy, Special Education, Educational Leadership)

- Formative assessment tools and use
- Use of Twitter (research and experience with examples) on the development of a personal learning network
- Role of eBooks in Literacy with examples
- Use of educational technology to engage students in the classroom
- Current research on education technology and student engagement in Literacy
- Use of Interactive Whiteboards in student engagement
- Formative assessment tools and use
- Organization of resources to enhance teacher effectiveness and student time on task
- Use of education technology to increase student engagement and understanding

EDU 4511/5011: Technology Integration for Elementary STEM Based Programs

- Use of Visual/block-based coding languages to help students create technology and create with technology
- Use of game design and storytelling to enhance and assess student understanding across subject areas
- Role of technology (e.g., mind mapping tools and robotics) in supporting collaboration and social interactions
- Role of Stop/slow-) Motion Animation and other formative assessment tools   in demonstrating student understanding and making ideas visible
- Role of probe ware, sensors, and microscopes for STEM data collection
- Engaging in citizen science projects to improve global science participation and awareness
- Engaging in augmented and virtual reality, while considering responsible and ethical use of technologies
- Current research on STEM technology education and digital literacies
- Application of technology-embedded STEM service projects (e.g., HPU mobile lab activity planning) to take initiative with professional growth and demonstrate leadership for technology innovation

EDU 5030: Methods of Educational Research

- Research Ethics and Protection of Human Subjects
- Research proposal structure
    - Research problem
    - Problem statements
    - Research questions
    - Hypotheses
    - Literature reviews (and tracking reviewed literature)
    - Methodology
    - Collection and analysis of data
    - Reporting results
- Types of Research Design
    - Quantitative (experimental, quasi-experimental, survey)
    - Qualitative (case study, ethnography, narrative, historical, grounded theory)
    - Mixed-Methods (convergent parallel, explanatory sequential, exploratory sequential)
- Data Collection and Analysis Techniques and Tools
    - Quantitative: Control vs treatment groups, SPSS, Qualtrics, surveys
    - Qualitative: Interviews, Focus Groups, NVivo, Coding, observation protocols, field notes

EDU 4540/5040: Diversity in Education: Societal and Organizational Perspectives

- Explain the difference between equity and equality, both in theory and practice.
- Explain colorblindness and evaluate the impact of colorblind practices on students.
- Explain the importance of self-reflection and self-awareness for teaching and interacting with diverse students.
- Explain why privilege is an important concept for educators to understand and recognize both in themselves and others.
- Provide examples of school policies, practices, and/or societal structures that marginalize students and offer equitable alternatives.
- Explain the dimensions of culturally responsive teaching and offer examples of culturally responsive practices.
- Explain how various aspects of identity (socioeconomic status, race and ethnicity, gender, religion, sexual orientation, ability, language, etc.) can impact students' schooling experiences.

EDU 5055: English Language Learners: Scaffolding Language Development

- Explain Factors that Influence Second Language Development and how they impact Second Language Development (Linguistic, Socio-Cultural, Academic, Psychological)
- Explain the difference between BICS and CALP and how it relates to Second Language Development and learning a second language in an academic setting
- Explain Reading Language Development for ELLs: Code-Based Skills and Meaning Based Skills

- Writing Development for English Language Learners: Key Stages and Instructional Techniques
- Academic Language: Components of Academic Language; General vs. Content Specific Academic Vocabulary; Strategies for identifying key academic vocabulary to teach
- Provide examples of Instructional Techniques for Teaching ELLs: Explain 5 different instructional strategies/activities for teaching ELLs and how these activities support ELLs in language development

EDU 5060: Developing Leaders in 21st Century Schools

- Identify traits associated with leadership and explain how participating in regular self-assessments and self-reflection can be used to develop those traits.
- Explain strengths-based leadership and offer examples of how strengths can be used to improve practice.
- Explain different leadership philosophies/styles and offer examples of how these philosophies/styles might look in practice.
- Explain the significance of school climate/culture and identify ways leaders can establish constructive school climates/cultures.
- Explain why teacher voice matters in educational decision-making and offer examples of when it would be particularly important to consult teachers in making decisions.

EDU 5550: Design Thinking and Creative Thought

- 5 core principles of design thinking
- How is play related to learning?
- What does it mean to design for educational value?
- The 3 dimensions of innovation
- Define creative curriculum
- Two models of curriculum design
- Stages of design thinking leadership
- 7 tenants of change
- Human centered design
- The design process

Specialized Courses- Elementary Education (Literacy and STEM)

EDU 5130: Numerical Representation & Number Concepts in Elementary Mathematics

- Van Hiele's Levels of Geometric thinking
- Role of proofs in understanding elementary mathematics
- The importance of the positional relationship of numbers in mathematics as it compares to other positional systems of numbers (binary for example)
- Role of math in the STEM classroom
- Developmental perspective of Addition, Subtraction, Multiplication, and Division.
- Manipulative use in with relation to specific content and why certain manipulatives are better for certain tasks.
- Difference between knowing math and doing math
- Role of theories such as constructivism, behaviorism, and social learning theory in mathematics
- Relational understanding vs instrumental understanding and link between Skemp's theory and learning
- Difference between teaching for Problem solving, through problem solving and about problem solving.
- What is mathematical proficiency and how does it relate to the use of math practices, the NCTM principles and standards, and learning progressions for math in student learning?
- The role of CRA in the understanding of procedural and conceptual mathematics.

EDU 5131: Multimodal Literacies with Trade Books

- Novel: Use of juvenile/adolescent novels in teaching units in Language Arts processes to use, instructional techniques to support students before, during and after reading the novel.
- Visual Literacy & Illustrative Techniques: Artistic Techniques (color, demand, framing, etc.), ways to teach students about illustrative techniques, use of techniques within children's literature
- Multimodal Literacy: Multimodal reading techniques, multimodal literature responses, multimodal literacy to support student language development (struggling readers, ELL students)
- Techniques for teaching the reading of multimodal texts and responding to trade books multimodally
- Critical Literacy: analysis of literature, selectivity vs. censorship, literature for social justice engagements, reading inquiry projects to take action
- Use and application of Trade Books across content areas

EDU 4532/5132: Foundations of Writing Instruction

- Writing Workshop: Components, Teacher and Student Role in each of the components, applying the Writing Process in the writer's workshop, role of the writer's notebook
- Writing Process: Understand and describe writing process, instructional techniques and lessons for supporting students throughout different aspects of the writing process, assessment of student writing
- Mentor Texts and Writing Craft: Incorporation of mentor texts to support student writing and

writer's craft, effective craft writing instruction, authors as mentors
- Attending to Diversity in Writing: Codeswitching with writers, Understanding ELL writing development
- Early Literacy Writing Development and Instruction

EDU 4533/5133: Integrated Principles of Science and Social Studies Instruction

- Learning theory: Piaget, Vygotsky, Kolberg, Rotter etc.. and the role they play in understanding what students need in terms of differentiated instructional strategies for science and social studies.
  - Developmental Patterns of children with regard to social studies/science processes
  - Understand the nature of science and the nature of social studies
  - 5 themes of Social Studies
  - Science Process Skills
  - Levels of integrated curriculum and an example of each level using a science and social studies topic.
  - Using visualization stimulation to promote critical thinking and problem-solving
  - Differentiation between Project-based learning and Problem-based learning in an inquiry model of instruction for science and social studies (examples)
  - Using Inquiry based learning in science and social studies teaching
  - Based on research in social sciences, how is the study of social studies and science as a combined social science relevant to a child's ability to understand and problem-solve around issues in the world around them?

EDU 5134 Foundations of Reading

Be able to describe characteristics of these theories of Literacy Learning, as well as classroom and research applications:

- Behavioral Theories
- Constructivist Theories
- Developmental Theories
- Cognitive Processing Theories
- Social Learning Theories

Explain historical and cultural influences on literacy learning

EDU 5135 Diagnostic Assessment and Instruction in the Teaching of Reading

- Models of Reading Assessment: Describing different models of assessment (cognitive, deficit, stages, etc.), Explain Data collection, analysis and evaluation of reader in each model, view of reading process
- Standardized Tests: Types: Norm-referenced, Criterion-referenced, interpretations of scores, benefits and limitations of standardized tests with assessment
- Self-Monitoring: Define and Assess students' ability to self-monitor: both miscues and comprehension, prompts and instructional techniques for shifting students from dependent to independent self-monitoring techniques.
- Fluency: Defining and assessing fluency. Instructional techniques to support fluency development, role of fluency in comprehension
- Informal Reading Inventories: Procedures for conducting IRI (like QRI-6), how different aspects assess different elements of student's reading, use of data to inform instructional decisions

EDU 4536/5136: Principles of Integrating Literacy and Social Studies

- Disciplinary Literacy/Content Area Literacy: Describe the role of disciplinary and content area literacy in the elementary classroom, specifically with regard to supporting learning in social studies. Considerations for selecting meaningful texts. Explain critical literacy purposes and instructional strategies in social studies.
- Literature Circles/Book Clubs: How Literature Circles/Book Clubs support readers in the content areas, adapting and implementing literature circles/book clubs with students with varying needs: ELL students, struggling readers, high performers, students with special needs; teacher, peer and self-assessment in literature circles/book clubs. Instructional strategies for teachers implementing literature circles/book clubs in the classroom.
- Inquiry Model: Describe and explain inquiry model, with particular emphasis on the social studies classroom. Explain the concept of multi-genre research as an instruction and assessment tool to accompany classroom inquiry.

EDU 5137: Integrating STEM Instruction into the Elementary Classroom

- STEM Literacy
- Six guiding principles of the *Framework for K-12 Science Education* (National Research Council, 2011)
- Next Generation Science Standards (NGSS) structure to include: Science & Engineering practices, Disciplinary Core Ideas, and Crosscutting Concepts
- Five guiding principles of STEM Education that drive STEM-based curriculum development from *STEM Lesson Essentials* (Vasquez et al., 2013)
- 4 Major domains of science
- Principles that have guided the introduction and development of K-12 engineering education (Katehi, 2009)
- Understanding by Design (Wiggins & McTighe, 2005)
- STEM Habits of Mind (within each discipline)

- Essential 21st Century Skills (P21 Framework, 2009)
- Four elements of Creativity (fluency, flexibility, originality, and elaboration) (Torrance, 1979)
- Convergent & divergent thinking
- STEM integrative approaches
- Engineering Design Process & features
- Operationalize terms: technology & engineering
- Problem-based Learning vs. Project-based Learning
- Elements of a STEM School and types of STEM Schools

EDU 5233: Connected Systems and Interdependence in Science

- The Earth, as a system of interacting, spheres: Atmosphere, Hydrosphere, Geosphere, Biosphere
  - o The hydrologic (water) cycle and flow
  - o Interactions between the hydrosphere and biosphere (e.g., indicator bacteria and water testing)
- Energy and matter in ecosystems
  - o Open/closed systems and conservation
  - o Energy forms (e.g., heat, light, sound)
  - o Heat energy transfer processes (e.g., convection, conduction, radiation)
  - o Human impact of energy on Earth
- Global cycles of life: Biogeochemical cycling
  - o Carbon, nitrogen, phosphorus cycles (e.g., snail and plant respiration)
- The role of models and representations in science
  - o Model-based inquiry as a method of teaching and learning
  - o Representations of light and sound wave properties
- Conceptual understandings and conceptual development of scientific ideas

Specialized Courses- M Ed. Special Education

EDU 5090: Individuals with Intellectual Disabilities: Legal, Ethical and Historical Perspectives

- History of Special Education Law and IDEA
- Basic tenets of the laws that impact persons with disabilities
- Ethical issues concerning the provision of services for individuals with intellectual disabilities
- Current legal issues impacting special education

EDU 5141: Curriculum Assessment and Planning for Students with Intellectual Disabilities

- Curriculum and Program Development
- Inclusive Education
- Assessment and Planning for Instruction
- Preference Assessments
- Research validated instructional practices & Evidence Based Practices

- Social Skills Training
- Social Narratives
- Self-Management
- Scripting
- Peer-mediated Instruction and Intervention (PMII)

EDU 5142: Instructional and Transition Planning for Elementary Students with Intellectual Disabilities

- Transition Phases
  - Early Intervention to Preschool
  - PreK-K
  - Transition from Elementary to Secondary
- Transition Services and Supports for Younger Students
- Collaborating with Families
  - Providing Culturally Competent Services and Supports
- Person Centered Planning
- Fostering Friendships and Recreational Involvement
- Strategies for Teaching Home & Community Skills
- Community Based Instruction vs. Community Based Instruction
- Transitioning from School to Employment

EDU 5143: Occupational and Transition Planning for Secondary Students with Intellectual Disabilities

- Instructional Planning using systematic instruction
- Research validated instructional practices for Reading, Writing, Math, and Science
- Learning Trajectories
- Historical and Legislative Foundations regarding secondary transition
- The Role of Secondary Education in Transition
- Components of a Transition Plan (Activities, Services and/or Supports)
- Promoting Self Determination
- Transition Assessments
- Aligning Instruction and Transition

EDU 5144: Consultation and Collaboration with Families and Community Agencies

- What is school-based consultation (SBC)?
- How does SBC relate to collaboration?
- What skills are necessary to be an effective consultant (i.e. listening, questioning)? Understand the dynamics of the consultant/consultee relationship
- What are the possible obstacles to an effective consultant/consultee relationship?
- Know the root causes of resistance and how to overcome it

- Understand the multiple layers of consultation and different areas within the school that consultation can occur
- Systems level of change—understand the process and the consultative role within the concept
- Role of legal systems and government in service availability as well as major laws which impact resources and services for individuals with disabilities
- Importance for a teacher to know the community, services available, the family, understanding the relationship and the need for services outside of school for the student to be successful, understanding the challenge families have in accessing services and strategies to overcome these obstacles from a consultative relationship, relevance of these services across the lifespan and beyond graduation

EDU 5145: Assistive Technology and Instructional Support for the 21st Century Classroom

- Legislation leading to Assistive Technology (AT) mandates
- Best practices in the assessment of AT
- SETT Framework
- Consideration of AT using the Quality Indicators of Assistive Technology (QIAT)
- Wisconsin Assistive Technology Initiative (WATI)-Consideration of AT
- Areas to consider for AT
- Funding for AT
- Use of Core Words and AT to facilitate communication

EDU 5146: Building Self-Determination and Advocacy Skills in Persons with Intellectual Disabilities

- Self-Determined Learning Model of Instruction
- Assessment tools for self-determination
    - AIR
    - ARC
    - Informal instruments
- Skills that make up self-determination and research to prove usefulness
    - choice making
    - problem solving and decision making
    - self-management
    - goal setting
    - self-advocacy
- How to create opportunities for self-determination in K-12 classroom
- Self-determination throughout the lifespan of an individual
- Relationship between self-advocacy and self-determination