

TEACHER LEADERSHIP (M.A.)

Program Overview

The Master of Arts in Teacher Leadership program seeks students who wish to enhance their knowledge and ability to deliver content instruction and further develop their leadership skills in educational settings. This program is designed to be developmental and experiential in nature, fostering ethical behavior and the improvement of self and one's profession. The program is based upon current leadership standards. These standards emphasize performance-based learning opportunities in the areas of articulating and implementing a vision for learning, promoting effective instruction, effectively utilizing and managing resources in the learning environment, collaborating with families and community members, promoting the success of all students in an ethical manner, and recognizing the influence of the larger political, social, economic, legal, and cultural context.

The teacher leadership degree program serves those students who seek a graduate program that will develop their professional capacities as teachers and leaders. Increasingly, teachers are called upon to play a leadership role in the following areas: design, coordinate, and evaluate standards-based curricular programs; assess the outcomes of instruction; support the work of other teachers through mentoring, peer-coaching, and collaborative problem-solving; contribute to the professional development of the staff by providing and facilitating teacher in-service programs; and to promote a positive climate and culture for learning both inside and outside of the classroom. This program also prepares students for formal instruction/supervisory roles by emphasizing the knowledge, skills, and dispositions needed to assume leadership responsibilities for school and district-wide improvement initiatives.

Leadership Growth Projects are a requirement of every teacher leadership core course within the program. They provide students with an opportunity to develop and practice their teacher/supervisory leadership skills throughout the program so that they are well-prepared for the requirements of their internship experience (Capstone Project). An electronic portfolio showcasing how Standards have been addressed will be submitted during the internship course to document continuous and sustained accomplishments of all candidates in their educational settings. Upon the completion of the Master of Arts Degree in Teacher Leadership, graduates will qualify for the New Jersey Instructional Supervisor Certificate.

Curriculum Overview

Developed by Rider University's respected and CAEP (<http://www.ncate.org/>)-accredited College of Education and Human Services, the Master of Arts is designed to prepare experienced teachers to assume a greater leadership role in their schools, and share their skills and knowledge while remaining active in the classroom.

Teachers who complete the full master's degree will acquire both content knowledge and the skills needed to be effective teacher leaders in their schools and school districts. The full master's degree program includes both the 21-credit teacher leadership core and the 15-credit core content disciplines. Students who complete the master's degree track are eligible to apply for New Jersey Supervisor Certification.

The teacher leadership core is designed to prepare experienced teachers to assume a greater leadership role in their schools and share their skills and knowledge while remaining active in the classroom. This

is a low-residency program that combines the best of face-to-face learning with the convenience of online learning. Its innovative design gives participants the flexibility they need to balance work and family demands while advancing their skill as teacher leaders. In the core content disciplines, teachers select content courses designed to build content knowledge and pedagogy in specialized fields. Teachers may select courses in only one concentration or a combination of courses in more than one concentration.

Teacher Leadership Concentration Options

The concentrations provide teachers with face-to-face and/or online courses that require the application of what is being learned in class to how content is being taught in their classrooms. The primary goal is to enhance content knowledge and ability to deliver instruction in a common core curriculum area of specialization. The completion of five courses in the concentrations will result in a Rider University Professional Development Certificate in that specific concentration and in some instances a New Jersey Department of Education endorsement/certification.

Degree Offered

- M.A. in Teacher Leadership

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Program Website: Teacher Leadership (<https://www.rider.edu/academics/colleges-schools/college-education-human-services/graduate/teacher-leadership/>)

Associated Department: Department of Graduate Education, Leadership, and Counseling (<http://www.rider.edu/academics/colleges-schools/college-liberal-arts-education-sciences/school-of-education/graduate-programs/>)

Related Programs

- Teacher Leadership Professional Development Certificate
- Master of Arts in Teaching (<http://catalog.rider.edu/graduate/colleges-schools/education/programs-certificates/ma-teaching/>)
- Educational Leadership (<http://catalog.rider.edu/graduate/colleges-schools/education/programs-certificates/educational-leadership/>)
- Organizational Leadership (<http://catalog.rider.edu/graduate/colleges-schools/education/programs-certificates/organizational-leadership/>)

Teacher Leadership (M.A.) Program Requirements

(36 credits)

Code	Title	Credits
Teacher Leadership Core Courses		21
CURR 552	Creative, Ethical Teacher Leadership	
EDAD 505	Supervisor/Teacher Leadership for Improved Instruction and Student Learning	
CURR 531	Strategies for Curriculum Development, Innovation and Change	

CURR 538	Assessment of Curriculum and Instruction to Improve the Performance of Teachers and Diverse Learners	
EDAD 521	Using Research Strategies and Analysis of Data to Make Decisions in Schools	
EDAD 511	Group Process in Supervision for Creative Change and Collaboration in Schools	
EDAD 510	Seminar/Practicum in Teacher Leadership and Supervision	
Teacher Leadership Concentration Options		15
Select one concentration from the list below. See the Concentrations tab for the required course list for each concentration.		
English as a Second Language/Bilingual Concentration		
Inclusive Practices in Education Concentration		
Math Concentration		
Principal Concentration		
Science Concentration		
Literacy Concentration		
Gifted Education and Creativity Concentration		
Endeavor STEM Concentration		
Total Credits		36

Teacher Leadership Concentration Options Requirements

- English as a Second Language/Bilingual Concentration (p. 2)
- Inclusive Practices in Education Concentration (p. 2)
- Math Concentration (p. 2)
- Principal Concentration (p. 2)
- Science Concentration (p. 2)
- Literacy Concentration (p. 2)
- Gifted Education and Creativity Concentration (p. 3)
- Endeavor (p. 3) STEM (p. 3) Concentration (p. 3)

English as a Second Language/Bilingual Concentration (15 credits)

Code	Title	Credits
CURR 548	Curriculum and Instruction for Diverse Learners	3
EDUC 520	Introduction to Linguistics and Psycholinguistics	3
EDUC 521	Teaching a Second Language	3
EDUC 560	Educating and Evaluating the Bilingual Child	3
LITR 508	Literacy and the Bilingual/Bicultural Child	3
Total Credits		15

Inclusive Practices in Education Concentration (15 credits)

Code	Title	Credits
SPED 512	Psychology of Exceptionality	3
SPED 514	Positive Behavior Support	3
SPED 524	Collaboration and Inclusive Practice for Students with Mild and Severe Disabilities	3
SPED 531	Assessment for Instruction in Special Education	3

SPED 539	Instructional Practices for Students with Disabilities	3
Total Credits		15

Math Concentration (15 credits)

Code	Title	Credits
CURR 517	Teaching and Learning Number and Operations	3
CURR 518	Teaching and Learning Rational Numbers and Proportional Reasoning	3
CURR 519	Teaching and Learning Algebraic Reasoning	3
CURR 520	Teaching and Learning Geometric Understanding	3
CURR 522	Teaching and Learning Measurement and Data	3
Total Credits		15

Principal Concentration (15 credits)

Code	Title	Credits
EDAD 501	Educational Leadership and Organizational Theory	3
EDAD 507	Education and the Law	3
EDAD 514	School Finance and Fiscal Management	3
EDAD 591	Seminar/Practicum in Educational Leadership/Supervision	3
EDAD 592	Seminar/Practicum in Educational Leadership/Supervision	3
Total Credits		15

Science Concentration (15 credits)

Code	Title	Credits
CURR 640	Teaching and Learning Physical Science	3
CURR 641	Teaching and Learning Life Science	3
CURR 642	Teaching and Learning Earth and Space Science	3
CURR 643	Engineering Solutions to the Challenges of Contemporary Science Issues	3
CURR 644	Teaching and Learning Chemical Science	3
Total Credits		15

Literacy Concentration (15 credits)

Code	Title	Credits
Select five of the following courses:		
CURR 548	Curriculum and Instruction for Diverse Learners	
LITR 500	Multimodal Teaching and Learning	
LITR 501	Psychology and Pedagogy of Literacy Processes ¹	
LITR 502	Curriculum, Instruction and Supervision in Literacy ¹	
LITR 504	Diagnosis and Correction of Literacy Abilities and Challenges: Seminar and Practicum ¹	
LITR 508	Literacy and the Bilingual/Bicultural Child	
		15

LITR 510	Research and Survey of Texts for Children and Adolescents
LITR 560	Writing Project at Rider
LITR 600	Independent Research and Study in Literacy Education
SPED 542	Literacy and Students With Special Needs

¹ These courses can lead to a Reading Specialist Certification (http://catalog.rider.edu/graduate/colleges-schools/education/programs-certificates/reading_spec_endorse/).

Gifted Education and Creativity Concentration

(15 credits)

Code	Title	Credits
CURR 650	Understanding Gifted Learners	3
CURR 652	Differentiating Instruction for the Gifted and Talented	3
CURR 654	Innovative Instructional Strategies for Gifted Education	3
CURR 656	Creative, Interdisciplinary Thinking	3
Select one additional course from other concentrations.		3
Total Credits		15

Endeavor STEM Concentration

(15 credits)

Code	Title	Credits
Select up to five of the following courses (not every course is available every semester):		
CURR 660	Authentic Data in the Elementary STEM Classroom.	9-15
CURR 661	Authentic Data in the Secondary STEM Classroom	
CURR 662	Eyes on Earth: Teaching Earth Science from Space (PK-8)	
CURR 663	Lessons from the Ocean: Science on the Water Planet (Grades 2-12)	
CURR 664	The Arts in STEM: Advancing Meaningful Integration (K-12)	
CURR 665	Climate Change with NSF SPRINTT	
CURR 666	Exploring Mars: A New Twist on Science (or Math)	
CURR 667	Physical Science in Motion: Classroom Applications	
CURR 668	Coding, Robotics, and 1:1 Devices	
CURR 669	Culturally Relevant Pedagogy in the STEM Classroom	
CURR 670	Life and Marine Science: Tracking Live Marine Animals	0-6
CURR 672	Math Connections to STEM Education	
CURR 673	NASA Astronomy and Space Science	
CURR 676	The E in STEM: Meaningful Content for Engineering	

Select no more than two of the following courses (not every course is 0-6 available every semester):

CURR 517	Teaching and Learning Number and Operations
CURR 518	Teaching and Learning Rational Numbers and Proportional Reasoning
CURR 519	Teaching and Learning Algebraic Reasoning
CURR 520	Teaching and Learning Geometric Understanding
CURR 522	Teaching and Learning Measurement and Data
CURR 640	Teaching and Learning Physical Science
CURR 641	Teaching and Learning Life Science
CURR 642	Teaching and Learning Earth and Space Science
CURR 643	Engineering Solutions to the Challenges of Contemporary Science Issues
CURR 644	Teaching and Learning Chemical Science

Total Credits: 15

Courses and Descriptions

CURR 517 Teaching and Learning Number and Operations 3 Credits

This course provides an in-depth study of the content and pedagogy for understanding early number theory. It addresses students' mathematical understanding of representing numbers, relationships among numbers, and number systems; operations and how they relate to one another; and computation. Strong emphasis is placed on the cognitive development of children's thinking in number and operations, and the instructional, curricular, and assessment implications for teaching. The course includes the NCTM Principles of problem solving, reasoning and proof, connections, communication, and multiple representations and the Common Core State Standards for Mathematics Practices.

CURR 518 Teaching and Learning Rational Numbers and Proportional Reasoning 3 Credits

This course provides an in-depth study of the content and pedagogy for understanding rational numbers and proportional reasoning. Content includes a variety of situations involving proportions, for example, real-world problems involving ratios, rates, and percents; geometry involving similarity; algebra involving linearity; and probability involving assigning a probability to an event. Distinguishing proportional situations from those that are not and reasoning proportionally in appropriate situations are emphasized. Emphasis is placed on children's cognitive development of rational numbers and proportional reasoning, and the instructional, curricular, and assessment implications for teaching. The course includes the NCTM Principles of problem solving, reasoning and proof, connections, communication, and multiple representations and the Common Core State Standards for Mathematics Practices.

CURR 519 Teaching and Learning Algebraic Reasoning 3 Credits

This course provides an in-depth study of the content and pedagogy necessary to facilitate the transition from concrete arithmetic reasoning to abstract algebraic reasoning. It addresses students' mathematical understanding of equality, variable, generalization, and functions; cognitive development of algebraic reasoning; and the instructional, curricular, and assessment implications for fostering algebraic reasoning in students. Strong emphasis is placed on the NCTM Principles of problem solving, reasoning and proof, connections, communication, and multiple representations and the Common Core State Standards for Mathematics Content and Mathematical Practices.

CURR 520 Teaching and Learning Geometric Understanding 3 Credits

This course provides an in-depth study of the content and pedagogy for geometric understanding. It addresses students' mathematical understanding of shapes and their properties, location, transformation of shapes, and visualization; the cognitive development of geometric thinking; and the instructional, curricular, and assessment implications for teaching. Emphasis is placed on the NCTM Principles of problem solving, reasoning and proof, connections, communication, and multiple representations and on the Common Core State Standards for Mathematics Practices.

CURR 522 Teaching and Learning Measurement and Data 3 Credits

This course provides an in-depth study of the content and pedagogy for measurement, data analysis, and probability. Mathematical content includes units, systems, and processes of measurement; techniques, tools, and formulas to determine measurements; data collection and display; statistical methods to analyze data; and, evaluating inferences and predictions. Emphasis is placed on children's cognitive development of measurement and data, and the instructional, curricula, and assessment implications for teaching. The course includes the NCTM Principles of problem solving, reasoning and proof, connections, communication, and multiple representations and the Common Core state Standards for Mathematics Practices.

CURR 531 Strategies for Curriculum Development, Innovation and Change 3 Credits

This course will address the importance of philosophy, historical precedents, learning theory, developmental theory, emerging social trends and issues, and recent trends in content knowledge as bases for designing and developing the K-12 curriculum. The articulation of curriculum aims and goals, the development and selection of learning experiences, the organization of learning experiences, and plans for evaluating curriculum outcomes are used as steps for developing the curriculum. Students investigate the roles teachers, teacher leaders, supervisors and administrators play in implementing curriculum designs in school settings. Students are expected to demonstrate course understandings through actual school applications and field experiences that are referenced to state and national standards.

CURR 538 Assessment of Curriculum and Instruction to Improve the Performance of Teachers and Diverse Learners 3 Credits

This course establishes the implemented curriculum by establishing the relationship between curriculum goals and the instructional strategies needed to realize those purposes. Emphasis will be placed on analyzing and using various instructional models to meet the learning expectations embodied in curriculum goals and core curriculum content standards from pre-school to high school. Students will examine instructional strategies from the perspectives of assessing research findings on effective practices, realizing curriculum standards, adapting the classroom to diverse learner needs, establishing appropriate staff development agendas, and providing forms of supervisory support to optimize learning and achievement. Students will demonstrate course understandings through actual classroom and school applications that are referenced to state adopted core curriculum content standards, professional development standards, and national school leadership standards.

Prerequisite(s): CURR 531.

CURR 548 Curriculum and Instruction for Diverse Learners 3 Credits

This course will examine the curricular and instructional issues that educational leaders must address in accommodating the school program to the needs and abilities of diverse learners. A historical perspective will be developed with an emphasis on how schools have responded to meet the needs of the exceptional child. Legal issues and programmatic trends will be examined and assessed since the inception of the Individuals with Disabilities Education Act. Multicultural issues will be introduced within the context of school and society. The responsibility of the educational leader in fostering a multicultural perspective pertaining to curriculum and instruction, governance, bias and prejudice and school climate and culture will be emphasized. Students will identify and develop curricular possibilities and solutions in school settings to accommodate learners' diverse needs. Students will demonstrate course understandings through actual classroom and school applications that are referenced to state adopted core curriculum content standards, professional development standards, state adopted core curriculum content standards, professional development standards, standards and national school leadership standards.

Prerequisite(s): CURR 531, CURR 538.

CURR 552 Creative, Ethical Teacher Leadership 3 Credits

In order to be effective, teacher leaders require in-depth understanding of the complex, threat-filled, 21st-century globalized environment that provides the context for their work. They must understand the problems, opportunities, and pressures generated by the current socioeconomic, political, and cultural system of the United States, which is characterized by dogmatism-saturated disputes over the purposes of education and the allocation of resources. In addition, they must appreciate the ways in which the larger forces of globalization influence these national trends and issues. Finally, they must understand the ways in which the principles of wise, ethical, intelligent, and creative leadership can help them and their colleagues in their efforts to maintain and strengthen student learning in these daunting conditions.

CURR 640 Teaching and Learning Physical Science 3 Credits

This course provides an in-depth study of content and pedagogy for understanding selected physical science (physics and chemistry) topics aligned with Next Generation Science Standards (NGSS). The course will be structured around big ideas identified in NGSS, common misconceptions, and appropriate learning progressions. While addressing the content, emphasis will also be placed on: effective instructional strategies and science practices through the use and study of such practices and strategies.

CURR 641 Teaching and Learning Life Science 3 Credits

This course provides an in-depth study of content and pedagogy for understanding selected life science topics aligned with state and national standards. The course will be structured around big ideas identified in standards, common misconceptions, and appropriate learning progressions. While addressing the content, emphasis will also be placed on: effective instructional strategies and science practices through the use and study of such practices and strategies.

CURR 642 Teaching and Learning Earth and Space Science 3 Credits

This course provides an in-depth study of content and pedagogy for understanding selected earth and space science topics aligned with state and national standards. The course will be structured around big ideas identified in standards. While addressing the content, emphasis will also be placed on: effective instructional strategies and science practices through the use and study of such practices and strategies.

CURR 643 Engineering Solutions to the Challenges of Contemporary Science Issues 3 Credits

This course provides an in-depth study of the content and pedagogy for understanding selected technology, engineering and design topics aligned with state and national standards. The course will be structured around big ideas identified in standards, common misconceptions, and appropriate learning progressions. While addressing the content, emphasis will also be placed on: effective instructional strategies and science practices through the use and study of such practices and strategies.

CURR 644 Teaching and Learning Chemical Science 3 Credits

This course provides an in-depth study of content and pedagogy for understanding selected chemistry topics aligned with Next Generation Science Standards (NGSS). The course will be structured around big ideas identified in NGSS, common misconceptions, and appropriate learning progressions. While addressing the chemistry content, emphasis will also be placed on: effective instructional strategies and science practices for the K-8 classroom through the use and study of such practices and strategies. Participants will engage in experiences with the states and properties of matter, develop models of the atom, and gain an understanding of the major principles of chemistry. The course will focus on states of matter, characteristic physical and chemical properties of matter, and chemical and physical transformations of matter.

CURR 650 Understanding Gifted Learners 3 Credits

The course explores the ways in which the gifted and talented can differ from more typical learners in terms of their cognition, social-emotional dimensions, behavior, and long-term development. It focuses on theories of intelligence, differing conceptions of giftedness and talent development, and learning processes. Some specific topics include underachievement, perfectionism, dual exceptionalism, gender issues, and underserved populations. The course also addresses the ways in which gifted education can evolve to fit the demands and opportunities embedded in complex, 21st-century socioeconomic, cultural, and technological contexts.

CURR 652 Differentiating Instruction for the Gifted and Talented 3 Credits

This course provides the rationale and practical strategies for effective instructional differentiation for the gifted and talented within and beyond the regular classroom. Participants will learn how to differentiate within subject areas by adjusting content, process, product, and learning environment to meet the needs of learners. They also will explore the nature and nuances of differentiation by ability, readiness, and interest, as well as the implications of instructional differentiation for formative and summative assessment. Throughout the course they will design and share examples of differentiation including tiered assignments, complex instruction, independent studies, graphic organizers, and learning contracts.

CURR 654 Innovative Instructional Strategies for Gifted Education 3 Credits

This hands-on, experiential course immerses participants in simulations and analyses of new and revised student-centered teaching models and strategies that are conducive to creative and critical thinking, advanced content mastery, and the invigoration of students' interests. Participants analyze the potential of each model/strategy while considering the ways in which it can apply to content learning in various subject areas/domains. The course also engages participants in studying the fundamental principles of program design in gifted education so they can make the best possible use of the instructional models and strategies.

CURR 656 Creative, Interdisciplinary Thinking 3 Credits

This course facilitates creative thinking through the exploration of important insights from a wide variety of disciplines in the social sciences, humanities, natural sciences, and education. The process of creative association enables participants to combine diverse, remotely associated constructs to create new products and processes. Applications of interdisciplinary thinking to curriculum and instruction are explored. These applications include novel methods for curriculum integration, discovery and development of children's interests, and instructional modifications for the gifted and talented. Exploration of concepts and processes in multiple academic domains and professional fields also provide appreciation for the domain-specific natures of giftedness and creativity.

CURR 660 Authentic Data in the Elementary STEM Classroom. 3 Credits

Young learners can think deeply about content and make meaningful connections between their experiences, natural phenomena, and authentic data when teachers integrate data in purposeful ways. In this course, teachers construct student-centered STEM investigations integrating real-world scientific and mathematical data and build their understanding of the theoretical basis for this work. Participants gain knowledge of STEM resources, learn to access entry points for STEM in elementary classrooms and foster engaging contexts, like engineering, coding, and NASA mission exploration. Teachers explore the synergies between Common Core State Standards and Next Generation Science Standards for a productive and exciting learning environment that prepares students for ongoing interest in STEM. This course is recommended as a foundation for the STEM certificate program.

CURR 661 Authentic Data in the Secondary STEM Classroom 3 Credits

Middle and High School students are capable of deep sense making when teachers utilize engaging STEM classroom practices to teach content with authentic data connections. In this course, teachers learn to apply research-based best practices central to today's classrooms. In a collaborative professional learning environment, they build knowledge of resources for accessing, analyzing, and making use of authentic data in meaningful activities. Coursework includes planning student-centered lessons that integrate data, building cultural relevance with engaging phenomena, and developing meaningful assessments for STEM activities. Participants identify how to integrate engineering design into the STEM classroom and learn how to represent the Nature of Science as students develop conceptual understanding and apply critical thinking to real-world decisions. A library of content rich lessons becomes available to all participants through a shared online community. This course is recommended as a foundation for the STEM certificate program.

CURR 662 Eyes on Earth: Teaching Earth Science from Space (PK-8) 3 Credits

This course will take participants through a journey about space exploration and specific NASA missions that examine components of earth. Participants will learn science content grounded in Earth's Lithosphere, Hydrosphere, Atmosphere, and Biosphere. By learning to use authentic data from NASA and other sources participants will experience an exploratory approach to learning about the Earth, and then bring these experiences to their own classrooms. Teachers will utilize several web-based tools and real-time data along with the three-dimensional learning in the Next Generation Science Standards to create lessons that can be used directly in the classroom.

CURR 663 Lessons from the Ocean: Science on the Water Planet (Grades 2-12) 3 Credits

Bring the ocean into your classroom by using Earth's waters as a context for standards-based STEM content. The ocean is critical to the functioning of the Earth system, and is an authentically integrated context for learning about topics such as density, weather and climate, heat transport, environmental issues, biogeochemical cycles, mathematics, and much more. Access a myriad of data sets to apply science concepts and make connections between the ocean and atmosphere, living and nonliving parameters, and life on land, as well as in the deep sea. Use the context of the ocean to teach Next Generation Science Standards topics with deep understanding and meaning for learners.

CURR 664 The Arts in STEM: Advancing Meaningful Integration (K-12) 3 Credits

Apply art in the context of exciting STEM concepts and learn to integrate art, science, math, technology, and engineering in more meaningful ways in your classroom. At the core of the STEM Education movement are critical thinking, creativity, problem solving, and authentic learning environments that engage diverse students in meaningful ways with content. The many mediums for art and artistic expression are a valuable component of communication and expression. Scientists and researchers at NASA and across the globe use myriad forms of art in their work. This course invites students to take a close look at the incorporation of art in the STEM classroom and provides resources, exemplars, and access to collaborative support for arts integration.

CURR 665 Climate Change with NSF SPRINTT 3 Credits

Award-winning curriculum and eloquent, online student investigations help students study science concepts emphasized in the Next Generation Science Standards, in the context of Earth's Polar Regions to better understand the complexity of Earth's climate and how it is changing. View the Earth using real scientific data from satellites and western researchers. Then, consider the lens of indigenous peoples of the Arctic. Examine tons of data and changes in ice, permafrost, weather patterns, biological change, and more as you conduct research with simple-to-use, web-based instructional tools, using authentic data sets and models to study our planet's past, present, and future climate. Interdisciplinary investigations address many Common Core State Standards in reading, writing, science, and technical subjects as well as mathematics in the context of climate science.

CURR 666 Exploring Mars: A New Twist on Science (or Math) 3 Credits

Use a wealth of data sets and technological tools to explore and understand features of Earth's neighbor, the Red Planet. Look for and study the physical and chemical evidence of water and ice; compare erosion patterns on Mars and Earth; and make inferences about the planet's history as you study both its geologic features, including volcanoes and craters, and the physics of the atmosphere. Teach Next Generation Science Standards topics in Earth, physical, and chemical science integrating mathematics, in the context of Mars using recent data from Curiosity Rover and other missions.

CURR 667 Physical Science in Motion: Classroom Applications 3 Credits

Physical science, when applied, makes tough-to-understand concepts easy and fun. Participants learn to solve problems relating to one-dimensional motion; become acquainted with and apply Newton's Laws of Motion and equilibrium of forces; learn about constant acceleration and gravitational acceleration; investigate concepts in aerodynamics; and learn about two-dimensional motion. Participants will use free, simple-to-use, software simulations from NASA Glenn Research Center, which help to present these concepts for you, and, then, your students, in the context of aeronautics, including airplane design, rocketry, sports, and more. A carefully developed resource page provides access to excellent resources and engaging activities for implementing course content in your classroom with important connections to Next Generation Science Standards and Common Core mathematics.

CURR 668 Coding, Robotics, and 1:1 Devices 3 Credits

Learn applications of Coding as a mathematics pedagogy, explore opportunities for Robotics, and learn cutting-edge implementation of One-to-One Devices (1:1) in K-12 classrooms. Participants learn about and explore best practices in the newest learning pedagogies and technologies. Whether you are already involved, or looking to integrate these cutting-edge tools and strategies for the classroom, you will begin to expand your reach for enhancing student learning. Scaffolded to allow success at all grade levels, Coding, Robotics, and 1:1 Devices offers resources for application into elementary, middle, and high school. Participants will interact with no-fee computer programming, robotics opportunities, and the latest uses of devices. All participants have the opportunity to work with innovative technologies and interact with talented educators, practitioners and special guests who are already making a difference in K-12 classrooms.

CURR 669 Culturally Relevant Pedagogy in the STEM Classroom 3 Credits

Classrooms comprise individual learners, each bringing their own culture and experiences to the learning environment. The value and strength of diversity has become increasingly described in educational literature. This course introduces teachers to the curriculum and pedagogical issues relevant to race, language, gender, and socio-economic differences. Participants apply content and pedagogy involving science and mathematics contexts for effective learning. STEM activities will integrate meaningful, engaging practices for teaching diverse learners. The course is differentiated for elementary and secondary school educators to provide relevant connections, to be directly applied, in each participant's classroom.

CURR 670 Life and Marine Science: Tracking Live Marine Animals 3 Credits

Follow marine animals (e.g., polar bears, sea turtles, sharks, and whales) in real-time, and apply life and Earth science topics to the ocean. Study topics such as ecosystems, biodiversity, cell structures, food webs, and conservation, as you make connections to ocean currents, seafloor features, density and more. Discover the importance of the ocean to humans, as well as our impacts, both positive and negative, on marine environments. The in-depth use of data lends itself to Next Generation Science Standards by integrating instructional technology with life, Earth and physical science.

CURR 671 Life in Space: NASA ISS and Astrobiology 3 Credits

The International Space Station (ISS) is an amazing undertaking comprising technology, engineering, science and math—the perfect context for exciting students for learning. NASA research leads to technological advances on Earth and in human space exploration. As NASA plans for manned missions to Mars, scientists explore our solar system and beyond for determining if and where life could exist. Extremophiles are fascinating for teaching Earth science in a context for astrobiology research. The course explores how space travel impacts the human body; growing food in space; engineering protection from radiation, and searching for habitable environments. With its application of subject matter, it offers excellent resources and interactions with NASA scientists, and data for educators to bring the exciting context of space travel to the classroom.

CURR 672 Math Connections to STEM Education 3 Credits

The course introduces a wealth of applied mathematics exercises and activities relevant to integrated STEM assets and science activities. Some are in the realm of topics seen in Earth and Space science and physics. Live presenters break down authentic examples and projects, and demonstrate to educators how problems incorporate Common Core State Standards-based mathematics with applications that meet Next Generation Science Standards performance expectations. Educators survey math and science examples and tools as the course promotes the use of applied mathematics in science, or science in mathematics, to meet content goals in the classroom.

CURR 673 NASA Astronomy and Space Science 3 Credits

Harness your students' enthusiasm for space and astronomy by using astronomical images to enrich your physical, Earth, and life science courses. Measure the speed of an asteroid, learn about erosion on Mars, and see the tracers of life that are visible from space. In this course, we explore the many ways in which real data from NASA's space science and astronomy missions can be used to teach math and science content in your classroom, meeting science and math standards in Next Generation Science Standards and Common Core State Standards. Through the use of cutting-edge technology tools, and with a NASA scientist visiting our class, you will not only learn more about the universe, you will learn how to bring the universe into your education context.

CURR 674 NASA Physics for Real Beginners: Earth, Moon, and Space 3 Credits

Gain an introduction to physics in this conceptual course that uses NASA's space initiatives as the context for content. Learn about gravitation between celestial bodies, how to get a satellite into orbit, what it takes to blast off into space, and more. This course will discuss these and related topics while exploring NASA content related to space and the Hubble Space Telescope and Kepler Missions. Bring cutting-edge examples to your classroom while addressing Next Generation Science Standards performance expectations.

CURR 675 Reading and Writing in the Science Classroom 3 Credits

Discuss and analyze the ways that literacy and science connect in the science classroom, and highlight how reading and writing can be used to increase students' understanding of science content. Focus on how to integrate important literacy skills from Common Core State Standards in your science and STEM classroom to address content standards from Next Generation Science Standards. Cutting-edge strategies and well-founded principles pave the way to success with non-fiction reading material. The manner in which information and scientific content is presented shapes student success, not just for reading, but student writing, organization, and presentation.

CURR 676 The E in STEM: Meaningful Content for Engineering 3 Credits

Learn how to use engineering to make your classroom come alive. Bridge and teach math and science concepts through exciting applications in the Engineering Design Process where you and your students design, test, and evaluate models and real-life applications. Activities are hands-on and emphasize the reciprocities between science, technology, engineering, and mathematics in formal design challenges. Educators enrich classroom curriculum with elements of design in science, mathematics, or technology activities, addressing important Next Generation Science Standards' engineering design practices.

CURR 677 WDLC - Weather Data Learning Center 3 Credits

Use weather data to teach and learn math. This course teaches content in a math curriculum that uses weather data. Weather Data Learning Center demonstrates increases in student performance in grade 4 mathematics. Collect, access, and interpret current real-time imagery, maps and data. Make connections from weather to learn Common Core-based mathematics using various STEM pedagogical strategies. Learn the basics of clouds, air masses, humidity, fronts, pressure, jet stream, and climatic patterns as you apply these ideas to math concepts such as measurement, fractions, number sense, data collection, and analysis.

CURR 678 Action Research in the STEM Classroom 3 Credits

A Capstone Course requirement "option", this course may be part of joint Master's Degree programs, or Endeavor's "5-course" certificate program earning Research Distinction and an award.

CURR 679 Practicum in STEM Leadership 3 Credits

Share your knowledge of STEM teaching and learning with colleagues in your building, district, or region.

CURR 680 STEM Leadership Seminar 3 Credits

The course contains STEM pedagogical content knowledge, incorporating authentic data and using technology as a tool for learning. The course provides a springboard for cultivating problem solving skills, inspiring student research projects, and integrating STEM methods and essential principles addressed in new standards.

EDAD 501 Educational Leadership and Organizational Theory 3 Credits

This introductory course will provide leadership candidates with a framework for understanding the complexity of organizational behavior in an educational setting. Theories and issues in the technical core of teaching and learning, educational governance, leadership, communication patterns, decision-making, school culture, organizational problem solving and school change will be presented, examined and applied through a series of case studies and student initiated inquiry/research projects and presentations. Students will demonstrate course understandings through actual classroom and school applications that are referenced to state and national standards.

EDAD 505 Supervisor/Teacher Leadership for Improved Instruction and Student Learning 3 Credits

This course will explore the supervisory and evaluation practices in K-12 settings by examining and identifying the relationships among collegiality and collaboration, educational leadership, and the improvement of instruction. This course will emphasize the development of practical observation skills and approaches and the development of appropriate professional growth plans to enhance staff performance and bring about increased student learning. Multi-track evaluation programs will be examined as well as an analysis of current observation and supervisory approaches used in school districts. Participants in the course will develop a personal supervisory platform. This course will emphasize the development of collaborative and clinical supervision approaches as well as communication skills and interpersonal qualities of the effective supervisor. Students will demonstrate course understandings through actual classroom and school applications that are referenced to state and national standards.

Prerequisite(s): Permission of Program Director.

EDAD 507 Education and the Law 3 Credits

This course will address legal issues and requirements confronting educational leaders in school settings. Students will be introduced to varied legal requirements that pertain to educational settings. Legal concepts and issues, and policies and procedures relating to students, parents, teachers and administrators, the board of education, and the community will be introduced and examined. Some of the topics referenced will include: regulations and the key concepts in the Individuals with Disabilities Education Act and the Americans with Disabilities Act; No Child Left Behind legislation; church-state issues; free-speech rights of students, teachers and extracurricular groups; curriculum development and implementation; rules governing student and staff conduct; creating and maintaining a safe school environment; child abuse; search and seizure procedures; affirmative action requirements; and, due process procedures. Students will demonstrate course understandings through actual classroom and school applications that are referenced to state adopted core curriculum content standards, professional development standards and national school leadership standards.

EDAD 510 Seminar/Practicum in Teacher Leadership and Supervision 3 Credits

This course requires the student to self-assess supervisory leadership strengths for the purpose of establishing an agenda for an extensive site-based internship. The internship agenda is guided by national leadership standards that ensure a comprehensive exposure to supervisory responsibilities. Students deepen their understanding of supervisory theory and best practice and apply this knowledge to the development and refinement of a personal leadership platform. Considerable attention is placed on understanding the ethical basis of supervisory practice. Students will demonstrate course understandings through actual classroom and school applications that are referenced to state and national standards.

Prerequisite(s): CURR 531, CURR 532 or CURR 538, EDAD 505, and Permission of Program Director.

EDAD 511 Group Process in Supervision for Creative Change and Collaboration in Schools 3 Credits

This course will apply theory and research to the supervisory function of developing group capacity in educational settings. Students will identify group process "best practices" to be modeled by educational leaders. Candidates will develop and refine techniques, strategies, and personal skills facilitating the development of helping and caring relationships with faculty and staff, while promoting interactive communication with stakeholders concerned with improving teaching and learning. Students will demonstrate effective supervisory behaviors in class sessions and simulations that represent daily challenges and opportunities present in school settings. Students will demonstrate course understandings through actual classroom and school applications that are referenced to state adopted core curriculum content standards, professional development standards and national school leadership standards.

Prerequisite(s): EDAD 505.

EDAD 514 School Finance and Fiscal Management 3 Credits

This course will examine the principles and court decisions involved in shaping the legal framework of school finance. Students will examine the historical spending patterns of a school district budget and develop new budget proposals using "generally accepted accounting procedures" and the appropriate state budgeting codes. Students will study school budgeting procedures as a tool for program and school improvement. The class will examine the financial implications associated with site-based management models and whole school reform. Legislation pertaining to the financing of short and long term debt will be examined. Students will use technology to gather data; identify non-tax based resources; create presentations for specific audiences; and, work with models of data driven indicators to examine issues of equity, efficiencies and resource deployment. Students will demonstrate course understandings through actual classroom and school applications that are referenced to state adopted core curriculum content standards, professional development standards and national school leadership standards.

Prerequisite(s): EDAD 501.

EDAD 521 Using Research Strategies and Analysis of Data to Make Decisions in Schools 3 Credits

This course will develop the skills needed by educational leaders at all levels to interpret, use, and apply statistical concepts and research methodologies in critical administrative and supervisory functions. Statistical methodology will be used to further understanding of different research strategies. Students will interpret data and make informed decisions regarding the frameworks, implementation, and evaluation of instructional programs and practices designed to improve teaching and learning in school, district, and national settings. Course activities and field work will include: scenario and case study analyses; the use of critical friends' discussion groups; the application and use of different technologies and software programs; and, the identification of appropriate problem solving and resolution strategies. Students will demonstrate course understandings through actual classroom and school applications that are referenced to state adopted core curriculum content standards, professional development standards and national school leadership standards.

Prerequisite(s): EDAD 501 and EDAD 514.

EDUC 560 Educating and Evaluating the Bilingual Child 3 Credits

An examination of the historical, legal and pedagogical aspects of the education of language minority students. Considers the design of school programs for minority students including legal mandates, testing, staffing and funding. Emphasis is placed on the evaluation of bilingual students as they enter, develop and exit from special programs of study.

EDAD 591 Seminar/Practicum in Educational Leadership/Supervision 3 Credits

This is the first of two "capstone" internship courses for candidates in the leadership program in educational administration. The course meets New Jersey Department of Education requirements for an extended administrative internship in the schools. This course is taken in the fall semester and is followed in the spring semester with EDAD 592. After analysis of leadership strengths, based on a self-assessment completed by the candidate, specific internship experiences will be cooperatively planned by the candidate, site-based mentor, and instructor. The capstone internship will build on strengths, develop growth experiences, be substantial and sustained, and be ethically informed. Students will cooperatively evaluate and problem-solve internship experiences, assess leadership performance from best-practice perspectives, finalize the development of a leadership platform statement, review and discuss topics and scenarios derived from readings and other resources, engage in simulations and case analyses, and interact with students in other graduate programs. Presentations by practicing administrators and other school personnel will provide understanding of the patterns of interaction that occur among different leadership positions in educational institutions. Students will demonstrate course understandings through actual classroom and school applications that are referenced to state adopted core curriculum content standards, professional development standards and national school leadership standards. Enrollment by permission of Instructor.

EDAD 592 Seminar/Practicum in Educational Leadership/Supervision 3 Credits

This is the second of the "capstone" internship course sequence that coincides with the school-year calendar and is taken during the spring semester. In combination with EDAD 591, the course meets New Jersey Department of Education requirements for an extended administrative internship in the schools. Students will continue pursuing field-based internship projects initiated in EDAD 591 in collaboration with a site mentor and the course instructor. Students will demonstrate course understandings through actual classroom and school applications that are referenced to state adopted core curriculum content standards, professional development standards and national school leadership standards. Enrollment by permission of instructor.

Prerequisite(s): EDAD 591.

EDUC 520 Introduction to Linguistics and Psycholinguistics 3 Credits

This course provides an introduction to the properties of human languages and to their systematic study in the field of linguistics and psycholinguistics. Topics include the nature of human language as distinct from other communication systems; sound patterns (phonology), word-formation (morphology), sentence structure (syntax), and meaning (semantics) in the world's languages; relations to cognition, communication, and social organization; dialect variation and language standardization; language learning by children and adults; and the nature and history of writing systems. Intended for any undergraduate and graduate interested in language or its use. It is assumed that students have had no prior course work or exposure to linguistics and will begin with the basic assumptions that are shared by those who study language from a variety of perspectives. Students analyze their own speech patterns, investigate different speech acts in different languages and develop a research project using a linguistic construct in order to apply it to the second language classroom. Students present this project in a poster format to the university community at the end of the semester.

EDUC 521 Teaching a Second Language 3 Credits

This course focuses on interactive methods of teaching a new language as well as cross-cultural understanding. Students learn to plan using national and state standards for language instruction, organize activities, design and direct language learning tasks, and assess learning. Includes theoretical positions on communicative language learning and teaching, the use and evaluation of currently used materials, the design of new materials, and field experiences in the language to be taught. Students develop their professional portfolio, participate in an E-seminar, prepare a unit of study, and present lesson segments. Open to prospective world language teachers, ESL and bilingual teachers, as well as practicing teachers seeking certification. *NOTE: This course is cross-listed as READ 517. Students cannot get credit for both READ 517 and EDUC 521.

LITR 500 Multimodal Teaching and Learning 3 Credits

As we consider the 21st century's rapid expansion of information and text it is timely to take a critical view of what literacy means in the 21st century and how it is influencing children's literacy development and the work of educators. Many argue that the rapidly evolving use of technology is potentially shifting the ways in which we construct and comprehend information, or is it? In this hybrid/online course, we aim to explore these sometimes competing conceptions of text as we consider what these new literacies mean for children's literacy development as well our own work as educators.

LITR 501 Psychology and Pedagogy of Literacy Processes 3 Credits

Studies the communication process from a componential point of view, including language acquisition and development, perception, comprehension and cognition, composition, and language systems. A review of the literature in each area as well as a survey of models of reading and language is included.

LITR 502 Curriculum, Instruction and Supervision in Literacy 3 Credits

Reading and literacy pedagogy for ALL learners, gifted, average, and diverse learners is the course content. Current strategies for teaching comprehension, composition, vocabulary, language study, and independence skills are learned in a workshop setting. How to manage literacy instruction through content areas for all aged children in mainstream classrooms is studied. Parent education and inservice training are also included in course content.

LITR 504 Diagnosis and Correction of Literacy Abilities and Challenges: Seminar and Practicum 3 Credits

Studies reading/language arts abilities and challenges and assessment measures. Observational techniques and diagnostic teaching for assessment are stressed. Students will apply concepts learned in seminar to their associated practicum/field experience.

LITR 508 Literacy and the Bilingual/Bicultural Child 3 Credits

Presents multidisciplinary and interdisciplinary perspectives on bilingual/bicultural children and their reading process. Strategies and materials for second language reading instruction are suggested and discussed.

LITR 510 Research and Survey of Texts for Children and Adolescents 3 Credits

This course surveys developmental trends in texts for children and adolescents. Students will become knowledgeable about the theoretical and practical aspects of the study of the texts (both digital and print) available for youth and adolescents. Candidates will explore their own assumptions about text and the relationship to literacy development. Course participants will explore strategies for integrating print and non-print texts into the school curricula in ways that support youth and adolescent literacy development.

LITR 560 Writing Project at Rider 3 Credits

Examines theory, research, and practices in the teaching of writing K-12, with emphasis on improved practices in teaching writing as well as the personal writing of participants. Students investigate relevant local and national standards and curriculum, design, present, and respond to peer demonstration lessons in writing, and publish to the National Writing Project e-anthology. Further participation in NWP activities is encouraged and supported. This Invitational Summer Institute is part of the National Writing Project network. Project participants, called Summer Fellows, become Teacher Consultants upon completion of the Institute and are expected to maintain affiliation with the Project and to participate in the dissemination of professional development in writing instruction K-12 for all subject areas.

LITR 600 Independent Research and Study in Literacy Education 1-3 Credits

Course content is designed specifically to meet specific academic needs or interests of students who wish to engage in independent study related to literacy education.

SPED 500 The Inclusive Classroom: Effective Practices for General Education Teachers 3 Credits

This course is designed to introduce general education teachers to special education and the inclusive classroom. Students will explore current research, issues and practices in special education. Assignments and activities will enable students to develop the knowledge and skills to design and manage the instructional environment for diverse learners in inclusive and classroom setting. Attitudes and behaviors that influence children with special needs will be addressed.

SPED 512 Psychology of Exceptionality 3 Credits

This course provides opportunities for the study of school psychological issues associated with supporting students with exceptionalities. Philosophical, historical, and legal foundations of special education, and the characteristics of students with disabilities will be examined. Special education policy, legal foundations, and evaluation procedures are discussed. Current issues related to inclusive practice and intervention strategies are examined from a psychological and sociocultural perspective. An experience in the field will enable students to apply knowledge in a realistic classroom setting. This course, or its equivalent, will be the prerequisite for all other SPED courses.

SPED 514 Applied Behavior Analysis for Students with Autism Spectrum Disorder and other Behavior Needs 3 Credits

This course is designed to provide extensive knowledge and practice in meeting the behavioral challenges of individuals through Applied Behavior Analysis for students with Autism Spectrum Disorder and other behavioral issues. Candidates will receive instruction in a problem-solving approach to identify the possible function(s) of problem behavior and the design of proactive, positive behavior intervention plans that emphasize the teaching of appropriate alternative skills. An emphasis is placed upon behavior change strategies, which intervene on antecedent events, teach appropriate alternative skills, and provide supports in the natural environment. Multi-component interventions also are designed to include the interest and preferences of the target student. Legal and ethical considerations are considered. An experience in the field will enable students to apply knowledge in a realistic classroom setting.

Prerequisite(s): SPED 512.

SPED 524 Collaboration and Inclusive Practice for Students with Mild and Severe Disabilities 3 Credits

This course will emphasize curriculum planning, learning environments, materials, and modifications for students with mild and severe disabilities. Instructional and behavioral strategies to maximize learning of all students, including those with exceptional learning needs in the general education classroom will be examined. Inclusive educational practices including collaboration, communication and positive behavior supports and co-teaching will be discussed and applied for diverse learners. An experience in the field will enable students to apply knowledge in a realistic classroom setting.

Prerequisite(s): SPED 512.

SPED 531 Assessment for Instruction in Special Education 3 Credits

In this course, standardized and functional assessments are emphasized. Students are introduced to basic educational assessment procedures, norm-referenced, criterion-referenced, and individually-referenced assessment in this course. An emphasis is placed on gathering information to answer specific referral questions, and the use of assessment tools, which meet legal and ethical guidelines. A model of academic assessment most consistent with classroom practices is emphasized. Students are expected to measure an individual's performance (e.g., current level of functioning) and provide recommendations for instruction and learning goals and objectives. A field experience will enable students to apply knowledge to practice.

Prerequisite(s): SPED 512.

SPED 539 Instructional Practices for Students with Disabilities 3 Credits

This course will give students the opportunity to evaluate, select, develop, and adapt instructional and assessment materials for individuals with mild to severe disabilities. Using various case studies, students will have the opportunity to develop an Individualized Education Program (IEP) and synthesize assessment information to make appropriate instructional decisions addressing learner characteristic and classifications. Curriculum planning, learning environments, modifications, and materials for diverse learner needs will be examined. Students will experience the collaborative process and develop their ability to function as part of an educational team. A field experience with children with disabilities will enable students to apply knowledge in a realistic classroom setting.

Prerequisite(s): SPED 512.

SPED 542 Literacy and Students With Special Needs 3 Credits

The course will provide an overview of theories, assessment, and intervention techniques for the literacy development of students with special instructional needs. Students will explore research validated methods for literacy development and instruction, including current strategies for teaching comprehension, composition, vocabulary, and language study. Management of literacy instruction is studied in a workshop setting. An experience in the field will enable students to apply knowledge in a realistic classroom setting.

Prerequisite(s): SPED 512.