



Program Review Document

Preparation Program: *Middle Grades Science*

Date Submitted: *January 2018*

Certification Level:	<input type="checkbox"/> B-P <input type="checkbox"/> P-5 <input checked="" type="checkbox"/> 5-9 <input type="checkbox"/> 5-12 <input type="checkbox"/> 8-12 <input type="checkbox"/> P-12
Preparation Level:	<input checked="" type="checkbox"/> Initial
Modes of Delivery:	<input type="checkbox"/> Face-to-Face Only <input type="checkbox"/> Online Only <input checked="" type="checkbox"/> Hybrid
Degree Type:	<input checked="" type="checkbox"/> Undergraduate <input type="checkbox"/> Graduate (MAT) <input checked="" type="checkbox"/> Undergraduate – Cert Only <input type="checkbox"/> Option 6
Program Codes:	EPSB #2426 and #3783
University Catalog:	https://www.wku.edu/undergraduatecatalog/ http://catalog.wku.edu/graduate/
WKU Quality Assurance Document:	http://www.wku.edu/cebs/caep/

SYLLABI: All Professional Education, Methods Syllabi, and a Sampling of Content Area Syllabi are available on the WKU website http://www.wku.edu/cebs/peu/epsb_prds.php.

Program Description

COURSES: Below are all required courses for this program. Course descriptions are those found in the appropriate WKU catalog (see links above). Students seeking certification in middle grades science (grades 5-9) must complete both the science and mathematics education program (SMED, reference number 774) and the middle school science education program (MSSE, reference number 734). This combination of programs leads to a bachelor's degree with two majors. The MSSE program is designed to give students sufficient content and pedagogical knowledge to teach science grades 5-9. This is an initial certification program that requires a minimum of 48 hours of science instruction specifically chosen for those persons seeking middle school science certification. To complete a MSSE major the student must earn a grade of "C" or better in each of the required core science courses (30 semester credit hours). MSSE majors must earn a grade of "C" or better in a supporting mathematics course chosen from MATH 117 or 126. Students must have an overall grade point average of at least 2.75 for all completed science courses. SMED 360 is a required course for the SMED part of the major and is a science or math research oriented course. Coursework is typically face-to-face with some web-based enhancements. Most courses are offered only at the main campus, but efforts are underway to create offerings at Glasgow, Owensboro, and Elizabethtown.

- **Core Education Courses**

SMED 101. STEP 1: INTRODUCTION TO INQUIRY-BASED APPROACHES TO TEACHING. (1 hr) Introduction to theory and practice necessary to design and deliver high quality inquiry-based math and science instruction. Students explore and practice the guided inquiry process, create lesson plans and implement them during visits to elementary classrooms. Fieldwork required.

SMED 102. STEP 2: INTRODUCTION TO INQUIRY-BASED LESSON DESIGN.

(2 hrs) Further exploration of inquiry-based learning experiences, developing skills designing, teaching, analyzing, and assessing inquiry-based math and science lessons. Students design lesson plans and implement them during visits to middle school classrooms. Fieldwork required.

SMED 300. MIDDLE GRADES SCIENCE SKILLS AND METHODS. (3 hrs)

Laboratory-based introduction to the science skills and methods needed by middle school teachers.

SMED 301. DESIGNING AND TEACHING INQUIRY-BASED MATHEMATICS

AND SCIENCE UNITS. (3 hrs) Develops students' skills in designing, teaching, analyzing, and assessing inquiry-based math and science lessons and units within multiple and diverse field experiences. Fieldwork required.

SMED 310. KNOWING AND LEARNING IN MATHEMATICS AND SCIENCE. (3 hrs)

Introduction to theories and principles of cognition and learning with emphasis on knowing and learning in math and science. Introduction to research on learning, memory, individual development, motivation and intelligence. Applications of learning theory will be explicitly tied to design of lesson plans, instruction and assessment.

SMED 320. CLASSROOM INTERACTIONS. (3 hrs) Designed to expand students' abilities to understand how learning theories are applied in instructional settings as students develop, implement and evaluate activities and strategies for teaching diverse students equitably. Fieldwork required.

SMED 340. PERSPECTIVES ON MATHEMATICS AND SCIENCE. (3 hrs)

Introduction to the historical, social, and philosophical implications of math and science through investigations of pivotal experiments and findings. Includes integrated laboratory experiences that replicate significant discoveries.

SMED 360. RESEARCH METHODS FOR MATH AND SCIENCE TEACHERS. (3 hrs)

Laboratory-based introduction to the tools and techniques used by scientists and mathematicians to further an understanding of the natural world and application of this knowledge to math and science education. Students will design and carry out laboratory investigations, and present written and oral reports of results.

SMED 400. APPLYING MIDDLE GRADE SCIENCE ACROSS DISCIPLINES. (3 hrs)

Introduction to the knowledge and skills needed to create middle grades science lessons that incorporate content and real-world examples from different disciplines.

SMED 470. PROJECT-BASED INSTRUCTION. (3 hrs) Methods, techniques, and technologies used to

implement and assess problem-based investigations in math and science classrooms. Fieldwork required.

SMED 489. SMED STUDENT TEACHING SEMINAR. (3 hrs) Provides a bridge between the theory and practice of math and science teaching. Methods, techniques, technologies and issues pertinent to math and science instruction in middle grade and secondary classrooms. Field experiences in public schools and/or other appropriate settings away from campus are required.

LTCY 421. CONTENT AREA READING IN THE MIDDLE AND SECONDARY GRADES. (3 hrs) A course in reading designed to offer a detailed view of the principles, materials and methods of instruction for middle and secondary grade students. Field experiences in public schools and / or other appropriate settings away from campus are required.

SPED 330. INTRODUCTION TO EXCEPTIONAL EDUCATION: DIVERSITY IN LEARNING. (3 hrs) Characteristics of exceptionality, special education programs, schools, and community resources and research relative to exceptionality. Field experiences in public schools and / or other appropriate settings away from campus are required in this course.

SEC 490. STUDENT TEACHING. (10 hrs) Must complete a minimum of sixteen weeks in one or two placements depending on certification requirements. Students follow the academic calendar of the school district in which they are placed and are responsible for providing their own transportation to assigned site(s).

- **Core Content Courses**

ASTR 104. ASTRONOMY OF THE SOLAR SYSTEM. (3 hrs) An introductory study of that portion of the physical universe extending beyond the earth from the sun to the outer limits of the solar system, including its relationship to the rest of the universe and to the earth. Topics include phenomena visible from earth, the earth's motions and timekeeping, eclipses, motions of planets and satellites, and the historical development of scientific understanding of the solar system. Comparison of physical properties among the sun, planets, and satellites interrelate the earth and its life forms with the extraterrestrial environment that supported the development and continuation of life on earth. This course contains an integral laboratory that includes planetarium exercises and evening observing sessions using telescopes.

or

ASTR 106. ASTRONOMY OF STELLAR SYSTEMS. (3 hrs) An introductory study of that portion of the physical universe in the space beyond the bounds of the solar system. Topics include the physical properties of stars and stellar systems, stellar formation and evolution, supernovas, pulsars, galaxies, quasars, black-holes, and cosmology—scientific theories of the origin, evolution, and fate of the universe on the grandest scale. Emphasis is given to the significance of these topics to the development and fate of the earth and its star. This course contains an integrated laboratory that includes planetarium exercises and evening observing sessions using telescopes.

BIOL 120. BIOLOGICAL CONCEPTS: CELLS METABOLISM AND GENETICS. (3 hrs) Introductory course in biology that emphasizes cellular organization and processes, metabolism, DNA structure and replication, and Mendelian and population genetics.

BIOL 121. BIOLOGICAL CONCEPTS: CELLS, METABOLISM, AND GENETICS LAB. (1 hr) Introductory laboratory in biology that emphasizes the experimental aspects of cellular organization and processes, metabolism, DNA structure and replication, and Mendelian and population genetics.

BIOL 122. BIOLOGICAL CONCEPTS: EVOLUTION, DIVERSITY, AND ECOLOGY. (3 hrs) Introductory course in biology that emphasizes evolutionary patterns and processes, diversity of life (bacteria, archaea, protists, plants, fungi, and animals), ecological principles, and conservation and management.

BIOL 123. BIOLOGICAL CONCEPTS: EVOLUTION, DIVERSITY, AND ECOLOGY LAB. (1 hr) Introductory

laboratory in biology for science majors that emphasizes the experimental aspects of evolutionary patterns and processes, diversity of life (bacteria, archaea, protists, plants, fungi, and animals), ecological principles, and conservation and management.

CHEM 105. FUNDAMENTALS OF GENERAL CHEMISTRY. (3 hrs) The first half of a one-year course predominantly for majors in agriculture and consumer and family sciences, and for non-science majors desiring a full year sequence in chemistry. It does not count toward a major or a minor in chemistry.

CHEM 106. FUNDAMENTALS OF GENERAL CHEMISTRY LABORATORY. (1 hr)
Pre-lab lecture and laboratory meet two and one-half hours per week.

CHEM 120. COLLEGE CHEMISTRY I. (3 hrs) The first half of the standard yearlong general chemistry course sequence for science majors and minors.

CHEM 121. COLLEGE CHEMISTRY I LABORATORY. (2 hrs) One third of each meeting is spent reviewing material from the lecture and the remaining time is used to carry out laboratory investigations. Pre-lab lecture and laboratory meet once each week for three hours per week.

GEOL 111. THE EARTH. (3 hrs) The study of Earth including rocks, mineral resources, energy, soils, surface geologic processes, earthquakes and Earth's interior, global tectonics, hydrology and environmental geology. Students electing to meet their general education laboratory requirement through GEOL 113 must simultaneously enroll in the GEOL 111 lecture course. Laboratory is required for Geology majors, minors and some prospective science teachers but is optional for most others.

And

GEOL 113. THE EARTH LABORATORY. (1 hr) Laboratory work designed to accompany GEOL 111. Minerals, rocks, topographic maps, geologic maps, and aerial photographs are studied. This laboratory is required for Geology majors, minors and some prospective science teachers, but is optional for most others.

Or

GEOL 112. EARTH HISTORY. (3 hrs) Geologic study of the Earth's history: major land, sea, and life patterns throughout geologic time. Topics include the development of geology as a science, nature and significance of the fossil record, basic stratigraphic relations, theories concerning the origin of Earth and the solar system, prehistoric life, paleogeography, and global tectonics. Students electing to meet their general education laboratory requirement through GEOL 114 must simultaneously enroll in the GEOL 112 lecture course. The associated laboratory is required for Geology majors, minors and some prospective science teachers, but is optional for most others.

And

GEOL 114. EARTH HISTORY LAB. (1 hr) Laboratory work designed to accompany GEOL 112. Sedimentary rocks, fossil specimens, stratigraphic concepts and geologic maps are studied. This laboratory is required for Geology majors and minors and some prospective science teachers, but is optional for most other students.

PHYS 201. COLLEGE PHYSICS I. (4 hrs) An introductory course for students majoring in the applied sciences, emphasizing the application of basic physics principles through problem solving. Topics covered include mechanics, heat and thermodynamics, properties of matter and waves. Includes both lecture and laboratory components.

or

PHYS 231. INTRODUCTION TO PHYSICS AND BIOPHYSICS I. (3 hrs) The first half of a basic course for

students of the life sciences, covering the topics of mechanics, heat and thermodynamics, properties of matter, waves and sound. Emphasis is on an understanding of the physical principles operative in biological systems and on the application of physical methods in biology and medicine.

And

PHYS 232. LABORATORY FOR PHYSICS AND BIOPHYSICS I. (1 hr) Required for students enrolled in 231. Students perform physics experiments on mechanics, fluids, sound, heat and thermodynamics.

MATH 117 TRIGONOMETRY. (3 hrs) Unit circle; trigonometric functions and graphs; trigonometric identities and equations; right triangle trigonometry; laws of sines and cosines; DeMoivre's Theorem; vectors and applications of trigonometry.

MATH 136. CALCULUS I. (4 hrs) A course in one-variable calculus including topics from analytic geometry. Limits, derivatives, integration, and applications of polynomial, rational, trigonometric, and transcendental functions. Includes lecture and recitation.

ASTR 405. ASTRONOMY FOR TEACHERS. (3 hrs) Selected topics in astronomy for elementary and secondary teachers. Does not count toward physics major credit.

BIOL 303. LIFE SCIENCE FOR MIDDLE GRADES TEACHERS. (3 hrs)

Pedagogical content and knowledge in life sciences with practicum experience for middle school teachers. Not available for credit toward any biology, chemistry, or biochemistry major or minor.

CHEM 470. CHEMISTRY / MIDDLE SCHOOL. (3 hrs) Chemical theories and principles in the middle school science curricula.

GEOL 305. EARTH SYSTEM SCIENCE FOR TEACHERS. (3 hrs) Collaborative, problem-based learning (PBL) experience, using real-world examples to enhance student understanding of earth system science, with a focus on relevance in science teaching grades K-12. Includes PFL-based lesson plan development. Applicable towards a major in geology or for those students seeking teacher certification.

PHYS 410. PHYSICS FOR TEACHERS. (3 hrs) A broad study, including laboratory experiences, of the areas of physics relevant to science teaching in grades K-12. For pre-service or in-service teachers who have a minimal physics background. Instruction will be differentiated according to student needs. Applicable toward a major or minor in physics only for those students obtaining teacher certification.

2. KENTUCKY TEACHER PERFORMANCE STANDARDS ALIGNMENT: The table delineates how the EPP-wide Initial Preparation Key Assessments, aligned to both Kentucky Teacher Performance and InTASC Standards, are embedded in the program.

KEY ASSESSMENTS					
AREA		NAME	STANDARD ALIGNMENT		COLLECTED
			KTS	InTASC	
1	Content Assessment	Praxis II	(1)	(4,5)	Praxis Report
2	Other Content Assessment	Major GPA	(1)	(4)	Prior to Student Teaching
3	Assessment of Professional Capabilities	Praxis PLT	(2-10)	(1-3,6-10)	Praxis Report
4	Clinical Experiences Measure of Teaching Proficiency	Student Teacher Evaluation	1-10	1-10	MGE 490
5	Measure of Assessment Proficiencies	A: Learning Goals & Pre/Post Assessment B: Analysis of Student Learning	1-3,5-7	1-10	SMED 320
6	Ability to Diagnose and Prescribe for Personalized Student Learning	Design for Instruction	1,2,5,6	1,4-10	SMED 470
7	Application of Content Knowledge and Pedagogical Skills	Teacher Work Sample	1-3,5-7,9	1-10	SMED 489
8	Assessment of Literacy Outcomes	Operational Stance Concerning Content-Area and Discipline-Specific Literacies	1,2,5	1,4-7	LTCY 421
9	Dispositions	Dispositions Form	NA	NA	SMED 102, SMED 320, SMED 470, SEC 490/MGE 490
10	KTS Exit Survey	KTS Exit Survey	1-10	1-10	SMED 489

<p>mathematics. They show that new student mathematical knowledge has been created as a consequence of their ability to engage students in mathematical experiences that are developmentally appropriate, require active engagement, and include mathematics-specific technology in building new knowledge.</p>												
<p>Standard 6: Professional Knowledge and Skills Effective teachers of middle grades mathematics are lifelong learners and recognize that learning is often collaborative. They participate in professional development experiences specific to mathematics and mathematics education, draw upon mathematics education research to inform practice, continuously reflect on their practice, and utilize resources from professional mathematics organizations.</p>	X	X	X	X	X	X	X	X	X	X	X	

4. CURRICULUM CONTRACT:



CURRICULUM CONTRACT

**Undergraduate Degree Program – B.S., Middle School Science (Reference #734, 774 EPSB #2426)
Leading to Initial Teacher Certification Rank III in Middle School Science Education, Grades 5-9**

Admission Requirements:

To be admitted into this program, candidates must meet all minimal criteria described on the “Transition Points” page under “Transition Point 1: Admission to Education Preparation Programs.”

Science/Math Education Component—37 hours		Required Introductory Science Courses – 15 hours*	
SMED 101 – Step 1	1 hr.	ASTR 104 Astronomy of the Solar System OR ASTR 106 Astronomy of the Stellar System	3 hrs
SMED 102 – Step 2	2 hrs.	BIOL 122/123 – Biol Conc Evol Div Ecol & Lab	3/1 hrs.
SMED 310 – Knowing & Learning	3 hrs.	GEOL 111/113 The Earth OR GEOL 112/114 Earth History	3/1 hrs
SMED 320 – Classroom Interactions	3 hrs.	PHYS 201 College Physics I OR PHYS 231/232 College Physics and Biophysics I	4 hrs.
SPED 330 – Diversity in Learning	3 hrs.		
SMED 340 – Perspectives	3 hrs.	Science Research Core* SMED 360 satisfies requirements for both the SMED and MSS Majors	
SMED 360 – Research Methods	3 hrs.	SMED 360 Research Methods	3 hrs.*
SMED 470 – Project-based Instruction	3 hrs.		
LTCY 421 – Reading for Middle/Second	3 hrs.	Upper Level Science Courses	12 hrs.
SMED 489 – Student Teaching Seminar	3 hrs.	Three of the five following courses	9 hrs.
SEC 490 – Student Teaching	10 hrs	ASTR 405 – Astronomy for Teachers (3 hrs.)	
Colonnade Plan Component—39 hours		BIOL 303 – Life Sciences for Middle Grades Teachers (3 hrs.)	
See WKU catalog website for guidance in selecting appropriate coursework to meet WKU’s Colonnade Plan requirements.		CHEM 470 – Chemistry/Middle School (3 hrs.)	
		GEOL 305 – Earth Systems Science for Teachers (3 hrs.)	
		PHYS 410 – Physics for Teachers (3 hrs.)	
		One restricted elective from the list:	min 3 hrs.
		BIOL 319/322 Molecular and Cell Biology (4 hrs.)	
		BIOL 325 Insect Biodiversity (3 hrs.)	
		BIOL 326 Ornithology (3 hrs.)	
		BIOL 327 Genetics (4 hrs.)	
		BIOL 334 Animal Behavior (3 hrs.)	
		BIOL 348 Plant Taxonomy (3 hrs.)	
		GEOG 471 Natural Resource Mgmt (3 hrs.)	
		GEOL 408 Structural Geology (4 hrs.)	
		GEOL 310 Global Hydrology (3 hrs.)	
		GEOL 311 Oceanography (3 hrs.)	
		GEOL 325 Intro Minerals and Rocks (3 hrs.)	
		GEOL 380 Intro Field Techniques (3 hrs.)	
		GEOL 405 Paleontology 4 hrs.)	
		SMED 300 Middle Grade Science Skills (3 hrs.)	

	SMED 400 Applying Middle Grade Science Across Disciplines (3 hrs.)	
	Total	30 - 31 hrs
	*Supporting Courses Also Required	11-13 hrs.
	MATH 117 Trigonometry (3 hrs.) OR MATH 136 Calculus I (4 hrs.)	
	BIOL 120/121 Biological Concepts: Cells, Metabolism, and Genetics (3/1 hrs.)	
	CHEM 105/106 Fund of General Chemistry (3/1 hrs.) OR CHEM 120/121 College Chemistry I (4/1 hrs.)	
	Electives to Achieve 120 hours	1-3 hrs.
	Grand total hours	120 hrs.

Mid-Point Assessment Requirements:

To be admitted into the Student Teaching Semester, candidates must meet all minimal criteria described under “Transition Point 2: Admission to Final Clinical Experience.”

Program Completion Requirements:

1. To complete a teacher preparation program, candidates must meet all minimal criteria described under “Transition Point 3: Program Exit.”
2. Note that additional requirements (described below) must be met in order to be recommended for initial certification.
3. Rules and regulations governing the completion of this program of study have been described above and on the next page. By your signature, you are acknowledging that you understand and accept responsibility for meeting these requirements.

Delineation of EPP-Wide Transition Points – Initial Preparation Program

Transition Point 1: Admission to Education Preparation Programs				
Data Reviewed	Minimal Criteria	Review Cycle	Reviewed By	Approved By
Unit Level Data:	Admission to Teacher Education			
<ul style="list-style-type: none"> • Cumulative GPA • CASE test scores • Application to include: <ul style="list-style-type: none"> – 3 faculty recommendations – Physical (including TB test) – KY criminal background check – Signed KY Code of Ethics 	<ul style="list-style-type: none"> • 2.75+ average or above • Minimum CASE scores required as defined by current state guidelines (demonstrates Critical Thinking and Communication Skills) • 3 positive faculty recommendations (demonstrates their dispositions for teaching indicating their creativity and collaboration skills) • Passing physical • Passing background checks 	Each Month	Office of Teacher Services	Professional Education Council
Transition Point 2: Admission to Final Clinical Experience				
Data Reviewed	Minimal Criteria	Review Cycle	Reviewed By	
Unit Level Data	Successful application to Student Teaching			
<ul style="list-style-type: none"> • GPAs and at least 90+ hours completed (including 75% of content courses) • Completion of required field hours • Completion of Key Assessments • Dispositions scores 	<ul style="list-style-type: none"> • 2.75+ GPA (overall, major, minor, and professional education courses); C or higher in all professional education courses • At least 200 hours documented based on requirements of 16 KAR 5:040 • 2+ holistic score; 2+ per KTS measured • All dispositions average “At Standard” (3+) 	Each Semester	Office of Teacher Services	Professional Education Council
Transition Point 3: Program Exit				
Data Reviewed	Minimal Criteria	Review Cycle	Reviewed By	
Unit Level Data:	Program Exit			

<ul style="list-style-type: none"> • Candidate student teaching • Teacher Work Sample scores • Dispositions scores 	<ul style="list-style-type: none"> • C or Higher • 2+ holistic score; 2+ per KTS measured • All scores "At Standard" (3+) 	Each Semester	Office of Teacher Services	Certification Officer
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To be recommended for initial certification, an applicant must document:

Completion of an approved educator preparation program in each desired certification area; Passing score(s) on the appropriate PRAXIS II and PLT exam(s) or other assessments required for each desired certification area; Achievement of at least a 2.75 GPA overall, in each major and minor, and in professional education courses; Attainment of at least a "C" in all professional education courses, including student teaching.

Remediation Opportunities:

TP 1: Candidates may continue to submit Faculty Recommendations until three are positive.

TP 2: Candidates may request additional instruction from faculty and may resubmit Key Assessments in order to improve their scores.

TP 3: Candidates may request additional instruction from faculty and may resubmit the Teacher Work Sample Key Assessment in order to improve their score. Candidates may repeat student teaching.

EPSB Disclaimer: Teacher certification requirements are subject to change. Before registering for the test(s), please refer to the Education Professional Standards Board (EPSB) website at www.epsb.ky.gov for current requirements or contact the EPSB at 502-564-4606 or toll free 888-598-7667.

By signing below, the candidate ensures that he or she has been advised of, understands, and agrees to adhere to all program requirements, including assessment requirements, of the program.

Candidate Name (printed):

Education Advisor's Signature/Date:

Signature

Date

Candidate Signature/Date:

Specialization Advisor's Signature/Date (if needed):

Signature

Date

Signature

Date

****END OF CURRICULUM CONTRACT****



Non-degree seeking Science and Math Education

Leading to Initial Teacher Certification in Middle School Science Education (EPSB #3783), Grades 5-9

(This program does not lead to a degree)

Admission Requirements:

To be admitted into this program, candidates must meet all minimal criteria described on the “Transition Points” page under “Transition Point 1: Admission to Education Preparation Programs.”

Science/Math Education Component—37 hours		Required Science Courses – 15 hours*	
SMED 101 – Step 1	1 hr.	ASTR 104 Astronomy of the Solar System OR ASTR 106 Astronomy of the Stellar System	3 hrs
SMED 102 – Step 2	2 hrs.	BIOL 122/123 – Biol Conc Evol Div Ecol & Lab	3/1 hrs.
SMED 310 – Knowing & Learning	3 hrs.	GEOL 111/113 The Earth OR GEOL 112/114 Earth History	3/1 hrs
SMED 320 – Classroom Interactions	3 hrs.	PHYS 201 College Physics I OR PHYS 231/232 College Physics and Biophysics I	4 hrs.
SPED 330 – Diversity in Learning	3 hrs.		
SMED 340 – Perspectives	3 hrs.		
SMED 360 – Research Methods	3 hrs.	Science Research Core* SMED 360 satisfies requirements for both the SMED and MSS Majors	
SMED 470 – Project-based Instruction	3 hrs.	SMED 360 Research Methods	3 hrs.*
LTCY 421 – Reading for Middle/Second	3 hrs.		
SMED 489 – Student Teaching Seminar	3 hrs.	Upper Level Science Courses	12 hrs.
SEC 490 – Student Teaching	10 hrs	Three of the five following courses	9 hrs.
		ASTR 405 – Astronomy for Teachers (3 hrs.)	
		BIOL 303 – Life Sciences for Middle Grades Teachers (3 hrs.)	
		CHEM 470 – Chemistry/Middle School (3 hrs.)	
		GEOL 305 – Earth Systems Science for Teachers (3 hrs.)	
		PHYS 410 – Physics for Teachers (3 hrs.)	
		One restricted elective from the list:	min 3 hrs.
		BIOL 319/322 Molecular and Cell Biology (4 hrs.)	
		BIOL 325 Insect Biodiversity (3 hrs.)	
		BIOL 326 Ornithology (3 hrs.)	
		BIOL 327 Genetics (4 hrs.)	
		BIOL 334 Animal Behavior (3 hrs.)	
		BIOL 348 Plant Taxonomy (3 hrs.)	
		GEOG 471 Natural Resource Mgmt (3 hrs.)	
		GEOL 408 Structural Geology (4 hrs.)	
		GEOL 310 Global Hydrology (3 hrs.)	
		GEOL 311 Oceanography (3 hrs.)	
		GEOL 325 Intro Minerals and Rocks (3 hrs.)	
		GEOL 380 Intro Field Techniques (3 hrs.)	
		GEOL 405 Paleontology 4 hrs.)	
		SMED 300 Middle Grade Science Skills (3 hrs.)	
Colonnade Plan Component—39 hours			
See WKU catalog website for guidance in selecting appropriate coursework to meet WKU’s Colonnade Plan requirements.			

	SMED 400 Applying Middle Grade Science Across Disciplines (3 hrs.)	
	Total	30 - 31 hrs
	*Supporting Courses Also Required	11-13 hrs.
	MATH 117 Trigonometry (3 hrs.) OR MATH 136 Calculus I (4 hrs.)	
	BIOL 120/121 Biological Concepts: Cells, Metabolism, and Genetics (3/1 hrs.)	
	CHEM 105/106 Fund of General Chemistry (3/1 hrs.) OR CHEM 120/121 College Chemistry I (4/1 hrs.)	

Mid-Point Assessment Requirements:

To be admitted into the Student Teaching Semester, candidates must meet all minimal criteria described under “Transition Point 2: Admission to Final Clinical Experience.”

Program Completion Requirements:

- To complete a teacher preparation program, candidates must meet all minimal criteria described under “Transition Point 3: Program Exit.”
- Note that additional requirements (described below) must be met in order to be recommended for initial certification.
- Rules and regulations governing the completion of this program of study have been described above and on the next page. By your signature, you are acknowledging that you understand and accept responsibility for meeting these requirements.

Delineation of EPP-Wide Transition Points – Initial Preparation Program

Transition Point 1: Admission to Education Preparation Programs				
Data Reviewed	Minimal Criteria	Review Cycle	Reviewed By	Approved By
Unit Level Data:	Admission to Teacher Education			
<ul style="list-style-type: none"> Documentation of completion of baccalaureate degree in an approved certification area) Cumulative GPA CASE test scores Application to include: <ul style="list-style-type: none"> 3 faculty recommendations Physical (including TB test) KY criminal background check Signed KY Code of Ethics 	<ul style="list-style-type: none"> Completion of application 2.75+ average or above Minimum CASE scores required as defined by current state guidelines (demonstrates Critical Thinking and Communication Skills) 3 positive faculty recommendations (demonstrates their dispositions for teaching indicating their creativity and collaboration skills) Passing physical Passing background checks 	Each Month	Office of Teacher Services	Professional Education Council
Transition Point 2: Admission to Final Clinical Experience				
Data Reviewed	Minimal Criteria	Review Cycle	Reviewed By	
Unit Level Data	Successful application to Student Teaching			
<ul style="list-style-type: none"> GPA's and at least 90+ hours completed (including 75% of content courses) Completion of required field hours (dependent on current certification status) Completion of Key Assessments Dispositions scores 	<ul style="list-style-type: none"> 2.75+ GPA (overall, major, minor, and professional education courses); C or higher in all professional education courses At least 200 hours documented based on requirements of 16 KAR 5:040 2+ holistic score; 2+ per KTS measured All dispositions average “At Standard” (3+) 	Each Semester	Office of Teacher Services	Professional Education Council
Transition Point 3: Program Exit				
Data Reviewed	Minimal Criteria	Review Cycle	Reviewed By	
Unit Level Data:	Program Exit			

<ul style="list-style-type: none"> • Candidate student teaching • Teacher Work Sample scores • Dispositions scores 	<ul style="list-style-type: none"> • C or Higher • 2+ holistic score; 2+ per KTS measured • All scores "At Standard" (3+) 	Each Semester	Office of Teacher Services	Certification Officer
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To be recommended for initial certification, an applicant must document:

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Remediation Opportunities:

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Education Advisor's Signature/Date:

Signature

Date

Candidate Signature/Date:

Specialization Advisor's Signature/Date (if needed):

Signature

Date

Signature

Date

****END OF CURRICULUM CONTRACT****