CIEP Submission Form

Mathematics (6-12)

(for Educator Preparation Chapter adopted 8-12-2021)

Institution Name:
Date Submitted:

Program Level: *Select one of the options below.*

☐Class B
☐Alternative Class A

Submitting for: *Choose one of the options below.*

☐Initial review of a proposed program
☐Continuing review of a currently approved program
☐Resubmission to address unmet standards and/or conditions

Overview of Each Required Section:

I. **Background Information:** Provide background information about the program (checklist; numbers of admissions, completers, and recommendations for certification). The "n"s reported here are used to determine if "n"s reported in data tables are consistent.

II. **Key Assessments, Data, and Data Analysis:** Provide an overview of the key assessment in the Section II chart. Key Assessments are typically summative assessments of candidate proficiencies. For each key assessment, included the completed coversheet; assessment instrument, instructions, or test specification information; rubric or scoring guide; and data table(s). Program faculty preparing submissions should use the Rubric for Key Assessments.

III. **Alignment of Standards to Curriculum and Key Assessments:** Provide an overview of how the program ensures each indicator is adequately addressed in curriculum and key assessments so reviewers know where to look to for evidence. Reviewers use the course descriptions and assessment documents, not the chart, to determine whether each indicator is adequately addressed.

IV. **Summary of Field Experiences Prior to Internship:** Provide an overview of how the program requires candidates to demonstrate developing proficiencies in field experiences prior to internship. Copies of instructions or assignments must be submitted. Assessment information is not required but may be submitted. Field experiences should have clear purposes and reflect increasing expectations. Program faculty preparing submissions should use the Rubric for Field Experiences Prior to Internship.

SECTION I Background Information

1. **Include the proposed checklist as a separate document.**

2. **Data on Unconditional Admissions, Program Completers, and Certificates Issued**
   Programs should report at least three years of data. If the "n" over three years is less than 10, the program should report five years of data.

Academic Year September 1 to August 31	**Number of Unconditional Admissions**	**Number of Program Completers**[1]	**Number Recommended for Alabama Certification**

[1] Use the Title II definition for program completers.

SECTION II Key Assessments, Data, and Data Analysis

1. *Assessments #1-#5 are required. No more than eight key assessments may be submitted.*
2. *Complete a coversheet for each key assessment and attach it to the instrument or instructions, or test specifications; rubric or scoring guide; and data tables(s). Submit these documents in a Key Assessments folder on the flash drive and a section of the binder.*

#	Key Assessment Title	Name of Key Assessment[2]	Type of Key Assessment[3]	When Required by Program[4]
1 a	**State Certification Tests:**[5] **Praxis Mathematics**		State Certification Tests	
1 b	**edTPA**			
2	**Content Knowledge**[6]			
3	**Planning Instruction**[7]			
4	**Internship**			
5	**Effect on Student Learning**[8]			
6[9]				
7				
8				

[2] Identify assessment by title used in the program.
[3] Types of assessment include but are not limited to essay, case study, project, comprehensive exam, reflection, state certification test, and portfolio.
[4] Assessments might be required at the time of admission to the program, admission to internship, during a required course, or at program completion.
[5] Test data must include the percentage of candidates who passed the tests for the last three years. Total scores and appropriate sub-test data must be reported.
[6] Examples of appropriate content knowledge assessments include grade analyses, comprehensive examinations, portfolio tasks, and culminating performances.
[7] Examples of appropriate assessments for planning instruction include developing lesson or unit plans that address the breadth and depth of the teaching field, individualized education plans, needs assessments, or intervention plans.
[8] Examples of appropriate assessments for effect on student learning include those based on samples of student work, portfolio tasks, case studies, and appropriate follow-up studies.
[9] Examples of optional assessments addressing program standards include but are not limited to evaluations of field experiences, case studies, specific portfolio artifacts, complete portfolios, and follow-up studies.

SECTION III Alignment of Standards to Curriculum and Key Assessments

Identify the curriculum components and key assessments listed in Section II that address the standard and indicators. Only courses that directly address indicators should be listed. In most cases, an indicator will be addressed by more than one key assessment. Cross-references to the standards and indicators should be inserted into the assessment instruments, scoring guides, and data tables.

Standard 1 Knowing and Understanding Mathematics. Candidates demonstrate and apply understandings of major mathematics concepts, procedures, knowledge, and applications within and among mathematical domains of Number; Algebra and Functions; Calculus; Statistics and Probability; Geometry, Trigonometry, and Measurement.		
Indicators	**Curriculum Components—Courses or Other Requirements**[10] *(Include course prefix, number, and name.)*	**Key Assessment(s)** *(Identify by key assessment number[s] in Section II.)*
1.1 Essential Concepts in Number. Candidates demonstrate and apply understandings of major mathematics concepts, procedures, knowledge, and applications of number including flexibly applying procedures, using real and rational numbers in contexts, developing solution strategies, and evaluating the correctness of conclusions. *Major mathematical concepts in Number include number theory; ratio, rate, and proportion; and structure, relationships, operations, and representations.*		
1.2 Essential Concepts in Algebra and Functions. Candidates demonstrate and apply understandings of major mathematics concepts, procedures, knowledge, and applications of algebra and functions including how mathematics can be used systematically to represent patterns and relationships including proportional reasoning, to analyze change, and to model everyday events and problems of life and society. *Essential Concepts in Algebra and Functions include algebra that connects mathematical structure to symbolic, graphical, and tabular descriptions; connecting algebra to functions; and developing families of*		

functions as a fundamental concept of mathematics. Additional Concepts should include algebra from a more theoretical approach including relationship between structures (e.g., groups, rings, and fields) as well as formal structures for number systems and numerical and symbolic calculations.		
1.3 Essential Concepts in Calculus. Candidates demonstrate and apply understandings of major mathematics concepts, procedures, knowledge, and applications of calculus including the mathematical study of the calculation of instantaneous rates of change and the summation of infinitely many small factors to determine some whole. *Essential Concepts in Calculus include limits, continuity, the Fundamental Theorem of Calculus, and the meaning and techniques of differentiation and integration.*		
1.4 Essential Concepts in Statistics and Probability. Candidates demonstrate and apply understandings of statistical thinking and the major concepts, procedures, knowledge, and applications of statistics and probability, including how statistical problem solving and decision making depend on understanding, explaining, and quantifying the variability in a set of data to make decisions. They understand the role of randomization and chance in determining the probability of events. *Essential Concepts in Statistics and Probability include quantitative literacy, visualizing and summarizing data, statistical inference, probability, and applied problems.*		
1.5 Essential Concepts in Geometry, Trigonometry, and Measurement. Candidates demonstrate and apply understandings of major mathematics concepts, procedures, knowledge, and applications of geometry including using visual representations for numerical functions and relations, data and statistics, and networks, to provide a lens for solving problems in the physical world. *Essential Concepts in Geometry, Trigonometry, and Measurement include transformations, geometric arguments, reasoning*		

and proof, applied problems, and non-Euclidean geometries.		

Standard 2 Knowing and Using Mathematical Processes. Candidates demonstrate, within or across mathematical domains, their knowledge of and ability to apply the mathematical processes of problem solving; reason and communicate mathematically; and engage in mathematical modeling. Candidates apply technology appropriately within these mathematical processes.		
Indicators	**Curriculum Components—Courses or Other Requirements** *(Include course prefix, number, and name.)*	**Key Assessment(s)** *(Identify by key assessment number[s] in Section II.)*
2.1 Problem Solving. Candidates demonstrate a range of mathematical problem-solving strategies to make sense of and solve nonroutine problems (both contextual and noncontextual) across mathematical domains.		
2.2 Reasoning and Communicating. Candidates organize their mathematical reasoning and use the language of mathematics to express their mathematical reasoning precisely, both orally and in writing to multiple audiences.		
2.3 Mathematical Modeling and Use of Mathematical Models. Candidates understand the difference between the mathematical modeling process and models in mathematics. Candidates engage in the mathematical modeling process and demonstrate their ability to model mathematics.		

Standard 3 Knowing Students and Planning for Mathematical Learning. Candidates use knowledge of students and mathematics to plan rigorous and engaging mathematics instruction supporting students' access and learning. The mathematics instruction developed provides equitable, culturally responsive opportunities for all students to learn and apply mathematics concepts, skills, and practices.		
Indicators	**Curriculum Components—Courses or Other Requirements** *(Include course prefix, number, and name.)*	**Key Assessment(s)** *(Identify by key assessment number[s] in Section II.)*
3.1 Student Diversity. Candidates identify and use students' individual and group differences to plan rigorous and engaging mathematics instruction that supports students' meaningful participation and learning.		
3.2 Students' Mathematical Strengths. Candidates identify and use students' mathematical strengths to plan rigorous and engaging mathematics instruction that supports students' meaningful participation and learning.		
3.3 Positive Mathematical Identities. Candidates understand that teachers' interactions impact individual students by influencing and reinforcing students' mathematical identities, positive or negative, and plan experiences and instruction to develop and foster positive mathematical identities.		

Standard 4 Teaching Meaningful Mathematics. Candidates implement effective and equitable teaching practices to support rigorous mathematical learning for a full range of students. Candidates establish rigorous mathematics learning goals, engage students in high cognitive demand learning, use mathematics specific tools and representations, elicit and use student responses, develop conceptual understanding and procedural fluency, and pose purposeful questions to facilitate student discourse.		
Indicators	**Curriculum Components—Courses or Other Requirements** *(Include course prefix, number, and name.)*	**Key Assessment(s)** *(Identify by key assessment number[s] in Section II.)*
4.1 Establish Rigorous Mathematics Learning Goals. Candidates establish rigorous mathematics learning goals for students based on mathematics standards and practices.		
4.2 Engage Students in High Cognitive Demand Learning. Candidates select or develop and implement high cognitive demand tasks to engage students in mathematical learning experiences that promote reasoning and sense making.		
4.3 Incorporate Mathematics-Specific Tools. Candidates select mathematics-specific tools, including technology, to support students' learning, understanding, and application of mathematics and to integrate tools into instruction.		
4.4 Use Mathematical Representations. Candidates select and use mathematical representations to engage students in examining understandings of mathematics concepts and the connections to other representations.		
4.5 Elicit and Use Student Responses. Candidates use multiple student responses, potential challenges, and misconceptions, and they highlight students' thinking as a central aspect of mathematics teaching and learning.		
4.6 Develop Conceptual Understanding and Procedural Fluency. Candidates use conceptual understanding to build procedural fluency for students through instruction		

that includes explicit connections between concepts and procedures.		
4.7 Facilitate Discourse. Candidates pose purposeful questions to facilitate discourse among students that ensures that each student learns rigorous mathematics and builds a shared understanding of mathematical ideas.		

Standard 5 Assessing Impact on Student Learning. Candidates assess and use evidence of students' learning of rigorous mathematics to improve instruction and subsequent student learning. Candidates analyze learning gains from formal and informal assessments for individual students, the class as a whole, and subgroups of students disaggregated by demographic categories, and they use this information to inform planning and teaching.		
Indicators	**Curriculum Components—Courses or Other Requirements** *(Include course prefix, number, and name.)*	**Key Assessment(s)** *(Identify by key assessment number[s] in Section II.)*
5.1 Assessing for Learning. Candidates select, modify, or create both informal and formal assessments to elicit information on students' progress toward rigorous mathematics learning goals.		
5.2 Analyze Assessment Data. Candidates collect information on students' progress and use data from informal and formal assessments to analyze progress of individual students, the class as a whole, and subgroups of students disaggregated by demographic categories toward rigorous mathematics learning goals.		
5.3 Modify Instruction. Candidates use the evidence of student learning of individual students, the class as a whole, and subgroups of students disaggregated by demographic categories to analyze the effectiveness of their instruction with respect to these groups. Candidates propose adjustments to instruction to improve student learning for each and every student based on the analysis.		

Standard 6 Social and Professional Context of Mathematics Teaching and Learning. Candidates are reflective mathematics educators who collaborate with colleagues and other stakeholders to grow professionally, to support student learning, and to create more equitable mathematics learning environments.		
Indicators	**Curriculum Components—Courses or Other Requirements** *(Include course prefix, number, and name.)*	**Key Assessment(s)** *(Identify by key assessment number[s] in Section II.)*
6.1 Promote Equitable Learning Environments. Candidates seek to create more equitable learning environments by identifying beliefs about teaching and learning mathematics, and associated classroom practices that produce equitable or inequitable mathematical learning for students.		
6.2 Promote Mathematical Identities. Candidates reflect on their impact on students' mathematical identities and develop professional learning goals that promote students' positive mathematical identities.		
6.3 Engage Families and Communities. Candidates communicate with families to share and discuss strategies for ensuring the mathematical success of their children.		
6.4 Collaborate with Colleagues. Candidates collaborate with colleagues to grow professionally and support student learning of mathematics.		

SECTION IV Summary of Field Experiences Prior to Internship

1. **List all courses (or other curriculum requirements) that have a required field experience, in the order that the courses are typically taken. *Include the course prefix, number, and title.***

Course Prefix	Course Number	Course Title

2. **Are field experiences always done in this order? ☐Yes ☐No**
   If no, provide a brief explanation.

3. **Briefly explain how placements are made to ensure that candidates are placed in diverse schools.**

4. **For each field experience, complete a field experience coversheet and attach it to the instructions or assignments for the field experience. Submit these in a Field Experience folder on the flash drive and a section in the binder.**