PENNSYLVANIA STATEWIDE
PROGRAM-TO-PROGRAM ARTICULATION AGREEMENT
<u>FOR DEGREES LEADING TO PK-4 TEACHER CERTIFICATION</u>

<u>LEGISLATIVE CONTEXT</u>
The passage of Act 114 of 2006 facilitated seamless transfer of up to 30 credits of foundation coursework among two- to four-year public institutions. The passage of Act 50 of 2009 required these same institutions to accept for transfer the entire Associate of Arts and Associate of Science degree, including early childhood education, toward the graduation requirements of parallel bachelor degree programs.

Program-to-program transfer articulation eliminates the need for a course-by-course evaluation by the receiving four-year institution. In its place is a focus on major competencies, learning outcomes and the existence of valid evaluation measures.

<u>STANDARDS AND OUTCOMES-BASED ARTICULATION</u>
The *Statewide Program-to-Program Articulation in Early Childhood Education to Serve Pennsylvania's Children Background Paper* served as the foundational document for guiding the associate and bachelor degree faculty in early childhood education and PK-4 certification toward a goal of statewide articulation based on the accreditation standards for program quality identified by the National Association for the Education of Young Children (NAEYC).

A Portfolio, compiled of key assessments aligned with NAEYC standards, defines the student's competency level in each Major Content Area. A common rubric defines knowledge and performance outcomes across all institutions. The Portfolio serves as an exit criterion for the associate's degree and provides supporting documents based on established standards-based criteria. The Portfolio is based on the five NAEYC standards, Pennsylvania Department of Education (PDE) requirements for upper-division coursework in PK-4 Teacher Preparation programs and evidence of successfully completed field experiences (at least 40 hours) in Level I and II.

The Portfolio is reviewed and assessed as part of the capstone experience at the two-year program level and, therefore, serves as an exit requirement for the Associate's Degree in Early Childhood Education. The two-year institution certifies that the graduate with the associate's degree has met the learning outcomes identified in the program, has been assessed using the common rubric and possess the appropriate knowledge, skills and dispositions as they relate to the PDE and NAEYC standards. A properly assessed Portfolio is required of all students transferring under this Agreement.

<u>OBJECTIVE OF THE AGREEMENT AND CONCEPTUAL FRAMEWORK</u>
Based on the commonality of purpose and a mutual goal of assuring quality education and seamless transition for students with Associate's Degrees in Early Childhood Education, the primary objective of this Agreement is to create a single pathway from an associate degree to a bachelor degree program leading to PK-4 Teacher Certification for all early childhood students, including those who work in a child care setting. And while no institution will find this Agreement perfectly matches an existing program, the hope is that the requirements outlined will ensure a high-quality program for all early childhood students at the participating institutions and remove obstacles, such as loss of credits or need to repeat courses, for students who seek PK-4 Teacher Certification after the associate's degree.

Trust in the efficacy of colleague's programs is foundational in this type of articulation. As a specialized program area for National Council for Accreditation of Teacher Education (NCATE) accreditation, NAEYC accreditation allows both two- and four-year institutions to trust the value of each other's programs based on objective criteria. In fact, PDE's Chapter 49-2 standards for PK-4 Certification are closely aligned with NAEYC standards, which support the success of the transferring student into the four-year program. Therefore, all two-year institutions included in this Agreement are required to use NAEYC standards and outcomes to guide program development. Institutions are also strongly encouraged to participate in the NAEYC accreditation process, though accreditation is not mandatory.

Associate degree programs prepare both workforce and transfer students, and thus, the focus of the associate's degree may be different from a four-year degree. Often, an associate degree program will have a primary area of

concentration from birth to age five; bachelor degree programs often have the stronger area of concentration in ages pre-kindergarten to age 9, due to the responsibility for preparing the candidates for certification. This Agreement assumes that most of the responsibility for ensuring the candidate meets PDE certification requirements and specialized program accreditation requirements after the entry level will fall to the four-year institution. However, the Agreement also assumes that general education course work supports and informs early childhood methods and materials and is as important for workforce preparation as for degree program preparation. Thus, content coursework is as much a part of this Agreement as is program coursework.

REQUIREMENTS OF THE AGREEMENT

Full junior-standing will be granted to a student who has successfully completed an Associate's Degree provided that:

1. The student has completed an associate degree program that includes the major competency requirements outlined in this Agreement and meets all of the program requirements outlined in each institution's current college catalog.

2. The student has fulfilled grade requirements (including at the individual course level) of the major into which the student is transferring with an overall grade point average that meets the minimum requirement of the accepting institution of the intended certification track. Expectations for native and transferring students shall be the same.

3. The student has met all of the requirements listed on the Program-to-Program Articulation Early Childhood Education Transfer Checklist and Portfolio Summary Page Assessment and has the documents approved and forwarded by the associate degree institution to the bachelor degree institution.

The two-year institutions shall provide the participating four-year institutions with the names and contact information of students who have indicated an interest in transferring into a bachelor degree program leading to PK-4 Teacher Certification. Also, students interested in transferring under this Agreement will be advised to apply to the four-year institution in the beginning of the semester *before* they plan to transfer. It is the intent that by providing this information early in the transfer process, students will benefit from major department activity and avoid potential registration issues.

MAJOR REQUIREMENTS

30-Credit Core in Early Childhood Education

The following Major Core Content Areas are based on NAEYC's learning standards for early childhood education and PDE's Chapter 49-2 standards for programs leading to PK-4 teacher certification. The specific competencies for each area are found in APPENDIX A: Early Childhood Education Competency Standards. In order to provide a seamless transition, each institution will determine how credit is awarded for competencies earned in the content areas. However, a student's mastery of each content area at the appropriate level must be assessed according to the common rubric identified in this Agreement.

The competency standards expected in each content area may be embedded or cross courses; thus, a particular course is not required, but the competency must have been met. Each of these Major Core Content Areas is represented in the Portfolio.

The Major Core Content Areas are as follows:
1. **Child Development and Learning (6-9 credits)**
2. **Family and Community (3 credits)**
3. **Observation and Assessment (3 credits)**
4. **Subject and Pedagogy, including early literacy, early math and science, the arts and creative expression (6-12 credits)**
5. **Curriculum integration (3 credits)**
6. **Special education (3 credits)**
7. **English Language Learners (3 credits)**
8. **Professionalism (3 credits)**
9. **Field experiences at Level I and II (embedded or up to 6 credits)**

==30-Credit Core in General Education==

In order to provide a seamless transition and to ensure that all PK-4 teachers have the requisite content knowledge to provide appropriate instruction, the transferable associate's degree must include coursework from the several broad areas of study outside of teacher education.

General education course equivalencies will be equated through the TAOC system. Although credit given may be adjusted to fit in varying course descriptions by individual institutions, all criteria in the 30-Credit General Education Core must be met.

The 30-Credit Core in General Education includes the following broad areas of study with overlap in each category up to the number of credits listed per area:

1. **English Composition and Literature – 6 credits**

2. **Math – 6 credits**
   o <u>Two courses</u> equivalent to Elementary Math I and II (Specific competencies are identified in Appendix C: Mathematical Content Knowledge for PK-4 Teachers.)

3. **Natural Science with a Lab – 3-4 credits**

4. **==Social Science – 3 credits==**
   o ==<u>One</u> of the following courses: Introduction to Sociology, Cultural Anthropology or General Psychology==

5. **History or Geography – 3 credits**
   o <u>One course</u> from the discipline of History or Geography

6. **Fine Arts and Humanities – 3 credits**
   o <u>One course</u> in Fine Arts or Humanities

7. **Electives – 6 credits**
   o <u>Up to 6 credits</u> from the associate degree institution's general education requirements

GRADE REQUIREMENTS

Students transferring under this agreement must meet or exceed the grade requirements (including at the individual course level) of the major into which the student is transferring with an overall grade point average that meets or exceeds the minimum grade requirement of the accepting institution of the intended certification track. Expectations for native and transferring students shall be the same.

Since each bachelor degree institution has its own policies concerning admission to the institution, transfer of credit and acceptance to specific programs of study, students are advised to work closely with their academic advisors before applying to a transfer institution. Current admission and transfer credit policies for all of the colleges and universities participating in Pennsylvania's statewide college credit transfer system can be found on Pennsylvania Transfer and Articulation Center website (www.PACollegeTransfer.com).

TRANSFER CHECKLIST AND PORTFOLIO REQUIREMENTS

The Program-to-Program Articulation Early Childhood Education Transfer Checklist is the mechanism by which the student and the institution can track the student's transfer eligibility under this Agreement. A Portfolio consisting of key assessments and documentation will be used to define a student's competency level in each Major Content Area and will serve as an exit criterion for the associate's degree. Together these documents will serve as indication that the student has successfully completed all required competencies, including requisite field experiences, and is prepared to transition as a junior at the four-year institution. See Appendix B: The Program-to-Program Articulation Early Childhood Education Transfer Checklist and Portfolio Summary Page Assessment.

The Portfolio is based on the five NAEYC standards, PDE's requirements for upper-division coursework in PK-4 teacher preparation programs and evidence of successfully completed field experiences (at least 40 hours) in Level I and II. A common rubric defines the expected knowledge and performance outcomes across all institutions.

Assessment of the Portfolio is a requirement for students transferring under this Agreement. Therefore, each student will have his/her Portfolio reviewed and assessed, in accordance to the common rubric, as part of the associate degree capstone experience. The associate degree institution may determine if the Portfolio is used as the basis for any course grade or is a requirement for graduation.

By signing the Program-to-Program Articulation Early Childhood Education Transfer Checklist and Portfolio Summary Page Assessment and forwarding this documentation to the student's intended transfer institution, the associate degree institution is certifying that the student has met the learning outcomes identified in the degree program, has been assessed using the common rubric, and possesses the appropriate knowledge, skills and dispositions related to the PDE and NAEYC standards.

Four-year institutions will use the Transfer Checklist and the Portfolio Summary Assessment to provide official evaluation of all previously completed coursework, to show how credits have been applied to the student's bachelor degree program and to identify the remaining degree requirements for PK-4 teacher certification. Four-year institutions shall apply course credits to the approved Major Content Area. An exact match of course title or content is not required from between the two- and four-year institution is not required. The chart provides guidance for the categories. Individual institutions may choose to credit the courses in any way that provide fidelity to the program, as long as the 30/30 credit standard is followed, and the Portfolio documents that the transferring student has met the required outcomes necessary in the areas noted.

A transferring student will be responsible for the same level of knowledge and expertise in each of the broad areas as a native student and will eventually need this content mastery to pass the Praxis II in order to attain PK-4 Teacher Certification by the Commonwealth of Pennsylvania.

APPENDIX A: Early Childhood Education Competency Standards

Standard 1. Promoting Child Development and Learning
Students prepared in early childhood degree programs are grounded in a child development knowledge base. Candidates use their understanding of young children's characteristics and needs and of the multiple interacting influences on children's development and learning to create environments that are healthy, respectful, supportive, and challenging for each child.

Key elements of Standard 1:
> 1a: Knowing and understanding young children's characteristics and needs
> 1b: Knowing and understanding the multiple influences on development and learning
> 1c: Using developmental knowledge to create healthy, respectful, supportive, and challenging learning environments

Key Element	Possible Artifacts	Exceeds Expectations	Meets Expectations	Does Not Yet Meet Expectations	Comments	Score
1a: Knowing and understanding young children's characteristics and needs	• Observation of child, focusing on one or more specific domains of development • Case study of child • Article review on current research topic in child development • Research paper on a specific aspect of child development, behavior, play, or learning • PowerPoint presentation on a specific theory and how it relates to classroom practice	Candidates' work shows a thorough grounding in theories and current research in all areas of child development and learning. Candidates' work shows that they understand inter-relationships among developmental areas, as seen in their rich examples of these interrelationships. Candidates actively seek out new information about child development and learning using multiple sources, including technology.	Candidates' work reflects current, research-based knowledge in most respects; candidates are knowledgeable about development in all areas and can give examples of interrelationships among developmental areas.	Candidates' work displays a limited knowledge base, insufficiently grounded in theory and research.		
1b: Knowing and understanding the multiple influences on development and learning	• Observation • Case study • Family interview • Classroom presentation on specific early intervention program • Research paper on specific kind of experience (e.g. mother/child interaction) and the influence on development • Presentation on a specific toy or material and how it can be used to promote development	Candidates' work shows that they not only know about the number and variety of these influences but they also have thorough knowledge of possible interactions among these influences and of relevant theory and research. Their understanding is demonstrated in their many research-based examples of how early intervention programs may influence outcomes for children.	Candidates' work shows that they can describe the nature of these influences and understand that influences may interact in complex ways. Their work demonstrates familiarity with the most well known early intervention programs, and they can cite research about the influence of these programs on child outcomes.	Candidates' work displays a limited knowledge base and may reflect a simplified view of influences on development. Candidates' work shows only a limited knowledge of early intervention.		

1c: Using developmental knowledge to create healthy, respectful, supportive, and challenging learning environments	• In-depth observation of early childhood learning environment • Design a quality, developmentally appropriate comprehensive plan for a hypothetical day care center which includes, integrated curriculum, floor plans/materials &equipment, parent brochure which outlines schedules and program philosophy, and a three dimensional model of outdoor play area • Evaluative checklist for safe and stimulating outdoor play environment • Plan for a learning center which targets specific developmental objectives • List of books and materials that would support children from diverse home cultures in a classroom.	Candidates' work shows their ability to describe, in-depth, the developmental research and principles that they are using as a basis for creating effective learning environments. Evidence is convincing that the environments created by candidates support children's health, respect their culture and individuality, promote positive development, and challenge children to gain new competencies.	Candidates' work shows that they can describe the essentials of developmental research and the principles that they are using as a basis for creating effective learning environments. There is adequate evidence that the environments created by these candidates support children's health, respect their culture and individuality, promote positive development, and challenge children to gain new competencies.	Candidates' work shows limited ability to describe the developmental research and principles that they are using as a basis for creating learning environments. There is insufficient evidence that the environments created by these candidates support children's health, respect their culture and individuality, promote positive development, and challenge children to gain new competencies.		

Standard 2: Building Family and Community Relationships
Students prepared in early childhood degree programs understand that successful early childhood education depends upon partnerships with children's families and communities. They know about, understand, and value the importance and complex characteristics of children's families and communities. They use this understanding to create respectful, reciprocal relationships that support and empower families and to involve all families in their children's development and learning.

Key elements of Standard 2
    2a: Knowing about and understanding diverse family and community characteristics
    2b: Supporting and engaging families and communities through respectful, reciprocal relationships
    2c: Involving families and communities in their children's development and learning

Key Element	Possible Artifacts	Exceeds Expectations	Meets Expectations	Does Not Yet Meet Expectations	Comments	Score
2a. Knowing about and understanding family and community characteristics	• Reflection of a home visit, parent meeting or parent interview. • Letter written for Community resource file of agencies within community that may be helpful for families	Candidate's work show that he/she articulates and integrated family theory and research-based knowledge of multiple family and community factors that impact young children's lives. Candidate's descriptions of the characteristics of the families and communities in which they are practicing show in-depth understanding	Candidate's work shows general knowledge of family theory and research, and its shows the candidate can identify a variety of family and community factors as they impact young children's lives. Candidates demonstrate that they know the significant characteristics of the families and communities in which they are practicing	Candidate's work shows limited or stereotyped knowledge of characteristics that affect early childhood practice		
2b. Supporting and empowering families and communities through respectful, reciprocal relationships	• Reflection of a home visit, parent meeting or parent interview. • Newsletter or introductory letter written for parents • Community resource file of agencies within community that may be helpful for families • Notations on lesson plans describing how lessons involve families and community	Candidate's work displays extensive knowledge of families' goals, language and culture, and individual characteristics as tools to build these relationships. Work reflects skilled, varied family communication strategies including the use of technology. Evidence shows that candidate can link families with multiple community resources appropriate for specific purposes.	Candidate's work shows that he/she can describe how to use knowledge of families' goals, language and culture and the individual characteristics to build these relationships. Candidate applies his/her knowledge in using varied family communication strategies including technology; in linking families with key community resources; and in accessing information about other resources as needed.	Candidate's work shows limited knowledge of families' goals, language culture and individual characteristics; a limited repertoire of communication strategies; and limited knowledge of community resources to support families.		
2c. Involving families and communities in their children's development and learning	• Reflection of a home visit, parent meeting or parent interview. • Newsletter or introductory letter written for parents	Candidate's work shows that he/she articulates theory and research to support the concept that families are young children's primary teachers, and that family and community involvement are	Candidate's work shows that he/she can articulate theory and research to support the concept that families are young children's primary teachers, and that family and community involvement are critical to	Candidate's work shows limited knowledge of theory and research related to family and community involvement, and a limited repertoire of approaches to family and community		

	• Community resource file of agencies within community that may be helpful for families • Notations on lesson plans describing how lessons involve families and community • Individual Family Service Plan/Individual Education Plan – process	critical to successful early learning. His/her knowledge is shown in his/her use of a wide range of approaches to family and community and his/her in-depth self-evaluation and modification of approaches when first attempts were not successful	successful early learning. His/her knowledge is shown through his/her varied approaches to family involvement and modifications to approaches when first attempts were not successful	involvement		

Standard 3. Observing, Documenting, and Assessing to Support Young Children and Families

Students prepared in early childhood degree programs understand that child observation, documentation, and other forms of assessment are central to the practice of all early childhood professionals. They know about and understand the goals, benefits, and uses of assessment. They know about and use systematic observations, documentation, and other effective assessment strategies in a responsible way, in partnership with families and other professionals, to positively influence the development of every child.

Key elements of Standard 3:
- 3a: Understanding the goals, benefits, and uses of assessment
- 3b: Knowing about assessment partnerships with families and with professional colleagues
- 3c: Knowing about and using observation, documentation, and other appropriate assessment tools and approaches
- 3d: Understanding and practicing responsible assessment to promote positive outcomes for each child.

Key Elements	Possible Artifacts	Exceeds Expectations	Meets Expectations	Does Not Yet Meet Expectations	Comment	Score
3a: Understanding the goals, benefits, and uses of assessment	• Research and summarize findings of a specific assessment tool. • Compare/contrast authentic vs. standardized assessments. • Use observation findings to prescribe an activity for a child. • Write a paper on the use of documentation panels in early childhood. • Conduct and compare conservation task assessment with diverse children.	Candidates' work shows knowledge of a wide range of assessment goals, and close alignment among goals, curriculum, teaching strategies, and assessments. In their work, candidates articulate and document positive uses of assessment in early childhood programs; and they articulate and document situations in which inappropriate assessment may harm children and families.	Candidates' work shows knowledge of the important goals of early childhood assessment. Their work generally shows alignment between goals, curriculum, teaching strategies, and assessments. In their work, candidates explain how assessment may be used in positive ways, and they also explain how inappropriate assessment may harm children and families.	Candidates' work shows little evidence of knowledge of assessment's essential goals, positive uses, and potential risks.		
3b: Knowing about assessment partnerships with families and with professional colleagues	• Student-generated example of an IFSP, IEP, or 504. • Reflection about the IFSP or IEP process. • Reflection on observation of family conference. • Documentation panel that makes learning visible to families	Candidates' work articulates the research and legal basis for such partnerships and applies this knowledge in practice. Candidates demonstrate that they can contribute to partnerships with families and other professionals in designing, interpreting, communicating, and acting upon assessment information.	Candidates' work articulates the research and legal base that supports these partnerships. Candidates demonstrate core skills in team building and in communication with families and other professionals around assessment issues.	Candidates' work shows insufficient knowledge of the research and legal basis of these partnerships and shows limited skills in team building and communication with families and other professionals around assessment issues.		
3c: Knowing about and using observation, documentation,	• Observation of children in a social play event.	Candidates' work reflects a high-level of research-based	Candidates' work shows research-based knowledge	Candidates' work shows limited knowledge and		

and other appropriate assessment tools and approaches	• Developmental Portfolio assembled for a specific child. • Original assessment of an activity, utilizing the PA Early Learning Standards.	knowledge and competence in observation, documentation, and other assessment tools. Their work reflects in-depth knowledge of the characteristics, strengths, limitations, and appropriate uses of a wide range of assessment tools and approaches, including approaches for children with disabilities and culturally and linguistically diverse children. Candidates demonstrate a high level of skill in using assessments, interpreting assessment results, making referrals, and using assessment information to influence practice.	and basic competence in observation, documentation, and other assessment tools. Their work reflects essential knowledge of the characteristics, strengths, limitations, and appropriate uses of the most frequently used assessment tools and approaches, including approaches for children with disabilities and culturally and linguistically diverse children. Candidates demonstrate essential skills in using assessments, interpreting assessment results, making referrals, and using assessment information to influence practice.	competence in observation, documentation, and other assessment tools. Their work reflects a lack of essential knowledge of the most frequently used assessment tools and approaches, and they do not demonstrate essential skills in using assessments, interpreting assessment results, making referrals, and using assessment information to influence practice.		
3d: Understanding and practicing responsible assessment to promote positive outcomes for each child.	• Observation of a child focusing on one or more specific domains. • Pro/con chart that compares and contrasts assessment tools, e.g. Ounce, checklist, anecdotal observation. • Environmental assessment using a rating scale, e.g. ECERS, ITERS.	Candidates' work shows that they are well versed in current educational, legal, and ethical issues with respect to assessment practices. Candidates can provide detailed multiple examples of responsible as well as irresponsible assessment. In their practice, they apply complex understandings of responsible assessment practices when working with diverse children.	Candidates' work shows that they can identify current educational, legal, and ethical issues with respect to assessment practices. Candidates can provide examples of responsible as well as irresponsible assessment. In their practice, they apply responsible assessment practices when working with diverse children.	Candidates' work shows insufficient knowledge of current educational, legal, and ethical issues with respect to assessment practices, and their practice shows limited application of principles of responsible assessment.		

Standard 4: Using Developmentally Effective Approaches to Connect with Children and Families
Students prepared in early childhood degree programs understand that teaching and learning with young children is a complex enterprise, and its details vary depending on children's ages, characteristics, and the settings within which teaching and learning occur. They understand and use positive relationships and supportive interactions as the foundation for their work with young children and families. Students know, understand, and use a wide array of developmentally appropriate approaches, instructional strategies, and tools to connect with children and families and positively influence each child's development and learning.

Key elements of Standard 4:
   4a: Understanding positive relationships and supportive interactions as the foundation of their work with children
   4b: Knowing and understanding effective strategies and tools for early education
   4c: Using a broad repertoire of developmentally appropriate teaching/learning approaches
   4d: Reflecting on their own practice to promote positive outcomes for each child

Key Element	Possible Artifacts	Exceeds Expectations	Meets Expectations	Does Not Yet Meet Expectations	Comment	Score
4a: Understanding positive relationships and supportive interactions as the foundation of their work with children	• Documentation and reflection on constructive personal engagement with a child • Collection and display of data related to verbal interactions between caregivers and children • Research paper on attachment, parental interaction styles, the effects of culture on learning preferences, child guidance strategies etc.	Candidates' work shows extensive understanding of the theories and research underlying the early childhood field's focus on relationships and interactions. This understanding is seen in candidates' sensitivity and skill in creating relationships with culturally and linguistically diverse children and families, varying approaches depending on children's ages and family and cultural practices.	Candidates' work shows essential knowledge of theory and research underlying the early childhood field's focus on relationships and interactions. They know the importance of creating relationships with all children, as seen in their competent, beginning skills in relationship-building with diverse children and families.	Candidates' work shows minimal knowledge of theory and research underlying the early childhood field's focus on relationships and interactions. Their skills in relationship-building are evident to only a limited extent.		
4b: Knowing and understanding effective strategies and tools for early education	• Design of an environment that supports free play • Design of an individualized lesson that promotes literacy and utilizes the PA Early Learning Standards • Description of a learning experience, which includes citation of a NAEYC position statement to analyze and validate it	Candidates' work demonstrates each of the following approaches and strategies with a high degree of competence and with in-depth knowledge of the underlying theory and research: fostering oral language and communication; drawing from a continuum of teaching strategies; making the most of environments and routines; capitalizing on	Candidates' work demonstrates each of the following approaches and strategies with competence and with knowledge of the underlying theory and research: fostering oral language and communication; drawing from a continuum of teaching strategies; making the most of environments and routines; capitalizing on	Candidates' work shows limited knowledge and skills, in at least some of the following areas: fostering oral language and communication; drawing from a continuum of teaching strategies; making the most of environments and routines; capitalizing on incidental teaching; focusing on children's characteristics, needs, and interests; linking		

	• Documentation and reflection on a hands-on art, science, math etc. experience • Collection of transition activities that promote learning.	incidental teaching; focusing on children's characteristics, needs, and interests; linking children's language and culture to the early childhood program; teaching through social interactions; creating support for play; addressing children's challenging behaviors; supporting learning through technology; and using integrative approaches to curriculum.	incidental teaching; focusing on children's characteristics, needs, and interests; linking children's language and culture to the early childhood program; teaching through social interactions; creating support for play; addressing children's challenging behaviors; supporting learning through technology; and using integrative approaches to curriculum.	children's language and culture to the early childhood program; teaching through social interactions; creating support for play; addressing children's challenging behaviors; supporting learning through technology; and using integrative approaches to curriculum.	
4c: Using a broad repertoire of developmentally appropriate teaching/learning approaches	• Curriculum web and integrated unit • Written description of the development, implementation and evaluation process of a learning experience • Adaptation of an existing lesson plan for a child with a specific developmental challenge	Candidates' work shows extensive understanding of the theories and research underlying the early childhood field's focus on DAP. Taking developmental, cultural and individual differences into account, candidates' work shows that they use this knowledge to articulate priorities for high quality, meaningful experiences in each content area, with outcomes for children that connect with professional standards. Candidates readily access multiple, authoritative resources to supplement their own pedagogical practice.	Candidates' work shows understanding of the theories and research underlying the early childhood field's focus on DAP. Taking developmental, cultural and individual differences into account, candidates' work shows that they use this knowledge to implement meaningful experiences in each content area, with desired outcomes for children. Candidates make some use of authoritative resources to supplement their own pedagogical practice.	Candidates' work shows that they lack knowledge of the theories and research underlying the early childhood field's focus, on DAP and that they have limited ability to identify and use a variety of high quality, meaningful strategies in each content area. Candidates make limited use of authoritative resources to supplement their own pedagogical practice.	
4d: Reflecting on their own practice	• Self-evaluation and reflection on story interpretation presentation • Case study analysis that reflects on how personal bias influences practice • Personal narrative describing own beliefs	Candidates' work makes extensive use of theoretical and developmental knowledge to analyze the effects of their practices upon children's learning outcomes. Candidate clearly and specifically articulates personal	Candidates' work identifies some of the theoretical and developmental concepts related to how their practices impact children's learning outcomes. Candidate describes how personal biases, strengths, and	Candidates' work shows limited awareness of how theoretical and developmental concepts impact their own practice and children's learning outcomes. Candidate describes only superficially how personal biases, strengths, and	

	about child guidance and reflection on how this impacts practice	biases, strengths, and areas of development as they relate to the planning, implementation and evaluation of culturally and developmentally appropriate teaching and learning strategies for all children.	areas of development impact the planning, implementation and evaluation of culturally and developmentally appropriate teaching and learning strategies for all children.	areas of development may impact the planning, implementation and evaluation of culturally and developmentally appropriate teaching and learning strategies for all children.		

Standard 5. Using Content to Build Meaningful Curriculum
Students prepared in early childhood degree programs use their knowledge of academic disciplines to design, implement and evaluate experiences that promote positive development and learning for each and every young child. Students understand the importance of developmental domains and academic (or content) disciplines in an early childhood curriculum. They know the essential concepts, inquiry tools and structure of content areas, including academic subjects and can identify resources to deepen their understanding. Students use their own knowledge and other resources to design, implement and evaluate meaningful, challenging curricula that promote comprehensive developmental and learning outcomes for every young child.

Key elements of Standard 5:
      5a: Understanding content knowledge and resources in academic disciplines
      5b: Knowing and using the central concepts, inquiry tools and structures of content areas or academic disciplines
      5c: Using their own knowledge, appropriate early learning standards and other resources to design, implement and evaluate challenging curricula for each child

Key Element	Possible Artifacts	Exceeds Expectation	Meets Expectations	Does Not Yet Meet Expectations	Comments	Score
5a: Understanding content knowledge and resources in academic disciplines	• Reflection: curriculum models, implementation and influence on practice • Observation/Analysis: reading/language arts: published curriculum; prescribed plan or adapted to individual needs • Teacher Interview: Grades 1, 2, 3: Impact of the Standards movement on curriculum	Candidate's work shows extensive understanding of the essential content knowledge and resources in major academic disciplines, including the "big ideas", methods of investigation and expression and organization of the discipline. Taking into consideration the central place in later academic competence, the candidate's work shows extensive, in-depth, research-based understanding and skill in the domain of language, literacy and mathematical foundations.	Candidate's work shows understanding of the essential content knowledge and resources in major academic disciplines, including the "big ideas", methods of investigation and expression and organization of the discipline. Taking into consideration the central place in later academic competence, the candidate's work shows in-depth, research-based understanding and skill in the domain of language, literacy and mathematical foundations.	Candidate's work shows lack of understanding of the essential content knowledge and resources in major academic disciplines, including the "big ideas", methods of investigation and expression and organization of the discipline. Candidate's work lacks in-depth, research-based understanding and skill in the domain of language, literacy and mathematical foundations.		
5b: Knowing and using the central concepts, inquiry tools and structures of content areas or academic disciplines	• Written and/or pictorial description of theme- based prop box • Documentation and reflection on a hands-on, process-oriented art experience • Documentation of a creative movement activity • Resource file,	Candidate's work shows extensive understanding of the theories and research underlying the early childhood field's focus on content, both in general and with respect to each content area, including academic subjects. Taking developmental, individual and cultural	Candidate's work shows knowledge of the theories and research underlying the early childhood field's focus on content, both in general and with respect to each content area, including academic subjects. Taking developmental, individual and cultural characteristics into	Candidate's work shows a lack of knowledge of the theories and research underlying the early childhood field's focus on content and that they have limited ability to articulate priorities and desired outcomes for high quality, meaningful experiences in each content area. Candidate		

	including a webliography of websites with developmentally appropriate curriculum ideas • Description/document ation of a discovery/Science/Nat ure center and how to facilitate child's use • Documentation of storytelling, using flannel board or other props • Original lesson plans and activities that introduce math • Concepts one-to-one correspondence, classifying and sorting, patterning, spatial relationships, etc) • Integrated Curriculum Unit or Project Plan	characteristics into account, the candidate's work indicates the use of this knowledge to articulate priorities for high quality, meaningful experiences in each content area with desired outcomes for children that connect with professional standards and resources. Candidate readily accesses multiple, authoritative resources to supplement their own content knowledge.	account, the candidate's work indicates the use of this knowledge to articulate priorities for high quality, meaningful experiences in each content area, with desired outcomes for children that connect with professional standards and resources. Candidate is familiar with authoritative resources to supplement their own content knowledge.	has a limited familiarity with authoritative resources to supplement their own content knowledge.		
5c: Using their own knowledge, appropriate early learning standards and other resources to design, implement and evaluate challenging Curricula for each child.	• Social Play: observation/evaluation • Description of how curriculum has been adapted to be individually appropriate, age-appropriate and socially and culturally appropriate • Anecdotal notation that assesses room arrangement, aesthetics, and the use of learning centers, activities and materials • Evaluation of a variety of genres of children's books/literature for classroom use	Candidate's work shows strong ability to integrate multiple areas of knowledge in curriculum design, with successful focus on building security and self-regulation, problem-solving and thinking skills, and academic and social competence. Candidate's curriculum development is notable for its complex attention to developmental, individual and cultural characteristics and for its use of highly reflective and continuous evaluation. Candidate's curriculum is characteriz-	Candidate's work shows the ability to integrate multiple areas of knowledge in curriculum design, with successful focus on building security and self-regulation, problem-solving and thinking skills, and academic and social competence. Candidate's curriculum development takes into account children's developmental, individual and cultural characteristics and it makes use of reflective, on-going evaluation. Candidate's curriculum is characterized by use of high quality professional	Candidate's work shows limited ability to integrate multiple areas of knowledge in curriculum design and limited success in promoting positive outcomes for each child. Curriculum development takes insufficient account of each child's developmental, individual and cultural characteristics and makes insufficient use of evaluation. Student's curriculum development is inadequately informed by the use of high quality professional resources.		

		ed by extensive use of high quality professional resources to supplement and inform their own understanding.	resources to supplement and inform their own understanding.			

Standard 6. Becoming a Professional
Candidates identify and conduct themselves as members of the early childhood profession. They know and use ethical guidelines and other professional standards related to early childhood practice. They are continuous, collaborative learners who demonstrate knowledgeable, reflective, and critical perspectives on their work, making informed decisions that integrate knowledge from a variety of sources. They are informed advocates for sound educational practices and policies.

Key Elements of Standard 6:
    6a. Identifying and involving oneself with the early childhood field
    6b. Knowing about and upholding ethical standards and other professional guidelines
    6c. Engaging in continuous, collaborative learning to inform practice
    6d. Integrating knowledgeable, reflective, and critical perspectives on early education
    6e. Engaging in informed advocacy for children and the profession

Key Element	Possible Artifacts	Exceeds Expectations	Meets Expectations	Does Not Yet Meet Expectations	Comments	Score
6a: Identifying and involving oneself with the early childhood field	• Personal mission statement • Reflective essays (dated) • Group presentations • Assignments related to ethical dilemmas	Candidates' work shows a clear sense of belonging to a distinctive profession with complex historical roots and links to other movements. In their work, candidates describe the multiple roles that early childhood professionals may assume and those they think will suit them best. They articulate well-developed perspectives on the challenges facing the profession. They are already involved in the profession in varied ways, as shown by membership in associations and other activities.	Candidates' work shows an understanding of the early childhood field as a distinctive profession and of the essentials of its history. In their work, candidates demonstrate understanding of their own emerging professional roles and the possibilities, opportunities, and challenges within the early childhood field. They show some evidence of active involvement in the profession.	Candidates' work shows limited knowledge of the early childhood field as a distinctive profession, there is little evidence that they have begun to involve themselves in the profession.		
6b: Knowing about and upholding ethical standards and other professional guidelines	• Assignments related to ethical dilemmas • Presentations and reports on other professional guidelines • Peer ratings as good team members • Ethical case studies • Legal cases review on ethical challenges	Candidates' work shows in-depth knowledge of NAEYC's Code of Ethical Conduct, as seen in citations of multiple examples of how the Code may be used to analyze and resolve ethical dilemmas. Candidates also have detailed knowledge of, and ability to apply, legal standards and other	Candidates' work shows essential knowledge of NAEYC's Code of Ethical Conduct, as seen in citations of examples of how the Code may be used to analyze and resolve ethical dilemmas. Candidates are familiar with relevant legal standards and other professional guidelines and can apply these in	Candidates' work lacks essential knowledge of NAEYC's Code of Ethical conduct and of other legal standards and professional guidelines.		

		relevant guidelines in multiple situations of early childhood practice.	practice.		
6c: Engaging in continuous, collaborative learning to inform practice	• Evidence of professional activities • Personal mission statement • Reflective essays (dated) • Group presentations • Peer ratings as good team members • Evidence of interpretation of CEC standards • Evidence of use of differentiated instruction in lesson plans and reflections	Candidates' work shows a strong orientation toward inquiry and self-motivation, combined with extensive involvement and skill in collaborative learning, including collaboration across disciplines and in inclusive settings. Candidates' work shows notable, positive effects of this learning orientation, in their practice and in effects on children.	Candidates' work shows evidence of an orientation toward inquiry and self-motivation, combined with involvement and beginning skills in collaborative learning, including collaboration across disciplines and in inclusive settings. Candidates' work shows positive effects of this learning orientation, in their practice and in effects on children.	Candidates' work shows evidence of an orientation (toward) …multiple, developmental opportunities to become continuous, collaborative learners.	
6d: Integrating knowledgeable, reflective, and critical perspectives on early education	• Personal mission statement • Teaching philosophy • Reflective essays (dated) • Educational philosophy paper • Critical theorist paper • Early Childhood Issues paper (Taking Sides) • Prepared classroom debates • Make Learning Visible Panels (http://pzweb.harvard.edu/mlv/)	Candidates' work shows in-depth, complex understanding of the field's central issues, standards, and research findings. In their work, candidates analyze and reflect upon their practice with notable insight and demonstrate a sophisticated level of critical reasoning about the issues in the field and an understanding of the value of dialogue in resolving differences. Candidates' work shows notable, positive effects of these professional perspectives, in their practice and in effects on children.	Candidates' work shows essential understanding of the field's central issues, standards, and research findings. In their work, candidates analyze and reflect upon their practice and demonstrate critical thinking about the issues in the field and an understanding of the value of dialogue in resolving differences. Candidates' work shows positive effects of these professional perspectives, in their practice and in effects on children.	Candidates' work lacks understanding of the field's central issues, standards, and research findings. Their reflection upon their practice shows limited insight and a limited level of critical thinking. Effects on candidates' practice and on children are absent.	
6e: Engaging in informed advocacy for children and the profession	• Responses and interpretations of NAEYC position papers • Evidence of advocacy	Candidates' work shows in-depth knowledge of the central policy issues in the field, as reflected in their complex examination of	Candidates' work shows essential knowledge of the central policy issues in the field, as seen in their discussions of ethical and	Candidates' work lacks essential knowledge of the central policy issues in the field, as seen in their limited ability to discuss	

efforts on the part of a child, an organization, a college effort, a community effort • Evidence of involvement in local, state, national, or international childhood organizations • Evidence of professional activities • Group presentations • Assignments related to ethical dilemmas • Presentations and reports on other professional guidelines • Make Learning Visible Panels (http://pzweb.harvard.edu/mlv/)	ethical and societal issues in early education. In their work, candidates describe in detail how public policies are developed at the state and federal levels. Candidates possess strong advocacy skills, including written and verbal communication and collaboration.	societal issues in early education. In their work, candidates can outline how public policies are developed at the state and federal levels. Candidates possess beginning advocacy skills, including written and verbal communication and collaboration.	ethical and societal issues in early education, and their limited ability to outline how public policies are developed at the state and federal levels. Evidence does not show that candidates possess beginning advocacy skills, including written and verbal communication and collaboration.	

APPENDIX B: Program-to-Program Articulation Early Childhood Education Transfer Checklist

Transfer Checklist
For Statewide Program-to-Program Articulation in
Early Childhood Education

Student: _____   **ID #** _____

Transfer from: _____   **to:** _____

Check off each area as completed.

	Portfolio Summary Page*
	Grade Point Average: QPA_____ meets entrance criteria
	Praxis I Scores: Passing scores PPST reading, math and writing or minimum met with composite, according to current PDE guidelines.
	Associate's Degree Complete: Transcripts showing associate's degree and required courses successfully completed
	Institution Checklist/Program Check Sheet
	English/Math Requirements: Successful completion of two English courses (English Composition I and a literature course) and two Math courses with content equivalent to Elementary Math 1 and 2
	Clearances: Updated clearances, including FBI PAE#, Act 34, Act 151
	Portfolio Verification: Certifying signature from two-year institution that Portfolio meets standard in each area.
	Field Experiences: € 20 hours observation € 20 hours exploratory (Note which was completed in a diverse setting and provide appropriate evidence.)

Comments:

*Portfolio Summary Page Contents

E = Exceeds Expectations
M = Meets Expectations
DNM = Does Not Meet Expectations

E	M	DNM	**Overall evaluation** (Student cannot move forward using program-to-program articulation if score is DNM on any standard.)
			NAEYC Standard 1
			NAEYC Standard 2
			NAEYC Standard 3
			NAEYC Standard 4
			NAEYC Standard 5
			NAEYC Standard 6

List of Artifacts:

Signature:	Date:
Two-year Institution:	

Appendix C: Mathematical Content Knowledge for PK-4 Teachers

Student Outcomes for Elementary Mathematics I

1. **Students will demonstrate an understanding of and ability to work with elementary logic. This includes the following topics:**
    a. Inductive reasoning
    b. Deductive reasoning
    c. Patterns and pattern recognition
    d. Algorithms

2. **Students will demonstrate an understanding of and ability to work with sets, relations, and functions. This includes the following topics:**
    a. Set operations
    b. Partitions as equivalence relations and equivalence classes
    c. Functions

3. **Students will demonstrate an understanding of and ability to work with the whole numbers. This includes the following topics:**
    a. Definition of the whole numbers using equivalence classes
    b. Understanding properties of the whole numbers using their definition
    c. Definition of the operations for whole numbers using sets
    d. Ordering of the whole numbers using sets
    e. Multiples and powers
    f. Mental math and estimation

4. **Students will demonstrate an understanding of and ability to work with numeration systems. This includes the following topics:**
    a. Hindu-Arabic, Roman numerals, and other ancient numeration systems
    b. Positional numeration systems including other bases
    c. Algorithms for the operations using the decimal system and other bases with emphasis on the importance of place value and groupings in the algorithms

5. **Students will demonstrate an understanding of and ability to work with number theory. This includes the following topics:**
    a. Factors, factorizations, and prime numbers
    b. Divisibility rules
    c. Great common divisor and Euclidean algorithm
    d. Least common multiple

6. **Students will demonstrate an understanding of and ability to work with the integers. This includes the following topics:**
    a. Definition of the integers from the whole numbers using equivalence classes
    b. Understanding properties of the integers from the definitions of integers
    c. Definition of the operations for the integers using equivalence classes
    d. Ordering of the integers
    e. Absolute value
    f. Understanding the algorithms for the operations using the equivalence classes
    g. Negative exponents

Student Outcomes Elementary Mathematics II

1. **Students will demonstrate an understanding of and ability to work with the rational numbers. This includes the following topics:**
    a) Definition of the rational numbers using equivalence classes of integers
    b) Definition of the operations for the rational numbers using equivalence classes
    c) Properties of the operations for rational numbers (closure, commutative, associative, identities, inverses, distributive)
    d) Ordering of the rational numbers
    e) Rational numbers as fractions
    f) Algorithms for the rational numbers as fractions
    g) Rational numbers as decimals
    h) Algorithms for the rational numbers as decimals
    i) Percent
    j) Ratio and proportion

2. **Students will demonstrate an understanding of and ability to work with the real numbers. This includes the following topics:**
    Rational numbers vs. irrational numbers

3. **Students will demonstrate an understanding of and ability to work with statistics. This includes the following topics:**
    a) Organizing and picturing data, including circle graphs and frequency distributions
    b) Measure of central tendency and spread; box-and whisker plots
    c) Abuses of statistics

4. **Students will demonstrate an understanding of and ability to work with probability. This includes the following topics:**
    a) Experimental probability: computation and simulation
    b) Theoretical probability: sample spaces, events, computation
    c) Methods of counting
    d) Permutations and combinations in probability
    e) Conditional probability
    f) Odds and expected value

5. **Students will demonstrate an understanding of and ability to work with measurement. This includes the following topics:**
    a) Measurement with nonstandard and standard units
    b) Length and area
    c) Pythagorean Theorem
    d) Surface area
    e) Volume

6. **Students will demonstrate an understanding of and ability to work with geometry.**
    This includes the following topics:
    a) Spatial visualization and geometric modeling
    b) Geometric shapes, structures, and their properties
    c) Symmetry, congruence, and similarity

Process and Content Knowledge: National Council of Teachers of Mathematics (2007).
Mathematics teaching today, second edition. VA: Reston. NCTM.

I. Process Knowledge for Teachers of Pre-K-12 Mathematics

Knowledge of Mathematical Problem Solving
Teachers and teacher candidates must now, understand and apply the process of mathematical problem solving. As they study mathematics themselves, they must learn to apply and adapt a variety of appropriate strategies to solve problems that arise in mathematics and in other contexts. They must build new mathematical knowledge through problem solving and monitor as well as reflect on the process of mathematical problem solving.

Knowledge of Reasoning and Proof
Teachers and teacher candidates need to reason about, construct, and evaluate mathematical arguments and develop an appreciation for mathematical rigor and inquiry. They should learn to recognize reasoning and proof as fundamental aspects of mathematics, make and investigate mathematical conjectures, develop and evaluate mathematical arguments and proofs, and select and use various types of reasoning and methods of proof.

Knowledge of Mathematical Communication
Teachers and teacher candidates must learn to communicate their mathematical thinking coherently and clearly, both orally and in writing. They must learn to use the language of mathematics to express ideas precisely, to organize mathematical thinking and strategies of others.

Knowledge of Mathematical Connections
Teachers and teacher candidates must learn to recognize, use, and make connections between and among mathematical ideas and in contexts outside mathematics to build mathematical understanding. They must be able to demonstrate how mathematical ideas interconnect and build on one another to produce a coherent whole.

Knowledge of Mathematical Representation
Teacher and teacher candidates need to be exposed to varied representations of mathematical ideas that support and deepen mathematical understanding. They need to use representations to model and interpret physical, social, and mathematical phenomena. They need to create and use representations to organize, record, and communicate mathematical ideas as well as be able to select, apply, and translate among mathematical representations to solve problems.

II. Content Knowledge Needed by All Mathematics Teachers: Early Childhood (Pre-K-2), Elementary School (3-5), Middle Grades (6-8), and Secondary (9-12)

Knowledge of Number and Operation
All mathematics teachers and teacher candidates must be able to demonstrate mathematical proficiency with respect to number and operations, including a conceptual understanding of numbers, ways of representing numbers, relationships among numbers and numbers systems, and the meanings of operations.

They should be able to develop the meaning and interrelations of addition, subtraction, multiplication, and division and provide multiple models for, and applications of, whole-number operations. They should recognize the meaning and use of place value in representing whole numbers and finite decimals, comparing and ordering numbers, and understanding the relative magnitude of numbers. They should demonstrate proficiency in, and understanding of, multi-digit computation using a variety of standard and nonstandard algorithms, mental mathematics, and computational estimation. They should be able to analyze integers and rational numbers, their relative size and how operations with whole numbers extend to integers, rational numbers, and real numbers. They should be able to form convincing arguments about number patterns and relationships and demonstrate knowledge of the historical development of number and number systems, including contributions from diverse cultures.

Knowledge of Algebra
All mathematics teachers and teacher candidates must be able to emphasize relationships among quantities, including functions, ways of representing mathematical relationships, and the analysis of change.

They should be able to explore and analyze patterns, relations, and functions. They should be able to recognize and analyze mathematical structures, investigate equality and equations, and use mathematical structures, investigate equality and equations, and use mathematical models to represent quantitative relationships. They should be able to identify and use commutativity, associativity, distributivity, identities, and properties of inverses and connect those properties with computational algorithms. They should be facile with graphical, numerical, symbolic representations and understand the connections among those representations. They should be able to analyze and represent change in various contexts, such as in rates and rations. They should be able to form convincing arguments within an algebraic system and demonstrate knowledge of the historical development of algebra, including contributions from diverse cultures.

Knowledge of Geometry
All mathematics teachers and teacher candidates must be able to use spatial visualization and geometric modeling to explore and analyze geometric shapes, structures, and their properties.

They must be able to use visualization, the properties of two- and three-dimensional shapes, and geometric modeling. They should be able to build and manipulate representations of two- and three- dimensional objects using concrete models, representational paper-and-pencil drawings, and interactive geometry software. They should be able to specify locations and describe spatial relationships using synthetic, coordinate, and transformational geometry. They should understand the relationships among the concepts of symmetry, congruence, and similarity. They should have a broad technical vocabulary and understand the value and role of mathematical definitions. They should be able to form convincing arguments within a geometric system and demonstrate knowledge of the historical development of plane and spherical geometries, including contributions from diverse cultures.

Knowledge of Data Analysis and Probability
All mathematics teachers and teacher candidates should be able to demonstrate an understanding of concepts and practices related to data analysis and probability.

They should be able to design investigations that can be addressed by creating data sets and collection, organizing, and displaying relevant data. They should use appropriate parametric and nonparametric statistical methods and technological tools to analyze data and describe shape, spread, and center. They should understand issues of variability, sampling, and inference. They should be able to choose among various representations and summary statistics to communicate conclusions. They should be able to make judgments under conditions of uncertainty and be familiar with concepts of likelihood and randomness. They should explore the concepts of empirical and theoretical probabilities using technology and manipulative-based simulations as well as analysis of the underlying sample space. They should be able to use statistical or probabilistic reasoning to form convincing arguments and demonstrate knowledge of the historical development of probability and statistics, including contributions from diverse cultures.

Knowledge of Measurement
All mathematics teachers and teacher candidates should be able to apply and use measurement concepts of tools.

They should be able to select and use appropriate measurement units, techniques, and tools and be able to recognize and apply measurable attributes of objects and the units, systems, and processes of measurement. They should be familiar with both standard (English and metric) and nonstandard units of measurement. They should be able to compute, apply, and connect the various measurement concepts, such as length, area, volume, perimeter, surface area, time, temperature, angle, weight, and mass. They should understand that all measurements are necessarily approximations and that the choice of units affects precision. They should be able to derive measurement formulas and construct convincing arguments on the basis of measurement concepts. As a way of understanding measurement units and processes, they should demonstrate knowledge of the historical development of measurement and measurement systems, including contributions from diverse cultures.