Physics Department Assessment Plan

August 20, 2008

Common Core Learning Objectives (Shared By All Sequences)		
Common Core Introductory Level (PHY 107, 110, 110, 112)		
The learning objective is:	**The assessment tools to be used are:**	**Accomplishment of this objective will be judged by and in:**
Basic understanding of physical laws	Exams, online exercises, other assignments, pre/post tests	Successful completion, with 'C' or better, of PHY 110,111, and 112.
Become comfortable and competent with required tools: math, computer and experimental analysis		
Math (calculus and vector analysis)	Exams and other assignments	Successful completion of pre-and co-requisite math courses (MAT 145, 146, 147) and competent use of those methods in physics courses.
Computer analysis (elementary programming and graphical visualization of data)	Computer assignments in physics courses. Assignments and exams in ITK 165 programming course (highly recommended for all sequences)	Successful completion of programming assignments in PHY 107 -112. Successful completion of ITK165 for those who take it.
Experimental analysis (elementary measurement techniques)	Reports of basic lab assignments in physics courses.	Successful completion of the laboratory component of PHY 110, 111, and 112.
Begin to be able to model and solve real-world problems.	Qualitative problems (exams, quizzes, online exercises) focused on translating problems into physics models. Integrative problems covering several aspects of real-world physics. Out-of-class assignments and projects in some classes. Initiation of research experiences for some students.	Successful solution of qualitative and integrative problems in PHY 110, 111, 112. Progress on research projects for those students participating in research.
Begin to be able to communicate methods and results.	Written lab and computer project reports and homework writing assignments.	Successful performance on PHY 107 writing assignments and lab and computer project reports in PHY 110, 111, and 112.

Common Core Intermediate Level (PHY 213, 220, 240, 270, 284)		
Acquire an understanding of physical laws at the next deeper level, further strengthening physical intuition.	More sophisticated homework problems, exams, and other assignments	Successful completion of PHY 217, 220, 240, 270, 284.
Deepen skills with tools: math, computer and experimental analysis.		
Math (vector calculus, linear algebra, elementary differential equations)	Homework problems involving proofs and/or rigorous derivations, exams, and other assignments	Successful completion of MAT 175, PHY 217, and MAT 340 and competent use of those methods in physics courses.
Computer analysis (more sophisticated numerical methods, symbolic computing, 2-D visualization)	Computer projects involving analysis and solution of physics problems by numerical methods.	Successful solution of computer assignments in physics courses and in research projects.
Experimental analysis (error analysis, more sophisticated measurement techniques)	Experiments and lab reports	Successful completion of PHY 270, in which assessment mainly involves formal lab reports.
Sharpen modeling and approximation skills and the ability to use symmetry as a tool for understanding and problem solving.	Homework problems requiring these skills, exams, and other assignments	Successful completion of PHY 217, 220, 240, 270, 284. Performance on research projects for those involved in them.
Sharpen communication skills	Explanatory writing in homework problems, lab reports and computer project reports. Oral and poster presentations in some classes and for research experience participants.	Competent writing of lab reports and other written reports in PHY 217, 220, 240, 270, 284. Giving quality presentations (oral or poster) for in-class assignments or for research. Research presentations at regional undergraduate physics conferences, for research participants.

Advanced Learning Objectives for ***Physics Teacher Education*** Sequence

The Physics Teacher Education sequence has developed a well-developed assessment plan in concert with the National Science Teachers Association. The latest assessment matrix is included in this document, beginning on the next page.

NSTA STANDARD #1: CONTENT

The student teacher understands and can articulate the knowledge and practices of contemporary science; can interrelate and interpret important concepts, ideas, and applications in their fields of licensure; and can conduct scientific investigations.

Dimensions	Unacceptable (0)	Basic (1)	Proficient (2)	Accomplished (3)	M	F
1a. Concepts and principles understood through science.	Shows through teaching performance and inadequate or very limited understanding of physics content knowledge; makes frequent mistakes in terms of scientific concepts and principles; fails to prepare adequately to teach science content.	Demonstrates strong and significant understanding of the major concepts in all fields for which licensure is sought, consistent with the National Science Education Standards, recommendations of the NSTA, and an assessment of the needs of teachers at each level of preparation.	Exhibits a conceptual understanding of concepts in all fields taught and demonstrates a progressive ability to identify and link major organizing concepts.	Presents a strong, flexible understanding of the major conceptual interrelationships in the field, identifies recent significant changes in the field, and applies this understanding to planning and instruction.		
1b. Concepts and relationships unifying science domains.	Rarely if ever demonstrates or draws attention to the broad applicability of science to real-world phenomena; fails to interrelate science content areas.	Demonstrates ability to develop a thematically unified framework of concepts across the traditional disciplines of science in keeping with the National Science Education Standards.	Thematically unifies concepts from the different traditional disciplines of science in a relevant and appropriate manner.	Regularly unifies science concepts from diverse disciplines of natural science, facilitating development of an interdisciplinary understanding of science.		
1c. Relevance and importance of science and technological applications to the personal lives of students.	Shows no regard for student interests and/or concerns in relation to subject matter being addressed; does not address job prospects; does not address ramifications of scientific knowledge on society.	Relates science to the personal lives and interests of students, to potential careers, and to knowledge in other domains.	Personalizes science where appropriate and works with teachers from other fields, including social science and technology education to incorporate interdisciplinary activities into instruction.	Shows skill in creating a context for science that includes the students' personal worlds and knowledge from other fields to create a comprehensive educational framework for learning.		
1d. Processes of investigation in a science discipline.	Fails to provide or draw attention to the scientific problem-solving process; does not speak metacognitively about nature of the process; expects students to learn merely from observation of examples.	Conducts limited but original research in science, demonstrating the ability to design and conduct open-ended investigations and report results in the context of one or more science disciplines.	Significantly incorporates design and use of investigation and problem solving as the context for instruction in the classroom; engages students in research projects.	Regularly incorporates, designs and uses investigation and problem solving as the context for instruction in the classroom; engages students in research projects.		
1e. Applications of mathematics in science research.	Places very considerable emphasis on the mathematical problem-solving process to the exclusion of the inquiry process; over emphasis on verification labs; little emphasis on the use of mathematics to derive new knowledge.	Provides evidence of the ability to use mathematics and statistics to analyze and interpret data in the context of science.	Uses activities employing mathematics and statistics to develop fundamental concepts in science and to analyze and explain data as appropriate for the teaching field and the level of the student.	Actively and regularly employs mathematics and statistics to develop fundamental concepts in science, to analyze and explain data, and to convey the nature of science to students.		

Please write comments here or on a separate sheet; clearly distinguish midterm from final evaluation comments.

NSTA STANDARD #2: THE NATURE OF SCIENCE

The student teacher engages students effectively in studies of the history, philosophy, and practice of science, and enables students to distinguish science from non-science, understand the evolution and practice of science as a human endeavor, and critically analyze assertions made in the name of science.

Dimensions	Unacceptable (0)	Basic (1)	Proficient (2)	Accomplished (3)	M	F
2a. Evolution of knowledge in science, including historical and cultural developments.	Fails to emphasize the empirical nature of science and the relationship of observation to principles, law, hypotheses, and theories; fails to apply rules of acceptable evidence.	Provides examples of changes in science knowledge over time, referring to the historical development of foundational concepts in the teaching field.	Regularly refers to historical events to illustrate fundamental aspects of the nature of science including the durable but tentative character of knowledge.	Systematically involves students in inquiries pertaining to the nature of science including historical and philosophical changes that have shaped subsequent knowledge and the social interpretation of knowledge and events		
$2b_1$. Characteristics distinguishing science from other ways of knowing.	Fails to note the limitations naturally imposed by the empirical nature of the scientific process; does not distinguish scientific ways of knowing from other ways of knowing; fails to distinguish belief from knowledge.	Plans activities to convey the nature of basic and applied sciences, including multiple ways to create scientific knowledge, the tentativeness of knowledge, and creativity based on empirical evidence.	Uses activities and lessons designed to convey the nature of basic and applied sciences, including multiple ways to create scientific knowledge, the tentativeness of knowledge, and creativity based on empirical evidence.	Consistently integrates activities and lessons to convey the nature of basic and applied sciences, including multiple ways to create scientific knowledge, the tentativeness of knowledge, and creativity based on empirical evidence.		
$2b_2$. Characteristics distinguishing basic science, applied science and technology.	Focuses exclusively on basic science; rarely if ever relates science content to real-world applications; fails to distinguish basic from applied science; fails to relate the importance of science to the development of technology.	Compares and contrasts rules of evidence and distinguishes characteristics of knowledge in science to rules and knowledge in other domains.	Involves students regularly in comparing and contrasting scientific and nonscientific ways of knowing; integrates criteria of science in investigations and case studies.	Designs effective lessons distinguishing science and non-science and referring to the continuum of criteria for evidence; provides case studies that allow students to analyze knowledge and actions against the tenets of science.		
2c. Processes and conventions of science as a professional activity.	Makes inappropriate or no use of terminology of science; fails to discriminate between such things as principle, prediction, hypothesis, theory, and fact.	Explains and provides examples of conventions for research, evidence and explanation, distinguishing laws, theories and hypotheses, including historical examples of false science assertions.	Shows how research questions, design, and data interpretation are guided by contemporary conventions of science. Evaluates research design and conclusions.	Designs lessons showing how research questions, design, and data interpretation are guided by contemporary conventions of science. Includes evaluation of experimental design and researcher conclusions.		

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NSTA STANDARD #3: INQUIRY

The student teacher engages students both in studies of various methods of scientific inquiry and in active learning through scientific inquiry.

Dimensions	Unacceptable (0)	Basic (1)	Proficient (2)	Accomplished (3)	M	F
$3a_1$. Questioning and formulating solvable problems. Student analysis of data and conclusions.	Places emphasis on answers rather than questions; uses a didactic pedagogy rather than one that is inquiry oriented; teacher-centered classroom rather than student-centered.	Plans and implements data-based activities requiring students to reflect upon their findings, make inferences, and link new ideas to preexisting knowledge.	Regularly requires students to collect, reflect upon and interpret data, to report the results of their work, and to identify new problems for investigation.	Consistently engages students in critical discussion about the results of their inquiry, interpretations of their results, the implications of their conclusions and possible new problems.		
$3a_2$. Questioning and discussion to analyze data and draw conclusions from diverse perspectives.	Acts more like a sage on the stage rather than a guide on the side; little emphasis on the questioning and answer-finding process; teacher monopolizes classroom discussion or lectures excessively; individual activities emphasized over group activities.	Uses questions to encourage inquiry and probe for divergent student responses, encouraging student questions and responding with questions when appropriate.	Regularly uses divergent and stimulating questioning to define problems and stimulate reflection; leads students to develop questions appropriate for inquiry in a given are	Skillfully facilitates classroom discourse through questioning, reflecting on, and critically analyzing ideas, leading students toward a deeper understanding of the inquiry process itself. Uses questions to define problems and potential solutions.		
$3b_1$. Reflecting on and constructing knowledge from observations and data, utilizing multiple strategies.	Tells student "what they need to know" rather than helping students to learn through scientific processes what they need to know; fails to make use of data collection and interpretation.	Plans and implements activities with different structures for inquiry including inductive (exploratory), correlational and deductive (experimental) studies.	Involves students in diverse investigations, analysis of investigative structures and discussion of criteria for analyzing outcomes.	Systematically integrates investigations with different formats into classroom work, and relates student work to research traditions that typify the various sciences.		
$3b_2$. Developing concepts and relationships from observations and data.	Conveys information rather than helps students construct it from observation and analysis.	Encourages productive peer interactions and plans both individual and small group activities to facilitate inquiry.	Systematically provides students with opportunities to engage in inquiry with peers using a variety of formats.	Skillfully meshes opportunities for science-related inquiry with critical reflection on the role of the individual as an inquirer in a collective context.		

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NSTA STANDARD #4: ISSUES

The student teacher recognizes that informed citizens must be prepared to make decisions and take action on contemporary science- and technology-related issues of interest to the general society and requires students to conduct inquiries into the factual basis of such issues and to assess possible actions and outcomes based upon their goals and values.

Dimensions	Unacceptable (0)	Basic (1)	Proficient (2)	Accomplished (3)	M	F
4a. Relationships among systems of human endeavor including science and technology.	Ignores the broad applicability of science to real-world settings; fails to make relevant and interesting connections to community interests and concerns.	Engages students in activities and projects in which they examine important social or technological issues related their discipline(s)	Regularly engages students in examination of local issues related to applications of scientific and technological knowledge.	Makes substantial and continual use of local and national problems, issues, and concerns as a context for teaching scientific and technological concepts and processes.		
4b. Relationships among scientific, technological, personal, social and cultural values.	Treats science and its applications as being entirely value free; does not in any way address technological issues pertinent to subject matter being addressed.	Analyzes values and processes of decision-making about science and technological issues and applications.	Engages students in discussions about scientific problems and cost/risk considerations.	Integrates scientific problem analysis, including alternative solutions, through the course.		

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NSTA STANDARD #5: GENERAL SKILLS OF TEACHING

The student teacher creates a community of diverse learners who construct meaning from their science experiences and possess a disposition for further exploration and learning.

Dimensions	Unacceptable (0)	Basic (1)	Proficient (2)	Accomplished (3)	M	F
5a. Science teaching actions, strategies and methodologies.	Teaches in a way that suggests that a variety of students aren't present in classroom.	Plans and incorporates science teaching strategies appropriate for learners with diverse backgrounds and learning styles.	Plans for and regularly includes alternative activities to teach the same concept; is able to identify primary differences in learners in the student population.	Demonstrates a command of alternative strategies to meet diverse needs and systematically provides activities that meet those needs. Readily articulates sound reasons for actions and is able to switch strategies quickly to take advantage of "teachable moments" and sudden insights.		
5b. Use of multiple teaching methodologies to enhance learning for a diverse student population.	Inflexible and unvarying teaching style; fails to take multiple approach to help students learn; fails to include important learning activities.	Uses diverse teaching methods to address important concepts from different perspectives; and uses learning cycles for some instruction.	Builds a repertoire of teaching materials and learning cycles to address a concept from several perspectives.	Has a well developed set of thematically related materials and learning cycles used to teach concepts from different perspectives.		
5c. Interactions with students that promote learning and achievement in collaborative experiences.	Aloof from students; does not actively engage students intellectually or emotionally; fails to encourage maximum student learning.	Demonstrates the ability to effectively engage students in learning science, both individually and in group work of various kinds.	Regularly includes group as well as individual activities to teach science, allowing learners latitude in organizing groups according to their age and background.	Addresses the role of social and group interactions as a basis for conceptual learning and inquiry, and uses strategies to facilitate student abilities to form and organize their own groups.		
5d. Use of advanced technology to extend and enhance learning.	Fails to take advantage of appropriate and available teaching technology such as demonstration materials, laboratory equipment, and computer resources.	Uses appropriate technology, including computers, to provide science instruction	Regularly incorporates available technology into instruction. Involves students in the use of technology for investigating, retrieving information and processing data; relates technology to the process of inquiry.	Identifies information technologies as fundamental to teaching, learning *and practice* of science and engages students both in use of technologies and understanding of their use in science and learning.		
5e. Use of prior conceptions and student interests to promote new learning.	Does not link current learning with prior learning; fails to take into account students preconceptions; does not engage students with incongruity when possible to do so.	Identifies common student misconceptions or naive conceptions in the teaching field, their source, and appropriate teaching responses.	Begins to systematically identify and anticipate student misconceptions or naive conceptions and plans activities and discussions to address and modify them.	Regularly anticipates misconceptions and naive conceptions and uses assessment as the basis for constructing more scientifically acceptable concepts and relationships.		
5f. Psychological and social environment of the student engaged in learning science.	Maintains a cold and/or threatening classroom atmosphere where student participation is neither appreciated nor encouraged.	Maintains a classroom atmosphere conducive to student engagement, but rarely encourages students to participate, or allows certain student to monopolize classroom activities.	Periodically encourages students in non-threatening ways to become more involved in class activities, and maintains classroom atmosphere reasonably conducive to student engagement.	Maintains strongly supportive and engaging classroom atmosphere; promotes full participation by all students regardless of ability, gender, race, religion, or other exceptionality.		

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NSTA STANDARD #6: CURRICULUM

The student teacher plans and implements an active, coherent, and effective curriculum that is consistent with the goals and recommendations of the National Science Education Standards.

Dimensions	Unacceptable (0)	Basic (1)	Proficient (2)	Accomplished (3)	M	F
6a. An extended framework of goals, plans, materials, and resources for instruction.	Does not develop any form of unit plan; does not relate daily lesson plans to unit plan; fails to adequately identify goals and objectives; does not consider appropriate rationales.	Relates instructional goals, materials and actions to state and national science education standards, analyzing strengths and weaknesses in a particular classroom context.	Systematically develops a framework for instructional goals, materials and actions consistent with state and national science education standards.	Has a well-defined rationale for instructional goals, materials and actions in relation to state and national science education standards and student achievement.		
6b. Facilitates active inquiry, collaboration and supportive interactions.	Does not effectively facilitate active inquiry, collaboration and supportive classroom interactions.	Supports active inquiry, collaboration and supportive classroom interactions from time to time but has difficulty directing them.	Skillfully supports active inquiry, collaboration and supportive classroom interactions.	Skillfully integrates active inquiry, collaboration and supportive classroom interactions as the basis for science instruction.		
6c. Uses a variety of assessments including authentic assessments.	Uses a very limited number and type of assessment, primarily traditional assessments of content knowledge (subject matter).	Uses some authentic assessments in addition to traditional assessments to successfully assess knowledge other than content knowledge.	Uses a variety of assessment instruments and methods to assess attitudes, understanding and skill development as well as content knowledge.	Meets standard for proficient and incorporates student self-assessment with teacher assessments and makes use of such assessments to motivate and direct student learning.		
6d. Utilization of technology to enhance pedagogy.	Does not utilize available and appropriate classroom technology; places too much emphasis on seat work and not enough emphasis on laboratory work.	Understands the role of technology in education and can define a rationale and long-range strategy for including technology in science education.	Begins to plan and implement along-term strategy and plan for incorporating technology into science teaching.	Has a developed inventory of technology to use effectively to develop interest and excitement during inquiry and learning and uses technology to enhance student understanding of the relationship between science and technology.		
6e. Integration of real-world problems to show broad applicability of discipline.	Places too much emphasis on the learning of science content knowledge, and not enough emphasis on how this knowledge is applied to real-world problems.	Designs and implements learning activities that thematically relate science with other school subjects and community resources.	Adapts learning activities to consistently and systematically connect science with other school subjects and community resources.	Creates a curriculum that integrates concepts, ideas and skills from many subject areas and the community, allowing students to take advantage of their strengths and interests in other fields to learn science.		
6f. Instructional planning, including rationales, goals, and objectives.	Fails to regularly plan lessons appropriately; does not prepare and work from daily lesson plans; lesson plans inadequate.	Develops and implements long-range and unit plans, with clear rationales, goals, methods, materials and assessments.	Interrelates concepts and experiences among units to create courses with thematic elements and well-defined goals in the teaching field.	Links experiences in the classroom to the broader world beyond; takes advantage of events and topics of interest; can redefine goals skillfully.		

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NSTA STANDARD #7: SCIENCE IN THE COMMUNITY

The student teacher relates their discipline to their local and regional communities, involving stakeholders and using the individual, institutional, and natural resources of the community in their teaching and actively engages students in science-related studies or activities related to locally important issues.

Dimensions	Unacceptable (0)	Basic (1)	Proficient (2)	Accomplished (3)	M	F
7a. Social, family, and community support network within which science teaching and learning occur.	Teaches course in a vacuum; does not take advantage of reasonably available community or school resources; fails to network with people who could be of assistance.	Identifies people and institutions in the community who are willing to assist in teaching certain topics, and plans for their involvement in teaching. Plans activities that involve families in the science teaching/learning process and communicates effectively with families of students.	Involves members and institutions of the community with appropriate expertise or relevance in science instruction. Selects or designs activities to involve family members in the teaching and learning of science, and communicates systematically and effectively with parents or guardians.	Develops a network of community members and institutions to call upon to help in science instruction. Designs and employs a range of activities to cultivate a relationship with families in support of science instruction.		
7b. Relationship of science teaching and learning to the needs and values of the community.	Does not make obvious connections between content being taught and surrounding community environment and/or concerns.	Uses data about a community, its culture and its resources to plan science lessons that are appropriate for, and relevant to, students from that community.	Collects data about the community, its resources, and the students and experiments with ways to use that data to plan science lessons that are most appropriate for those students.	Regularly uses information about the community, its resources, and the students to plan relevant and appropriate science instruction.		

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NSTA STANDARD #8: ASSESSMENT

The student teacher constructs and uses effective assessment strategies to determine the backgrounds and achievements of learners and facilitate their intellectual, social, and personal development. They assess students fairly and equitably, and require that students engage in ongoing self-assessment.

Dimensions	Unacceptable (0)	Basic (1)	Proficient (2)	Accomplished (3)	M	F
8a. Alignment of goals, instruction and outcomes.	Formal and informal assessments improperly aligned or not aligned with stated teaching goals and student performance objectives; non-existent or incomplete objectives.	Identifies and uses the most appropriate methods for gathering information about student learning, based on student needs and characteristics and the goals of instruction.	Employs multiple methods to systematically gather data about student needs, abilities and understanding and reflects upon goals of instruction.	Creates new methods for helping students demonstrate knowledge, and uses results to alter classroom practices.		
$8b_1$. Use of outcome data to guide and change instruction.	Does not alter teaching on the basis of assessed learning outcomes; fails to remediate inadequate learning as evidenced by poor student performance.	Demonstrates the ability to use multiple strategies to assess teaching and learning authentically, consistent with national standards and goals for science education.	Uses multiple resources for assessment and can cite changes in practices made because of assessment.	Continuously experiments with new assessment techniques, including those suggested in the literature, and reflects on its meaning for altered practice.		
$8b_2$. Demonstrates effectiveness as reflective practitioner.	Does not reflect upon teaching experiences that might otherwise help to improve practice; fails to complete daily and/or weekly reflections with cooperating teacher.	Engages in reflective self-assessment and develops a system for self-assessment as a practicing teacher.	Engages in reflective self-assessment and uses a system to self-assess, modifying practice and the system of assessment as required.	Regularly modifies and informs practice through multiple self-assessment indicators.		
8c. Measurement and evaluation of student learning in a variety of dimensions.	Uses a very limited variety of means to assess student knowledge and intellectual process skills.	Aligns assessment with goals and actions and uses results to alter teaching.	Guides students in formative self-assessment, relating each tool to specific learning outcomes.	Regularly and consistently provides students with varied opportunities to demonstrate their individual learning and reflect on their own learning.		

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NSTA STANDARD #9: SAFETY AND WELFARE

The student teacher organizes safe and effective learning environments that promote the success of students and the welfare of all living things, requires and promotes knowledge and respect for safety, and oversees the welfare of all living things used in the classroom or found in the field.

Dimensions	Unacceptable (0)	Basic (1)	Proficient (2)	Accomplished (3)	M	F
9a. Prudent and professional practice with due regard to safety and liability.	Seems to be unaware or shows disregard for rules of prudent and professional conduct; puts self, cooperating teacher, or school district at risk of liability; fails to quickly remediate hazardous situations once identified.	Understands liability and negligence, especially as applied to science teaching and can take action to prevent potential problems.	Takes action to prevent hazards and communicates needs and potential problems to administrators	Stays informed of potential hazards and legal concerns and communicates with other teachers to maintain a school environment free of potential problems.		
9b. Safety in regards to science teaching materials.	Shows disregard for commonly accepted rules of safety.	Some gaps in safety knowledge. Actively working to increase knowledge of safe practices.	Consistently exercises safe practices in classroom and storage of materials.	Always practices safe techniques in the preparation, storage, usage, and disposal of materials. Emphasizes safety practices to students.		
9c. Safety in all areas related to science instruction.	Shows positive disregard to student health and safety; fails to implement safety procedures or conduct cost-to-benefit evaluations.	Understands and sets up procedures for safe handling, labeling and storage of chemicals, and electrical equipment. Knows actions to take to prevent or report an emergency.	Demonstrates that safety is a priority in science and other activities; can take appropriate action in an emergency.	Systematically ensures safety in all areas and takes whatever steps are necessary to ensure that the school science program is conducted safely.		
9d. Treatment and ethical use of living organisms.	Shows little care for living specimens; does not follow accepted norms for ethical maintenance and use of living organisms.	Knows the standards and recommendations of the science education community for the safe and ethical use and care of animals for science instruction.	Adheres to the standards of the science education community for ethical care and use of animals; uses preserved or live animals appropriately in keeping with the age of students and the need for such materials.	Adheres to the standards of the science education community for ethical care and use of animals; uses preserved or live animals appropriately in keeping with the age of students and the need for such materials.		

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NSTA STANDARD #10: PROFESSIONAL GROWTH

The student teacher strives continuously to grow and change, personally and professionally, to meet the diverse needs of their students, school, community, and profession and has a desire and disposition for growth and betterment.

Dimensions	Unacceptable (0)	Basic (1)	Proficient (2)	Accomplished (3)	M	F
10a. Knowledge of, and participation in, the activities of the professional community.	Fails to participate with cooperating teachers and/or school faculty in professional development activities, even after encouraged to do so. Does not participate in regular professional grow activities such as meetings, workshops, and/or membership in professional organizations.	Understands the concept of a community of learners and interacts with instructors and peers as a member of such a community. Participates in student associations, workshops and activities related to science teaching and reads journals of professional associations in the field.	Applies the concept of a community of learners to science teaching and learning in the school environment. Joins state and national professional associations for science teachers and regularly reads publications to improve teaching and stay abreast of current events in the field.	Works with others science professionals to develop opportunities for continuous learning as members of a professional education community. Attends regional, state and some national conventions, conferences and workshops in science education; takes leadership or participates as a presenter in such gatherings.		
10b. Reflection on professional practices and continuous efforts to ensure the highest quality of science instruction.	Fails to conduct personal self-assessments using provided reflection activities and instruments.	Documents personal strengths and weaknesses and seeks opportunities to improve his or her preparation to teach science.	Pursues and documents formal and informal learning opportunities, to strengthen his or her ability to teach science.	Shows a record of professional growth and development and demonstrates an ongoing commitment to improving science teaching practice.		
10c. Incorporation of constructive criticism and feedback.	Unable or unwilling to accept personal responsibility for own actions or actions of students when accountable for such; blames others for own failings; focuses more on placing blame that in finding practical solutions to problems.	Works well with direction, but lacks initiative or is uncertain about what needs to be done; completes promised work, but efforts appear to leave something to be desired.	Incorporates information from students, supervisors, and colleagues to make adjustments to instruction when give.	Accepts responsibility for own actions and for getting work done and sees to it that students are learning to the greatest extent possible. Views feedback as an opportunity to learn and grow professionally and actively seeks out input from students, supervisors, and colleagues.		
$10d_1$. Willingness to work with students and new colleagues as they enter the profession.	Fails to interact with peers either inside or outside of school events/activities.	Takes personal responsibility for growth and for assisting others who are preparing to teach science.	Takes responsibility for assigned classes and students and works with other teachers to develop high quality learning experiences in science.	Takes responsibility for new science teachers, student teachers and practicum students and works with them collegially to facilitate their growth and entry into the profession.		
$10d_2$. Willingness to work with cooperating teacher, other teachers, staff, parents and students.	Fails to comply with reasonable directives promulgated by cooperating teacher or other competent and authorized school officials.	Demonstrates the ability to handle problems and tension calmly and effectively, and to relate to peers, instructors, supervisors, and students with integrity.	Treats colleagues, students, parents, and supervisors with respect and takes action to solve problems amenable to solution.	Demonstrates a record of professional integrity and the respect of colleagues, administrators, parents and students.		

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OTHER ASPECTS OF TEACHING

- **STUDENT LEARNING**

The main goal of teaching can be said to be the achievement of student learning. How hard has the student teacher worked on getting students to learn and supporting them in that effort? How well have students learned under the tutelage of the student teacher? Evaluate your student teachers' performance in light of classroom students' learning.

Dimensions	Unacceptable (0)	Basic (1)	Proficient (2)	Accomplished (3)	M	F
Student performance.	Students appear to have learned little to nothing following interaction with student teacher; test results generally poorer than expected.	Student performance suggestive of the fact that more could have been learned from learning experiences.	Students' performance on tests and other formal assessments demonstrate that stated goals and objectives are being achieved.	Students' performance suggestive of overachievement, at least by some students in some areas; students strongly motivated to learn.		
Achievement of goals and objectives.	Students fail, in any measurable way, to have achieved stated goals and learning objectives.	Clear expression of daily lesson objectives; makes strong effort to achieve them though may fall short of doing so for lack of experience.	At the close of daily lessons, informal assessment generally demonstrates that the goals and/or objectives stated in the lesson plan have been achieved.	At the close of unit, formal assessment generally demonstrates that the goals and/or objectives stated in the lesson plan have been achieved.		
Engaged learning.	Classroom management skills lacking; considerable lack of student engagement; inappropriate student classroom behaviors.	Exhibits appropriate classroom management skills, but unable to establish and maintain an engaging learning environment.	The classroom atmosphere is suggestive of the belief that students are seriously engaged in learning.	Efforts of student clearly demonstrate that they are fully and regularly engaged in the provided learning experiences.		
Deep versus surface learning.	Students basically memorize information and, while they are able to provide parrot-like answers, they are unable to apply to this information in novel situations.	Students understand subject matter to a limited degree; unbalanced treatment of subject matter knowledge and scientific process skills.	Balanced treatment of scientific knowledge and intellectual process skills required to apply information to novel situations, but application infrequently tested.	Students exhibit a deep analytical and conceptual understanding of the subject matter and are able to apply this knowledge in novel situations.		

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- **STUDENT READING**

The competent science teacher understands the process of reading and demonstrates instructional abilities to teach reading in the content area of science.

Dimensions	Unacceptable (0)	Basic (1)	Proficient (2)	Accomplished (3)	M	F
Reading Environment	Fails to encourage or promote reading in any form.	Only recommends readings; provides little additional resources beyond textbook.	Periodically promotes the development of a literate classroom environment that fosters student willingness and ability to read science texts.	Makes regular and concerted effort to promote the development of a literate classroom environment that fosters student willingness and ability to read science texts.		
Use of Book Features	Fails to use course text in class in any meaningful fashion other than as a source of end-of-chapter problems or questions.	Periodically makes use of textbook in class as an educational assistant, but fails to make use of or encourage use of assistive features.	Periodically teaches students to use a variety of book features such as charts, graphs, sidebar stories, table of contents, glossary, and index.	Makes regular and concerted effort to teach students how to use a variety of book features such as charts, graphs, sidebar stories, table of contents, glossary, and index.		
Organizational Patterns	Fails to address subject matter from an overview perspective. Does not provide overview or summary of reading assignments.	Infrequently brings organizational patterns to attention of students and to use those patterns for improved comprehension and retention.	Periodically teaches students to recognize organizational patterns common to informational texts in science and to use those patterns for improved comprehension and retention.	Makes regular and concerted effort to teach students how to recognize organizational patterns common to informational texts in science and to use those patterns for improved comprehension and retention.		
Graphic Organizers	Does not use graphic organizers in any fashion to improve comprehension of text and recall of information.	Infrequently promotes graphic organizers as an aid for improving comprehension of text and recall of information.	Periodically teaches students to use graphic organizers as an aid for improving comprehension of text and recall of information.	Makes regular and concerted effort to teach students how to use graphic organizers as an aid for improving comprehension of text and recall of information.		
Student Assistance	Provides no meaningful assistance to students in relation to reading text effectively.	Infrequently assists students to read texts effectively, how to monitor comprehension, summarize and analyze critically, evaluate, synthesize, and integrate information read.	Periodically assists students to read texts effectively, how to monitor comprehension, summarize and analyze critically, evaluate, synthesize, and integrate information read.	Makes regular and concerted effort to assist students to read texts effectively, how to monitor comprehension, summarize and analyze critically, evaluate, synthesize, and integrate information read.		
Reading Resources	Never plans and teaches lessons that require reading-related inquiry that requires the use of multiple texts and other sources of information including electronic resources.	Infrequently plans and teaches lessons that require reading-related inquiry that requires the use of multiple texts and other sources of information including electronic resources.	Periodically plans and teaches lessons that require reading-related inquiry that requires the use of multiple texts and other sources of information including electronic resources.	Makes regular and concerted effort to plan and teach lessons that require reading-related inquiry that requires the use of multiple texts and other sources of information including electronic resources.		
Writing Requirements	Never makes an effort to get students to write about what they read, observe, or conclude in science in order to improve and demonstrate understanding.	Infrequently requires students to write about what they read, observe, or conclude in science in order to improve and demonstrate understanding.	Periodically requires students to write about what they read, observe, or conclude in science in order to improve and demonstrate understanding (e.g., lab reports, research papers, book reports).	Makes regular and concerted effort to get students to write about what they read, observe, or conclude in science in order to improve and demonstrate understanding.		

Please write comments here or on a separate sheet; clearly distinguish midterm from final evaluation comments.

- **TEACHER QUALITIES**

The teacher education standards cited thus far touch on the intangibles of teaching -- those personal traits of excellent teachers that are "hard to put a finger on." As experience has shown, a student teacher can perform all of the "mechanics" of teaching well and still not be a good teacher! Teaching is more than the sum of its parts. With this in mind, please assess your student teacher's "intangible qualities" according to the characterizations below. Please note that it is not the purpose of this section to judge personality. Rather, the purpose of this section is to help determine whether or not the student teacher possesses and illustrates holistically the qualities of an excellent teacher.

Dimensions	Unacceptable (0)	Basic (1)	Proficient (2)	Accomplished (3)	M	F
Commitment to profession.	Unwilling to commit time and effort required to do even an acceptable job of teaching; fails to exhibit both intellectual and moral virtues outlined in University's conceptual framework "Realizing the Democratic Ideal."	Commits minimal amount of time to task at hand, and willing to accept "good enough" in practice; relies too much on student desire for good grades to promote student learning; fails to impart desire to learn for its own worth	Commits acceptable amount of time to task of teaching; responds quickly and well to advice from cooperating teacher and university supervisor; is conscious of the goals of science teaching, and includes these in his teaching.	Shows dedication and effort, responds well to recommendations, is helpful, shows evidence of background preparation, exhibits dedication to task, makes use of available resources, interacts well with peers and superiors, takes direction well, is a hard worker.		
Enthusiasm for teaching.	Lacks any sense of enthusiasm; imparts a sense of listlessness and disinterest for subject and/or students; fails to spark interest for subject in students; presentations are lack luster; fails to show the wide range of excitement about subject or teaching; unable to actively and intellectually engage students.	Exhibits a limited desire to teach; work demonstrates an uncertain enthusiasm for teaching; relatively low degree of interaction with and interest in students; creates modest interest in subject matter among students.	Exhibits a moderate desire to teach, appears to enjoy teaching and interacting with students and fellow faculty members, but to a limited degree; sees teaching as a professional activity.	Exhibits a strong desire to teach, appears to truly enjoy teaching and interacting with students and fellow faculty members; sees teaching as a meaningful and rewarding profession; can interest students in the subject matter being taught, has an ability to motivate the unmotivated and interest the uninterested through exciting and sometimes entertaining, but always engaging lessons.		
Maturity.	Unable or unwilling to accept personal responsibility for own actions, or actions of students when accountable for such; blames others for own failings; focuses more on placing blame that in finding practical solutions to problems.	Works well with direction, but lacks initiative or is uncertain about what needs to be done; completes promised work, but efforts appear to leave something to be desired; has difficulty working with students in groups or one-on-one; teaching of greater concern than student learning.	Independent in thought and action, but sometimes leaves something to be desired in terms of appropriateness of behavior; is concerned about student learning equally as much as about self as a teaching professional; acceptable classroom learning environment.	Accepts responsibility for own actions and for getting work done, sees to it that students are learning to the greatest extent possible, carries through on promises, has a classroom management style that is conducive to good learning atmosphere; uses appropriate pacing and relevant lessons to eliminate and prevent student management problems.		
Classroom and school leadership.	Incapable of self-direction; rarely comes prepared to present own lesson; lacks and sense of self-direction; waits to be told what to do; rarely comes up with own ideas; lacks initiative; frequently has difficulty getting students to follow lead.	Has a minimal classroom "stage presence;" sets personal goals, but nothing out of the ordinary; fails to enforce high standards for students, and might not come fully up to expectations of cooperating teacher; somewhat lax in enforcing school policies and/or regulations.	Has an acceptable teacher personality; able to adequately direct students; is well accepted by students; follows directions well and takes decisive action or introduces new approaches that are not too risky; more of a follower than a risk taker; students follow lead.	Has a commanding classroom presence, is self-directed, shows drive and initiative, is independent in thought and action, has creative ideas, sets lofty goals and high standards for self and students, respects authority and enforces school regulations; can readily get students to follow lead.		
Commitment to student learning.	Focus more on content coverage than student learning; does not employ metacognitive instructional practices; does not promote student self-regulation.	Uses a limited array of metacognitive instructional practices such as provides learning objectives to students; provides for guided practice; addresses preconceptions; sets	Uses a wide array of metacognitive practices such as those to the left as well as directly addresses student self-regulation; teachers mastery skills; focuses informal	Uses a wide array of metacognitive practices during instruction, and promotes self-regulatory practices among students such as emphasizing the role of motivation and effort on learning; characterizing A and C type student behaviors; helping students perform self assessments; encourages reciprocal reading/teaching;		

		high expectations; teaches using various contexts; involves students in complex tasks, etc.	assessment on making student thinking practices visible; provides useful and timely feedback, etc.	notes the importance of learning from mistakes, etc.		

Please write comments here or on a separate sheet; clearly distinguish midterm from final evaluation comments.

GUIDELINES FOR ACCEPTABLE PERFORMANCE: STUDENT TEACHING PRACTICUM

In order to receive a passing grade for student teaching (e.g. anything above an F), each student teacher MUST successfully demonstrate ALL competencies. No competency may be considered "not applicable." Student teachers are well aware of all competencies and requirements to demonstrate them regularly and to the best of their ability during the student teaching practicum.

In order to successfully demonstrate a competency, the student teacher must not have any unresolved unacceptable performances; that is, all dimensions of each standard must be exhibited at the proficient level or above. The average score for each standard (each consisting of a number of dimensions), must rank 2.0 or above in order for a student to have successfully demonstrated a given standard.

Grades generally will be assigned on the following basis. Exceptional performance in specific areas may also be taken into account when recommending grades.

A/A = average score on all standards in the range of 2.2 and above; no deficiency* in any standard.
A/B = average score on all standards in the range of 2.1 to 2.2; no more than one deficiency* among standards.
B/B = average score on all standards in the range of 2.1 to 2.2; no more than two deficiencies* among standards.
B/C = average score on all standards in the range of 2.0 to 2.1; no more than one deficiency* among standards.
C/C = average score on all standards in the range of 2.0 to 2.1; no more than two deficiencies* among standards.
F = average score on all standards below 2.0; three or more deficiencies* among standards or presence of any unresolved unacceptable performances.

* A deficiency is defined as a mean score of less than 2.0 among all dimensions of any one standard.

Circle Recommended Mid-Term STT Grade: (See rubric above.) A/A A/B B/B B/C C/C F

Rationale for Mid-Term Student Teaching Grade:

Circle recommended Final Grade: (See rubric above.) A/A A/B B/B B/C C/C F

Rationale for Final Grade:

Required Additional Assessments

Realizing the Democratic Ideal – Final Assessment

Instructions for cooperating teacher: Please circle the descriptor that characterizes the student teacher's practice. "Exceeds Expectation" is equivalent to the practice of an experienced teacher and not expected of the typical student teacher. Student teacher must transfer this information to the last two pages of their version of this form, cite and provide three types of hard evidence for each virtue, and secure required signatures before turning in their version of this form to the University Supervisor.

Moral Virtue 1: The teacher candidate demonstrates sensitivity toward the varieties of individual and cultural diversity.

Dimension	Unacceptable	Meets Expectation	Exceeds Expectation	Possible Evidence
A. Develops learning goals and activities that are suitable for diverse learners.	Candidate displays little knowledge for preparing activities for diverse learners. No evidence of planning experiences appropriate for students with diverse learning needs is available.	Candidate modifies goals and activities to meet the needs of diverse students.	Candidate's goals and learning activities consistently take into account the distinctive needs of individual students. Candidate incorporates and celebrates aspects of student diversity in lessons.	Goal statements Individual lesson plans Unit plans Teacher work sample Teacher-made materials IEP
B. Demonstrates a belief that he/she can impact student learning.	Candidate is uncertain of his/her interest in or capability of teaching.	Candidate displays enthusiasm and commitment to entering the teaching profession and believes he/she can help students learn.	Candidate is confident in his/her ability to help children learn and realizes the impact will vary among students.	Articulated statement of their mission as a teacher Reflections Video of lesson

Moral Virtue 2: The teacher candidate demonstrates a disposition and ability to collaborate ethically with others.

Dimension	Unacceptable	Meets Expectation	Exceeds Expectation	Evidence
A. Develops positive working relationships with other teachers, educational support personnel, the university supervisor.	Candidate's relationship with colleagues is negative, self-serving or non-collaborative.	Candidate supports and cooperates with colleagues and behaves in a courteous and civil manner.	Candidate no only supports and cooperates with colleagues, but also take the initiative to develop professional relationships. Candidate display sensitivity and demonstrates professional courtesy.	Involvement in team or other professional meetings Cooperating teacher reports University supervisor reports Written communications Peer critique Team developed and taught lesson plans
B. Includes families in the educational process.	Candidate rejects parental involvement and displays a negative attitude toward family interaction.	Candidate encourages families to participate in educational program and builds rapport with families.	Candidate arranges multiple opportunities for family participation in the educational process.	Attendance at PTO meeting or other family school functions Phone logs Newsletters

Moral Virtue 3: The teacher candidate demonstrates a reverence for learning and a serious personal, professional, and public purpose.

Dimension	Unacceptable	Meets Expectation	Exceeds Expectation	Evidence
A. Enhances content knowledge and pedagogical skills.	Candidate declines to participate in professional development activities to enhance knowledge or pedagogical skill.	Candidate seeks out opportunities for professional development to enhance content knowledge and pedagogy.	Candidate applies new knowledge gained from professional development.	Reflections on attendance at professional conferences Membership in professional organizations.
B. Makes appropriate, sound, fair, and logical decisions.	Candidate makes decisions based on self-serving interests, on emotion, or on folklore rather than the best interests of the students, school, or community.	Candidate makes decisions that reflect research-based principles of education, the needs of the students, and school policies.	Candidate always bases decision on what is best for students and forward ideas for ongoing decision-making.	Reflective journal Lesson plans
C. Uses reflections to improve instruction.	Candidate does not make subsequent changes to future lessons based on information gained from previous lessons.	Candidate reflects and writes action statements showing intent to improve learning experiences based on information gained from previous lessons and supervisor feedback.	Candidate not only responds to written reflective analyses, but can respond with appropriate changes during lessons.	Lesson plans Video, reflective essays Cooperating teacher and university supervisor's feedback.
D. Has a developed philosophy of education that influences professional practice.	Candidate cannot articulate a personal philosophy of education.	Candidate can discuss a personal philosophy of education and provide expels of instruction supports by that philosophy.	Candidate has a personal philosophy of education based on best practices in current research and all professional activities demonstrate that philosophy.	Portfolio including essay (position paper) Reflections Supervisor reports Lesson plans

Moral Virtue 4: The teacher candidate demonstrates a respect for learners of all ages and a special regard for children and adolescents.

Dimension	Unacceptable	Meets Expectation	Exceeds Expectation	Evidence
A. Advocates for all children.	Candidate accepts school practices that result in some students being ill served by the school.	Candidate works within the classroom and school to ensure that all students received a fair opportunity to succeed.	Candidate takes action to challenge negative attitude and practices and helps ensure that all student, particularly those underserved, are provided opportunities to succeed.	Reflective journal Lesson plans Video of lessons Supervisor's report
B. Demonstrates persistence in helping all students learn.	Candidate either gives up or blames the student or the environment for students' lack of success or learning difficulties.	Candidate persists in seeking effective approaches for students who need help, using a variety of strategies and soliciting additional resources.	Candidate uses an extensive repertoire of strategies and resources to encourage all students to develop their potential.	Reflections Lesson plans IEPs Referrals Supervisor reports

Intellectual Virtue 1: The teacher candidate demonstrates a wide general knowledge and a deep knowledge of the content to be taught.

Dimension	Unacceptable	Meets Expectation	Exceeds Expectation	Evidence
A. Demonstrates knowledge of content.	Candidate makes content errors, does not correct student's content errors, or correct those found in other resources.	Candidate displays accurate content knowledge and makes connections between the content and other parts of the discipline and other disciplines.	Candidate displays accurate and extensive (depth and breadth) content knowledge and makes connections within and across disciplines.	Lesson/Unit/Curriculum plans Bulletin boards Student work samples Goal statements Enhancement activities
B. Demonstrate effective use of written, verbal and nonverbal communication tools.	Candidate writes and speaks without expression, succinctness and professional language.	Candidate models professional communication skills such as good grammar and spelling to engage students in active learning.	Candidate demonstrates enthusiasm, fluency, and accuracy across curriculum areas and shows pride use of proper communication tools.	Bulletin boards Lesson videos Letters to parents Notes to students Candidate-made materials.

Intellectual Virtue 2: The teacher candidate demonstrates knowledge and an appreciation of the diversity among learners.

Dimension	Unacceptable	Meets Expectation	Exceeds Expectation	Evidence
A. Demonstrates knowledge of individual student's skills and knowledge.	Candidate disregards all information such as information from parents, IEPs, other professionals, concerning individual students' skills and learning needs.	Candidate makes accommodations in lesson activities for individual student needs. Accommodations required in IEPs are implemented.	Candidate assesses individual needs and appropriateness of accommodations and incorporates that knowledge in planning and teaching.	Lesson plans Assessments Reflections Curriculum plans Observation plans

Intellectual Virtue 3: The teacher candidate demonstrates an interest in and ability to seek out informational, technological, and collegial resources.

Dimension	Unacceptable	Meets Expectation	Exceeds Expectation	Evidence
A. Uses appropriate guidance and discipline strategies to create a positive environment for student learning.	Candidate has not established nor maintained a standard a appropriate student conduct. Student behavior is not monitored. Candidate's response to misbehavior is inconsistent.	Candidate maintains a classroom with appropriate student behavior. Standards of conduct are clear to all students. The candidate is alert to student behavior and responds to student misbehavior in a way that respects the student's dignity.	Candidate considers all variable that impact student behavior. Standards of conduct have been developed with student participation. Monitoring of behavior is subtle and preventative and responds to misbehavior is highly effective and sensitive to individual needs.	Supervisors reports Video of lesson Reflections
B. Lessons are well planned and designed to meet instructional goals.	Candidate develops lessons that are incomplete, superficial, or not aligned with objectives.	Candidate develops lessons that have clearly defined structure, with materials and activities that support instructional goals. Time allocations are reasonable, and assessment is included.	Candidate develops lessons that are creative, innovation, and capture students' interests.	Lesson plans University supervisor reports Cooperating teacher reports Student assessment results

C. Utilizes multiple assessment strategies effectively.	Candidate uses only one method of assessment. Candidate does not make instructional decisions based on assessments.	Candidate uses a variety of materials, media, and strategies to assess individual and group achievement. Assessments are formative and summative.	Candidate uses a variety to materials, media and strategies to continually assess student learning and uses reflections of assessment findings to guide future instruction.	Portfolio Assessments Projects Bulletin Boards Student work samples Teacher-made materials
D. Has a positive impact on student learning.	Candidate cannot show evidence that students have met instructional goals.	Candidate can show student work samples and assessments that demonstrate growth in students' learning.	Candidate can show significant evidence of learning by all students.	Observations, journal writing Pre-test/Post-test Teacher work samples Student work samples

Intellectual Virtue 4: The teacher candidate demonstrates a contagious intellectual enthusiasm and courage enough to be creative.

Dimension	Unacceptable	Meets Expectation	Exceeds Expectation	Evidence
A. Integrates a range of available instructional resources, including technology, to enhance student learning.	Candidate does not use multiple resources, including technology, for instructional purposes or uses resources in a way that does not support student learning.	Candidate selects and effectively uses a variety of instructional resources, including technology, to enhance student learning.	Candidate uses a wide variety of instructional resources, including technology, consistently and effectively in designing, implementing, and assessing student learning.	Computer programs Essays, interviews Individual plans Observation reports Journals, Pictures, Lesson Plans

Intellectual Virtue 5: The teacher candidate demonstrates sensitivity toward the varieties of individual and cultural diversity.

Dimension	Unacceptable	Meets Expectation	Exceeds Expectation	Evidence
A. Models enthusiasm for learning.	Candidate displays minimal energy, affect, and verbal intonation to motivate student learning.	The candidate is positive, energetic, upbeat and displays excitement and sincere interest in the content.	Candidate demonstrates an interest in exploring new content, making connections, and questioning ideas.	Video Observation during lessons Lesson plans One-on-one interactions with students.

FINAL STUDENT TEACHING EVIDENCE (showing compliance with the Democratic Ideal standards immediately above) is due in LiveText one week before the end of student teaching.

The **FINAL DISPOSITIONS ESSAY is also due in LiveText.**

PHYSICS STUDENTS: In addition to the above requirements, Physics majors must also put the **MULTICULTURAL LESSON PLAN** requirement on LiveText. See the requirements on the next page.

Multicultural* Lesson Plan Requirements and Rubric

The physics teacher education major must prepare and implement at least one lesson that has a multicultural emphasis. The student teacher designates which lesson will be assessed using this rubric. Student teacher candidates who receive an unsatisfactory rating on any of the indicators will be expected to redo or redesign the lesson until they score a minimum of "developing" or better on all indicators.

Dimension	Unsatisfactory	Developing	Proficient	Scoring and Evidence
Objectives: The objective(s) is/are grounded in multiculturalism and diversity, and is/are related to moral virtues 1, 4, and 6 of Realizing the Democratic Ideal.	MC/D objective(s) is/are trivial or absent (e.g., food day, making African breads; no mention of culture, race, class, gender, sexual orientation, linguistic differences, ethnicity, religion, exceptionality); stereotypes and/or bias present in objectives; objective(s) minimize or ignore differences related to diversity/multiculturalism.	Objective(s) involve(s) factual information about cultures, but does not address human interactions and understanding; no stereotypes/bias evident in objectives; objective(s) reflect a general acceptance of differences.	Objective(s) center(s) on human interaction and understanding; conscious effort made to overcome/counteract stereotypes and bias; objective(s) respect, affirm, and celebrate individual differences with regard to diversity/multiculturalism.	
Implementation: The teacher candidate effectively delivers the lesson.	Students show no evidence of understanding that the lesson includes multicultural/diversity concepts; most students appear to be disinterested in the lesson; the teacher candidate fails to use language that values and includes groups and individuals that are pertinent to the content of the lesson; the content of the lesson and the multicultural/diversity emphasis are disconnected; learning assistance for non-English speaking students (if present) is inappropriate, unreasonable, or nonexistent.	Students understand the lesson includes multicultural issues; some student show active involvement; teacher candidate uses language that values and includes most groups and individuals connected to the lesson; connections between the content of the lesson and the multicultural/diversity emphasis are apparent; more than one differing mode of assistance is applied when English language learners are present in the classroom.	Students are able to articulate concepts related to multiculturalism/diversity; most students are actively participating in the lesson; teacher candidate uses language that values and includes all groups and individuals connected to the lesson; the multicultural emphasis is infused/embedded within the content of the lesson; learning assistance is available in different formats appropriate for classroom needs when English language learners are present in the classroom.	
Rationale/Reflection: During a conference with the cooperating teacher who evaluates the lesson, the teacher candidate articulates how the content, activities, and assessment of the lesson relate to multicultural and diversity concerns.	The teacher candidates is unable to make reasonable connection between such topics as race, class, gender, and religion and the lesson content are forced, superficial, or absent.	The teacher candidate articulates how the content of the lesson relates to issues of multiculturalism/diversity.	The teacher candidate makes multiple connections between multicultural/diversity concerns and the content of the lesson.	

Note: *Multicultural education is a structured process designed to foster understanding, acceptance, and constructive relations among people of many different cultures. Ideally, it encourages people to see different cultures as a source of learning to respect diversity in the local, national, and international environment. It stresses cultural, ethnic, racial, and linguistic differences, and includes socio-economic differences (urban, rural, age/youth, worker/middle class), sex and religious differences, and awareness of one's own cultural heritage, and understanding that no one culture is intrinsically superior to another; secondly, to acquiring those skills in analysis and communication that help one function effectively in multicultural environments. Stress Is place on experiencing cultural differences in the classroom and in society, rather than simply studying about them. Multicultural education is not just a set of ethnic or other area study programs, but an effort to demonstrate the significance of similarities and differences among culture groups and between individuals within those groups.