

# PROGRAM REPORT FOR THE PREPARATION OF SCIENCE TEACHERS

## Connecticut State Department of Education

Based on the National Council for Accreditation of  
Teacher Standards (NCATE) Program Report Form

### COVER SHEET

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Grade Levels for Candidate Preparation 7-12

#### Program Report Status (Check One):

Initial review for full accreditation visit

Interim review for interim visit

Interim review without interim visit

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## GENERAL DIRECTIONS

For this report, institutions must provide evidence that candidates are meeting the National Science Teachers Association (NSTA) standards and the Connecticut Common Core of Teaching (CCT) standards for teachers of science based on 6-8 assessments. By describing your program assessments and candidate performance data according to national and state standards, you will be answering the following questions:

- Have candidates mastered the necessary knowledge for the subjects they will teach or the jobs they will perform?
- Do candidates meet state licensure requirements?
- Do candidates understand teaching and learning and can they plan their teaching or fulfill other professional education responsibilities?
- Can candidates apply their knowledge in classrooms and schools?
- Do candidates focus and have an effect on student learning?

To this end, the program report includes four major sections, requiring you to first align program assessments with national and CCT standards for teachers of science, and then describe assessments and candidate performance data, including how data is used to improve candidate learning and unit programs. The four sections are:

I. **Contextual Information:** Provide general information on the program as specified by the directions of this section.

II. **Assessment Charts:**

CHART 1: Identify your 6-8 assessments, the type or form of each assessment, and when each assessment is administered in the program.

CHART 2: Indicate which of the assessments provide evidence of meeting specific Connecticut CCT standards for teachers of science.

CHART 3: Indicate which of the assessments provide evidence of meeting specific NSTA standards.

III. **Evidence for Meeting Standards:** Discuss the assessments and candidate performance data according to specified directions for this section. Attach assessment documentation (assessments, scoring guides/criteria, and data tables).

IV. **Use of Assessment Results to Improve Candidate and Program Performance:** Indicate how faculty is using data from program assessments to improve candidate performance and the program as it relates to: (1) content knowledge; (2) pedagogical and professional knowledge, skills and dispositions; and (3) student learning.

Page limits are specified for each of the narrative responses required in Sections I, III, and IV of the report, with each page approximately equivalent to one text page of single-spaced, 12-point type. Specific directions are

included at the beginning of each section. **Keep in mind as you write for these sections that the information you provide will also be used to evaluate NCATE Standard #1: Candidate Knowledge, Skills and Dispositions.**

**NOTE: Make sure that you follow any specific instructions relative to number and type of assessments required by your national organization for program report completion. You can check for any specific instructions using the following steps:**

- (1) Go to the NCATE website: [www.ncate.org](http://www.ncate.org).
- (2) Click on the **“Institutions”** link located along the top of the home page.
- (3) Scroll down the **“Institutions”** page to the **“Program Review”** section and click on the **“Program Standards and Report Forms”** link.
- (4) Scroll down the **“Program Standards and Report Forms”** page until you come to the **Science/ NSTA** section. Here you will find the link to the NCATE program report form for science (**“Download the program report form”**). On page 3 of this report form, you will find any specific instructions required by NSTA for program report completion under the heading **“Specific Instructions for NSTA.”**

## SECTION I—CONTEXT

**Provide the following contextual information:**

1. Description of your program and how it reflects the unit's conceptual framework.
2. Description of your program and any characteristics that make it unique (undergraduate/graduate, internship design, use of technology, etc.).
3. Description of field and clinical experiences required for the program, including the number of hours for early field experiences and the number of hours/weeks for student teaching or internships.
4. Description of criteria for admission, retention, and exit from the program, including required GPAs and minimum grade requirements for content courses accepted by the program.
5. Description of how assessments align with the unit assessment system.

**Attach the following contextual information:**

1. A program of study that outlines the courses and experiences required for candidates to complete the program. The program of study must include course titles. (This information may be provided as an attachment from the college catalog or as a student advisement sheet.)
2. A chart with the number of program candidates and completers. Provide three years of data on candidates enrolled in the program and completing the program, beginning with the most recent academic year from which numbers have been tabulated (ATTACHMENT A at the end of this report form).
3. A chart describing faculty expertise and experience (ATTACHMENT B at the end of this report form).

**(Note: Response limited to 6 pages, not including attachments)**

## SECTION I – CONTEXT

### 1. Description of your program and how it reflects the unit's conceptual framework

The Secondary Science Teacher Preparation Program reflects the Theme, Principles, Domains, Proficiencies, and Assessment System of the Unit's Conceptual Framework. In keeping with the Unit's philosophy, the Unit identified four Principles that guide the Unit's programs and promote a culture of excellence in the education profession. These Principles include our belief that professional education practitioners: (1) possess a Professional Knowledge Base; (2) effectively utilize Natural and Acquired Personal and Professional Skills; (3) cultivate and demonstrate Professional Dispositions and Commitments; and, (4) are responsive to Change in the Educational Environment. From the Unit's philosophy and these Principles the Conceptual Framework's theme, "Promoting a Culture of Excellence in a Changing World," was developed. Based on input received from the fulltime and adjunct faculty of the Education Department and from public school teachers and administrators, the Unit identified five Domains of Excellence which we believe encompass the knowledge, skills and dispositions related to educational practitioner performance. These Domains were then further defined by a corresponding Proficiency in which our Candidates are assessed. These Domains and Proficiencies are presented below. They are consistent across the Unit's programs thus enhancing the coherence of our Secondary Science Teacher Preparation Program with our other programs and with the Conceptual Framework.

<u>Domain</u>	<u>Proficiency</u>
I. Context	The Candidate understands the context of the profession, both current and past, static and changing
II. Content	The Candidate demonstrates knowledge of facts, concepts, principles and methods of inquiry of the general and specialized content required for successful practice of the profession.
III. Learner	The Candidate incorporates an understanding of cognitive and affective processes in designing and implementing learning experiences.
IV. Pedagogy	The Candidate demonstrates professional/ technical skills that are associated with the successful educational practice.
V. Educator	The Candidate possesses the personal skills and dispositions, and professional commitments that promote excellence in self and others.

While not expressed within the Unit's Conceptual Framework, we subsequently derived twenty-four Competencies that have been aligned with our Domains and Proficiencies, and with NCATE and CCCT Standards (Appendix I). Each of the Competencies has also been aligned with the courses Candidates complete during their Secondary Science Teacher Preparation Program (Appendix II). As we move forward and continue to refine our program, these Competencies can be used by the Unit to refine our

assessment of our Candidates to ensure that they demonstrate the requisite knowledge, skills and dispositions of a professional 7-12 Science teacher.

## ***2. Description of your program and any characteristics that make it unique (undergraduate/graduate, internship, use of technology, etc.)***

A unique aspect of our certification programs is our campus in Griswold CT which offers an alternative for graduate students in Eastern CT. The curriculum, program requirements, and assessments systems are identical to those at our main campus. The faculty at Griswold is comprised of full-time faculty members, area superintendents, principals, and master teachers. The Griswold Campus is a unique "Learning Lab" in the fact that the campus shares facilities with Griswold High School. The Unit also maintains a branch campus in Stamford, CT where Candidates may elect to take a portion of their course work from among the select offerings at this location. Two faculty members are assigned to the Stamford campus with primary responsibility for advisement and teaching. At the present time, no education program is offered in its entirety at the Stamford location.

At all of our campuses our Secondary Science Teacher Preparation Program focuses on the personal growth of the teacher, the enhancement of a positive self-image, and the social and emotional qualities conducive to teacher effectiveness. The components of the program are designed to assist Candidates in broadening their knowledge of theory, pedagogy, various instructional approaches and the ability to engage in active inquiry. Fieldwork and student teaching are specially designed to help Candidates experience the interrelationship between theory and practice. A 7-12 Science teacher Candidate is introduced to the profession through coursework, field experiences and student teaching in the 36-credit certification program. These courses are grouped in sequentially-ordered blocks and reflect the standards of the Connecticut Common Core of Teaching (CCCT).

As of Autumn 2006, the Unit now offers two routes through which a Candidate may work towards initial teacher certification. One is the Fifth Year Program in which applications for admission are submitted by Sacred Heart University students during the Fall semester of their sophomore year. Course work in education begins in the junior year, the Candidate completes 21 credits of education courses prior to the BA/BS and -- assuming all coursework, field experiences and student teaching requirements are satisfied -- concludes in spring of the fifth year with recommendation for initial teacher certification and the accomplishment of a Masters of Arts in Teaching (MAT) degree. During their fifth year, Candidates complete 39 credits of Graduate Education courses. The second route is for Candidates who elect to postpone all professional education coursework until after they complete their undergraduate degree. Candidates taking this route may enroll for certification courses only, or for certification plus an MAT. The combined certification/ MAT program includes 48 credits of professional education courses at the graduate level. Graduate level Candidates applying for certification under either route are eligible to apply for an internship placement in a public school. The Internship provides tuition credit for 33 graduate credits. Individuals who are already certified teachers may apply for and be admitted into the MAT program. Likewise, the MAT program is available to individuals seeking a graduate degree, but who do not plan to apply for teacher certification. Upon admission to our Secondary Science Teacher Certification Program, each Candidate works with a

faculty advisor to prepare a Plan of Study (Appendices III and IV) which helps the Candidate develop a sequence and timeframe for completing the coursework required for certification.

The use of technology also helps to differentiate our Secondary Science Teacher Preparation Program. Sacred Heart University has been identified by Intel Corporation as one of “the most unwired college campuses” in America in recognition of the University’s commitment to wireless technology to assist student learning. This investment permits the Unit’s Candidates to access the internet and their university provided email accounts from any location on campus at any time. All classrooms on the Institution’s main campus and at Cambridge Campus (the building recently dedicated to the College of Education and Health Professions) are fully equipped with state-of-the-art educational technology including wireless internet, smart boards, AV displays, video cameras, and a permanently assigned IT staff. The Unit is committed to developing the ability to understand, integrate and effectively utilize current and emerging technologies and strategies in instruction and across the curriculum to help all students learn. All initial certification Candidates are required to take course number ED578 “Introduction to Computers in Education” or ED592 “Advanced PC Applications”. The Unit also provides an opportunity for Candidates for the Master of Arts in Teaching (MAT) degree to obtain their degree with a Concentration in Educational Technology by taking an additional four courses in Educational Technology as part of fulfilling their MAT course requirements. A copy of the planning sheet for participants in the MAT program is attached as [Appendix V](#).

### ***3. Description of field and clinical experiences required for the program, including the number of hours for early field experiences and the number of hours/weeks for student teaching or internships***

Prior to the student teaching experience, Candidates hone their teaching skills through the development and delivery of instruction by preparing and presenting sample lesson plans in their required courses. Appropriate dispositions and skills are developed through reading, writing, discussion, observation, and modeling throughout the education program and continuing throughout the student teaching component. Hence, the Secondary Science Teacher Certification Program provides Candidates with opportunities to develop and demonstrate their teaching skills in order to perform effectively during their student teaching experience. Candidates are also required to participate in a variety of field experiences during their coursework prior to student teaching. Various courses have field experiences embedded within the course requirements. These field experiences have been aligned with the Unit’s corresponding Domains of Excellence and Proficiencies, as well as with CCCT Standards. [Appendix VI](#) demonstrates this alignment and indicates the courses where pre-student teaching field experiences are required, and whether an Initial (e.g. interviewing, observing, shadowing) or an Intermediate (e.g. tutoring, mentoring, presenting) level experience is required. These pre-clinical field experiences amount to 43 hours for Secondary Education teacher candidates.

Secondary Science Teacher Certification Candidates are offered an opportunity to participate in a 40-week internship program that affords Candidates the opportunity to complete teacher certification and master's degree program requirements in a supervised internship setting in a secondary level public school. The Candidate spends ten weeks out of the forty weeks completing the mandated

student teaching requirement. Full participation in the internship program entitles the Candidate to 33 credits of graduate tuition. Those Candidates who do not participate in the internship program are required to student teach for 12 weeks. In addition, both internship and non-internship Candidates must participate in ED 395/495 Student Teaching Seminar: Secondary School.

#### **4. Description of criteria for admission, retention, and exit from the program, including GPAs and minimum grade requirements for content courses accepted by the program**

Sacred Heart University strictly follows all state regulations regarding teacher preparation programs. Candidates for admission to our initial certification programs must meet the following entrance requirements:

- Pass the Praxis I exam or obtain a Praxis waiver from the Connecticut State Department of Education.
- Complete an essay stating their reason(s) for wanting to be a teacher and describing any experiences that may have influenced that decision.
- Present at least two letters of recommendation from people able to testify to the Candidate's suitability as a prospective teacher.
- Be interviewed by the University's Graduate Admissions office and by members of the faculty of the Education Department.
- Applicants to the post-baccalaureate programs who have an undergraduate cumulative GPA under 2.75 (on a 4.0 scale) must request a waiver of this requirement from the Graduate Education program in order to be considered for admission. The process for the GPA waiver appeal is described in the graduate school catalog.
- Applicants whose undergraduate cumulative GPA falls below the minimum standard for admission, those who require additional prerequisite course work or who may benefit from close academic supervision may be admitted as Provisionally Accepted. Upon completion of all requirements outlined in the letter of provisional acceptance sent by the Office of Graduate Admissions, the application file will be reviewed for consideration of acceptance into the program.

Applications for admission to the teacher preparation and certification program are processed by a member of the Graduate Admissions Office who is specifically assigned to the Education Department. Transcript reviews are conducted for Secondary Education Teacher Certification Program applicants during an in-person meeting with a member of the Unit's faculty. In the case of graduate level admissions, the transcript review ensures that applicants have graduated from a regionally-accredited college or university and has an acceptable subject area major or meets the content area requirements for a Subject Area Major Equivalent. This consists of 30 credits in the subject for which the endorsement is sought, and a minimum of 9 credits in a subject or subjects related to the subject for

which the endorsement is sought. Candidates seeking endorsement in general science, history/social studies, business, and world language must also meet the special Connecticut State Department of Education (CSDE) requirements for those subject areas. Only those courses in which a grade of “C” or better was achieved can be transferred into the program. Additionally, the transcript is reviewed to ensure all applicants have completed the state mandated 3-credit survey course in US History. The faculty member fills out an undergraduate (at the time of writing, the undergraduate Plan of Study is being revised to more accurately reflect the patterns of the Five Year program -- the appended undergraduate Plan of Study describes the program possibilities prior to August 2006) or graduate Plan of Study (see Appendices III & IV) as appropriate to help the Candidate understand the program requirements, and to establish a timeframe for completion of the program. The Candidate then returns to the Graduate Admissions office for processing of the application. An appointment is then made for the Candidate to meet with the Unit’s Admissions Committee for an interview during which the Candidate’s communications skills and dispositions are evaluated. The Candidate also undergoes a writing sample during the interview process. Assuming the above requirements are met satisfactorily, the Candidate is then admitted into the program, and the faculty member who filled out the Plan of Study becomes the Candidate’s advisor.

Retention in the Secondary Science Teacher Preparation Program requires satisfactory completion of required coursework, fieldwork and student teaching in the 36-credit certification program. Graduate-level Candidates are required to maintain a GPA of 3.0 or higher and undergraduate Candidates a GPA of 2.75 or higher. In addition, prior to beginning student teaching, Candidates are required to obtain recommendations from two faculty members. These recommendations are designed to solicit information about the Candidate’s dispositions and interpersonal skills. A copy of the form used for this purpose is included as Appendix VII. Exit from the program requires another transcript review to ensure that all required coursework, field experiences and student teaching requirements have been fulfilled. The Candidate must also successfully pass the Praxis II exam prior to being recommended to CSDE for Certification, at which time the Candidate is considered to have successfully completed the Secondary Science Teacher Preparation Program.

## ***5. Description of how assessments align with unit assessment system***

Assessment is another key component of the Unit’s Conceptual Framework that is reflected in our Secondary Science Teacher Preparation Program. For more than five years the Unit has been developing and refining components of its Assessment System. We were guided by CCCT and NCATE standards which called for outcomes based assessment of our Candidates in terms of what they should know and be able to do upon completion of their program of study. As we focused more closely upon the development of our Conceptual Framework, we identified our own Unit standards in the form of the Domains and Proficiencies described above in response to Item 1 of this Section. Our goal is to develop Candidates who demonstrate the comprehensive breadth of knowledge called for by the CCCT standards for Secondary Science Teacher Certification. Our assessment of Domains and Proficiencies reflects the Unit’s commitment to preparing Candidates who have the requisite knowledge (of the profession, of general academic content, of the content area in which they will be teaching, and of the standards of professional practice); who demonstrate the pedagogical and interpersonal skills to affect

and assess student learning; and who possess the necessary dispositions to succeed as Secondary Science teachers. Our system assesses Candidates in each of the Competencies listed in Appendix I. Appendix II displays the distribution of responsibility for assessing particular competencies within each course in the planned program leading to initial certification (in that display, some of the courses differ for elementary and secondary candidates).

Each course in our Secondary teacher preparation program has been assigned a fulltime member of the Unit's faculty who serves as Course Coordinator for that particular course. The Course Coordinators -- in collaboration with the other full time and adjunct instructors of these courses -- established rubrics for the course-imbedded assessments to benchmark performance. These assessments are entered into our electronic assessment tracking system known as e-STAR. The data is entered by faculty members through the use of our unique Competency Assessment Reports (CAR) which were developed by the Unit in collaboration with members of the local K-12 education community and reflect CCCT standards. For the purpose of this program report, CAR assessments particular to the Secondary program of study are presented. Pedagogical content knowledge of our Secondary Education teacher candidates is assessed through CARs which specifically assess the Candidate's ability to develop appropriate lesson plans for the courses ED 262/428 Secondary Curriculum; and ED 264/429 Secondary Methods in the Content Areas. The Candidate's knowledge of student learning and the need for and ability to differentiate instruction is assessed through another component of the CARs in these same courses. The rubrics used by the faculty members for these courses which the online CARs capture and process may be found in Appendices VIII and IX. The assignments that generate work product evaluated through these CARs appear in Appendix X.

During student teaching Candidates are assigned a University Supervisor who is a member of the Unit's faculty, as well as a Cooperating Teacher from the school where the Candidate is student teaching. These individuals regularly review the Secondary Science Teacher Candidate's content knowledge and evaluate the Candidate's professional dispositions and pedagogical skills and their ability to enhance and assess student learning. A portfolio based Clinical Assessment System (CAS) is used to collect artifacts and provide foundation for these reviews. As with the CAR reports, CAS reports are summarized (using form CAS11) and reported through the e-STAR system. This allows the Unit to not only track individual Candidate progress, but provides the Unit with data about each of our courses. This information is used to make improvements in individual courses and to our program. The CAS11 rubrics for our Secondary Education Certification Program can be found in Appendices XI and XII and are further articulated in response to Section III of this Report. Additional evidence of content knowledge mastery is found in the requirement that Secondary Science Education Certification Program Candidates must pass the Praxis II exams prior to achieving certification.

The Unit assessment system is organized into gateways or transition points at admission, preclinical, post clinical and post employment stages. The assessments particular to the Secondary Education Program of study contribute to these gateways. Transcript reviews are part of the admissions process, the CAR systems are a component of the pre-clinical review, the CAS11 instrument is one summary of the assessments performed during the student teaching clinical experience, and the final transcript reviews and Praxis II are parts of the post clinical gateway.

## SECTION II -- ASSESSMENT CHARTS

For SECTION II, you have **three** charts to complete:

- **CHART 1** asks you to list your 6-8 assessments that are being submitted as evidence for meeting national and Connecticut CCT teaching standards for teachers of science, and for each assessment, indicate the **type or form of the assessment** (e.g., essay, comprehensive exam, portfolio) and **when it is administered** in the program (e.g., admission, prior to student teaching). Assessments you list must be those that all candidates in the program are required to complete and that are used by the program to determine candidate proficiencies, specifically related to: (1) content knowledge; (2) pedagogical and professional knowledge, skills and dispositions; and (3) effects on student learning. All programs must show that multiple and varied assessments (6-8) are used to evaluate candidate performance, and must include the following:
  - State licensure and examinations of content knowledge;
  - At least one additional assessment of content knowledge;
  - An assessment of candidate ability to plan instruction, or (for non-teaching fields) to fulfill identified professional responsibilities;
  - The evaluation of clinical practice; and
  - An assessment that demonstrates candidate effect on student learning or (for non-teaching fields) the ability to create supportive learning environments.
- **CHART 2** asks you to identify which of your assessments address each of the Connecticut CCT standards for teachers of science. Please note that one assessment may apply to multiple standards.
- **CHART 3** asks you to identify which of your assessments address each of the NSTA standards. Please note that one assessment may apply to multiple NSTA standards.

## Section II CHART 1: LIST OF ASSESSMENTS

In this chart, list the 6-8 assessments that are being submitted as evidence for meeting state and national standards for teachers of Science Teacher Preparation Program. All programs must submit a minimum of six assessments. For each assessment, indicate the type or form of the assessment

Name of Assessment	Type or Form of Assessment	When the Assessment Is Administered
1. <b>Praxis II</b> #20235 #20245 #30242 #10435 #30433	State licensure examination Content knowledge	Prior to program completion
2. <b>Transcript/Coursework Review</b>	Content knowledge requirements met based on CT Regulations Concerning State Educator Certificates, Permits and Authorizations	Prior to student teaching
3. <b>CAR 262/428</b> Lesson plan development and evaluation	Mixed-methods course-embedded Competency Assessment Report (CAR) of: Pedagogical and professional knowledge, skills, and dispositions	Prior to student teaching
4. <b>CAR 264/429</b> Lesson plan development and evaluation	Mixed-methods course-embedded Competency Assessment Report (CAR) of: Pedagogical and professional knowledge, skills, and dispositions	Prior to student teaching
5. <b>CAR 262/428 Essay</b> Essay evaluation of learning theory	Essay in course-embedded Competency Assessment Report (CAR) of knowledge of: Pedagogical and professional knowledge, skills, and dispositions	Prior to student teaching
6. <b>CAR 264/429 Essay</b> Essay evaluation of learning theory	Essay in course-embedded Competency Assessment Report (CAR) of knowledge of: Pedagogical and professional knowledge, skills, and dispositions	Prior to student teaching
7. <b>CAS11 395/495</b>	Course-embedded Clinical Assessment System ( Content standards Pedagogical and professional knowledge, skills, and dispositions Effect on student learning	During and at completion of Student Teaching

and when it is administered in the program.

## **SECTION II CHART 2: RELATIONSHIP OF ASSESSMENTS TO CONNECTICUT CCT STANDARDS**

For each CCT standard, identify the assessment(s) that address the standard. One assessment may apply to multiple CCT standards.

<b>Connecticut CCT Standards for Teachers of Science</b>	<b>Applicable Assessments</b>
<b>I. Science Nature and Content:</b> Science teachers understand the main ideas of their disciplines and the processes by which scientific data is collected and theories are built.	<b>1, 2</b>
<b>II. Science Logic and Construction of Knowledge:</b> Science teachers understand the various forms of scientific inquiry and create opportunities for students to develop independent, creative and critical scientific reasoning.	<b>5, 6</b>
<b>III. Science Context and Applications:</b> Science teachers understand the significance of scientific literacy in a modern society and create opportunities for students to apply their knowledge, solve problems, examine science-related issues and construct informed and carefully reasoned opinions.	<b>3,4,7</b>
<b>IV. Students' Diversity:</b> Science teachers explore students' science ideas and search for materials and teaching strategies that encourage students with diverse abilities, interests and backgrounds to actively participate in the learning of science.	<b>5,6,7</b>
<b>V. Learning Environment:</b> Science teachers develop science learning communities in which teacher and students ask questions, seek information and validate explanations in various thoughtful, creative and cooperative ways.	<b>7</b>
<b>VI. Instructional Resources:</b> Science teachers use available time, materials, equipment and communication technologies in a safe environment to support students' scientific investigations.	<b>3,4,7</b>
<b>VII. Reflective Practice:</b> Science teachers continuously gather data about student learning and explore patterns of performance in student work in order to improve student learning and their own teaching practices.	<b>3,4,7</b>

## Section II CHART 3: RELATIONSHIP OF ASSESSMENTS TO NATIONAL STANDARDS

For each NSTA standard, identify the assessment(s) that address the standard. One assessment may apply to multiple NSTA standards.

NSTA Standards	Applicable Assessments
<p><b>1. Content.</b> Teachers of science understand and can articulate the knowledge and practices of contemporary science. They can interrelate and interpret important concepts, ideas, and applications in their fields of licensure; and can conduct scientific investigations. To show that they are prepared in content, teachers of science must demonstrate that they</p> <p>(a) understand and can successfully convey to students the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association;</p>	<b>1,2,7</b>
<p>(b) understand and can successfully convey to students the unifying concepts of science delineated by the National Science Education Standards;</p>	<b>1,2,7,</b>
<p>(c) understand and can successfully convey to students important personal and technological applications of science in their fields of licensure;</p>	<b>3,4,7</b>
<p>d) understand research and can successfully design, conduct, report evaluate investigations in science;</p>	<b>1,2,7</b>
<p>(e) and understand and can successfully use mathematics to process and report data, and solve problems, in their field(s) of licensure.</p>	<b>1,2,7</b>
<p><b>2. Nature of Science.</b> Teachers of science engage students effectively in studies of the history, philosophy, and practice of science. They enable students to distinguish science from nonscience, understand the evolution and practice of science as a human endeavor, and critically analyze assertions made in the name of science. To show they are prepared to teach the nature of science, teachers of science must demonstrate that they:</p> <p>(a) understand the historical and cultural development of science and the evolution of knowledge in their discipline;</p>	<b>1,2</b>
<p>(b) understand the philosophical tenets, assumptions, goals, and values that distinguish science from technology and from other ways of knowing the world;</p>	<b>1,2</b>
<p>(c) engage students successfully in studies of the nature of science including, when possible, the critical analysis of false or doubtful assertions made in the name of science.</p>	<b>3,4,7</b>

NSTA Standards	Applicable Assessments
<p><b>3. Inquiry.</b> Teachers of science engage students both in studies of various methods of scientific inquiry and in active learning through scientific inquiry. They encourage students, individually and collaboratively, to observe, ask questions, design inquiries, and collect and interpret data in order to develop concepts and relationships from empirical experiences. To show that they are prepared to teach through inquiry, teachers of science must demonstrate that they:</p> <p>(a) understand the processes, tenets, and assumptions of multiple methods of inquiry leading to scientific knowledge;</p>	5,6
<p>(b) engage students successfully in developmentally appropriate inquiries that require them to develop concepts and relationships from their observations, data, and inferences in a scientific manner.</p>	3,4,7
<p><b>4. Issues.</b> Teachers of science recognize 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. They require students to conduct inquiries into the factual basis of such issues and to assess possible actions and outcomes based upon their goals and values. To show that they are prepared to engage students in studies of issues related to science, teachers of science must demonstrate that they:</p> <p>(a) understand socially important issues related to science and technology in their field of licensure, as well as processes used to analyze and make decisions on such issues;</p>	2,7
<p>(b) engage students successfully in the analysis of problems, including considerations of risks, costs, and benefits of alternative solutions; relating these to the knowledge, goals and values of the students.</p>	3,4,7
<p><b>5. General Skills of Teaching.</b> Teachers of science create a community of diverse learners who construct meaning from their science experiences and possess a disposition for further exploration and learning. They use, and can justify, a variety of classroom arrangements, groupings, actions, strategies, and methodologies. To show that they are prepared to create a community of diverse learners, teachers of science must demonstrate that they</p> <p>(a) vary their teaching actions, strategies, and methods to promote the development of multiple student skills and levels of understanding;</p>	5,6,7
<p>(b) successfully promote the learning of science by students with different abilities, needs, interests, and backgrounds;</p>	5,6,7
<p>(c) successfully organize and engage students in collaborative learning using different student group learning strategies;</p>	5,6,7
<p>(d) successfully use technological tools, including but not limited to computer technology, to access resources, collect and process data, and facilitate the learning of science;</p>	3,4,7
<p>(e) understand and build effectively upon the prior beliefs, knowledge, experiences, and interests of students; and</p>	5,6,7
<p>(f) create and maintain a psychologically and socially safe and supportive learning environment.</p>	7

NSTA Standards	Applicable Assessments
<p><b>6. Curriculum.</b> Teachers of science plan and implement an active, coherent, and effective curriculum that is consistent with the goals and recommendations of the National Science Education Standards. They begin with the end in mind and effectively incorporate contemporary practices and resources into their planning and teaching. To show that they are prepared to plan and implement an effective science curriculum, teachers of science must demonstrate that they:</p> <p>(a) understand the curricular recommendations of the National Science Education Standards, and can identify, access, and/or create resources and activities for science education that are consistent with the standards;</p>	3,4,7
<p>(b) plan and implement internally consistent units of study that address the diverse goals of the National Science Education Standards and the needs and abilities of students.</p>	3,4,5,6,7
<p><b>7. Science in the Community.</b> Teachers of science relate their discipline to their local and regional communities, involving stakeholders and using the individual, institutional, and natural resources of the community in their teaching. They actively engage students in science-related studies or activities related to locally important issues. To show that they are prepared to relate science to the community, teachers of science must demonstrate that they:</p> <p>(a) identify ways to relate science to the community, involve stakeholders, and use community resources to promote the learning of science;</p>	7
<p>(b) involve students successfully in activities that relate science to resources and stakeholders in the community or to the resolution of issues important to the community.</p>	7
<p><b>8. Assessment.</b> Teachers of science construct and use 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. To show that they are prepared to use assessment effectively, teachers of science must demonstrate that they:</p> <p>(a) use multiple assessment tools and strategies to achieve important goals for instruction that are aligned with methods of instruction and the needs of students;</p>	3,4,7
<p>(b) use the results of multiple assessments to guide and modify instruction, the classroom environment, or the assessment process;</p>	3,4,7
<p>(c) use the results of assessments as vehicles for students to analyze their own learning, engaging students in reflective self-analysis of their own work.</p>	3,4,7
<p><b>9. Safety and Welfare.</b> Teachers of science organize safe and effective learning environments that promote the success of students and the welfare of all living things. They require and promote knowledge and respect for safety, and oversee the welfare of all living things used in the classroom or found in the field. To show that they are prepared, teachers of science must demonstrate that they:</p> <p>(a) understand the legal and ethical responsibilities of science teachers for the welfare of their students, the proper treatment of animals, and the maintenance and disposal of materials;</p>	7
<p>(b) know and practice safe and proper techniques for the preparation, storage, dispensing, supervision, and disposal of all materials used in science instruction;</p>	7
<p>(c) know and follow emergency procedures, maintain safety equipment, and ensure safety procedures appropriate for the activities and the abilities of students;</p>	7
<p>(d) treat all living organisms used in the classroom or found in the field in a safe, humane, and ethical manner and respect legal restrictions on their collection, keeping, and use.</p>	7

NSTA Standards	Applicable Assessments
<p><b>10. Professional Growth.</b> Teachers of science strive continuously to grow and change, personally and professionally, to meet the diverse needs of their students, school, community, and profession. They have a desire and disposition for growth and betterment. To show their disposition for growth, teachers of science must demonstrate that they:</p>	
<p><b>(a)</b> engage actively and continuously in opportunities for professional learning and leadership that reach beyond minimum job requirements;</p>	<p><b>7</b></p>
<p><b>(b)</b> reflect constantly upon their teaching and identify ways and means through which they may grow professionally;</p>	<p><b>3,4,7</b></p>
<p><b>(c)</b> use information from students, supervisors, colleagues and others to improve their teaching and facilitate their professional growth;</p>	<p><b>3,4,7</b></p>
<p><b>(d)</b> interact effectively with colleagues, parents, and students; mentor new colleagues; and foster positive relationships with the community.</p>	<p><b>3,4,7</b></p>

## SECTION III -- EVIDENCE FOR MEETING STANDARDS

**DIRECTIONS:** Information on the assessments you listed in Section II and candidate performance data will be reported in this section. You will organize your program assessments and candidate data according to the following three areas that are addressed in NCATE's Standard 1:

1. Content knowledge
2. Pedagogical and professional knowledge, skills and dispositions
3. Effects on student learning

For each assessment, the evidence for meeting standards should include the following information:

1. A brief description of the assessment, its use in the program, and how it aligns with standards;
2. Candidate performance data (data tables) for each assessment and a brief summary of the performance data;
3. An interpretation of how candidate data provides evidence for meeting standards;
4. Attachment of the assessment tool or description of the assignment; and
5. Attachment of the scoring rubric or scoring guide for each assessment.

**The response for each assessment is limited to two pages, not including data tables.**

- |  |
|--|
| <ol style="list-style-type: none"><li><b>1. CONTENT KNOWLEDGE:</b><ul style="list-style-type: none"><li>-Data from licensure tests for content knowledge in Science</li><li>-Assessment of content knowledge in Science</li></ul></li><li><b>2. PEDAGOGICAL AND PROFESSIONAL KNOWLEDGE, SKILLS, AND DISPOSITIONS:</b><ul style="list-style-type: none"><li>-Assessments that demonstrate candidates can effectively plan classroom-based instruction</li><li>-Assessments that demonstrate candidates' knowledge, skills, and dispositions are applied effectively in practice</li></ul></li><li><b>3. EFFECTS ON STUDENT LEARNING AND CREATING AN ENVIRONMENT THAT SUPPORTS LEARNING:</b><ul style="list-style-type: none"><li>-Assessments that demonstrate candidate effects on student learning</li></ul></li><li><b>4. OTHER ASSESSMENTS ADDRESSING NSTA OR CCT STANDARDS FOR TEACHERS OF SCIENCE</b></li></ol> |
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## SECTION III EVIDENCE FOR MEETING STANDARDS

### ***OVERVIEW OF ASSESSMENTS USED BY PROGRAM***

The Secondary Science Teacher Certification Program is committed to evaluating Candidates' content knowledge; pedagogical and professional knowledge, skills and dispositions; and effects on student learning. Assessments are conducted using a variety of instruments and techniques which are utilized at one or more of the four gateways identified in the Unit's Conceptual Framework and established in the Unit's Assessment System. These gateways are: I Admissions; II Pre-Clinical; III Program Completion; and IV Post Program Completion. As referenced in Section II Chart 1, the assessments relevant to the Secondary Science certification program are:

#### **Praxis II (Section II Chart 1 Assessment 1)**

Praxis II Subject Assessments measure knowledge of specific subjects that educators will teach, as well as general and subject-specific teaching skills and knowledge. Individuals entering the teaching profession in the State of Connecticut take these tests as part of the teacher licensing and certification process required by CSDE.

#### **Transcript reviews (Section II Chart 1 Assessment 2)**

The current practice is to review the transcripts based on the Connecticut State Requirements for 7-12 Science teachers as presented in the *Regulations Concerning State Educator Certificates, Permits and Authorizations*. The second page of the Secondary school teacher certification Plan of Study ([Appendices III and IV](#)) displays the work sheets for this transcript review.

#### **Competency Assessment Reports (CAR) (Section II Chart 1 Assessments 3,4,5,and 6)**

In all of our certification courses, the unit has imbedded a system of Competency Assessment Reports (CARs). The evaluations associated with the course-specific CARs are aligned with the unit Conceptual Framework and with the CCCT. Faculty members submit CAR evaluations electronically via the Unit's web based application e-STAR. e-STAR contains the course and standard alignments for our course imbedded assessments, prompts faculty for completion of assessments for each Candidate enrolled in their courses, and maintains a relational database which permits inspection of individual Candidate performance as well as aggregated data by course, program, or instrument. For the purpose of this Secondary Science Teacher Certification Program review, CAR assessments associated with Secondary Curriculum (ED262/428) and Secondary Methods (ED 264/429) were selected as most relevant to the program.

Course ED262/428 Secondary Curriculum explores the historical, philosophical and sociological foundations underlying the development and organization of curriculum in the United States. Special emphasis is placed on critical components of secondary school curriculum development, implementation and assessment in general, as well as in specific content areas. Candidates also examine and discuss a number of current curriculum issues which impact the secondary school. The content of this course focuses primarily on putting theory into practice. To that end, the course emphasizes the practical aspects of how a school district writes curriculum with emphasis on both process and product. During this course the Candidate demonstrates competency in developing a lesson plan that is aligned to the Candidate's content area and which enhances student learning, as well as preparing an essay which addresses the Candidate's knowledge of learning theory, understanding of human growth and development, and the need for differentiated instruction. Course ED264/429 Secondary Methods examines various methods of instruction applicable to all academic areas. Candidates plan and teach micro-lessons, develop short-range and long range lesson plans and complete a subject specific portfolio for an extensive unit. The Candidates are advised and supervised by a Science teacher/consultant. Philosophical, psychological and practical implications for instruction, process learning and cooperative learning, and integrated instruction are discussed and practiced. Practicing teaching strategies that accommodate different cognitive levels and learning styles helps our Candidates to achieve professional competency through guided learning, guided practice, productive feedback, encouragement and positive reinforcement.

In accordance with the Unit's Conceptual Framework the Candidate is evaluated in each of the courses to determine mastery of the following Proficiencies: 1) Demonstrates professional/technical skills that are associated with the successful educational practice, and 2) Demonstrates an understanding of cognitive and affective processes in designing and implementing learning experiences. In ED262/428 and ED264/429 the Candidate demonstrates mastery of these Proficiencies through two activities: 1) the design of an acceptable lesson plan for a hypothetical class in Science, and 2) the writing of an essay that relates learning theory, human growth and development, and needs of diverse learners to objectives and content of the aforementioned lesson plan. The specific assignment that generates the work products evaluated in this assessment is displayed in Appendix X. Candidates who demonstrate a satisfactory level of performance on the two sets of work products for this assessment are eligible for a student teaching placement. Students with low levels of mastery of one or more of the assessments may be denied a student teaching placement until mastery is demonstrated. The assessment criteria and rubrics for the CAR assessments imbedded in these courses are displayed in Appendices VIII and IX. These displays also list the associated Domains and Competencies that are aligned with these assessments. Through these CARS, the Candidate's lesson plans are assessed in three areas 1) designing learning tasks and assessments, 2) selecting appropriate resources, and 3) planning for differentiated instruction. The related essays are evaluated for applying learning theory, human growth and development, and the needs of diverse learners to the lesson plans. For this report, the assessments are separately reported as:

CAR 262/428 Lesson plan development and evaluation

CAR 264/429 Lesson plan development and evaluation  
CAR 262/428 Essay evaluation  
CAR 264/429 Essay evaluation

### **Clinical Assessment System (Section II Chart 1 Assessment 7)**

The Unit uses a Clinical Assessment System (CAS) that is the foundation of our Student Teaching experience. In the student teaching experience, Candidates work with a cooperating teacher, are supported by a university supervisor, and attend a weekly seminar conducted by University faculty. Candidates prepare extensive portfolio documents of both written lesson/unit plans and presented lessons that are aligned with CCCT standards. The entire portfolio is reviewed by the university supervisor and the seminar instructor as part of the evaluation process. It is our contention that Secondary Science teachers must be able to apply their content knowledge in the classroom. Therefore, the Unit's assessment system requires Candidates to be observed three times during their student teaching experience by a university supervisor. For each visit the Candidate writes a lesson plan, which includes information on how the content to be taught during the lesson is aligned with local (school, district) or national content standards.

One component of the Unit's Clinical Assessment System is a 20 item student teaching evaluation instrument (identified as CAS 11-- see [Appendix XI](#)) which is based on the CCCT and on *Enhancing Professional Practice: a Framework for Teaching* by Charlotte Danielson (ASCD, 1996). The cooperating teacher uses the CAS to provide formative feedback on the Candidate's knowledge, skills, dispositions, and effect on student learning at the midpoint of the Candidate's student teaching. At the end of the student teaching experience, CAS 11 is used by the cooperating teacher and the university supervisor to conduct a summary assessment of the Candidate's overall performance. The rubrics used to assess the items on CAS 11 are based on those developed by the CSDE and found in its *Student Teaching Rubric & Data Collection Form, Fall 2005 Pilot Version*. The CSDE form and the twenty criteria of the CAS system are attached as [Appendix XII and XIII](#). CAS 11 addresses a variety of content, pedagogical, and assessment abilities. Appendix XIII shows the 20 items evaluated by CAS 11 separated into the CSDE categories of: Planning (Criteria 1-3); Instructing (Criteria 4-12); Assessment (Criteria 13-16); and Professional Responsibility (Criteria 17-20). These same categories are identified in Section III Table 3 by the letters P, I, A, and PR respectively.

### **ASSESSMENTS AND CANDIDATE PERFORMANCE**

Three focus areas are emphasized in NCATE Standards: 1) Content knowledge; 2) Pedagogical and professional knowledge, skills and dispositions; and 3) Effects on student learning. The Unit assesses its Candidates in each of these areas.

## Content Knowledge

In accord with its Conceptual Framework, the Unit assesses the proficiency of a Secondary Science Teacher Candidate's knowledge of facts, concepts, principles and methods of inquiry of the general and specialized content required for successful practice of the profession. This knowledge is represented as 1) knowledge of the field of Science as a secondary school subject, 2) general academic knowledge, and 3) knowledge of Science content standards pertaining to instruction at the secondary level. These forms of content knowledge are assessed through use of A) the PRAXIS II test, B) transcript review, and C) performance on the Unit's final evaluation form for student teaching. This final evaluation, known as CAS 11, is part of the Unit's Clinical Assessment System (CAS).

### A. Praxis II Test

#### Description of the Assessment Tool and Scoring Guide

For assessing subject area mastery in Science, Candidates are required to obtain passing scores on the following tests: Praxis II test #20235 *Biology: Content Knowledge*, #20245 *Chemistry: Content Knowledge*, #30242 *Chemistry: Content Essay*, #10435 *General Science: Content Knowledge*, and # 30433 *General Science: Content Essay*. Chart 2 of Section II demonstrates the alignment of the Praxis II tests with the standards established by the CCCT, and Chart 3 shows the alignment of the Praxis II tests in Science with the standards of the National Science Teachers Association.

Passing scores for all tests have been established by the CSDE as follows: #20235 *Biology: Content Knowledge*--152, #20245 *Chemistry: Content Knowledge*--151, #30242 *Chemistry: Content Essay*--140, #10435 *General Science: Content Knowledge*--157, and # 30433 *General Science: Content Essay*--145. For information on the Praxis II Science tests consult descriptions and scoring guides provided by the Educational Testing Service at [www.ets.org](http://www.ets.org).

Candidate Performance Data and Interpretation A summary of data on the Candidates' performance on the Praxis II test in Science for three academic periods, each beginning on July 1 and ending on June 30 is presented in Section III Table 1 below:

**Section III Table 1: Summary of Candidate Performance on Praxis II: Science**

Academic Period	No. of Candidates Taking Test	No. of Candidates Passing Test	Percentage Passing Test
2004-2005	12	12	100%
2005-2006	18	18	100%
2006-2007	7	7	100%
Total	37	37	100%

All Candidates must pass the Praxis II test before they are recommended for Certification which equates to program completion in our Science Teacher Certification Program. Data obtained for the Praxis II test scores for the 2004-2005, 2005-2006 and 2006-2007 periods, demonstrate that

the passing rate of the 37 Candidates in the Science Certification Program for the three years is 100%.

Praxis II test data on the 7 Candidates completing the Science Certification Program during the 2006-2007 period as presented in Section III Table 2 below indicates that our Candidates both possess and can communicate the content knowledge required for a secondary Science teacher as mandated by CSDE.

**Section III Table 2: Summary of Candidate Performance on Praxis II: Science**

Praxis II test:	Lowest Score	Highest Score	Mean	SD
#20235	157	159	158	1.15
#20245	160	161	160	0.7
#30242	160	173	166	9.19
#10435	158	158	158	0.00
#30433	145	150	147	3.53

#### B. Transcript Review

Description of the Assessment Tool and Scoring Guide The current practice is to review Candidate transcripts based on the Connecticut State Requirements for 7-12 Science teachers as presented in the Regulations Concerning State Educator Certificates, Permits and Authorizations. In Section II Chart 3 information is presented on the alignment of the transcript review with the standards established by the National Science Teachers Association. For future approval by faculty of the Education Department, the faculty has developed a more extensive transcript review process for Secondary Science Teacher Certification Candidates. The proposed transcript review process calls for the faculty member reviewing the transcript to determine if the Candidate has taken and passed courses in specific content areas as outlined in Appendix XIV.

Both currently and in the future, the Unit is committed to assessing 1) the Candidate's knowledge of Science as a subject area in the secondary school curriculum and, 2) the Candidate's general academic knowledge. At the present time content area knowledge in Science is demonstrated by the requirement that graduate-level Candidates in our Secondary Science Teacher Certification Program are required prior to student teaching to provide evidence in the form of an official transcript from a regionally accredited institution of higher learning indicating that the Candidate has completed a subject area major in Science, or the equivalent of a major which consists of a minimum of 30 credits of coursework in Science and nine credits in related areas. Undergraduate Candidates are required to have completed at least 24 credits in their subject area major prior to student teaching. This assessment is conducted by reviewing the Candidate's transcript at two different gateways in the program. The first transcript review takes place during the admissions process when a Candidate meets

with an advisor to complete a Secondary Plan of Study for the Certification Program (see Appendices III and IV). At that time the advisor notes compliance or non-compliance with the educational requirements listed on the Candidate's plan of study and informs the Candidate that he/she is expected to meet the subject area requirements for a major in Science or the equivalent of a major prior to student teaching. A second transcript review to assess content knowledge takes place when the Candidate applies for student teaching. The Candidate is required to submit an application for student teaching on which the Candidate notes whether the subject area requirement has been met. The application and all supporting documentation including transcripts are reviewed by the Unit's Director of Student Teaching for those Candidates not enrolled in the internship program outlined in Section I, or for those in the intern program, by the Director of Intern Programs. This review determines if the Candidate has fulfilled all the pre-requisites (e.g. transcript review, coursework, letters of recommendation, etc.) for student teaching established by the department and in accordance with CSDE requirements. If a Candidate is deficient in these areas, he/she is not placed in a student teaching assignment until all requirements have been met. A Candidate's general academic knowledge is assessed by a review during the admissions process by a faculty advisor who determines that the Candidate has completed 39 credits of coursework in five of the following six content areas; English, mathematics, science, social studies, and either fine arts or world language. Compliance or non-compliance with this requirement is noted on the Candidate's Plan of Study, and all requirements must be fulfilled prior to the Candidate's being placed in student teaching.

*Candidate Performance Data and Interpretation* Data obtained on the Candidates in the Secondary Science Teacher Certification Program who applied for certification from July 1, 2006 to June 30, 2007 demonstrate that 100% of the program's Candidates met the subject area major requirement prior to beginning student teaching.

### C. CAS11

*Description of the Assessment Tool and Scoring Guide* The Unit's assessment system requires Candidates to be observed three times during their student teaching experience by a university supervisor. For each visit the Candidate writes a lesson plan, which includes information on how the content to be taught during the lesson is aligned with local (school, district) or national content standards. The Candidate then uses this lesson plan in their student teaching classroom, and is assessed by the university supervisor and the cooperating teacher using the student teaching evaluation instrument (identified as CAS 11). The rubrics used in the CAS are based on those developed by the CSDE and found in its *Student Teaching Rubric & Data Collection Form, Fall 2005 Pilot Version*. The CSDE form and the twenty criteria of the CAS system are attached as Appendices XII and XIII. The rubrics for CAS 11 can also be found in Appendix XI. In Section II Chart 3 information is presented on the alignment of CAS 11 with the standards established by the National Science Teachers Association.

Candidate Performance Data and Interpretation

Data collected from 14 Secondary Science Certification Program student teaching Candidates during Spring 2007 appear in Section III Table 3 below. In particular, Criteria 1 of the 20 items on CAS 11 addresses the Candidate’s ability to design tasks that support attainment of local, state or national curricular standards thus requiring the Candidate to demonstrate the content knowledge necessary to meet those standards. Other items in this instrument relate more specifically to pedagogy and assessment of student learning. The high average scores and low standard deviations indicate consistently high evaluations of Candidate achievement.

**Section III Table 3:  
CAS 11  
Mean Scores for Criteria Related to  
Student Teaching**

Criteria		Mean	SD	Criteria		Mean	SD
1	P	3.0	0	11	I	3.0	0
2	P	3.0	0	12	I	3.0	0
3	P	3.0	0	13	A	3.0	0
4	I	3.0	0	14	A	3.0	0
5	I	3.0	0	15	A	3.0	0
6	I	3.0	0	16	A	2.0	0
7	I	3.0	0	17	Pr	2.0	0
8	I	3.0	0	18	Pr	2.0	0
9	I	3.0	0	19	Pr	2.0	0
10	I	3.0	0	20	Pr	2.0	0

NOTE:

Items 1-15 are based on a 3-point rubric: 1- unacceptable, 2- acceptable, 3- target

Items 16-20 are based on a 2-point scale: 1 unacceptable, 2 acceptable

Letters refer to Planning, Instruction, Assessment, and Professional Responsibility

**Pedagogical and Professional Knowledge, Skills and Dispositions**

A. CAR: 262/428 Lesson Plan, 264/429 Lesson Plan

Description of Assessment Tool and Scoring Guide The Candidate’s ability to develop lesson plans that affect student learning is assessed in ED262/428 Secondary Curriculum and in ED264/429 Secondary Methods by the faculty members teaching these courses. Evaluations measure the level of mastery on three Criteria 1) designing appropriate learning tasks, 2) selecting appropriate resources and instructional materials, and 3) designing instruction that addresses the range of student learning differences. The assignment that generates the work

product to be evaluated is displayed in Appendix X. The rubrics for evaluating the lesson plans according to the three Criteria are displayed in Appendices VIII and IX. The Candidate’s score in each of these three Criteria is recorded using our web-based application (e-STAR). In Section II, Chart 3 shows the alignment of the CAR 262/428 Lesson Plan and CAR 264/429 Lesson Plan with the standards established by the National Science Teachers Association.

Candidate Performance Data and Interpretation Data for each of the three Criteria for lesson plan assessments in the Secondary Curriculum and Methods courses were collected in the Spring, Late Spring and Summer sessions during 2007. Data are presented in Tables 4 and 5 below.

**Table 4: Mean scores for ED 262/428 Lesson Plan Development**

	Criteria 1	Criteria 2	Criteria 3	Mean
Mean	3	3	3	3
SD	0	0	0	
N	6	6	6	

**Table 5 Mean scores for ED 264/429 Lesson Plan Development**

	Criteria 1	Criteria 2	Criteria 3	Mean
Mean	2.70	2.6	2.7	2.67
SD	0.48	0.52	0.48	
N	10	10	10	

Based on the data presented in Tables 4 and 5 above, all Candidates in the Secondary Science Certification Program demonstrate a high level of performance on each of the three Criteria related to lesson plan development. The high average scores and low standard deviations indicate consistently high evaluations of Candidate achievement.

**B. CAR: 262/428 Essay Evaluation, 264/429 Essay Evaluation**

Description of Assessment Tool and Scoring Guide Candidate’s knowledge of learning theory, human growth and development, and needs of diverse learners are assessed in ED262/428 Secondary Curriculum and in ED264/429 Secondary Methods by the faculty members teaching the courses. The Candidate’s score in each of these three criteria is recorded using our web-based application (e-STAR). The assignment that generates the work product to be evaluated is displayed in Appendix X. The Candidate’s ability to incorporate the three elements into their lesson planning are assessed through the rubrics displayed Appendices VIII and IX. In Section II, Chart 3 presents the alignment of the CAR 262/428 Essay and CAR 264/429 Essay with the standards established by the National Science Teachers Association.

Candidate Performance Data and Interpretation Data for each of the three Criteria for essay assignment assessments in the secondary curriculum and methods courses were collected in

the Spring, Late Spring, and Summer sessions during 2007. Data are presented in Tables 6 and 7 below.

**Table 6 Mean scores for ED 262/428 Learning Theory Essay**

	Criteria 1	Criteria 2	Criteria 3	Mean
Mean	3	3	3	3
SD	0	0	0	
N	6	6	6	

**Table 7: Mean scores for ED 264/429 Learning Theory Essay**

	Criteria 1	Criteria 2	Criteria 3	Mean
Mean	2.7	2.6	2.6	2.63
SD	0.48	0.52	0.52	
N	10	10	10	

Based on the data presented in Tables 6 and 7, candidates in the Secondary Science Certification Program demonstrate a high level of performance on each of the three Criteria related to incorporating theory into their lesson planning.

### C. CAS 11

*Description of Assessment Tool and Scoring Guide* CAS 11 is described above in the Overview of Assessments under content knowledge. Its alignment to the standards established by the National Science Teachers Association is described in Section II, Chart 3. The rubrics for CAS 11 can be found in [Appendix XII](#). Criteria 1-12 and 17-20 of CAS 11 are particularly relevant to pedagogical and professional knowledge, skills, and dispositions.

*Candidate Performance Data and Interpretation* Data collected from student teaching Candidates during Spring 2007 appear in Section III Table 3. The high scores indicate consistently high evaluations of Candidate achievement.

## **Effect on Student Learning**

### A. CAS 11

*Description of Assessment Tool and Scoring Guide* CAS 11 is described above in the Overview of Assessments under content knowledge. Its alignment to the standards established by the National Science Teachers Association is described in Section II, Chart 3. The rubrics for CAS 11 can be seen in Appendices XI, XII, and XIII. Criteria 13-16 are particularly related to the Candidate's ability to evaluate the effect of their teaching on student learning.

*Candidate Performance Data and Interpretation* Data collected from student teaching Candidates during Spring 2007 appear in Section III Table 3. The high average scores and low standard deviations indicate consistently high evaluations of Candidate achievement.

## **SECTION IV -- USE OF ASSESSMENT RESULTS**

TO IMPROVE CANDIDATE AND PROGRAM PERFORMANCE

Evidence must be presented in this section that assessment results have been analyzed and have been or will be used to improve candidate performance and strengthen the program. This description should not link improvements to individual assessments but, rather, it should summarize principal findings from performance data, the faculty's interpretation of performance data, and changes made in (or planned for) the program as a result of considering candidate performance data. Describe the steps program faculty have taken to use performance data from assessments for improvement of both candidate performance and the program. This information should be organized around the NCATE Standard 1 components you used to organize assessments and data in Section III: (1) content knowledge; (2) professional and pedagogical knowledge, skills, and dispositions; and (3) effects on student learning.

**(Note: Response limited to 3 pages)**

## SECTION IV -- USE OF ASSESSMENT RESULTS TO IMPROVE CANDIDATE AND PROGRAM PERFORMANCE

### *Overview of improvements made to program*

Our Assessment System provides us with a functioning system for collecting data on all Candidates. It is based on our Conceptual Framework and is aligned with regional and national standards. We have successfully collected unit level gateway data for one year and have collected data through our e-Star system relating to Competency Assessment Reports in all certification courses since January 2007 (Spring, Late Spring, and Summer semesters). It is premature to place great weight on the analysis of these data. However, the process of developing this system has appropriately directed the Unit's attention to the need for quantifying our knowledge of outcomes for all of our Candidates.

Our Unit's reflection and program modification process has been based on a consideration of Candidate performance data, and in response to external programmatic review and on modifications suggested by our full time and adjunct faculty, cooperating teachers and clinical supervisors. Since our last program approval cycle, we have engaged in the following systemic changes as a result of both external review and internal analysis:

- 1) Increase in the number of fulltime faculty (from 14 in 2002 to 23 in 2007) in pursuit of the following goals: a reduction in class size; a reduction in faculty semester teaching load; and to increase the proportion of courses taught by full time faculty.
- 2) Clarity in the distribution of regional and national standards across our curriculum.
  - a. Regular revisions of our Scope and Sequence matrix
  - b. The articulation of our Conceptual Framework in terms of Domains of Excellence and Proficiencies that are aligned with the CCCT and national standards.
  - c. The translation of that alignment into a systematic, course imbedded assessment system known as Competency Assessment Reports (CAR)
- 3) The assurance of consistency across our curriculum by the creation of the Course Coordinator system. Each certification course has a faculty member designated as Course Coordinator who communicates with all faculty teaching their course, shares sample or model syllabi, assures the maintenance of required records, and assures completion of required assessments
- 4) The establishment of a pre-clinical field experience system for our initial certification courses that is aligned with our Conceptual Framework
- 5) The assignment of a common lesson plan format for methods and curriculum courses which includes essays reflecting the application of learning theory, developmental theory, and attention to diverse needs of students. Performance in these assignments is monitored via course imbedded Competency Assessment Reports (CAR)

- 6) The evolution of our Clinical Assessment System (CAS) that guides the student-teaching component of our initial certification programs. The CAS: is portfolio based; is aligned with the CCCT; is based on the CSDE effort to develop a uniform rubric for student teaching; was developed in collaboration with our adjunct and supervisory faculty; and contributes summary assessment to e-Star via the CAS 11 instrument
- 7) The development of a more coherent set of program descriptions that distinguishes between our Post- Baccalaureate program (i.e. admission after the BA/BS- requires 48 credits to certification and MAT) and our five year program for SHU candidates admitted as Sophomores who complete 21 credits as undergraduates and 39 credits as graduate students to complete the requirements for a MAT degree and initial certification
- 8) During the multiple year preparation for this present program approval process, our faculty, adjunct faculty, cooperating teachers, public school administrators, and supervisory faculty have engaged in:
  - a. The formation and adoption of our Conceptual Framework
  - b. The alignment of our Conceptual Framework Domains and Proficiencies with CCCT and national standards
  - c. The re-definition of gateway assessments
  - d. The acquisition, installation, and implementation of a web-based application (e-Star) for collecting, and aggregating data based on our Competency Assessment Report (CAR) and Clinical Assessment Systems (CAS).

Our ongoing process of reflection and action based on the findings and interpretation of assessment data has led to the identification of opportunities for additional improvements of both Candidate and program performance in the areas of 1) content knowledge, 2) professional and pedagogical knowledge skills and dispositions, and 3) effects on student learning as indicated below.

### ***Content knowledge***

Our programs are predominantly post-baccalaureate in nature. Our Candidates therefore approach us from a variety of undergraduate institutions (including Sacred Heart University). Historically, we have relied on the Candidates' academic experience as indicated on their transcripts as a demonstration that the Candidates possess the appropriate content knowledge in the subject area in which they are seeking certification. The Praxis II test results have confirmed that our Candidates are able to pass the CSDE licensure requirement for content knowledge. However, our recent review of our assessment systems have caused our faculty to recognize the need for a more focused review of a Candidate's content knowledge that is based on the state and national content standards to take place at both the admissions and pre-clinical gateways. Therefore, we have attempted to align our transcript review process with national standards by creating transcript review guides for each secondary content area that map major content area course work (or equivalent) to national SPA standards. After approval by the Education Department faculty and with input from the content area department faculty, a form will be developed and employed specifically for transcript assessment at each of the

gateways to provide feedback to the Candidate and data to the program. In addition, we plan to implement a more detailed feedback mechanism for cooperating teachers to provide us with more and better information about Candidates' demonstration of content knowledge during the student teaching experience.

### ***Pedagogical knowledge skills and dispositions***

The assessment system we have developed and implemented maps our Competency Assessment Report (course imbedded assessments) onto our Conceptual Framework and is aligned with both the CCCT and national standards. We believe that it provides a solid foundation for monitoring candidate progress through our programs and for analysis of programmatic quality. To date, however, the Chair of the Education Department and two systems managers have been primarily responsible for the data system implementation and analysis. It is clear that we need broader faculty participation in the process of reflecting on and responding to the data we are now able to achieve. To that end, the faculty has proposed:

- 1) a regular departmental review of the rubrics used to operationalize our assessments
- 2) the use of the Course Coordinator System to annually review CAR data
- 3) an annual meeting between the course coordinators and faculty teaching their courses (both full and part time) to identify areas of concern and recommend appropriate actions

### ***Effects on student learning***

Through our Clinical Assessment System (CAS 11) Candidates are evaluated on their ability to assess student learning, as indicated in items 14, 15, and 16 of CAS 11. During their student teaching experience Candidates are expected to: monitor students; prepare the lesson plan, deliver the lesson and, if necessary adjust teaching; provide performance feedback that assists students in improving their performance; and reflect upon and analyze the process of teaching based on student learning or failure to learn, and adjust future plans accordingly. We believe however, that more precise data on student learning can be obtained through quantitative and qualitative assessments. To that end, the faculty presently requires as part of the CAS that the Candidates present a report, based on a variety of assessment tools, on the progress of two students in their student teaching classroom. This information, collected but not yet quantified, is used to provide data on the Candidate's assessment of student learning. These reports, analyzed collectively at the end of each semester, provide additional data on student learning that can be utilized to provide more comprehensive data on student performance. The faculty recommends, therefore, that a more specific rubric be established and included as part of the program's assessment system directed towards student learning.

## ATTACHMENT A : Candidate Information

<b>Program: Biology</b>		
<b>Academic Year</b>	<b># of Candidates Enrolled in the Program</b>	<b># of Program Completers<sup>1</sup></b>
2006-2007	20	3
2005-2006		9
2004-2005		6

<b>Program: Chemistry</b>		
<b>Academic Year</b>	<b># of Candidates Enrolled in the Program</b>	<b># of Program Completers</b>
2006-2007	2	2
2005-2006		1
2004-2005		2

<b>Program: General Science</b>		
<b>Academic Year</b>	<b># of Candidates Enrolled in the Program</b>	<b># of Program Completers</b>
2006-2007	7	2
2005-2006		8
2004-2005		4

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<sup>1</sup> The Title II definition for *program completers* is used here. Program completers are persons who have met all the requirements of a state-approved teacher preparation program. Program completers include all those who are documented as having met such requirements. Documentation may take the form of a degree, institutional certificate, program credential, transcript, or other written proof of having met the program's requirements.

## ATTACHMENT B : Faculty Expertise and Experience

Faculty Member Name	Highest Degree, Field, & University <sup>2</sup>	Assignment: Indicate the role of the faculty member <sup>3</sup>	Faculty Rank <sup>4</sup>	Tenure Track (Yes/No)	Scholarship, <sup>5</sup> Leadership in Professional Associations, and Service: <sup>6</sup> List up to 3 major contributions in the past 3 years <sup>7</sup>	Teaching or other professional experience in P-12 schools <sup>8</sup>
Robert Austin	6 <sup>th</sup> Year in Administration Bridgeport University	Part-time	Adjunct	No	<ul style="list-style-type: none"> <li>• Science Coordinator</li> <li>• CT Mastery Review Committee</li> <li>• Math Curriculum Committee</li> </ul>	32 Years Experience in Public Education: <ul style="list-style-type: none"> <li>• Elementary Teacher,</li> <li>• Middle School Math Teacher</li> <li>• Assistant Principal</li> </ul>
John Boyle	MS, Reading, University of Bridgeport	Part-time	Adjunct	No	Expertise: <ul style="list-style-type: none"> <li>• Interview training</li> <li>• Conflict resolution</li> <li>• IBM training</li> <li>• Lesson plan--training</li> </ul>	<ul style="list-style-type: none"> <li>• Principal, Elementary School</li> </ul>

<sup>2</sup> e.g., PhD in Curriculum & Instruction, University of Nebraska

<sup>3</sup> e.g., faculty, clinical supervisor, department chair, administrator

<sup>4</sup> e.g., professor, associate professor, assistant professor, adjunct professor, instructor, administrator

<sup>5</sup> *Scholarship* is defined by NCATE as systematic inquiry into the areas related to teaching, learning, and the education of teachers and other school personnel. Scholarship includes traditional research and publication as well as the rigorous and systematic study of pedagogy, and the application of current research findings in new settings. Scholarship further presupposes submission of one's work for professional review and evaluation.

<sup>6</sup> *Service* includes faculty contributions to college or university activities, schools, communities, and professional associations in ways that are consistent with the institution and unit's mission.

<sup>7</sup> e.g., officer of a state or national association, article published in a specific journal, and an evaluation of a local school program

<sup>8</sup> Briefly describe the nature of recent experience in P-12 schools (e.g. clinical supervision, inservice training, teaching in a PDS) indicating the discipline and grade level of the assignment(s). List current P-12 licensure or certification(s) held, if any.

Karen Christensen	PhD, Union Institute	Program Director, Griswold: Sacred Heart University	Assistant Professor	No	<ul style="list-style-type: none"> <li>Mnemonics/Practical Learning Strategies as Teaching Tools.</li> <li>Comparative Education</li> </ul>	<ul style="list-style-type: none"> <li>Collaboration of Public, Private and Catholic Schools relative to Professional Development</li> <li>Marketing for use in Public Schools</li> <li>Strategies as Teaching Tools</li> </ul>
Daniel Christianson	EdD, Educational Administration, Columbia Teacher's College	Part-time	Adjunct	No	<ul style="list-style-type: none"> <li>Sacred Heart University faculty committees</li> <li>Self-study work for State Accreditation reports</li> </ul>	<ul style="list-style-type: none"> <li>Principal for 25 years of a junior high middle school</li> <li>Prior to that, school administrator</li> </ul>
Holly Cyr	Masters, Administration and Supervision, Sacred Heart University	Part-time	Adjunct	No	<ul style="list-style-type: none"> <li>CMT advisory council, State of Connecticut</li> <li>Workshop: CES, ATOMIC, McGraw-Hill</li> </ul>	<ul style="list-style-type: none"> <li>District Math Coordinator, Monroe, CT</li> </ul>
Victoria Egri	6 <sup>th</sup> Year in Educational Leadership Southern CT State University	Instructor	Adjunct	No	B.A. <i>Cum Laude</i> , History, Sacred Heart University	<ul style="list-style-type: none"> <li>Assistant Principal Elementary School</li> <li>Literacy Coach</li> <li>Classrm Teacher1 - 8</li> </ul>
Regina Fox	6 <sup>th</sup> Year Educational Administration, Sacred Heart University	Part-time	Adjunct	No	<ul style="list-style-type: none"> <li>Co-author of <i>Road to Reading</i></li> <li>School Development Committee</li> <li>Wrote and revised Literature and Language Arts curricula</li> <li>CES Trainer of Trainers</li> </ul>	<ul style="list-style-type: none"> <li>Classroom Teacher</li> <li>Reading Consultant</li> <li>Adjunct Professor, University of Bridgeport</li> </ul>
Velma Heller	EdD, Educational Leadership and Management, University of Bridgeport	Faculty	Lecturer	No	<ul style="list-style-type: none"> <li>SHU Faculty Committee: Strategic Planning and Budget</li> <li>Elected member of Westport's RTM, Education Committee Chair, Employee Compensation, Health &amp; Human Services, and Ordinance Committees</li> </ul>	<ul style="list-style-type: none"> <li>Director Supervision &amp; Evaluation K-12</li> <li>Principal K-6</li> <li>Vice Principal 5-8</li> <li>Director Curriculum &amp; Staff Devt K-12</li> <li>(Clinical Supervision, In</li> </ul>

					<ul style="list-style-type: none"> <li>• Friends of the Senior Center Board</li> </ul>	<p>service Training Teaching) Westport, CT</p> <ul style="list-style-type: none"> <li>• Endorsements held until retirement in 2001: Intermediate: Administrator, Reading Specialist K-12</li> </ul>
Nancy Juliano	MAT, Sacred Heart University	Part-time	Adjunct	No	<ul style="list-style-type: none"> <li>• K-6 Science Leader, Hamden</li> <li>• CT Science Center, Hartford</li> <li>• Institute for Inquiry (GE)</li> </ul>	<ul style="list-style-type: none"> <li>• K-6 Science teacher</li> <li>• Professional Development Coordinator, Hamden</li> </ul>
Louis Lapolla	EdD, Social Studies, Indiana University	Part-time	Adjunct	No	<ul style="list-style-type: none"> <li>• National Council of Social Studies</li> <li>• Participated in annual SHU meeting re: alignment of curriculum with standards and development of university assessment system</li> </ul>	<ul style="list-style-type: none"> <li>• Classroom teacher</li> <li>• Supervisor of student teachers</li> </ul>
Timothy J. Leonard	6 <sup>th</sup> Year Educational Administration, Sacred Heart University	Part-time	Adjunct	No	<ul style="list-style-type: none"> <li>• Differentiation and Enrichment of Instruction through Interdisciplinary Instruction</li> <li>• ASCD</li> <li>• NCTE</li> </ul>	<ul style="list-style-type: none"> <li>• Assistant Principal</li> <li>• Gifted Instruction Leader</li> <li>• Language Arts teacher</li> </ul>
Paul Massey	6 <sup>th</sup> Year CAS, University of Bridgeport; 6 <sup>th</sup> Year Secondary Science Ed, Southern CT State University	Full time	Assistant professor	No	<ul style="list-style-type: none"> <li>• Presented at NSTA Convention</li> <li>• Co-authored and received grant for course in Science Education for Elementary Schools</li> </ul>	<ul style="list-style-type: none"> <li>• K-12 Director of Science, Hamden Public Schools</li> <li>• Instructor in Science Education, Yale</li> <li>• Adjunct Professor, Science Education, Southern CT State U</li> </ul>
Bonnie Maur	MS, Science Education, Southern CT State University	Part-time	Adjunct	No	<ul style="list-style-type: none"> <li>• Team leader</li> <li>• CES technology instructor</li> <li>• BEST program</li> <li>• Professional development</li> </ul>	<ul style="list-style-type: none"> <li>• Certifications: 003, 006, 092</li> <li>• Teaches 7<sup>th</sup> &amp; 8<sup>th</sup> grades</li> </ul>

Edward Murray	PhD, Ed Administration, University of CT	Director, Masters in Art of Teaching Program	Associate Professor	Yes	<ul style="list-style-type: none"> <li>Published articles, and presented papers in special education, children's literature, and reading</li> </ul>	<ul style="list-style-type: none"> <li>Principal, NH Public Schools</li> <li>Founder, SHU Reading Certification Program</li> </ul>
Stephanie Neborsky	6 <sup>th</sup> Year Administration/Supervision Sacred Heart University	Part-time	Adjunct	No	<ul style="list-style-type: none"> <li>Language Arts Curriculum Committee</li> <li>Technology Curriculum Committee</li> <li>Who's Who in American Education</li> </ul>	<p>35 Year in Public School Education, Teacher:</p> <ul style="list-style-type: none"> <li>Middle School Language Arts</li> <li>Elementary 4<sup>th</sup> and 5<sup>th</sup> Grade</li> </ul>
Terry Neu	PhD, Gifted Education, University of CT	Full-time	Assistant Professor	No	<ul style="list-style-type: none"> <li>Book published (2006): Gifted Boys</li> <li>Presented at CEC</li> <li>Workshops in Middle East</li> </ul>	<ul style="list-style-type: none"> <li>Certified in Arkansas</li> <li>Taught Sp Ed, &amp; Science</li> </ul>
David Nichols	6 <sup>th</sup> Year in Educational Leadership Southern CT State University	Instructor	Adjunct	No	"Outstanding College Professor" Award Sacred Heart University	<ul style="list-style-type: none"> <li>Program Facilitator</li> <li>Teacher Leader</li> <li>Elementary Teacher</li> </ul>
Jackie Norcel	Edd, Ed Leadership, University of Bridgeport	Part-time	Adjunct	No	<ul style="list-style-type: none"> <li>Been involved in community activities, and scholarship</li> <li>Member of various national, state, and local organizations</li> </ul>	<ul style="list-style-type: none"> <li>Principal, Frenchtown Elementary School, Trumbull, CT</li> <li>Taught 3-5 grades in New York City for 19 years</li> </ul>
Eleanor Osborne	PhD University of CT	Director of Reading Program	Associate Professor	No	<p>University of Connecticut's Outstanding Educational Leader Award 2006</p> <p>Title I Parent Award 2005</p>	<p>Associate Superintendent Supervisor for Reading Middle School Administrator Elementary Teacher Speech / Language Clinician</p>

Karen Plant	Professional Certification, Ed Leadership, Southern CT State University	Part-time	Adjunct	No	<ul style="list-style-type: none"> <li>• Association of Supervisors and Curriculum Development</li> <li>• NCTE</li> </ul>	<ul style="list-style-type: none"> <li>• Team Leader</li> <li>• Classroom teacher</li> <li>• Assistant Principal (private school)</li> </ul>
Nancy Souza	6 <sup>th</sup> Year Administration/Supervision Sacred Heart University	Part-time	Adjunct	No	<ul style="list-style-type: none"> <li>• Outstanding Reading Teacher: Connecticut Reading Association</li> <li>• Language Arts Curriculum Committee</li> <li>• *Conference Co-Chair for Ct. Reading Association 2007</li> </ul>	22 Years in Public Education: <ul style="list-style-type: none"> <li>• Elementary Teacher</li> <li>• Reading Consultant</li> </ul>
Donald Steinman	6 <sup>th</sup> Year Administration University of CT	Part-time	Adjunct	No	<ul style="list-style-type: none"> <li>• Interim Superintendent</li> <li>• Supervision of Student Teachers</li> <li>• Coaching and Supervision of ARC Students</li> </ul>	34 Years in Public Education: <ul style="list-style-type: none"> <li>• Elementary Teacher</li> <li>• Elementary and Middle School Principal</li> </ul>
Regina Wohlke	6 <sup>th</sup> Year Special Education St. Joseph College	Part-time	Adjunct	No	<ul style="list-style-type: none"> <li>• BEST Mentor</li> <li>• Cooperating Teaching</li> <li>• <i>Asset Builder Award</i>: Town of Clinton</li> </ul>	35 Years experience in Public School Education: <ul style="list-style-type: none"> <li>• Teaching Elementary Special Education</li> </ul>



## **APPENDICES**

## ***APPENDIX I: Teacher Preparation And Initial Certification Program DOMAINS, PROFICIENCIES, AND COMPETENCIES***

<b>Domain</b>	<b>Proficiency</b>	<b>Program Competencies</b>	<b>NCATE</b>	<b>CCCT</b>
<b>Context</b>	I. The Candidate understands the context of the profession, both current and past, static and changing.	<p><u>1.1 History and Philosophy</u> The candidate demonstrates knowledge of the historical development and the philosophical influences on American public education, both at the national and local levels, as well as the current trends that effect public education.</p> <p><u>1.2 Legal and Regulatory Issues</u> The candidate demonstrates knowledge of legal and regulatory issues, including the CCCT competencies and NCATE standards, and how these relate to the successful practice of the teaching profession.</p> <p><u>1.3 School Structure and Functioning</u> The candidate demonstrates knowledge of the curriculum, organization and leadership of the American public school, and the functions and administrative structure of the school district.</p> <p><u>1.4 Community</u> The candidate demonstrates knowledge of the community and its resources, and how these may be use to enhanced student learning.</p>	<p>Teacher candidates can apply their professional and pedagogical knowledge and skills delineated in professional, state, and institutional standards to facilitate learning.</p> <p>Candidates for other professional school roles have an adequate understanding of the professional knowledge expected in their fields and delineated in professional, state, and institutional standards.</p> <p>Candidates for other professional school roles understand the policy contexts within which they work.</p> <p>Teacher candidates consider the school, family, and community contexts in which they work and the prior experience of students to develop meaningful learning experiences.</p> <p>Candidates for other professional school roles understand and build upon the diversity of students, families, and communities.</p>	<p>I.5.a Teachers know how to design and deliver instruction by understanding that the specific content taught is part of and connected to a larger universe of knowledge represented in a K-12 curriculum.</p> <p>II.4.b Teachers create instructional opportunities to support students' academic, social and personal development by employing techniques that address a variety of learning styles as well as incorporate a wide range of community and technology resources.</p> <p>III.2.a Teachers share responsibility for student achievement and well-being through means such as working collaboratively with school administrators, colleagues and families to encourage students to take responsibility for their own learning.</p> <p>III.2. b Teachers share responsibility for student achievement and well-being through means such as involving families of students in the education of their children by keeping them informed about their students' learning and seeking input to support and meet children's needs.</p> <p>III.2.c Teachers share responsibility for student achievement and well-being through means such as identifying appropriate agencies in the larger community, businesses and professional organizations that can provide resources for students, classrooms or schools.</p> <p>III.5.b Teachers serve as leaders in the school community through means such as working with colleagues and/ or community leaders to secure community support for students and schools and actively promoting strategies that support the continuous improvement of student learning.</p>
<b>Content</b>	II. The Candidate demonstrates knowledge of facts, concepts, principles and	<u>2.1 General Academic Knowledge</u> The candidate demonstrates the general academic knowledge and skills required for the successful practice of the teaching profession	Teacher candidates know the subject matter that they plan to teach and can explain important principles and concepts delineated in professional, state, and institutional standards.	<p>I.3 Teachers are proficient in reading, writing and mathematics.</p> <p>I.4.a Teachers understand the central concepts and skills, tools of inquiry and structures of the discipline(s) they teach by becoming knowledgeable about the major principles and concepts of the subject to be taught and presenting appropriate lesson content.</p>

	<p>methods of inquiry of the general and specialized content required for successful practice of the profession.</p>	<p><u>2.2 Subject Specific Knowledge</u> The candidate demonstrates knowledge of concepts, skills, and methods of inquiry of subject specific content mandated by the curriculum</p> <p><u>2.3 Content Area Standards</u> The candidate demonstrates knowledge of national and local standards that govern the selection of content to be taught in the curriculum</p>	<p>Candidates for other professional school roles know their fields and can explain principles and concepts delineated in professional, state, and institutional standards.</p>	<p>I.4.c Teachers understand the central concepts and skills, tools of inquiry and structures of the discipline knowing and utilizing national and state standards within their discipline(s).</p> <p>I.4.d Teachers understand the central concepts and skills, tools of inquiry and structures of the discipline(s) they teach by being aware of the evolving nature of subject-matter knowledge and the need for keeping abreast of new ideas and understanding within one's discipline, including the impact of technology and information sources on the nature of teaching, communications and the development of knowledge.</p> <p>I.4.e Teachers understand the central concepts and skills, tools of inquiry and structures of the discipline(s) they teach by understanding that literacy skills and processes are applicable in all content areas and helping students develop the knowledge, skills and dispositions that enable students to construct meaning and make sense of the world through reading, writing, listening, speaking and viewing.</p> <p>I.4.f Teachers understand the central concepts and skills, tools of inquiry and structures of the discipline(s) they teach by understanding and using concepts and skills inherent in numeracy to enable their students to represent physical events, work with data, reason, communicate mathematically, and make connections within their respective content area in order to solve problems.</p>
<b>Learner</b>	<p>III. The Candidate incorporates an understanding of cognitive and affective processes in designing and implementing learning experiences.</p>	<p><u>3.1 Learning Process</u> The candidate demonstrates knowledge of human learning theories and how they apply to the design and implementation of learning experiences</p> <p><u>3.2 Growth and Development</u> The candidate demonstrates knowledge of human development theories: physical, cognitive, and moral; and how they apply to student learning</p> <p><u>3.3 Diverse Learner</u> The candidate demonstrates knowledge of the mediating factors that affect student learning, such</p>	<p>Teacher candidates focus on student learning as shown in their assessment of student learning, use of assessments in instruction, and development of meaningful learning experiences for students based on their developmental levels and prior experience.</p> <p>Candidates for other professional school roles are able to create positive environments for student learning. They understand and build upon the development levels of students with whom they work.</p>	<p>I.1.a Teachers understand how students learn and develop by becoming knowledgeable about major concepts, principles, theories and research related to the normal progression and variations in students' physical, emotional and cognitive development to construct learning opportunities that support students' development, acquisition of knowledge and motivation.</p> <p>I.1.b Teachers understand how students learn and develop by learning about exceptionalities in learning – including learning differences, visual and perceptual differences, social-emotional differences, special physical or mental challenges, and gifted and talented exceptionalities – and challenging students with exceptionality as well as seeking sources of support within the school.</p> <p>I.2.a Teachers understand how students differ in their approaches to learning by being aware of how student learning is influenced by language, culture, heritage, family and community</p>

		as cognitive dispositions, exceptionalities, and linguistic and cultural characteristics		values and incorporating students' experiences and community resources into instruction.  I.2.c Teachers understand how students differ in their approaches to learning by becoming knowledgeable about language development, including the process of second-language acquisition, and employing strategies to support the learning of students whose first language is not English.
<b>Pedagogy</b>	IV. The Candidate demonstrates professional/ technical skills that are associated with the successful educational practice.	<p><u>4.1 Learning Environment</u> The candidate plans and implements procedures and routines that create a classroom environment that is safe and conducive to learning, and that demonstrates commitment to students' personal development and academic success.</p> <p><u>4.2 Instructional Design</u> The candidate organizes appropriate and well-designed lesson and unit plans that contribute to students' academic learning and their personal and social development.</p> <p><u>4.3 Instructional Delivery</u> The candidate employs a variety of instructional techniques, methods, and strategies that develop students' critical and creative thinking skills, problem solving abilities, and ethical and responsible behavior</p> <p><u>4.4 Differentiation</u> The candidate differentiates instruction based on the needs of diverse student populations, as determined by learning styles and exceptionalities; and cultural, ethnic, and linguistic backgrounds</p> <p><u>4.5 Assessment</u> The candidate uses a variety of</p>	Teacher candidates have a broad knowledge of instructional strategies that draws upon content and pedagogical knowledge and skills delineated in professional, state, and institutional standards to help all students learn. They facilitate student learning of the subject matter through presentation of the content in clear and meaningful ways and through the integration of technology.	<p>I.2.b Teachers understand how students differ in their approaches to learning by learning about and utilizing strategies for building understanding, acceptance and a positive sense of community into the classroom.</p> <p>I.4.b Teachers understand the central concepts and skills, tools of inquiry and structure of the discipline(s) they teach by learning about and using computer and information technology as an integral part of teaching their discipline(s).</p> <p>I.5.b Teachers know how to design and deliver instruction by recognizing the importance of focusing and sequencing curricular objectives to connect with students' previous and future learning and to prepare students to master state and local achievement goals.</p> <p>I.5.c Teachers know how to design and deliver instruction by choosing when and how to expand beyond the articulated curriculum to meet student needs and to make connections among different subjects and among school, career and work.</p> <p>I.6.a Teachers recognize the need to vary their instructional methods by recognizing individual differences in approaches to learning and identifying how learners perceive, interact with and respond to the learning environment.</p> <p>I.6.b Teachers recognize the need to vary their instructional methods by varying their role in the instructional process in relation to the content and purposes of instruction.</p> <p>II.1.a Teachers plan instruction based upon knowledge of subject matter, students, the curriculum and the community by designing instruction and assessment to achieve long- and short-term learning goals that are specific and measurable.</p> <p>II.1.b Teachers plan instruction based upon knowledge of subject matter, students, the curriculum and the community by selecting appropriate materials- including a wide range of technological</p>

		<p>appropriate assessment techniques to evaluate student learning, and utilizes the results to modify instruction and to provide feedback to students and parents</p> <p><u>4.6 Integration of Technology</u> The candidate integrates emerging technologies and strategies across the curriculum.</p>		<p>resources – to help students find information, interpret the quality of sources, and effectively synthesize and communicate information.</p> <p>II.1.c Teachers plan instruction based upon knowledge of subject matter, students, the curriculum and the community by sequencing learning tasks into coherent units of instruction derived from the curriculum and incorporating hands-on, real-world experiences and community resources from which students can build an understanding of abstract concepts and knowledge.</p> <p>II.1.d Teachers plan instruction based upon knowledge of subject matter, students, the curriculum and the community by anticipating common misperceptions, diverse levels of student interest and available resources, and making adjustments as appropriate.</p> <p>II.2.a Teachers create a structure for learning by selecting and/or creating significant learning tasks that make subject matter meaningful to students by designing tasks that meet curricular goals, build upon students' prior learning, and advance the student toward important learning goals.</p> <p>II.2. b Teachers create a structure for learning by selecting and/or creating significant learning tasks that make subject matter meaningful to students by addressing various learning styles, incorporating multicultural content and fostering interdisciplinary connections.</p> <p>II.2.c Teachers create a structure for learning by selecting and/or creating significant learning tasks that make subject matter meaningful to students by making purposeful choices about if students should work individually or collectively.</p> <p>II.3.a Teachers establish and maintain appropriate standards of behavior and create a positive learning environment that shows a deep commitment to students and their success by ensuring that standards of behavior are explicit and applying them consistently over time with fitting consequences.</p> <p>II.3.b Teachers establish and maintain appropriate standards of behavior and create a positive learning environment that shows a deep commitment to students and their success by maximizing the amount of time spent in instruction by effectively managing routines and transitions.</p>
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				<p>II.3.c Teachers establish and maintain appropriate standards of behavior and create a positive learning environment that shows a deep commitment to students and their success by organizing, allocating and managing resources of time, space, activities and attention to ensure high levels of student engagement and participation.</p> <p>II.3.d Teachers establish and maintain appropriate standards of behavior and create a positive learning environment that shows a deep commitment to students and their success by establishing high expectations for achievement, promoting shared responsibility for learning, and nurturing the development of ethical and responsible behavior in students.</p> <p>II.3.e Teachers establish and maintain appropriate standards of behavior and create a positive learning environment that shows a deep commitment to students and their success by demonstrating enthusiasm, self-confidence and caring about the well-being of students.</p> <p>II.3.f Teachers establish and maintain appropriate standards of behavior and create a positive learning environment that shows a deep commitment to students and their success by structuring student interactions and academic discussions in a nonthreatening, safe learning environment that supports varied learning and performance styles, student interests, and encourages intellectual risk-taking among learners.</p> <p>II.3.g Teachers establish and maintain appropriate standards of behavior and create a positive learning environment that shows a deep commitment to students and their success by using understanding of individual and group motivation to foster students' independent thinking, perseverance and confidence as learners.</p> <p>II.4.a Teachers create instructional opportunities to support students' academic, social and personal development by developing effective lessons by organizing instructional activities and materials to promote achievement of lesson objectives.</p> <p>II.4.b Teachers create instructional opportunities to support students' academic, social and personal development by employing techniques that address a variety of learning styles as well as incorporate a wide range of community and technology resources.</p>
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				<p>II.4.c Teachers create instructional opportunities to support students' academic, social and personal development by promoting the development of critical and creative thinking, problem-solving and decision-making skills and the deeper understanding of concepts.</p> <p>II. 4.d Teachers create instructional opportunities to support students' academic, social and personal development by integrating into all curriculums and programs opportunities for students to develop and demonstrate ethical and responsible student behavior.</p> <p>II.5.a Teachers use effective verbal, nonverbal and media communications techniques which foster individual and collective inquiry by communicating clearly, using precise language and acceptable oral and written expressions that convey expectations for students.</p> <p>II.5.b Teachers use effective verbal, nonverbal and media communications techniques which foster individual and collective inquiry by engaging students in purposeful discourse by using appropriate questioning strategies- i.e., knowing when to provide information, when to clarify an issue, when to model, when to lead and when to let students struggle with a difficulty.</p> <p>II.6.a Teachers employ a variety of instructional strategies that enable students to think critically, solve problems and demonstrate skills by becoming familiar with principles and techniques associated with various instructional and assessment strategies, including how to use multiple representations and explanations of concepts.</p> <p>II.6.b Teachers employ a variety of instructional strategies that enable students to think critically, solve problems and demonstrate skills by identifying strategies to create learning experiences that make subject matter meaningful for students, encourage students pursue their own inquiries and interests, and help students make connections between school and career.</p> <p>II.7. a Teachers use various assessment techniques to evaluate student learning and modify instruction as appropriate by monitoring student understanding of the lesson at appropriate points and adjusting teaching when necessary.</p> <p>II.7.b Teachers use various assessment techniques to evaluate student learning and modify instruction as appropriate by</p>
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				<p>reflecting upon and analyzing the process of teaching based on student learning or failure to learn, and modify future planes and instructional approaches accordingly.</p> <p>II.7.c Teachers use various assessment techniques to evaluate student learning and modify instruction as appropriate by sharing assessment criteria with students on a regular basis as well as guiding students to use these criteria for self-evaluation.</p> <p>II.7.d Teachers use various assessment techniques to evaluate student learning and modify instruction as appropriate by collecting data over time by analyzing student work and determining whether or not instructional strategies promote desired student learning outcomes.</p> <p>II.7.e Teachers use various assessment techniques to evaluate student learning and modify instruction as appropriate by using multiple sources of data to examine their students' progress in light or national, state and local performance standards.</p>
<b>Educator</b>	V. The Candidate possesses the personal skills and dispositions, and professional commitments that promote excellence in self and others.	<p><u>5.1 Communication Skills</u> The candidate demonstrates effective oral and written communication skills</p> <p><u>5.2 Interpersonal/ Collaborative Skills</u> The candidate interacts in a positive, collaborative and appropriate manner with others.</p> <p><u>5.3 Critical Thinking Skills</u> The candidate demonstrates the willingness and ability to identify and methodically provide solutions to emerging problems of instruction.</p> <p><u>5.4 Enthusiasm and Respect for the Profession</u> The candidate demonstrates enthusiasm, commitment to and respect for the teaching profession</p> <p><u>5.5 Professional Development</u> The candidate strives to develop</p>	Candidates are familiar with the dispositions expected of professionals. Their work with students, families, and communities reflects the dispositions delineated in professional, state, and institutional standards.	<p>II.4.c Teachers create instructional opportunities to support students' academic, social and personal development by promoting the development of critical and creative thinking, problem-solving and decision-making skills and the deeper understanding of concepts.</p> <p>II.5.a Teachers use effective verbal, nonverbal and media communications techniques which foster individual and collective inquiry by communicating clearly, using precise language and acceptable oral and written expressions that convey expectations for students.</p> <p>II.5.b Teachers use effective verbal, nonverbal and media communications techniques which foster individual and collective inquiry by engaging students in purposeful discourse by using appropriate questioning strategies- i.e., knowing when to provide information, when to clarify an issue, when to model, when to lead and when to let students struggle with a difficulty.</p> <p>III.1 Teachers conduct themselves as professionals in accordance with the Code of Professional Responsibility for Teachers (Section 10-145d-400a Cert. Reg)</p> <p>III.3.a Teachers continually engage in self-evaluation of the effects of their choices and actions on students and the school community through means such as working with administrators</p>

		<p>one's own ability and enhance professional performance.</p> <p><u>5.6 Reflective Practice</u> The candidate engages in reflective practice for the purpose of improving one's own professional performance, and the personal development and academic performance of students</p> <p><u>5.7 Respect for Others</u> The candidate respects and values the thoughts, feelings and actions of others.</p> <p><u>5.8 Student Development</u> The candidate strives to promote the sense of self-worth, enhance the capabilities, and improve the academic performance of students.</p>		<p>and colleagues to explore student work and progress, to examine the effectiveness of instruction strategies, to identify school and program needs based on student data, and to ensure that the collective needs of the school are addressed.</p> <p>III.4.a Teachers seek out opportunities to grow professionally through means such as sharing practices with professional colleagues within the school or district.</p> <p>III.4.b Teachers seek out opportunities to grow professionally through means such as enriching their knowledge about content, learners, pedagogy, technology and the US public school system through the examination of professional literature, participation in professional organizations, attendance at professional development seminars or ongoing graduate-level course work.</p> <p>III.5.a Teachers serve as leaders in the school community through means such as working with colleagues to create a positive, collaborative school culture.</p> <p>III.5.b Teachers serve as leaders in the school community through means such as working with colleagues and/ or community leaders to secure community support for students and schools and actively promoting strategies that support the continuous improvement of student learning.</p> <p>III.5.c Teachers serve as leaders in the school community through means such as working with colleagues in addressing other identified needs of the school and student body.</p> <p>III.6.a Teachers demonstrate a commitment to their students and a passion for improving their profession through such means as bringing their enthusiasm about learning about life into their daily work.</p> <p>III.6.b Teachers demonstrate a commitment to their students and a passion for improving their profession through such means as showing a commitment to developing the minds and characters of their students.</p>
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**APPENDIX II : COURSE ALIGNMENT TO DOMAINS AND COMPETENCIES**

Block		I	I	II	I	II	II	III	II	III	III	II	III	III	III	IV
ED Course #		101 553	152 552	207 565 566	271 578 592	229 523	205 569	222 459	272 627	387 560	221 413	223 430	342 510	262 428	264 429	391/5 491/5
Domain	Competencies															
Context	1.1 History and Philosophy		x													
Context	1.2 Legal and Regulatory Issues		x		x		x		x							
Context	1.3 School Structure and Functioning		x													
Context	1.4 Community		x						x							
Content	2.1 General Academic Knowledge									x						
Content	2.2 Subject Specific Knowledge															
Content	2.3 Content Area Standards															
Learner	3.1 Learning Process	x					x	x			x	x	x	x	x	
Learner	3.2 Growth and Development	x					x	x			x	x	x	x	x	
Learner	3.3 Diverse Learner	x		x		x	x	x			x	x	x	x	x	
Pedagogy	4.1 Learning Environment			x				x			x	x	x	x	x	x
Pedagogy	4.2 Instructional Design							x			x	x	x	x	x	x
Pedagogy	4.3 Instructional Delivery															x
Pedagogy	4.4 Differentiation					x	x	x			x	x	x	x	x	x
Pedagogy	4.5 Assessment						x									x
Pedagogy	4.6 Integration of Technology				x			x		x	x	x	x	x	x	
Educator	5.1 Communication Skills	x								x						x
Educator	5.2 Interpersonal/ Collaborative Skills	x		x												
Educator	5.3 Critical Thinking Skills	x														x
Educator	5.4 Enthusiasm and Respect for Profession	x														x
Educator	5.5 Professional Development															
Educator	5.6 Reflective Practice					x										

<b>Educator</b>	5.7 Respect for Others			x		x										
<b>Educator</b>	5.8 Student Development															

### APPENDIX III: Plan of Study

## SECONDARY SCHOOL TEACHER CERTIFICATION UNDERGRADUATE PLAN OF STUDY

NAME \_\_\_\_\_ SSN/ID \_\_\_\_\_

SUBJECT MAJOR \_\_\_\_\_ CUM. GPA \_\_\_\_\_

UNIVERSITY \_\_\_\_\_ TEL \_\_\_\_\_

### GENERAL REQUIREMENTS

- |                              |                             |   |
|------------------------------|-----------------------------|---|
| <input type="checkbox"/> YES | <input type="checkbox"/> NO | Passing scores on the PRAXIS I test, or waiver.   |
| <input type="checkbox"/> YES | <input type="checkbox"/> NO | 39 general education credits (See <i>Worksheet</i> )                                    |
| <input type="checkbox"/> YES | <input type="checkbox"/> NO | 3-credit survey course in US History _____  |
| <input type="checkbox"/> YES | <input type="checkbox"/> NO | Acceptable subject area major or Subject Area Major Equivalent (See <i>Worksheet</i> ). |

### COURSE REQUIREMENTS

The courses in the 36-credit certification program are grouped in sequentially-ordered blocks and reflect the competencies of the COMMON CORE OF TEACHING. It is expected that you progress sequentially through the program by completing the courses in a block before enrolling in courses scheduled in the next block. Note: in order to be eligible to student teach, you must (1) complete at least 24 credits in your subject area major; (2) meet the general education requirement; and (3) complete all courses in Blocks I, II and III.

### ENDORSEMENT \_\_\_\_\_

#### SEMESTER/YEAR

#### BLOCK I (9 CREDITS)

- |       |        |  |
|-------|--------|--|
| _____ | ED 101 | Educational Psychology                 |
| _____ | ED 152 | Education in the United States         |
| _____ | ED 271 | Introduction to Computers in Education |

#### BLOCK II (12 CREDITS)

- |       |        |                                     |
|-------|--------|-------------------------------------|
| _____ | ED 205 | Education of Special Needs Students |
| _____ | ED 207 | Classroom Management                |
| _____ | ED 229 | Multicultural Education             |
| _____ | ED 272 | Societal Issues in Adolescence      |

#### BLOCK III (9 CREDITS)

- |       |        |                                  |
|-------|--------|----------------------------------|
| _____ | ED 262 | Secondary Curriculum             |
| _____ | ED 264 | Secondary Methods                |
| _____ | ED 342 | Content Area Reading Instruction |

#### STUDENT TEACHING (6 CREDITS)

- |       |        |  |
|-------|--------|--|
| _____ | ED 395 | Student Teaching Seminar: Secondary School |
|-------|--------|--|

STUDENT'S SIGNATURE \_\_\_\_\_

ADVISOR'S SIGNATURE \_\_\_\_\_

DATE \_\_\_\_\_

**general education requirement**

Complete a minimum of 39 credits for courses in the following content areas: science, mathematics, social studies, English, and either fine arts or world language. (The grade for a course may not be less than "C".)

NATURAL SCIENCES	MATHEMATICS	SOCIAL STUDIES	ENGLISH	FINE ARTS	WORLD LANGUAGE

**EDUCATION COURSE EQUIVALENTS**

Course equivalent(s) must be entered on a course Waiver Request Form, approved by the Certification Officer, and submitted together with the plan of study.

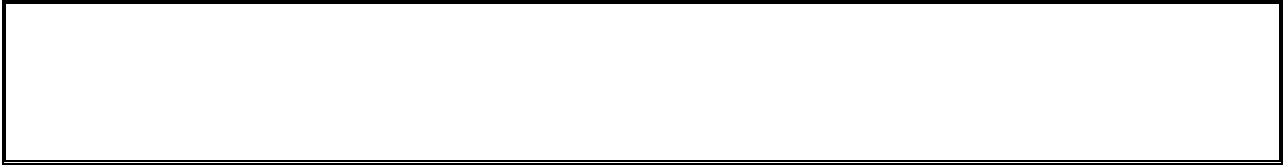
SHU COURSE	EQUIVALENT COURSE	UNIVERSITY	SHU COURSE	EQUIVALENT COURSE	UNIVERSITY

**SUBJECT AREA MAJOR EQUIVALENT**

Consists of 30 credits in the subject for which the endorsement is sought, and a minimum of 9 credits in a subject or subjects related to the subject for which endorsement is sought. See the *Certification Handbook* for special requirements in the following subject areas: general science, history/social studies, business, and world language.

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observations



## APPENDIX IV: Plan Of Study

### SECONDARY SCHOOL TEACHER CERTIFICATION GRADUATE PLAN OF STUDY

NAME \_\_\_\_\_ SSN/ID \_\_\_\_\_

SUBJECT MAJOR \_\_\_\_\_ CUM. GPA \_\_\_\_\_

UNIVERSITY \_\_\_\_\_ TEL \_\_\_\_\_

#### GENERAL REQUIREMENTS

- |                              |                             |   |
|------------------------------|-----------------------------|---|
| <input type="checkbox"/> YES | <input type="checkbox"/> NO | Passing scores on the PRAXIS I test, or waiver.   |
| <input type="checkbox"/> YES | <input type="checkbox"/> NO | 39 general education credits (See <i>Worksheet</i> )                                    |
| <input type="checkbox"/> YES | <input type="checkbox"/> NO | 3-credit survey course in US History _____  |
| <input type="checkbox"/> YES | <input type="checkbox"/> NO | Acceptable subject area major or Subject Area Major Equivalent (See <i>Worksheet</i> ). |

#### COURSE REQUIREMENTS

The courses in the 36-credit certification program are grouped in sequentially-ordered blocks and reflect the competencies of the common core of teaching. It is expected that you progress sequentially through the program by completing the courses in a block before enrolling in courses scheduled in the next block. Note: in order to be eligible to student teach, you must (1) complete at least 24 credits in your subject area major; (2) meet the general education requirement; and (3) complete all courses in Blocks I, II and III.

#### ENDORSEMENT \_\_\_\_\_

#### SEMESTER/YEAR

##### BLOCK I (9 CREDITS)

- |       |        |   |
|-------|--------|---|
| _____ | ED 553 | Educational Psychology  |
| _____ | ED 552 | Education in the United States  |
| _____ | ED 578 | Introduction to Computers in Education (or ED 592 Advanced PC Applications) |

##### BLOCK II (12 CREDITS)

- |       |        |                                     |
|-------|--------|-------------------------------------|
| _____ | ED 569 | Education of Special Needs Students |
| _____ | ED 566 | Classroom Management                |
| _____ | ED 523 | Multicultural Education             |
| _____ | ED 627 | Societal Issues in Adolescence      |

##### BLOCK III (9 CREDITS)

- |       |         |                                  |
|-------|---------|----------------------------------|
| _____ | ED 428  | Secondary Curriculum             |
| _____ | ED 429  | Secondary Methods                |
| _____ | EDR 510 | Content Area Reading Instruction |

#### STUDENT TEACHING (6 CREDITS)

- |       |        |  |
|-------|--------|--|
| _____ | ED 495 | Student Teaching Seminar: Secondary School |
|-------|--------|--|

STUDENT'S SIGNATURE \_\_\_\_\_

ADVISOR'S SIGNATURE \_\_\_\_\_

DATE \_\_\_\_\_

**general education requirement**

Complete a minimum of 39 credits for courses in the following content areas: science, mathematics, social studies, English, and either fine arts or world language. (The grade for a course may not be less than "C".)

NATURAL SCIENCES	MATHEMATICS	SOCIAL STUDIES	ENGLISH	FINE ARTS	WORLD LANGUAGE

**EDUCATION COURSE EQUIVALENTS**

Course equivalent(s) must be entered on a course Waiver Request Form, approved by the Certification Officer, and submitted together with the plan of study.

SHU COURSE	EQUIVALENT COURSE	UNIVERSITY	SHU COURSE	EQUIVALENT COURSE	UNIVERSITY

**SUBJECT AREA MAJOR EQUIVALENT**

Consists of 30 credits in the subject for which the endorsement is sought, and a minimum of 9 credits in a subject or subjects related to the subject for which endorsement is sought. See the *Certification Handbook* for special requirements in the following subject areas: general science, history/social studies, business, and world language.

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**observations**

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## APPENDIX V: Plan Of Study

### SACRED HEART UNIVERSITY MASTER OF ARTS IN TEACHING

NAME \_\_\_\_\_ SSN/ID \_\_\_\_\_ TEL \_\_\_\_\_

- Only those courses numbered 500 and above are applicable to a graduate degree program.
- A student must complete all the requirements for the degree within six years of the date of the completion of the first course in the program.
- A minimum cumulative 3.0 GPA is required for graduation.
- **Thirty-three credits are required to complete MAT.**

#### CATEGORY I: FOUNDATIONS

**Three credits required**

\_\_\_\_\_ ED 501 Role of the Teacher  
 \_\_\_\_\_ ED 523 Multicultural Education  
 \_\_\_\_\_ ED 552 Education in the United States  
 \_\_\_\_\_ ED 553 Educational Psychology  
 \_\_\_\_\_ ED 600 Characteristics of Effective Schools

#### CATEGORY II: EXPRESSIVE/RECEPTIVE COMMUNICATIONS

**Six credits required**

*Any course that emphasizes reading, writing, speaking, viewing and listening.*

\_\_\_\_\_ EDR 505 Early Reading and Language Arts Success (PK-3)  
 \_\_\_\_\_ EDR 507 Developmental Reading and Language Arts (4-6)  
 \_\_\_\_\_ EDR 510 Content Area Reading Instruction (7-12)  
 \_\_\_\_\_ ED 538 Process Writing: Elementary/ Middle/ Secondary  
 \_\_\_\_\_ EDR 525 Methods and Materials for Teaching Second Language Learners  
 \_\_\_\_\_ EDR 560 Children's Literature  
 \_\_\_\_\_ EDR 562 Middle School Literature  
 \_\_\_\_\_ EDR 564 Adolescent Literature  
 \_\_\_\_\_ ED 566 Classroom Management  
 \_\_\_\_\_ ED 578 Introduction to Computers  
 \_\_\_\_\_ ED 592 Advanced PC Applications: P-12  
 \_\_\_\_\_ ED \_\_\_\_\_

#### CATEGORY III: SEMINAR REQUIREMENT

**Three credits required**

_____ ED 568 Education of the Gifted	_____ ED 603 Seminar in Education
_____ ED 571 Storytelling	_____ ED 609 Multiple Intelligences
_____ ED 575 Creative Drama in the Classroom(K-8)	_____ ED 686 Special Topics in Computers
_____ ED 599 Seminar in Historical Literature	_____ ED 690 Nurturing the Imagination of the Teacher
_____ ED 599 Learning to Learn	
_____ ED 669-688 and ED 690 with advisor approval	_____ EDR 580 Seminar in Reading Interventions
_____ ED _____	<b>(advisor approval needed)</b>

#### CATEGORY IV: ELECTIVES

**Six credits required**

#### CATEGORY V: CONCENTRATION

**Twelve credits required**

*See areas of concentration detailed on back.*

#### CATEGORY VI: CULMINATING REQUIREMENT

**Three credits required**

\_\_\_\_\_ ED 590 Master's Project  
 \_\_\_\_\_ ED 597 Comprehensive Exam  
 \_\_\_\_\_ ED 642 Special Projects in Education Technology  
 \_\_\_\_\_ ED 657 OR 658 Professional Seminar (Interns Only)



**CATEGORY V: AREAS OF CONCENTRATION**

**Twelve credits required**

**Option One: Elementary Concentration**

- \_\_\_\_\_ EDR 505 Early Reading and Language Arts Success (PK-3) (previously: ED 513)
- \_\_\_\_\_ EDR 507 Developmental Reading and Language Arts (4-6) (previously: ED 513)
- \_\_\_\_\_ EDR 560 Children’s Literature (previously: ED 515)
- \_\_\_\_\_ ED 517 Learning Stations in the Elementary Classroom
- \_\_\_\_\_ ED 552 Education in the United States
- \_\_\_\_\_ ED 553 Educational Psychology
- \_\_\_\_\_ ED 569 Education of Special Needs Students
- \_\_\_\_\_ ED 571 Storytelling
- \_\_\_\_\_ ED 575 Creative Drama in the Classroom
- \_\_\_\_\_ ED 669-688 and ED 690 with advisor approval
- \_\_\_\_\_ ED \_\_\_\_\_

**Option Two: Secondary Education**

- \_\_\_\_\_ EDR 562 Middle School Literature
- \_\_\_\_\_ EDR 564 Adolescent Literature
- \_\_\_\_\_ EDR 510 Content Area Reading Instruction (7-12) (previously: ED 510)
- \_\_\_\_\_ ED 552 Education in the United States
- \_\_\_\_\_ ED 553 Educational Psychology
- \_\_\_\_\_ ED 569 Education of Special Needs Students
- \_\_\_\_\_ ED 607 Advanced Secondary Curriculum
- \_\_\_\_\_ ED 627 Societal Issues in Adolescence
- \_\_\_\_\_ ED 681 Human Growth and Development
- \_\_\_\_\_ ED 669-688 and ED 690 with advisor Approval
- \_\_\_\_\_ ED \_\_\_\_\_

**Option Three: Educational Technology**

- \_\_\_\_\_ ED 527 Distance Learning: Methods of Instructional Design
- \_\_\_\_\_ ED 578 Introduction to Computers in Education
- \_\_\_\_\_ ED 592 Advanced PC Applications: P-12
- \_\_\_\_\_ ED 599 Emerging Tech: Palm/PDA
- \_\_\_\_\_ ED 642 Special Projects in Education Technology
- \_\_\_\_\_ ED 661 Multimedia Design and Programming for Educators
- \_\_\_\_\_ ED 663 Instructional Software and Instruments in Education
- \_\_\_\_\_ ED 686 Special Topics in Computer Education
- \_\_\_\_\_ ED 689 WWW: Curriculum and Instruction P-12
- \_\_\_\_\_ ED \_\_\_\_\_

**Option Four: Reading**

- \_\_\_\_\_ EDR 505 Early Reading and Language Arts Success (PK-3) (previously: ED 513)
- \_\_\_\_\_ EDR 507 Developmental Reading and Language Arts (4-6) (previously: ED 513)
- \_\_\_\_\_ EDR 510 Content Area Reading Instruction (7-12) (previously: ED 510)
- \_\_\_\_\_ EDR 525 Methods and Materials for Teaching Second Language Learners
- \_\_\_\_\_ EDR 552 Language Arts Practicum
- \_\_\_\_\_ EDR 560 Children’s Literature (previously: ED 515)
- \_\_\_\_\_ EDR 562 Middle School Literature
- \_\_\_\_\_ EDR 564 Adolescent Literature (previously: ED 505)
- \_\_\_\_\_ ED \_\_\_\_\_

**Option Five: Professional Enrichment**

- \_\_\_\_\_ ED \_\_\_\_\_
- \_\_\_\_\_ ED \_\_\_\_\_
- \_\_\_\_\_ ED \_\_\_\_\_

**APPENDIX VI: PRE-STUDENT TEACHING FIELD EXPERIENCES  
BY COURSE ALIGNED WITH DOMAIN AND CCCT**

Description of Types of Field Experiences for each Level

**Initial (I):** Interviewing, Observing, Shadowing **Intermediate (IM):** Tutoring, Mentoring, Presenting

<u>Course</u>	<u>FE Level</u>	<u>CONTEXT</u>
ED 152 ED 552 ED 272 ED 627	I	The candidate demonstrates knowledge of the community and its resources, and how these may be use to enhanced student learning. <b>CCCT II.4.b, III.2.a, III.2.b, III.2.c, III.5.b</b>
ED 205 ED 569	IM	
		<u>LEARNER</u>
ED 101 ED 553	I	The candidate demonstrates knowledge of human learning theories and how they apply to the design and implementation of learning experiences. <b>CCCT I.1.a</b>
ED 205 ED 569	IM	
ED 101 ED 553	I	The candidate demonstrates knowledge of human development theories: physical, cognitive, and moral; and how they apply to student learning. <b>CCCT I.1.a</b>
ED 205 ED 569 ED 229 ED 523	IM	The candidate demonstrates knowledge of the mediating factors that affect student learning, such as cognitive dispositions, exceptionalities, and linguistic and cultural characteristics. <b>CCCT I.1.b, I.2.a, I.2.c</b>
		<u>PEDADOGY</u>
ED 221 ED 413	IM	The candidate organizes appropriate and well-designed lesson and unit plans that contribute to students' academic learning and their personal and social development. <b>CCCT I.5.c, II.1.a, II.1.b, II.1.c, II.1.d, II.2.a, II.2.b, II.2.c, II.4.a</b>
ED 221 ED 413	IM	The candidate employs a variety of instructional techniques, methods, and strategies that develop students' critical and creative thinking skills, problem solving abilities, and ethical and responsible behavior. <b>CCCT I.5.c, I.6.b, II.4.b, II.4.c, II.4.d, II.5.a, II.5.b, II.6.a, II.6.b</b>
ED 207 ED 565 ED 566	I	The candidate differentiates instruction based on the needs of diverse student populations, as determined by learning styles and exceptionalities; and cultural, ethnic, and linguistic backgrounds. <b>CCCT I.5.c, II.4.b, I.6.a.</b>
ED 229 ED 523 ED 221 ED 413	IM	
ED 221 ED 413	IM	The candidate uses a variety of appropriate assessment techniques to evaluate student learning, and utilizes the results to modify instruction and to provide feedback to students and parents. <b>CCCT II.7.a, II.7.b, II.7.c, II.7.d, II.7.e</b>
ED 271 ED 578 ED 592	I	The candidate integrates emerging technologies and strategies across the curriculum. <b>CCCT I.4.b, II.1.b, II.4.b.</b>



## APPENDIX VII: Student Teaching Recommendation

TO: Professional Education Faculty

As part of Sacred Heart University’s ongoing process of assessing the strength of its teacher education candidates, the Directors of Student Teaching ask for your assistance and valued judgment.

\_\_\_\_\_ has applied for placement in student teaching next semester. In order to determine whether the applicant is prepared to begin this final phase of the certification program, we ask that you assess his/her personal and professional qualities listed below. If you indicate that an attribute is an *Area of Concern*, we request that you briefly explain your concern in the box labeled “Comments” on the back of this form.

When you have completed the form, please give it to the applicant in a sealed envelope. Your responses and comments will be kept confidential.

	PERSONAL AND PROFESSIONAL QUALITIES	Area of Concern	Acceptable	Exemplary
1	Contributes positively to team efforts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Communicates effectively in oral form.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Communicates effectively in written form.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Interacts effectively with and is sensitive to diversity in others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Accepts constructive criticism/feedback.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Demonstrates flexibility when necessary.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Exhibits professional decorum and dress.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Demonstrates enthusiasm for the teaching profession.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name (Printed): \_\_\_\_\_ SHU Course: \_\_\_\_\_



## APPENDIX VIII : CAR 262/428

### CARS Assessment Instrument: ED 262/428 Rubric and Alignment for Lesson Plan and Essay Domains and Competencies

3.1	Learning Process	Candidates demonstrate knowledge of human learning theories and apply that apply to the design and implementation of learning experiences.
3.2	Growth and development	Candidates demonstrate knowledge of human development theories; physical, cognitive, and moral, and how they apply to learning behaviors.
3.3	Diverse Learners	The candidate demonstrates knowledge of the mediating factors that affect student learning and growth and development, such as cognitive dispositions, exceptionalities, and linguistic and cultural characteristics.
4.1	Learning environment	The candidate demonstrates the skills to plan and implant effective procedures and routines that create a classroom environment that is safe and conducive to learning.
4.2	Instructional Design	The candidate organizes appropriately designed lesson and unit plans.  The candidate demonstrates skills to utilize multiple methods and techniques for individual and group instruction.
4.4	Differentiation	The candidate demonstrate skills for differentiated instruction based on the needs of diverse student populations, as determined by special needs, and cultural, ethnic, and linguistic backgrounds.
4.6	Integration of Technology	The candidate integrates emerging technologies and strategies across the curriculum.

Criteria: LESSON PLAN	1. Designing learning tasks and assessment (objectives promote application of skills and conceptual understanding, build on prior learning, goals aligned with standards)
Unacceptable	<ul style="list-style-type: none"> <li>• Objectives do not identify specific and/or measurable knowledge and skill outcomes.</li> <li>• Learning tasks consistently focus on rote, isolated activities.</li> <li>• Tasks do not connect with student's prior learning, are not suitable to students' academic needs, and do not follow a coherent progression.</li> <li>• Tasks are not designed to support attainment of local, state or national curricular standards.</li> </ul>
Acceptable	<ul style="list-style-type: none"> <li>• Objectives identify general knowledge and skill outcomes and often focus on measuring task completion.</li> <li>• Learning tasks focus on procedures and some application of skills.</li> <li>• Tasks build on students' prior learning, most of which are suitable to students' academic need, with uneven progression.</li> <li>• Tasks are generally designed to support attainment of local, state or national curricular standards.</li> </ul>
Target	<ul style="list-style-type: none"> <li>• Objectives identify specific and measurable knowledge and skill outcomes.</li> <li>• Learning tasks focus on application of skills and building some conceptual understanding.</li> <li>• Tasks build on students' prior learning and are suitable to students' academic needs, with even, coherent progression.</li> <li>• Tasks are consistently designed to support attainment of local, state or national curricular standards.</li> </ul>

Criteria: LESSON PLAN	2. Selecting appropriate resources (materials, technology, human) and instructional groups to support students' learning
Unacceptable	<ul style="list-style-type: none"> <li>Instructional resources are unsuitable to the instructional objectives or do not support the content or the learning needs of the students.</li> <li>Instructional groups as described in the lesson plans are inappropriate for the content or for supporting students' learning needs.</li> </ul>
Acceptable	<ul style="list-style-type: none"> <li>Instructional resources are suitable to the instructional objectives and generally support the content and some of the students' learning needs.</li> <li>Instructional groups are appropriate but rationale for how they will be used to support learning may be unclear.</li> </ul>
Target	<ul style="list-style-type: none"> <li>Instructional resources are varied, suitable to the instructional objectives, and support the content and most students' learning needs.</li> <li>Instructional groups are appropriate and a clear rationale for choice of grouping to support student learning is provided.</li> </ul>

Criteria: LESSON PLAN	3. Planning instruction that addresses identified instructional needs/strategies for differentiated instruction
Unacceptable	<ul style="list-style-type: none"> <li>Identified student instructional needs are not based on or may include inaccurate interpretation of student learning data.</li> <li>Instructional plans for addressing student learning differences are not evident or are limited to additional monitoring, setting lower expectations for learning, or assigning additional activities to keep students occupied (not enriching learning).</li> </ul>
Acceptable	<ul style="list-style-type: none"> <li>Identified student instructional needs are general and based on accurate interpretation of student learning data.</li> <li>Instructional plans address some student learning differences by appropriately varying some tasks, or by altering timeframes or instructional grouping arrangements for some students.</li> </ul>
Target	<ul style="list-style-type: none"> <li>Identified student instructional needs are specific and based on accurate interpretation of student learning data.</li> <li>Instructional plans describe a variety of strategies to address student learning differences, including differentiation of lesson content, processes for developing understanding, and/or products to exhibit student learning.</li> </ul>

Criteria: ESSAY ELEMENT	Learning Process
Unacceptable	<ul style="list-style-type: none"> <li>Learning theories not clearly related to the lesson plan elements</li> </ul>
Acceptable	<ul style="list-style-type: none"> <li>Some aspect of learning theory accurately described and applied to the lesson plan elements</li> </ul>
Target	<ul style="list-style-type: none"> <li>Multiple learning theories described and applied to the lesson plan elements</li> </ul>

Criteria: ESSAY ELEMENT	Human growth and development
Unacceptable	<ul style="list-style-type: none"> <li>Human growth and development theories not clearly related to the lesson plan elements</li> </ul>
Acceptable	<ul style="list-style-type: none"> <li>Some aspect of human growth and development theories accurately described and applied to the lesson plan elements</li> </ul>
Target	<ul style="list-style-type: none"> <li>Multiple theories described and applied to the lesson plan elements</li> </ul>

Criteria: ESSAY ELEMENT	Diverse Learners
Unacceptable	<ul style="list-style-type: none"> <li>Diversity not clearly related to the lesson plan elements</li> </ul>
Acceptable	<ul style="list-style-type: none"> <li>Some aspects of diversity accurately described and applied to the lesson plan elements</li> </ul>
Target	<ul style="list-style-type: none"> <li>Multiple diversity considerations described and applied to the lesson plan elements</li> </ul>

## APPENDIX IX: CAR264/429

### CARS Assessment Instrument: ED 264/429 Rubric and Alignment for Lesson Plan and Essay Domains and Competencies

3.1	Learning Process	Candidates demonstrate knowledge of human learning theories and apply that apply to the design and implementation of learning experiences.
3.2	Growth and development	Candidates demonstrate knowledge of human development theories; physical, cognitive, and moral, and how they apply to learning behaviors.
3.3	Diverse Learners	The candidate demonstrates knowledge of the mediating factors that affect student learning and growth and development, such as cognitive dispositions, exceptionalities, and linguistic and cultural characteristics.
4.1	Learning environment	The candidate demonstrates the skills to plan and implant effective procedures and routines that create a classroom environment that is safe and conducive to learning.
4.2	Instructional Design	The candidate organizes appropriately designed lesson and unit plans.  The candidate demonstrates skills to utilize multiple methods and techniques for individual and group instruction.
4.4	Differentiation	The candidate demonstrate skills for differentiated instruction based on the needs of diverse student populations, as determined by special needs, and cultural, ethnic, and linguistic backgrounds.
4.6	Integration of Technology	The candidate integrates emerging technologies and strategies across the curriculum.

Criteria: LESSON PLAN	1. Designing learning tasks and assessment (objectives promote application of skills and conceptual understanding, build on prior learning, goals aligned with standards)
Unacceptable	<ul style="list-style-type: none"> <li>Objectives do not identify specific and/or measurable knowledge and skill outcomes.</li> <li>Learning tasks consistently focus on rote, isolated activities.</li> <li>Tasks do not connect with student's prior learning, are not suitable to students' academic needs, and do not follow a coherent progression.</li> <li>Tasks are not designed to support attainment of local, state or national curricular standards.</li> </ul>
Acceptable	<ul style="list-style-type: none"> <li>Objectives identify general knowledge and skill outcomes and often focus on measuring task completion.</li> <li>Learning tasks focus on procedures and some application of skills.</li> <li>Tasks build on students' prior learning, most of which are suitable to students' academic need, with uneven progression.</li> <li>Tasks are generally designed to support attainment of local, state or national curricular standards.</li> </ul>
Target	<ul style="list-style-type: none"> <li>Objectives identify specific and measurable knowledge and skill outcomes.</li> <li>Learning tasks focus on application of skills and building some conceptual understanding.</li> <li>Tasks build on students' prior learning and are suitable to students' academic needs, with even, coherent progression.</li> <li>Tasks are consistently designed to support attainment of local, state or national curricular standards.</li> </ul>

Criteria: LESSON PLAN	2. Selecting appropriate resources (materials, technology, human) and instructional groups to support students' learning
Unacceptable	<ul style="list-style-type: none"> <li>Instructional resources are unsuitable to the instructional objectives or do not support the content or the learning needs of the students.</li> <li>Instructional groups as described in the lesson plans are inappropriate for</li> </ul>

	the content or for supporting students' learning needs.
Acceptable	<ul style="list-style-type: none"> <li>Instructional resources are suitable to the instructional objectives and generally support the content and some of the students' learning needs.</li> <li>Instructional groups are appropriate but rationale for how they will be used to support learning may be unclear.</li> </ul>
Target	<ul style="list-style-type: none"> <li>Instructional resources are varied, suitable to the instructional objectives, and support the content and most students' learning needs.</li> <li>Instructional groups are appropriate and a clear rationale for choice of grouping to support student learning is provided.</li> </ul>
<b>Criteria: LESSON PLAN</b>	<b>3. Planning instruction that addresses identified instructional needs/strategies for differentiated instruction</b>
Unacceptable	<ul style="list-style-type: none"> <li>Identified student instructional needs are not based on or may include inaccurate interpretation of student learning data.</li> <li>Instructional plans for addressing student learning differences are not evident or are limited to additional monitoring, setting lower expectations for learning, or assigning additional activities to keep students occupied (not enriching learning).</li> </ul>
Acceptable	<ul style="list-style-type: none"> <li>Identified student instructional needs are general and based on accurate interpretation of student learning data.</li> <li>Instructional plans address some student learning differences by appropriately varying some tasks, or by altering timeframes or instructional grouping arrangements for some students.</li> </ul>
Target	<ul style="list-style-type: none"> <li>Identified student instructional needs are specific and based on accurate interpretation of student learning data.</li> <li>Instructional plans describe a variety of strategies to address student learning differences, including differentiation of lesson content, processes for developing understanding, and/or products to exhibit student learning.</li> </ul>

<b>Criteria: ESSAY ELEMENT</b>	<b>Learning Process</b>
Unacceptable	<ul style="list-style-type: none"> <li>Learning theories not clearly related to the lesson plan elements</li> </ul>
Acceptable	<ul style="list-style-type: none"> <li>Some aspect of learning theory accurately described and applied to the lesson plan elements</li> </ul>
Target	<ul style="list-style-type: none"> <li>Multiple learning theories described and applied to the lesson plan elements</li> </ul>
<b>Criteria: ESSAY ELEMENT</b>	<b>Human growth and development</b>
Unacceptable	<ul style="list-style-type: none"> <li>Human growth and development theories not clearly related to the lesson plan elements</li> </ul>
Acceptable	<ul style="list-style-type: none"> <li>Some aspect of human growth and development theories accurately described and applied to the lesson plan elements</li> </ul>
Target	<ul style="list-style-type: none"> <li>Multiple theories described and applied to the lesson plan elements</li> </ul>
<b>Criteria: ESSAY ELEMENT</b>	<b>Diverse Learners</b>
Unacceptable	<ul style="list-style-type: none"> <li>Diversity not clearly related to the lesson plan elements</li> </ul>
Acceptable	<ul style="list-style-type: none"> <li>Some aspects of diversity accurately described and applied to the lesson plan elements</li> </ul>
Target	<ul style="list-style-type: none"> <li>Multiple diversity considerations described and applied to the lesson plan elements</li> </ul>

**APPENDIX X: Assignment Associated with Lesson Plan and Essay**

**LESSON PLAN FORMAT**

Student Teacher \_\_\_\_\_ Grade Level \_\_\_\_\_ Date of lesson \_\_\_\_\_

Institution \_\_\_\_\_

To be completed by Student Teacher prior to lesson observation. A copy of the plan should be provided to Cooperating Teacher and/or University Supervisor prior to observation.

**Content Standards:** Identify one or two **primary** local, state **or** national curricular standards this lesson is designed to help students attain. How will the learning tasks lead students to attain the identified standards?

**Learner Background:** Describe the students’ prior knowledge or skill related to the learning objective(s) and the content of this lesson, using data from pre-assessment as appropriate. How did the students’ previous performance in this content area or skill impact your planning for this lesson?

**Student Learning Objective(s):** Identify specific and measurable learning objectives for this lesson.

**Assessment:** How will you ask students to demonstrate mastery of the student learning objective(s)? Attach a copy of any assessment materials you will use, along with assessment criteria.

**Materials/Resources:** List the materials you will use in each learning activity including any technological resources.

**Learning Activities:**

Identify the instructional grouping (whole class, small groups, pairs, individuals) you will use in each phase of instruction.

**Initiation:** Briefly describe how you will initiate the lesson. (Set expectations for learning; articulate to learners what they will be doing and learning in this lesson, how they will demonstrate learning, and why this is important)

**Lesson Development:** Describe how you will develop the lesson, what you will do to model or guide practice, and the learning activities students will be engaged in order to gain the key knowledge and skills identified in the student learning objective(s).

**Closure:** Briefly describe how you will close the lesson and help students understand the purpose of the lesson. (Interact with learners to elicit evidence of student understanding of purpose(s) for learning and mastery of objectives)

**Individuals Needing Differentiated Instruction:** Describe 1 to 3 students with learning differences. These students may be special or general education students and need not be the same students for each lesson. Students may represent a range of ability and/or achievement levels, including students with IEP’s, gifted and talented students, struggling learners, and English language learners.

*Note: Differentiated instruction may not be necessary in every lesson. However, over the course of the student teaching placement, it is expected that each student teacher will demonstrate the ability to differentiate instruction in order to meet the needs of students with learning differences.*

Which students do you anticipate may struggle with the content/learning objectives of this lesson?		
Student name	Evidence that the student needs differentiated instruction	How will you differentiate instruction in this lesson to support student learning?
Which students will need opportunities for enrichment/higher level of challenge?		

Student name	Evidence that the student needs differentiated instruction	How will you differentiate instruction in this lesson to support student learning?

Notes from the pre-conference

### Essay assignment

Assignment:

This essay is part of the pre-clinical assessment system. All candidates must have a lesson plan and related essay that averages “acceptable” Your task for the essay to write three paragraphs that demonstrate your knowledge of theoretical issues that should guide instructional planning. You should focus on your lesson plan and indicate the theoretical issues that relate to:

1. **The Learning Process:** human learning theories that apply to the design and implementation of the learning experiences in the lesson plan
2. **Human growth and development:** human development theories; physical, cognitive, and moral, that apply to the design and implementing of developmentally appropriate learning behaviors within the lesson plan
3. **Diverse Learners:** mediating factors that affect student learning and growth and development, such as cognitive dispositions, exceptionalities, and linguistic and cultural characteristics.

## **APPENDIX XI: CAS 11 Assessment Instrument: ED 395/495 Rubric and Alignment**

### **Domains and Competencies**

4.1	Learning environment	The candidate plans and implements procedures and routines that create a classroom environment that is safe and conducive to learning, and that demonstrates commitment to students' personal development and academic success.
4.2	Instructional Design	The candidate organizes appropriate and well-designed lesson and unit plans that contribute to students' academic learning and their personal and social development.
4.3	Instructional Delivery	The candidate employs a variety of instructional techniques, methods, and strategies that develop students' critical and creative thinking skills, problem solving abilities, and ethical and responsible behavior
4.4	Differentiation	The candidate differentiates instruction based on the needs of diverse student populations, as determined by learning styles and exceptionalities; and cultural, ethnic, and linguistic backgrounds
4.5	Assessment	The candidate uses a variety of appropriate assessment techniques to evaluate student learning, and utilizes the results to modify instruction and to provide feedback to students and parents.
5.1	Communication Skills	The candidate demonstrates effective oral and written communication skills
5.3	Critical Thinking Skills	The candidate demonstrates the willingness and ability to identify and methodically provide solutions to emerging problems of instruction.
5.4	Enthusiasm and Respect for Profession	The candidate demonstrates enthusiasm, commitment to and respect for the teaching profession.

Criteria:	<b>1. Designing learning tasks and assessment (objectives promote application of skills and conceptual understanding, build on prior learning, goals aligned with standards)</b>
Performance Level 1	<ul style="list-style-type: none"> <li>• Objectives do not identify specific and/or measurable knowledge and skill outcomes.</li> <li>• Learning tasks consistently focus on rote, isolated activities.</li> <li>• Tasks do not connect with student's prior learning, are not suitable to students' academic needs, and do not follow a coherent progression.</li> <li>• Tasks are not designed to support attainment of local, state or national curricular standards.</li> </ul>
Performance Level 2	<ul style="list-style-type: none"> <li>• Objectives identify general knowledge and skill outcomes and often focus on measuring task completion.</li> <li>• Learning tasks focus on procedures and some application of skills.</li> <li>• Tasks build on students' prior learning, most of which are suitable to students' academic need, with uneven progression.</li> <li>• Tasks are generally designed to support attainment of local, state or national curricular standards.</li> </ul>
Performance Level 3	<ul style="list-style-type: none"> <li>• Objectives identify specific and measurable knowledge and skill outcomes.</li> <li>• Learning tasks focus on application of skills and building some conceptual understanding.</li> <li>• Tasks build on students' prior learning and are suitable to students' academic needs, with even, coherent progression.</li> <li>• Tasks are consistently designed to support attainment of local, state or national curricular standards.</li> </ul>

<b>Criteria:</b>	<b>2. Selecting appropriate resources (materials, technology, human) and instructional groups to support students' learning</b>
Performance Level 1	<ul style="list-style-type: none"> <li>Instructional resources are unsuitable to the instructional objectives or do not support the content or the learning needs of the students.</li> <li>Instructional groups as described in the lesson plans are inappropriate for the content or for supporting students' learning needs.</li> </ul>
Performance Level 2	<ul style="list-style-type: none"> <li>Instructional resources are suitable to the instructional objectives and generally support the content and some of the students' learning needs.</li> <li>Instructional groups are appropriate but rationale for how they will be used to support learning may be unclear.</li> </ul>
Performance Level 3	<ul style="list-style-type: none"> <li>Instructional resources are varied, suitable to the instructional objectives, and support the content and most students' learning needs.</li> <li>Instructional groups are appropriate and a clear rationale for choice of grouping to support student learning is provided.</li> </ul>
<b>Criteria:</b>	<b>3. Planning instruction that addresses identified instructional needs/strategies for differentiated instruction</b>
Performance Level 1	<ul style="list-style-type: none"> <li>Identified student instructional needs are not based on or may include inaccurate interpretation of student learning data.</li> <li>Instructional plans for addressing student learning differences are not evident or are limited to additional monitoring, setting lower expectations for learning, or assigning additional activities to keep students occupied (not enriching learning).</li> </ul>
Performance Level 2	<ul style="list-style-type: none"> <li>Identified student instructional needs are general and based on accurate interpretation of student learning data.</li> <li>Instructional plans address some student learning differences by appropriately varying some tasks, or by altering timeframes or instructional grouping arrangements for some students.</li> </ul>
Performance Level 3	<ul style="list-style-type: none"> <li>Identified student instructional needs are specific and based on accurate interpretation of student learning data.</li> <li>Instructional plans describe a variety of strategies to address student learning differences, including differentiation of lesson content, processes for developing understanding, and/or products to exhibit student learning.</li> </ul>
<b>Criteria:</b>	<b>4. Communicating and reinforcing developmentally appropriate standards of behavior</b>
Performance Level 1	<ul style="list-style-type: none"> <li>Limited standards of behavior appear to have been established or communicated explicitly.</li> <li>Consequences are applied inconsistently or ineffectively or may be developmentally inappropriate for the students.</li> <li>Does not attempt to re-engage students who were off-task.</li> </ul>
Performance Level 2	<ul style="list-style-type: none"> <li>Standards of behavior appear to have been established for most situations. Standards may be inconsistently reinforced.</li> <li>Consequences are generally applied consistently and are developmentally appropriate for the students.</li> <li>If necessary, attempts to re-engage students who were off-task.</li> </ul>
Performance Level 3	<ul style="list-style-type: none"> <li>Standards of behavior appear to have been established. Standards are reinforced when necessary.</li> <li>Consequences are applied consistently, and are developmentally appropriate for the students.</li> <li>If necessary, uses a variety of strategies to attempt to re-engage students who were off-task.</li> </ul>

<b>Criteria:</b>	<b>5. Fostering a learning community (rapport, respect for individual differences, risk-taking)</b>
Performance Level 1	<ul style="list-style-type: none"> <li>Responses to and interactions with students are minimal, negative or inappropriate for the age of the students. Negative interactions between students are not addressed appropriately.</li> </ul>
Performance Level 2	<ul style="list-style-type: none"> <li>Responses to and interactions with students demonstrate fairness, acceptance and interest, and are appropriate for the age of the students. Negative interactions between students are generally addressed appropriately.</li> </ul>
Performance Level 3	<ul style="list-style-type: none"> <li>Responses to and interactions with students demonstrate fairness, acceptance and interest, and are appropriate for the age of the students. Expectations that students treat each other similarly are clearly communicated and reinforced.</li> </ul>
<b>Criteria:</b>	<b>6. Managing routines and transitions</b>
Performance Level 1	<ul style="list-style-type: none"> <li>Routines and transitions are often inefficient and/or disorderly and result in excessive time off-task.</li> </ul>
Performance Level 2	<ul style="list-style-type: none"> <li>Routines and transitions are, at times, inefficient and/or disorderly and may result in some time off-task.</li> </ul>
Performance Level 3	<ul style="list-style-type: none"> <li>Routines and transitions are orderly and efficient and result in minimal time off-task.</li> </ul>
<b>Criteria:</b>	<b>7. Promoting shared responsibility for learning (communicating and reinforcing high expectations, varying instruction)</b>
Performance Level 1	<ul style="list-style-type: none"> <li>Expectations for student academic achievement are inappropriate, unclear or not communicated to students.</li> </ul>
Performance Level 2	<ul style="list-style-type: none"> <li>Expectations for student academic achievement are communicated but may be inconsistently reinforced</li> </ul>
Performance Level 3	<ul style="list-style-type: none"> <li>High expectations for student academic achievement are consistently communicated and reinforced.</li> </ul>
<b>Criteria:</b>	<b>8. Implementing instruction that includes effective initiation/closure, well organized, sequenced and paced learning activities</b>
Performance Level 1	<ul style="list-style-type: none"> <li>Initiation and/or closure are absent or administrative in nature and do not help students understand purpose of lessons.</li> </ul>
Performance Level 2	<ul style="list-style-type: none"> <li>Initiation and closure are usually implemented but may be inconsistent in helping students understand the purpose of lessons.</li> </ul>
Performance Level 3	<ul style="list-style-type: none"> <li>Initiation and closure are consistently implemented effectively and help students understand purpose of lessons.</li> </ul>
<b>Criteria:</b>	<b>9. Leading students to learn within the content or discipline (important content, making connections, accuracy/clarity)</b>
Performance Level 1	<ul style="list-style-type: none"> <li>Overall, instruction does not support student attainment of applicable content standards for the district, state, or national professional organization.</li> <li>Representations and explanations of content or skill are inappropriate, unclear or poor examples and do not help students to make connections within and across lessons.</li> <li>Presentation of content includes a pattern of inaccuracies.</li> </ul>
Performance Level 2	<ul style="list-style-type: none"> <li>Instruction generally supports student attainment of applicable content standards for the district, state, or national professional organization.</li> <li>Representations and explanations of content or skill are inconsistent in quality and lead students to make general connections, within and across lessons.</li> <li>Presentation of content may include minor inaccuracies.</li> </ul>
Performance Level 3	<ul style="list-style-type: none"> <li>Instruction consistently supports student attainment of applicable content standards for the district, state, or national professional organization.</li> <li>Representations and explanations are varied, demonstrate command of the content, skills and concepts, and lead students to make connections, within and across lessons.</li> <li>Presentation of content is consistently accurate.</li> </ul>
<b>Criteria:</b>	<b>10. Promoting the development of critical thinking, problem-solving and deeper understanding of concepts</b>
Performance Level 1	<ul style="list-style-type: none"> <li>Lesson activities are primarily teacher-directed and mainly engage students in completing discrete tasks.</li> </ul>

	<ul style="list-style-type: none"> <li>• Questions are often posed in a manner which provides only targeted students an opportunity to respond.</li> <li>• Opportunities for discourse are not evident; teacher primarily lectures or limits students to short answer responses.</li> </ul>
Performance Level 2	<ul style="list-style-type: none"> <li>• Lesson activities are primarily teacher-directed and engage students in applying skills and comprehension of content.</li> <li>• Questions are often posed in a manner which provides all students an opportunity to respond.</li> <li>• Some opportunities for discourse (oral or written) are provided but focused on students discussing comprehension of lesson material or explaining their answers.</li> </ul>
Performance Level 3	<ul style="list-style-type: none"> <li>• Lessons include a balance of teacher-directed and student-centered activities and engage students in critical thinking and exploration of concepts.</li> <li>• Questions are consistently posed in a manner which provides all students an opportunity to respond.</li> <li>• Frequent opportunities for discourse (oral or written) are provided to allow students to explain ideas and concepts and to support their reasoning</li> </ul>

<b>Criteria:</b>	<b>11. Implementing learning tasks, activities and using materials that support a range of instructional needs through differentiated instruction</b>
Performance Level 1	<ul style="list-style-type: none"> <li>• Differentiation of learning tasks, activities and/or materials to promote student learning is not evident.</li> </ul>
Performance Level 2	<ul style="list-style-type: none"> <li>• Some strategies for differentiated instruction are employed to help students complete tasks.</li> </ul>
Performance Level 3	<ul style="list-style-type: none"> <li>• A variety of strategies for differentiated instruction are employed to help students access content information and to demonstrate what they have learned.</li> </ul>

<b>Criteria:</b>	<b>12. Communicating clearly, using acceptable oral and written expressions</b>
Performance Level 1	<ul style="list-style-type: none"> <li>• Does not communicate clearly or audibly.</li> <li>• Spoken and/or written language contains grammatical and/or syntactical errors.</li> <li>• Language is developmentally inappropriate or vague.</li> </ul>
Performance Level 2	<ul style="list-style-type: none"> <li>• Communicates clearly and audibly.</li> <li>• Spoken and written language is grammatically and syntactically correct.</li> <li>• Language is developmentally appropriate.</li> </ul>
Performance Level 3	<ul style="list-style-type: none"> <li>• Communicates clearly, audibly, and expressively.</li> <li>• Spoken and written language is grammatically and syntactically correct.</li> <li>• Language is developmentally appropriate and enhances student understanding of the content.</li> </ul>

<b>Criteria:</b>	<b>13. Monitoring student understanding of the lesson and engagement at appropriate points and adjusting teaching when necessary</b>
Performance Level 1	<ul style="list-style-type: none"> <li>• Monitoring focuses on on-task behavior; little or no monitoring of student understanding of content and skills is evident.</li> <li>• Adjustments to instruction not made although needed to ensure student understanding.</li> <li>• Pacing of lessons is often too slow or rushed, and not appropriate for the students.</li> </ul>
Performance Level 2	<ul style="list-style-type: none"> <li>• Monitoring focuses on task completion, with some attention to progress related to</li> </ul>

	<p>students' understanding of content and skills.</p> <ul style="list-style-type: none"> <li>When necessary, adjustments include providing additional time for task completion or attempting to re-teach/re-explain content within the lesson.</li> <li>Pacing of the lessons is generally appropriate for the students.</li> </ul>
Performance Level 3	<ul style="list-style-type: none"> <li>Both formal and informal monitoring strategies are used consistently and focus on students' understanding of content and skills.</li> <li>When necessary, adjustments include using varied strategies or activities for re-teaching content within the lesson.</li> <li>Pacing of the lessons is appropriate for the students.</li> </ul>

<b>Criteria:</b>	<b>14. Providing performance feedback (oral or written) that focuses on content and assists students in improving their performance</b>
Performance Level 1	<ul style="list-style-type: none"> <li>Feedback includes inaccuracies; and/or</li> <li>Feedback is limited, includes mostly general comments, and provides little information to help students improve performance.</li> </ul>
Performance Level 2	<ul style="list-style-type: none"> <li>Feedback is accurate.</li> <li>Feedback provides some information about students' learning strengths and/or weaknesses and helps students improve performance.</li> </ul>
Performance Level 3	<ul style="list-style-type: none"> <li>Feedback is accurate.</li> <li>Feedback provides detailed, specific information about students' strengths and/or weaknesses and helps students improve performance.</li> </ul>

<b>Criteria:</b>	<b>15. Reflecting upon and analyzing the process of teaching based on student learning or failure to learn, and adjusts future plans and instructional approaches accordingly</b>
Performance Level 1	<ul style="list-style-type: none"> <li>Analysis of student learning focuses on student behavior with little attention to students' progress toward learning objectives or goals.</li> <li>Makes limited connections between teaching practices and students' learning.</li> </ul>
Performance Level 2	<ul style="list-style-type: none"> <li>Analysis of student learning focuses mainly on task completion, with some reflection on adjustment of future plans and instructional approaches related to time and task completion.</li> <li>Identifies general connections between teaching practices and students' learning.</li> </ul>
Performance Level 3	<ul style="list-style-type: none"> <li>Analysis of student learning across a series of lessons focuses mainly on student strengths and weaknesses in learning procedures and application of skills, with some reflection on adjustment of future plans and instructional approaches to improve student learning.</li> <li>Identifies specific connections between teaching practices and students' learning.</li> </ul>

<b>Criteria:</b>	<b>16. Analyzing multiple sources of student data to examine student progress (1 or 2 rating only)</b>
Performance Level 1	<ul style="list-style-type: none"> <li>Uses limited data to make short-term decisions and/or is unable to analyze data or incorrectly evaluates student progress.</li> <li>Has no system for maintaining information on student progress in learning or system in disarray.</li> </ul>
Performance Level 2	<ul style="list-style-type: none"> <li>Documents and analyzes data to evaluate learning and to communicate student progress (e.g., report cards, parent conferences/PPTs, etc.)</li> <li>Has a rudimentary system for maintaining information on student learning progress.</li> </ul>

<b>Criteria:</b>	<b>17. Conducting oneself as a professional in accordance with the Code of Professional Responsibility for Teachers (1 or 2 rating only)</b>
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Performance Level 1	Teacher candidate violates one or more areas of the Code.
Performance Level 2	Teacher candidate acts professionally in accordance with the Code.

<b>Criteria:</b>	<b>18. Conducting oneself as a professional in regard to student teaching (1 or 2 rating only)</b>
Performance Level 1	Teacher candidate demonstrates a pattern of unprofessional behavior.
Performance Level 2	Teacher candidate demonstrates a pattern of professional behavior.

<b>Criteria:</b>	<b>19. Working collaboratively with colleagues set goals for professional development (1 or 2 rating only)</b>
Performance Level 1	Teacher candidate does not seek regular and ongoing dialogue with cooperating teacher in order to identify areas and set goals for professional development and growth in pedagogical content knowledge and skills as well as student learning.
Performance Level 2	Teacher candidate engages in regular dialogue with the cooperating teacher about instructional effectiveness (based on student learning) to identify areas for improvement and to set goals for professional development and growth in pedagogical content knowledge and skills as well as student learning.

<b>Criteria:</b>	<b>20. Demonstrating dispositions critical to self and students (1 or 2 rating only)</b>
Performance Level 1	Teacher candidate consistently demonstrates a pattern of negative attitudes and beliefs about own learning needs and daily responsibilities as a teacher, and shows a lack of commitment to supporting the development of students.
Performance Level 2	Teacher candidate shows ongoing enthusiasm about own learning needs, his/her daily responsibilities as a teacher, and a commitment to supporting the development of students.

## ***APPENDIX XII: CAS 11 Rubric***

This rubric was originally developed in 2003 by a team of educators from Connecticut teacher preparation institutions and PK-12 schools and is based on the Connecticut Common Core of Teaching (CCCT, adopted in 1999) and *Enhancing Professional Practice: A Framework for Teaching* by Charlotte Danielson (ASCD, 1996).

**This rubric is specifically developed for the purpose of assessing student teaching performance (not experienced or beginning teacher performance). Each level of performance described (unacceptable, acceptable, and target) represents a range within which the student teacher's performance may be assessed given the data collected about the competency.**

**University Supervisor and Cooperating Teacher must each use this form to record data relative to Student Teacher's performance. This form is intended to support comprehensive, legally defensible data collection in order to evaluate the Student Teacher on each competency.**

This rubric/data collection form should be utilized:

- For both formative and summative evaluations of performance.
- Based on multiple sources of data (lesson observation, lesson plans, design and assessment of student work, personal and professional interactions with school-based personnel, parents and students, etc.). Not all competencies will be observed in any one lesson; however, all competencies should be observed or have sufficient data to justify a summative evaluation decision by the end of the student teaching placement.
- In conjunction with the glossary of terms at the end of the rubric which defines particular terminology used within the rubric. Student teachers, cooperating teachers and supervisors should refer to the glossary to ensure accurate understanding of the rubric terms.

This rubric focuses on the following CCCT categories (and competencies underlying each). See glossary of terms on pages 10-12 for definitions of key terms used in this rubric.

II. Teachers apply knowledge by:

<b>Planning:</b>	Teachers plan instruction based upon knowledge of subject matter, students, the curriculum and the community and create a structure for learning by selecting and/or creating significant learning tasks that make subject matter meaningful to students.
<b>Instructing:</b>	Teachers create a positive learning environment, use effective verbal, nonverbal and media communications techniques, and create and facilitate instructional opportunities to support students' academic, social and personal development.
<b>Assessing and Adjusting:</b>	Teachers use various assessment techniques to evaluate student learning and modify instruction as appropriate.

III. Teachers demonstrate professional responsibility through: Reflection on Continuous Learning, Professional and Ethical Practice, Leadership and Collaboration

<b>Professional and Ethical Practice:</b>	Teachers conduct themselves as professionals in accordance with the Code of Professional Responsibility for Teachers.
<b>Reflection and Continuous Learning:</b>	Teachers continually engage in self-evaluation of the effects of their choices and actions on students and the school community.
<b>Leadership and Collaboration:</b>	Teachers demonstrate a commitment to their students and a passion for improving their profession.

Name of Student Teacher: \_\_\_\_\_  
 dates: \_\_\_\_\_

Evaluation Window: Beginning to Mid-term

Institution \_\_\_\_\_  
 \_\_\_\_\_

OR Mid-term to Final dates:

Evaluated by (check one & enter name)  Cooperating Teacher: \_\_\_\_\_ or  Univ. Supervisor: \_\_\_\_\_

CCT Align & Data Sources	Student Teaching Competency	1 Unacceptable	2 Acceptable	3 Target
Planning II.P.1.a II.P.2.a  <u>Data Sources:</u> -Lesson plan -Unit plan -Pre-conference	<b>1. Designing learning tasks that:</b> <ul style="list-style-type: none"> <li>• Include specific and measurable student learning objectives</li> <li>• Promote application of skills and conceptual understanding</li> <li>• Build on students' prior learning, and</li> <li>• Are designed to support attainment of local, state or national standards.</li> </ul>	<ul style="list-style-type: none"> <li>• Objectives do not identify specific and/or measurable knowledge and skill outcomes.</li> <li>• Learning tasks consistently focus on rote, isolated activities.</li> <li>• Tasks do not connect with student's prior learning, are not suitable to students' academic needs, and do not follow a coherent progression.</li> <li>• Tasks are not designed to support attainment of local, state or national curricular standards.</li> </ul>	<ul style="list-style-type: none"> <li>• Objectives identify general knowledge and skill outcomes and often focus on measuring task completion.</li> <li>• Learning tasks focus on procedures and some application of skills.</li> <li>• Tasks build on students' prior learning, most of which are suitable to students' academic need, with uneven progression.</li> <li>• Tasks are generally designed to support attainment of local, state or national curricular standards.</li> </ul>	<ul style="list-style-type: none"> <li>• Objectives identify specific and measurable knowledge and skill outcomes.</li> <li>• Learning tasks focus on application of skills and building some conceptual understanding.</li> <li>• Tasks build on students' prior learning and are suitable to students' academic needs, with even, coherent progression.</li> <li>• Tasks are consistently designed to support attainment of local, state or national curricular standards.</li> </ul>
<b>Data:            Rating:            1 2 3</b>				
Planning II.P.1.b II.P.2.c  <u>Data Sources:</u> -Lesson plan -Unit plan -Pre-conference	<b>2. Selecting appropriate resources (materials, technology, human) and instructional groups to support students' learning.</b>	<ul style="list-style-type: none"> <li>• Instructional resources are unsuitable to the instructional objectives or do not support the content or the learning needs of the students.</li> <li>• Instructional groups as described in the lesson plans are inappropriate for the content or for supporting students' learning needs.</li> </ul>	<ul style="list-style-type: none"> <li>• Instructional resources are suitable to the instructional objectives and generally support the content and some of the students' learning needs.</li> <li>• Instructional groups are appropriate but rationale for how they will be used to support learning may be unclear.</li> </ul>	<ul style="list-style-type: none"> <li>• Instructional resources are varied, suitable to the instructional objectives, and support the content and most students' learning needs.</li> <li>• Instructional groups are appropriate and a clear rationale for choice of grouping to support student learning is provided.</li> </ul>
<b>Data:            Rating:            1 2 3</b>				

CCT Align & Data Sources	Student Teaching Competency	1 Unacceptable	2 Acceptable	3 Target
Planning II.P.2.b  <u>Data</u>	<b>3. Planning instruction that addresses the range of student learning</b>	<ul style="list-style-type: none"> <li>• Identified student instructional needs are not based on or may include</li> </ul>	<ul style="list-style-type: none"> <li>• Identified student instructional needs are general and based on accurate interpretation of</li> </ul>	<ul style="list-style-type: none"> <li>• Identified student instructional needs are specific and based on accurate interpretation of</li> </ul>

CCT Align & Data Sources	Student Teaching Competency	1 Unacceptable	2 Acceptable	3 Target
<b>Sources:</b> -Lesson plan -Unit plan -Pre-conference	<b>differences among their students and describes effective strategies for differentiated instruction.</b>	inaccurate interpretation of student learning data. <ul style="list-style-type: none"> <li>Instructional plans for addressing student learning differences are not evident or are limited to additional monitoring, setting lower expectations for learning, or assigning additional activities to keep students occupied (not enriching learning).</li> </ul>	student learning data. <ul style="list-style-type: none"> <li>Instructional plans address some student learning differences by appropriately varying some tasks, or by altering timeframes or instructional grouping arrangements for some students.</li> </ul>	student learning data. <ul style="list-style-type: none"> <li>Instructional plans describe a variety of strategies to address student learning differences, including differentiation of lesson content, processes for developing understanding, and/or products to exhibit student learning.</li> </ul>
<b>Data:</b> <b>Rating:</b> <b>1 2 3</b>				
Instructing II.1.3.a  <b>Data Sources:</b> -Lesson obs. -Written info about standards of behavior	<b>4. Establishing standards of behavior by:</b> <ul style="list-style-type: none"> <li>Communicating and reinforcing developmentally appropriate standards of behavior and</li> <li>Monitoring engagement in learning tasks.</li> </ul>	<ul style="list-style-type: none"> <li>Limited standards of behavior appear to have been established or communicated explicitly.</li> <li>Consequences are applied inconsistently or ineffectively or may be developmentally inappropriate for the students.</li> <li>Does not attempt to re-engage students who were off-task.</li> </ul>	<ul style="list-style-type: none"> <li>Standards of behavior appear to have been established for most situations. Standards may be inconsistently reinforced.</li> <li>Consequences are generally applied consistently and are developmentally appropriate for the students.</li> <li>If necessary, attempts to re-engage students who were off-task.</li> </ul>	<ul style="list-style-type: none"> <li>Standards of behavior appear to have been established. Standards are reinforced when necessary.</li> <li>Consequences are applied consistently, and are developmentally appropriate for the students.</li> <li>If necessary, uses a variety of strategies to attempt to re-engage students who were off-task.</li> </ul>
<b>Data:</b> <b>Rating:</b> <b>1 2 3</b>				
Instructing II.1.3.f II.1.3.g  <b>Data Sources:</b> -Lesson obs.	<b>5. Creating a positive learning environment by establishing rapport and a non-threatening classroom atmosphere.</b>	<ul style="list-style-type: none"> <li>Responses to and interactions with students are minimal, negative or inappropriate for the age of the students. Negative interactions between students are not addressed appropriately.</li> </ul>	<ul style="list-style-type: none"> <li>Responses to and interactions with students demonstrate fairness, acceptance and interest, and are appropriate for the age of the students. Negative interactions between students are generally addressed appropriately.</li> </ul>	<ul style="list-style-type: none"> <li>Responses to and interactions with students demonstrate fairness, acceptance and interest, and are appropriate for the age of the students. Expectations that students treat each other similarly are clearly communicated and reinforced.</li> </ul>
<b>Data:</b> <b>Rating:</b> <b>1 2 3</b>				
Instructing II.1.3.b II.1.3.c  <b>Data Sources:</b> - Observation of routines & transitions in and out of class	<b>6. Managing routines and transitions effectively in order to maximize instructional time.</b>  <i>This competency refers to non-instructional routines and transitions.</i>	<ul style="list-style-type: none"> <li>Routines and transitions are often inefficient and/or disorderly and result in excessive time off-task.</li> </ul>	<ul style="list-style-type: none"> <li>Routines and transitions are, at times, inefficient and/or disorderly and may result in some time off-task.</li> </ul>	<ul style="list-style-type: none"> <li>Routines and transitions are orderly and efficient and result in minimal time off-task.</li> </ul>
<b>Data:</b>				

CCT Align & Data Sources	Student Teaching Competency	1 Unacceptable	2 Acceptable	3 Target
<b>Rating:</b> <b>1 2 3</b>				
Instructing II.I.3.d II.A.7.c  <u>Data Sources:</u> -Lesson obs.	<b>7. Communicating and reinforcing high expectations for academic achievement.</b>	<ul style="list-style-type: none"> <li>Expectations for student academic achievement are inappropriate, unclear or not communicated to students.</li> </ul>	<ul style="list-style-type: none"> <li>Expectations for student academic achievement are communicated but may be inconsistently reinforced.</li> </ul>	<ul style="list-style-type: none"> <li>High expectations for student academic achievement are consistently communicated and reinforced.</li> </ul>
<b>Data:</b> <b>Rating:</b> <b>1 2 3</b>				
Instructing II.I.4.a  <u>Data Sources:</u> -Lesson plan -- Lesson obs.	<b>8. Implementing instruction that includes effective initiation and closure.</b>	<ul style="list-style-type: none"> <li>Initiation and/or closure are absent or administrative in nature and do not help students understand purpose of lessons.</li> </ul>	<ul style="list-style-type: none"> <li>Initiation and closure are usually implemented but may be inconsistent in helping students understand the purpose of lessons.</li> </ul>	<ul style="list-style-type: none"> <li>Initiation and closure are consistently implemented effectively and help students understand purpose of lessons.</li> </ul>
<b>Data:</b> <b>Rating:</b> <b>1 2 3</b>				
Instructing I.K.4.a I.K.4.c II.I.6.a II.I.6.b  <u>Data Sources:</u> -Lesson plan -Lesson obs.	<b>9. Developing important content specific knowledge, skills, and conceptual understanding by:</b> <ul style="list-style-type: none"> <li>Meeting district, state and national content standards,</li> <li>Helping students make connections within and across lessons, and</li> <li>Presenting the content accurately and clearly.</li> </ul>	<ul style="list-style-type: none"> <li>Overall, instruction does not support student attainment of applicable content standards for the district, state, or national professional organization.</li> <li>Representations and explanations of content or skill are inappropriate, unclear or poor examples and do not help students to make connections within and across lessons.</li> <li>Presentation of content includes a pattern of inaccuracies.</li> </ul>	<ul style="list-style-type: none"> <li>Instruction generally supports student attainment of applicable content standards for the district, state, or national professional organization.</li> <li>Representations and explanations of content or skill are inconsistent in quality and lead students to make general connections, within and across lessons.</li> <li>Presentation of content may include minor inaccuracies.</li> </ul>	<ul style="list-style-type: none"> <li>Instruction consistently supports student attainment of applicable content standards for the district, state, or national professional organization.</li> <li>Representations and explanations are varied, demonstrate command of the content, skills and concepts, and lead students to make connections, within and across lessons.</li> <li>Presentation of content is consistently accurate.</li> </ul>
<b>Data:</b> <b>Rating:</b> <b>1 2 3</b>				
Instructing II.I.4.c II.I.5.b  <u>Data Sources:</u> -Lesson obs.	<b>10. Leading students to learn by facilitating students' opportunities for:</b> <ul style="list-style-type: none"> <li>Critical thinking and exploration of concepts (important ideas, essential questions and major concepts within the discipline),</li> <li>Response to questions, and</li> <li>Discourse.</li> </ul>	<ul style="list-style-type: none"> <li>Lesson activities are primarily teacher-directed and mainly engage students in completing discrete tasks.</li> <li>Questions are often posed in a manner which provides only targeted students an opportunity to respond.</li> <li>Opportunities for discourse are not evident; teacher primarily lectures or limits students to short answer</li> </ul>	<ul style="list-style-type: none"> <li>Lesson activities are primarily teacher-directed and engage students in applying skills and comprehension of content.</li> <li>Questions are often posed in a manner which provides all students an opportunity to respond.</li> <li>Some opportunities for discourse (oral or written) are provided but focused on</li> </ul>	<ul style="list-style-type: none"> <li>Lessons include a balance of teacher-directed and student-centered activities and engage students in critical thinking and exploration of concepts.</li> <li>Questions are consistently posed in a manner which provides all students an opportunity to respond.</li> <li>Frequent opportunities for discourse (oral or written) are provided to allow students to</li> </ul>

CCT Align & Data Sources	Student Teaching Competency	1 Unacceptable	2 Acceptable	3 Target
		responses.	students discussing comprehension of lesson material or explaining their answers.	explain ideas and concepts and to support their reasoning.
<b>Data:</b> <b>Rating:</b> <b>1 2 3</b>				
Instructing II.1.3.f II.1.5.b  <u>Data Sources:</u> -Pre- and Post-Conf -Lesson obs.	<b>11. Supporting a range of student learning differences by differentiating instruction.</b>	<ul style="list-style-type: none"> <li>Differentiation of learning tasks, activities and/or materials to promote student learning is not evident.</li> </ul>	<ul style="list-style-type: none"> <li>Some strategies for differentiated instruction are employed to help students complete tasks.</li> </ul>	<ul style="list-style-type: none"> <li>A variety of strategies for differentiated instruction are employed to help students access content information and to demonstrate what they have learned.</li> </ul>
<b>Data:</b> <b>Rating:</b> <b>1 2 3</b>				
Instructing II.1.5.a  <u>Data Sources:</u> -Lesson obs.	<b>12. Communicating clearly, using acceptable oral and written expressions.</b>  <i>Note: If communication issues interfere with student learning, this competency must be rated unacceptable.</i>	<ul style="list-style-type: none"> <li>Does not communicate clearly or audibly.</li> <li>Spoken and/or written language contains grammatical and/or syntactical errors.</li> <li>Language is developmentally inappropriate or vague.</li> </ul>	<ul style="list-style-type: none"> <li>Communicates clearly and audibly.</li> <li>Spoken and written language is grammatically and syntactically correct.</li> <li>Language is developmentally appropriate.</li> </ul>	<ul style="list-style-type: none"> <li>Communicates clearly, audibly, and expressively.</li> <li>Spoken and written language is grammatically and syntactically correct.</li> <li>Language is developmentally appropriate and enhances student understanding of the content.</li> </ul>
<b>Data:</b> <b>Rating:</b> <b>1 2 3</b>				
Assessing II.A.7.a  <u>Data Sources:</u> -Lesson Obs. -Post-conf -Analyses of student work	<b>13. Monitoring during the lesson for student understanding and, when necessary, adjusting instruction and pacing.</b>	<ul style="list-style-type: none"> <li>Monitoring focuses on on-task behavior; little or no monitoring of student understanding of content and skills is evident.</li> <li>Adjustments to instruction not made although needed to ensure student understanding.</li> <li>Pacing of lessons is often too slow or rushed, and not appropriate for the students.</li> </ul>	<ul style="list-style-type: none"> <li>Monitoring focuses on task completion, with some attention to progress related to students' understanding of content and skills.</li> <li>When necessary, adjustments include providing additional time for task completion or attempting to re-teach/re-explain content within the lesson.</li> <li>Pacing of the lessons is generally appropriate for the students.</li> </ul>	<ul style="list-style-type: none"> <li>Both formal and informal monitoring strategies are used consistently and focus on students' understanding of content and skills.</li> <li>When necessary, adjustments include using varied strategies or activities for re-teaching content within the lesson.</li> <li>Pacing of the lessons is appropriate for the students.</li> </ul>
<b>Data:</b> <b>Rating:</b> <b>1 2 3</b>				
Assessing II.A.7.c  <u>Data</u>	<b>14. Providing performance feedback (oral or written) to students that focuses</b>	<ul style="list-style-type: none"> <li>Feedback includes inaccuracies; and/or</li> </ul>	<ul style="list-style-type: none"> <li>Feedback is accurate.</li> <li>Feedback provides some</li> </ul>	<ul style="list-style-type: none"> <li>Feedback is accurate.</li> <li>Feedback provides detailed,</li> </ul>

CCT Align & Data Sources	Student Teaching Competency	1 Unacceptable	2 Acceptable	3 Target
<u>Sources:</u> -Obs. of feedback during inst and on student work	<b>on content or skills and assists students in improving their performance.</b>	<ul style="list-style-type: none"> <li><i>Feedback</i> is limited, includes mostly general comments, and provides little information to help students improve performance.</li> </ul>	information about students' learning strengths and/or weaknesses and helps students improve performance.	specific information about students' strengths and/or weaknesses and helps students improve performance.
<b>Data:</b> <b>Rating:</b> <b>1 2 3</b>				
Assessing II.A.7.b  <u>Data Sources:</u> -Post-Conf. -Analyses of student work	<b>15. Reflecting upon and analyzing the process of teaching based on student learning or failure to learn, and adjusting future plans and instructional approaches accordingly.</b>	<ul style="list-style-type: none"> <li>Analysis of student learning focuses on student behavior with little attention to students' progress toward learning objectives or goals.</li> <li>Makes limited <i>connections</i> between teaching practices and students' learning.</li> </ul>	<ul style="list-style-type: none"> <li>Analysis of student learning focuses mainly on <i>task</i> completion, with some <i>reflection</i> on adjustment of future plans and instructional approaches related to time and <i>task</i> completion.</li> <li>Identifies general <i>connections</i> between teaching practices and students' learning.</li> </ul>	<ul style="list-style-type: none"> <li>Analysis of student learning across a series of lessons focuses mainly on student strengths and weaknesses in learning procedures and <i>application</i> of skills, with some <i>reflection</i> on adjustment of future plans and instructional approaches to improve student learning.</li> <li>Identifies specific <i>connections</i> between teaching practices and students' learning.</li> </ul>
<b>Data:</b> <b>Rating:</b> <b>1 2 3</b>				
Assessing II.A.7.e  Prof. Resp. III.PR.2.b.  <u>Data Sources:</u> Observation of ST during meetings conferences or on written analyses	<b>16. Analyzing multiple sources of student data (e.g., classroom observations, student work, teacher made assessments) over a series of lessons to evaluate student progress and communicate information to colleagues and/or families.</b>	<ul style="list-style-type: none"> <li>Uses limited data to make short-term decisions and/or is unable to analyze data or incorrectly evaluates student progress.</li> <li>Has no system for maintaining information on student progress in learning or system in disarray.</li> </ul>	<ul style="list-style-type: none"> <li>Documents and analyzes data to evaluate learning and to communicate student progress (e.g., report cards, parent conferences/PPTs, etc.)</li> <li>Has a rudimentary system for maintaining information on student learning progress.</li> </ul>	<b>Rating: 1 2</b>
Prof Resp III.PR.1  <u>Data Sources:</u> All conduct in personal and professional life	<b>17. Conducting oneself as a professional in accordance with the Code of Professional Responsibility for Teachers (Section 10-145d-400a of the Certification Regulations).</b>	Teacher candidate violates one or more areas of the Code.	Teacher candidate acts professionally in accordance with the Code.	<b>Rating: 1 2</b>
Prof Resp III.PR.1  <u>Data Sources:</u> Observation	<b>18. Conducting oneself as a professional in regard to student teaching responsibilities, e.g., following school policies and procedures, reporting to school as scheduled, appropriate appearance, completing work assigned in timely manner and according</b>	Teacher candidate demonstrates a pattern of unprofessional behavior.	Teacher candidate demonstrates a pattern of professional behavior.	

CCT Align & Data Sources	Student Teaching Competency	1 Unacceptable	2 Acceptable	3 Target
	to expectations, communicating with parents, etc.			Rating: 1 2
Prof Resp III.PR.2.a  <u>Data Sources:</u> Observation	<b>19. Working collaboratively with colleagues to examine the effectiveness of instructional strategies in order to identify areas for learning and set goals for own professional development.</b>	Teacher candidate does not seek regular and ongoing dialogue with cooperating teacher in order to identify areas and set goals for professional development and growth in pedagogical content knowledge and skills as well as student learning.	Teacher candidate engages in regular dialogue with the cooperating teacher about instructional effectiveness (based on student learning) to identify areas for improvement and to set goals for professional development and growth in pedagogical content knowledge and skills as well as student learning.	Rating: 1 2
Prof Resp III.PR.6.a III.PR.6.a  <u>Data Sources:</u> Observation	<b>20. Demonstrating <i>dispositions</i> critical to self and students:</b> <ul style="list-style-type: none"> <li>• Enthusiasm about their own learning and about life in their daily work, and</li> <li>• Commitment to developing the minds and characters of their students.</li> </ul>	Teacher candidate consistently demonstrates a pattern of negative attitudes and beliefs about own learning needs and daily responsibilities as a teacher, and shows a lack of commitment to supporting the development of students.	Teacher candidate shows ongoing enthusiasm about own learning needs, his/her daily responsibilities as a teacher, and a commitment to supporting the development of students.	Rating: 1 2
Overall Comments:				

## APPENDIX XIII: CAS 11 Assessment

Student Teacher \_\_\_\_\_ Institution \_\_\_\_\_ Date \_\_\_\_\_

		Final Ratings
<b>Category</b>	<b>Student Teaching Competency (Abridged)</b>	
<b>Planning</b>	1. Designing learning tasks and assessment (objectives, promote application of skills and conceptual understanding, build on prior learning, goals aligned with standards).	
<b>Planning</b>	2. Selecting appropriate resources (materials, technology, human) and instructional groups to support students' learning.	
<b>Planning</b>	3. Planning instruction that addresses identified instructional needs/strategies for differentiated instruction.	
<b>Instructing</b>	4. Communicating and reinforcing developmentally appropriate standards of behavior.	
<b>Instructing</b>	5. Fostering a learning community (rapport, respect for individual differences, risk-taking)	
<b>Instructing</b>	6. Managing routines and transitions.	
<b>Instructing</b>	7. Promoting shared responsibility for learning (communicating and reinforcing high expectations, varying instruction)	
<b>Instructing</b>	8. Implementing instruction that includes effective initiation/closure, well organized, sequenced and paced learning activities.	
<b>Instructing</b>	9. Leading students to learn within the content or discipline (important content, making connections, accuracy/clarity).	
<b>Instructing</b>	10. Promoting the development of critical thinking, problem-solving and deeper understanding of concepts.	
<b>Instructing</b>	11. Implementing learning tasks, activities and using materials that support a range of instructional needs through differentiated instruction.	
<b>Instructing</b>	12. Communicating clearly, using acceptable oral and written expressions.	
<b>Instructing</b>	13. Monitoring student understanding of the lesson and engagement at appropriate points and adjusting teaching when necessary.	
<b>Assessing</b>	14. Providing performance feedback (oral or written) that focuses on content and assists students in improving their performance.	
<b>Assessing</b>	15. Reflecting upon and analyzing the process of teaching based on student learning or failure to learn, and adjusts future plans and instructional approaches accordingly.	
<b>Assessing</b>	16. Analyzing multiple sources of student data to examine student progress. <b>(1 or 2 rating only)</b>	
<b>Professional Responsibility</b>	17. Conducting oneself as a professional in accordance with the Code of Professional Responsibility for Teachers. <b>(1 or 2 rating only)</b>	
<b>Professional Responsibility</b>	18. Conducting oneself as a professional in regard to student teaching. <b>(1 or 2 rating only)</b>	
<b>Professional Responsibility</b>	19. Working collaboratively with colleagues set goals for professional development.	
<b>Professional Responsibility</b>	20. Demonstrating dispositions critical to self and students. <b>(1 or 2 rating only)</b>	
Overall Final Student Teaching Rating: <input type="checkbox"/> Unacceptable <input type="checkbox"/> Acceptable <input type="checkbox"/> Proficient		

Signatures:

\_\_\_\_\_ **Cooperating Teacher**

\_\_\_\_\_ **University Supervisor**

**APPENDIX XIV  
Transcript Review**

Competency	Required Course(s)	Type(s) of course	On transcript
<b>Unifying Concepts (All Science Teachers 1-5)</b>			
1. Multiple ways we organize our perceptions of the world and how systems organize the studies and knowledge of science.			
2. Nature of scientific evidence and the use of models for explanation.			
3. Measurement as a way of knowing and organizing observations of constancy and change.			
4. Evolution of natural systems and factors that result in evolution or equilibrium.			
5. Interrelationships of form, function, and behaviors in living and nonliving systems			
<b>Chemistry (Core Competencies 1-13)</b>			
1. Fundamental structures of atoms and molecules.	General Chem.		
2. Basic principles of ionic, covalent, and metallic bonding.	Physical Chem. Inorganic Chem		
3. Physical and chemical properties and classification of elements including periodicity.	General Chem. Inorganic Chem., Physical Chem.		
4. Chemical kinetics and thermodynamics.	General Chem.		
5. Principles of electrochemistry.			
6. Mole concept, stoichiometry, and laws of composition.			
7. Transition elements and coordination compounds.			
8. Acids and bases, oxidation-reduction chemistry, and solutions.	General Chem. Inorganic Chem.		
9. Fundamental biochemistry.	Organic Chem.		
10. Functional and polyfunctional group chemistry.			
11. Environmental and atmospheric chemistry.	Environmental Chem.		
12. Fundamental processes of investigating in chemistry.			

13. Applications of chemistry in personal and community health and environmental quality.	Environmental Chem.		
<b>Biology (Core Competencies 1-12)</b>			
1. Life processes in living systems including organization of matter and energy.			
2. Similarities and differences among animals, plants, fungi, microorganisms, and viruses.	GENERAL BIO., MICROBIOLOGY		
3. Principles and practices of biological classification.	GENERAL BIOLOGY		
4. Scientific theory and principles of biological evolution.	GENERAL BIO, EVOLUTION		
5. Ecological systems including the interrelationships and dependencies of organisms with each other and their environments.	GENERAL BIO, ECOLOGY, ENVIRONMENTAL STUDIES		
6. Population dynamics and the impact of population on its environment.			
7. General concepts of genetics and heredity.	GENETICS, CELL BIO		
8. Organization and functions of cells and multicellular systems.			
9. Behavior of organisms and their relationships to social systems.	ECOLOGY, ENVIRO. STUDIES		
10. Regulation of biological systems including homeostatic mechanisms.	CELL BIO.,		
11. Fundamental processes of modeling and investigating in the biological sciences.			
12. Applications of biology in environmental quality and in personal and community health.	ENVIRO. STUDIES		
<b>Physics (Core Competencies 1-11)</b>			
1. Energy, work, and power.	GENERAL PHYSICS		
2. Motion, major forces, and momentum.	GENERAL PHYSICS		
3. Newtonian principles and laws including engineering applications.			
4. Conservation of mass, momentum, energy, and charge.			
5. Physical properties of matter.			
6. Kinetic-molecular motion and atomic models.			
7. Radioactivity, nuclear reactors, fission, and fusion.			
8. Wave theory, sound, light, the electromagnetic spectrum and optics.			
9. Electricity and magnetism			
10. Fundamental processes of investigating in physics.			

11. Applications of physics in environmental quality and to personal and community health.			
<b>Earth and Space Science (Core Competencies 1-12)</b>			
1. Characteristics of land, atmosphere, and ocean systems on Earth.			
2. Properties, measurement, and classification of Earth materials.			
3. Changes in the Earth including land formation and erosion.			
4. Geochemical cycles including biotic and abiotic systems.			
5. Energy flow and transformation in Earth systems.			
6. Hydrological features of the Earth.			
7. Patterns and changes in the atmosphere, weather, and climate.			
8. Origin, evolution, and planetary behaviors of Earth.			
9. Origin, evolution, and properties of the universe.			
10. Fundamental processes of investigating in the Earth and space sciences.			
11. Sources and limits of natural resources.			
12. Applications of Earth and space sciences to environmental quality and to personal and community health and welfare.			