



NEW JERSEY CENTER
FOR TEACHING & LEARNING

**New Jersey Center for Teaching and Learning
Graduate School of Education**

Student Handbook and Program Guide

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NEW JERSEY CENTER
FOR TEACHING & LEARNING

Dear Students:

Thank you for choosing the New Jersey Center for Teaching and Learning (NJCTL).

The mission of NJCTL is to empower instructors to lead school improvement so that all children have access to a high quality education. We welcome you in joining us on that mission.

NJCTL believes in the need for a systemic approach to the continuous improvement of teaching and learning. That applies to both our work preparing instructors, as well as those instructors' work in their classrooms. Continuous improvement requires always questioning what we do and how we do it... always asking how we can improve our work to benefit both our students and their students.

As part of this, we embrace technology as a valuable tool in improving student learning. Properly used, technology makes it possible to implement best practices in an easier, more efficient way. We look to new technologies to support us on our mission, while recognizing that technology is a tool, not a goal.

NJCTL is committed to a sustainable approach to improving student learning as well as to the environment. To this end, our content is available online instead of in print, and we primarily utilize virtual learning and electronic communication.

As you progress through your experience, please keep in mind that we, at NJCTL, welcome all your input and suggestions so that we can continuously improve. Please email any of us with your comments and ideas. My email address is bob@njctl.org.

We welcome you in joining us on our mission of improving access and quality of mathematics and science education for all students. Accomplishing this requires talented educators like you who have learned how to be effective using the tools provided by NJCTL to engage all students in higher levels of learning.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert Goodman".

Robert Goodman, Ed.D.
Executive Director

OVERVIEW

The New Jersey Center for Teaching and Learning (NJCTL) is an independent not-for-profit foundation, created by the New Jersey Education Association. Our mission is to empower teachers to lead school improvement so that all children have access to a high quality education.

NJCTL uses proven and replicable approaches to teaching K-12 science and math: the ¹ Progressive Science Initiative® (PSI®); the Progressive Mathematics Initiative® (PMI®); and the Progressive Teaching Initiative™ (PTI™). They provide students the essential foundation to pursue science, technology, engineering and mathematics (STEM) careers.

Development of PSI

A journey that began eighteen years ago with the goal of improving science education for 16 pre-engineering students at a New Jersey vocational/technical high school has opened the way for the U.S. to become a global leader in science and mathematics education.

In 1999, Dr. Robert Goodman – NJCTL’s executive director – launched a new high school pre-engineering program for students with weak science and mathematics skills. This need to bring underprepared students up to a very high standard in science and mathematics is seen across K-12 and in higher education. This early service to Dr. Goodman’s students formed the precedent and experience for developing PSI, a program that boosts student achievement in science and mathematics. In addition to improving students’ mathematics and science scores, PSI helped Dr. Goodman’s school become the leader in New Jersey for AP Physics. In 2006, Dr. Robert Goodman was named the NJ State Teacher of the Year, and in 2009, he became executive director of NJCTL.

Why PSI is Unique

PSI combines direct instruction and social constructivism to create an engaging environment for students, regardless of their prior experience with science and mathematics. The classroom is filled with lively debate and collaborative problem solving. It makes science and mathematics the favorite subjects of many students as they achieve exceptional understanding.

A key aspect of PSI® is correcting the science sequence to physics-chemistry-biology, a change from the traditional biology-chemistry-physics sequence. The traditional sequence made sense when it began in 1892, but had not changed since the advent of quantum theory and molecular biology more than 50 years ago. Science taught in the PSI® sequence makes sense to students.

Furthermore, students learn algebra-based physics at the same time as algebra, bringing added meaning and context to mathematics in a way that is generally missing in traditional programs.

¹ PROGRESSIVE SCIENCE INITIATIVE®, PSI®, PROGRESSIVE MATHEMATICS INITIATIVE®, PMI®, and Progressive Teaching Initiative™, PTI™ are registered trademarks of Dr. Robert Goodman and the New Jersey Center for Teaching and Learning is the exclusive Licensee of these marks.

Expansion of PSI

NJ policy makers supported bringing PSI to more schools. Expansion required course materials that could be broadly shared, and it also required more physics teachers – many more.

Course materials were created by capturing the content and pedagogy of PSI® in interactive whiteboard software. Use of interactive whiteboards and student polling devices enables the blending of curriculum, pedagogy and assessment into a seamless whole. It also allows for easy replication of that experience via downloading and using PSI®'s free, editable electronic files.

The PSI® methodology, used to teach physics to students, was also employed to teach physics to teachers, helping to grow the pool of qualified physics instructors.

NJCTL quickly became the #1 producer of physics teachers in the U.S. Those teachers have led their schools to become top schools for students taking AP sciences. PSI® first proved that all students could learn physics. It has now proven that teachers from any subject area can learn physics. And that they can teach it successfully.

Expansion of PSI® to K-12 Mathematics and Science

State and national standards offer the same curriculum coherence for K-12 mathematics as PSI® has for high school science. By applying the same methods for teaching and learning that were developed for PSI to mathematics, the Progressive Mathematics Initiative (PMI) was created. PMI now provides free editable content for teaching mathematics from kindergarten through grade 12.

More recently, state and national standards began providing that same curriculum coherence to K-8 science. NJCTL used that opportunity to expand PSI science course materials to those grades – providing editable free science course materials from kindergarten through the AP sciences.

Offering complete sets of free editable course materials for all of K-12 mathematics and science eliminates the expense of textbooks and allows real-time continuous improvement. It also provides K-12 vertical alignment, from year to year, and horizontal alignment, between mathematics and science in each year. This provides unprecedented coherence, which as never before been possible.

Even more exciting, through our free, online materials, PSI and PMI are now available to educators and students around the globe. Through grant funding, NJCTL continues to demonstrate its commitment to education in the world. We have also worked with instructors in numerous countries throughout the world, including South America and in Africa.

Teacher Training

The United States suffers from a chronic shortage in STEM teachers - a shortage so pronounced that 40% of American high schools have no physics instruction at all, a critical foundation for STEM. NJCTL addresses this problem by using the same teaching methods that have been

successful in teaching K -12 students to create a fast-track supply of new physics, chemistry and mathematics teachers.

NJCTL's rigorous endorsement programs provide currently certified NJ teachers, in any subject area, an endorsement to teach physics, chemistry or mathematics through a combination of NJCTL online content courses; PTI teaching methods, and field experience. Teachers dedicate more than 300 hours to complete their program.

In addition to creating new physics, chemistry and mathematics teachers, NJCTL provides online courses to current K-12 teachers in PSI, PMI and PTI. Teachers must learn to teach in a new way to realize the full benefit of NJCTL's new instructional and learning paradigm; they must deliver brief direct instruction (5 to 10 minutes), pose questions that drive collaborative student problem solving, provide feedback on classroom results and then set up the next problem. Instructors must inspire the continuous improvement of student understanding. To a great extent, this involves teachers setting up the experience for students and then allowing students to take the lead.

More than 2,800 certified mathematics and science teachers have been trained in PSI, PMI and PTI methods and 272 teachers have completed a physics or chemistry endorsement. NJCTL has trained teachers in more than 300 schools in New Jersey, Colorado, Missouri, Illinois, Utah, Rhode Island, Vermont, Maine, Argentina, The Gambia, Lesotho, Rwanda, and Ghana.

Sustainability

Sustainability is a core value of NJCTL. It is reflected in how we operate and in our programs. PSI, PMI and PTI eliminate textbooks, providing savings to schools which quickly repays investments in training and technology and thereafter provides lower education costs. It also reduces the environmental impact of printing, shipping, and storing textbooks while allowing the real-time continuous improvement of course materials. Teacher education courses and course materials are now online, reducing ancillary costs and eliminating the requirement for teachers to travel to a designated location for face-to-face training.

NJCTL has no building; all employees work from home and are connected electronically. All NJCTL courses are offered online to teachers. This lowers cost and eliminates wasted commuting time. It also is environmentally sound. The "greenest" building is no building; the most environmentally friendly commute is no commute.

Accomplishments

NJCTL is the #1 producer of physics teachers in the United States. We are opening access to STEM career paths for many who would otherwise not have it, particularly students who are Black and/or Hispanic and/or live in economically depressed circumstances. <http://njc.tl/wh>

NJCTL teachers are as likely to pass the Praxis physics or chemistry exams as non-NJCTL teachers. <http://njc.tl/1b1>

NJCTL programs are used in six of the top 12 NJ schools for AP Physics participation. NJCTL schools are more than 60% Black/Hispanic and free/reduced lunch; non-NJCTL schools are less than 8%. <http://njc.tl/1bi>

PSI minority and female students are more than five times as likely to participate in the AP physics B exam as students throughout New Jersey or the United States, and more than twice as likely to pass the AP physics B exam. <http://njc.tl/1b8>

NJCTL is improving mathematics achievement through its work in physics. For example, Newark's 9th grade students who took physics saw a 14% improvement on a national Algebra I exam. <http://njc.tl/wg>

Policy leaders endorse NJCTL. For instance, the Stanford Center for Opportunity Policy in Education, headed by Linda Darling-Hammond, said, "The New Jersey Center for Teaching and Learning (NJCTL) has been doing groundbreaking professional development work in mathematics and science instruction as well...using the innovative curriculum of 2006 New Jersey Teacher of the Year Robert Goodman...to create the Progressive Science Initiative." <http://njc.tl/1a3>

NJCTL received a 2011 Learning Impact Award Gold Medal from IMS Global. IMS, a consortium of more than 150 education technology companies, awards this each year to those that have had the greatest impact on student learning. <http://njc.tl/ims>

More than 233,000 students, teachers and other adults visited the NJCTL website during the past year, and downloaded nearly 1 million files. These visitors were from 50 states and 185 countries. Also, during that period, NJCTL's more than 16,000 posted videos had more than 172,500 views.

Moving Forward

Join us in achieving our mission of improving access and quality of mathematics and science education for all students. Accomplishing this requires talented educators who well understand how to be effective using the tools provided by NJCTL to engage all students in higher levels of learning.

NJCTL's programs and courses are designed to make you an effective part of this movement to improve the world for so many students who currently lack the opportunity they all deserve. We look forward to working with you.

Governing Board

NJCTL's governing board was established by the NJEA, which led the original recruitment and selection of board members to ensure that each board member believed that teachers have the knowledge, skills, and creative talent to transform schools and should drive school improvement efforts.

Current board members recruit and nominate prospective board members who have experience and a commitment to supporting our mission. Current board members include the following:

Joyce Powell
Chair of the Board, NJCTL
NEA Executive Committee Member

Dennis Bone
Secretary Treasurer, NJCTL
Director of the Feliciano Center for Entrepreneurship at the School of Business,
Montclair State University

Victor Lawrence
Associate Dean, Stevens Institute of Technology

Ed Friedman
Professor Emeritus, Stevens Institute of Technology

Marie Blistan
President, New Jersey Education Association

Ed Richardson
Executive Director, New Jersey Education Association

Eric First, M.D.
Chief Medical Officer, Americas, Sirtex Medical Inc.

Robert Bonazzi
President, Princeton Organizational Advisors

Ross Danis
President, MeckEd

Vince Giordano
Former Executive Director, New Jersey Education Association

Barbara Keshishian
Former President, New Jersey Education Association

FACULTY

NJCTL's faculty is committed to the mission of the organization and advancing PSI and PMI education.

Current faculty members are listed below. Click the name of any faculty member to view his or her credentials:

[Dr. Robert Goodman](#), Executive Director

[Dr. Rosemary Knab](#), Director of Research & Outreach

[Maureen Ollweiler](#), Director of Operations

[Susan Olszewski](#), Director of Course Development

[Melissa Axelsson](#), Director of Curriculum Development

[Yuriy Zavorotniy](#), Director of Curriculum Development & Training, Dean of Faculty

[Josef Kariuki](#), Senior Program Manager

[Dr. Jamie Lee Korns](#), Program Manager, Dean of Students

[Dr. John Ennis](#), Program Manager

[Laura Muller](#), Program Manager

[Peter Newman](#), Program Manager

[Dr. Jayasree Sankar](#), Program Manager

[Rebecca Barrett](#), Program Manager

[Audra Crist](#), Program Manager

[Katie Johnson](#), Program Manager

[Kristin DeAngelis](#), Program Manager

[Maria Surace](#), Program Manager

[Katy Goodman](#), Program Manager

Program Guide

At the present time, NJCTL offers four endorsement programs for current NJ teachers – a Physics Endorsement Program, Chemistry Endorsement Program, Middle School Mathematics Endorsement Program, and High School Mathematics Program. These programs are described below. The most updated version of the [Course Catalog](#) with course descriptions is maintained on the NJCTL website. [Requirements](#) for implementing a PSI classroom are listed on the NJCTL website.

Optional graduate credit may be purchased for completing these courses and the NJCTL Teaching Methods Course through Colorado State University's Global Campus (CSU-Global). Information on purchasing [graduate credit](#) is on the NJCTL website. CSU-Global is regionally accredited by the Higher Learning Commission.

NJCTL is planning to seek accreditation from Middle States Association of Colleges and Schools within the next 3 years.

Any teacher seeking to learn more about physics, chemistry, mathematics or NJCTL Teaching Methods may enroll in NJCTL courses.

Pathways to Additional Certification and Professional Development

As noted above, teachers may take any of NJCTL's online courses to improve their professional practice. Since optional graduate credits are available, a teacher may be able use these credits to move on the salary guide or to fulfill his or her state's requirements for an additional certification in a STEM subject. Before enrolling in courses for additional certification, teachers will need to check with their school district and/or their state department of education to see if credit can be earned for taking NJCTL courses.

Physics Endorsement Online for NJ Teachers

This 30-credit program provides currently certified New Jersey teachers, in any subject area, an endorsement to teach physics through a combination of NJCTL Online Courses for Teachers; Field Experience Courses; and Praxis examinations. NJCTL Online Courses for Teachers provides all the required instruction in both physics content and teaching methods.

- Teachers complete the first two online courses for teachers, Algebra-Based Physics (PHYS6601) and Teaching Methods (PHYS6101), before entering the classroom in the fall. These courses become available in January and must be completed by August 15 so that the teacher can begin the field experience in September.
- After completing the first 2 prerequisite courses, teachers then take two Field Experience Courses, PHYS6602 in the fall and PHYS-6604 in the spring, in which they teach Algebra-Based Physics to at least one section of students while receiving coaching and support from NJCTL. Teachers will receive a letter (Appendix A) from NJCTL after completing the first 2 prerequisite courses confirming their approval to begin the field experience.
- During the Field Experience, teachers take three additional Online Courses for Teachers in the content, and how to teach the content, of Advanced Placement Physics. These

are taken in succession and should be completed before taking the Praxis examinations: PHYS6603; PHYS6605; and PHYS6607.

Upon successfully completing these five online courses for teachers, the two Field Experiences Courses, and passing the [General Science Praxis](#) (5435) and [Physics Praxis](#) (5265), the candidate can apply to New Jersey for an endorsement to teach physics. Candidates cannot receive their verification of completion form from NJCTL without giving NJCTL their Praxis scores.

Chemistry Endorsement Online for NJ Teachers

This 30-credit program provides currently certified New Jersey teachers, in any subject area, an endorsement to teach chemistry through a combination of NJCTL Online Courses for Teachers; Field Experience Courses; and Praxis examinations. NJCTL Online Courses for Teachers provide all the required instruction in both chemistry content and teaching methods.

- Teachers complete the first two Online Courses for Teachers, Learning and Teaching PSI Chemistry (CHEM6701) and Teaching Methods (CHEM6101), before entering the classroom in the fall. These courses become available in January and must be completed by August 15 so that the teacher can begin the field experience in September.
- After completing the first 2 prerequisite courses, teachers then take two Field Experience Courses, CHEM6702 in the fall and CHEM6704 in the spring, in which they teach PSI Chemistry to at least one section of students while receiving coaching and support from NJCTL. Teachers will receive a letter (Appendix A) from NJCTL after completing the first 2 prerequisite courses confirming their approval to begin the field experience.
- During the Field Experience, teachers take three additional Online Courses for Teachers in the content, and how to teach the content, of Advanced Placement Chemistry. These are taken in succession and should be completed before taking the Praxis examinations: CHEM6703; CHEM6705; and CHEM6707.

Upon successfully completing these five Online Courses for Teachers, the two Field Experiences Courses, and passing the [General Science Praxis](#) (5435) and [Chemistry Praxis](#) (5245), the candidate can apply to New Jersey for an endorsement to teach physics. Candidates cannot receive their verification of completion form from NJCTL without giving NJCTL their Praxis scores.

Middle School Mathematics Endorsement Online for NJ Teachers

This 24-credit program provides currently certified New Jersey teachers, in any subject area, an endorsement to teach Middle School Mathematics through a combination of NJCTL's Online Courses for Teachers; Field Experience Courses; and Praxis II examination. NJCTL's Online Courses for Teachers provide all the required instruction in both mathematics content and teaching methods.

- Teachers complete the first three Online Courses for Teachers; Teaching Methods (MATH6101), Learning, Teaching Pre-Algebra (MATH6401); and Learning and Teaching Algebra I (MATH6403) before entering the classroom in the fall.
- After completing the first 2 prerequisite courses, teachers then take two Field Experience Courses, MATH6402 in the fall and MATH6404 in the spring, in which they teach MS

Mathematics (applicable for grades 5-8) to at least one section of students while receiving coaching and support from NJCTL.(Appendix A) from NJCTL after completing the first 2 prerequisite courses confirming their approval to begin the field experience.

- During the Field Experience, teachers take two additional Online Courses for Teachers, Learning and Teaching Geometry (MATH6405); and Middle School Mathematics Capstone with Praxis Prep (MATH6411).

Upon successfully completing these five Online Courses for Teachers, and the two Field Experiences Courses, and passing the [Middle School Mathematics \(5169\) Praxis](#), the candidate can apply to the New Jersey Department of Education for an endorsement to teach Middle School with Subject Matter Specialization: Mathematics in Grades 5-8. Please note that issuance of the Middle School with Subject Matter Specialization endorsement will be contingent upon eligibility and/or issuance of the Elementary School or N-12 subject matter certificate.

Mathematics K-12 Endorsement Online for NJ Teachers

This 38-credit program provides currently certified New Jersey teachers, in any subject area, an endorsement to teach Mathematics K-12 through a combination of NJCTL's Online Courses for Teachers; Field Experience Courses; and Praxis II examination. NJCTL's Online Courses for Teachers provide all the required instruction in both mathematics content and teaching methods.

- Teachers complete the first three Online Courses for Teachers; Teaching Methods (MATH6101), Learning and Teaching Pre-Algebra (MATH6401); and Learning and Teaching Algebra I (MATH6403) before entering the classroom in the fall.
- After completing the first 2 prerequisite courses, teachers then take two Field Experience Courses, MATH6406 in the fall and MATH6408 in the spring, in which they teach Algebra I to at least one section of students while receiving coaching and support from NJCTL. Teachers will receive a letter (Appendix A) from NJCTL after completing the first 2 prerequisite courses confirming their approval to begin the field experience.
- During the Field Experience, teachers take two additional Online Courses for Teachers; Learning and Teaching Geometry (MATH6405); and Learning and Teaching Algebra II (MATH6407).
- At the end of the field experience and continuing into the summer term, teachers take two final Online Courses for Teachers, Learning and Teaching Precalculus/Introductory Calculus (MATH6409), and High School Mathematics Capstone with Praxis Prep (MATH6413).

Upon successfully completing these seven Online Courses for Teachers, the two Field Experiences Courses, and passing the [Mathematics Content Knowledge \(5161\) Praxis](#), the candidate can apply to the New Jersey Department of Education for an endorsement to teach Mathematics K-12.

POLICIES AND PROCEDURES

Overview

Maintaining a strong level of communication and collegiality across the NJCTL community is a high priority. A key step in fostering these traits occurs upon enrollment, when each NJCTL student is introduced to the Dean of Students who will work with them on issues related to completing their program successfully. If a student is not satisfied with the outcome of the support that he or she is receiving from the Dean of Students, they should then contact the Executive Director, who will work with them to ensure that any issues are resolved.

Academic Calendar and Pacing

NJCTL does not maintain a governing academic calendar for students, as it embraces a rolling admissions policy, students in the endorsement program should be aware of and adhere to certain deadlines, including mandated field experience coursework that must take place over two periods of ten consecutive weeks, each. As a reminder, students in the program must take and pass the required Praxis exam(s) in order to be able to submit your paperwork to the NJ DOE to receive your subject-area endorsement. These and any other key deadlines will be communicated to students via pacing updates and email communications, and it is the responsibility of each student to be aware of and meet these deadlines. Although course sequences are set, specific cohort start dates are on a rolling enrollment so end dates will vary based on the needs of individual schools and students. Students who fall significantly behind the recommended pacing will receive written warning from the Dean of Students.

Academic Integrity

NJCTL expects all members of its community to be honest and forthright in their academic endeavors, since violations of academic integrity would undermine our mission. Violations of academic integrity include, but are not limited to, cheating; fabricating, altering or falsifying documents, information or citations; forgery; gaining or providing unauthorized access to examinations; plagiarizing; or submitting false credentials.

Required Testing Procedures

As part of our continued effort to provide you with support and adhere to the highest levels of academic integrity, our instructors regularly monitor reports that are generated by Proctorio software and staff. Your efforts in following the procedures listed below will help to reduce “flags” noted in these reports due to irregularities.

1. You must be in an isolated area that is not a public space and will not be interrupted by others (including pets).
2. Your workspace must be free of all materials other than your computer/tablet, calculator, blank scrap paper/pencil, and, in physics or chemistry courses, the course-provided formula/equation sheet.
3. If you are using the course-provided formula/equation sheet for a test, please hold that up at the beginning of the assessment to the camera before you start the test.
4. Reduce all noise in the room; Proctorio will flag any stray or sudden sounds.
5. Maintain eye contact with the screen as much as possible. Proctorio will

recognize when eye contact is lost.

6. Do not allow your test to “time out” (occurs after 2 minutes idle), close your test, terminate screen sharing, or leave the test until you are completely finished. Doing so will terminate your attempt and your work will not be counted.

If you experience technical issues while taking a test, please contact Proctorio immediately, while the issue is occurring, if possible, so they can troubleshoot. The best way to do this is by clicking the “shield” icon to the right of the address bar in Chrome to start a live chat. You may also call Proctorio support 24/7: 480-428-4089. Additionally, please communicate the issue that occurred, and resolution with Proctorio, to the NJCTL Tech Support team immediately afterwards: techsupport@njctl.org

Any concerning irregularities will be addressed by the instructor with the student in accordance with NJCTL’s Academic Integrity policy, which are outlined in this student handbook.

Academic Standing

NJCTL has established standards for academic good standing within a student’s academic program.

Students enrolled in any NJCTL online course must receive an 80 or higher to successfully complete a course and receive credit for that course. An 80 is equivalent to a GPA of 2.7 or B-. Additionally, students in an endorsement program must receive a cumulative GPA of 3.0 for all courses combined in order to successfully complete the program.

Retake Policy

Consistent with NJCTL’s teaching methods, students have multiple opportunities to retake Mastery Exercises or exams (excluding Final Exams). Students who wish to retake an exam should contact their instructor.

Additional Requirements for Students in an Endorsement Program

- Students in an endorsement program must receive a cumulative GPA of 3.0 for all courses combined in order to successfully complete the program.
- Students who have a GPA below 3.0 are notified via email that they are being placed on Academic Warning. Students are expected to check their email regularly.
- Students are expected to keep track of their own grades using the grade reports in Moodle and to request support from their instructors. NJCTL’s Dean of Students monitors the academic progress of each student and will work with students and their instructors/coaches to help to help improve the student’s academic standing.
- Specifically, students on Academic Warning must work with their instructor and coach to develop and agree to a corrective action plan to raise their GPA to a 3.0 or above in order to continue in their program.
- Students whose grades remain below a 3.0 for two consecutive semesters will be placed on Academic Probation. If a student is paying for his or her own coursework, notification of Academic Probation will be provided to the student. If

the student's school or district is paying for the student's coursework, notification of Academic Probation also will be provided to the student's school or district.

- If students do not bring their cumulative GPA to a 3.0 or better after three consecutive terms, they will be removed from the program. If a student is paying for his or her own coursework, notification of removal from the program will be provided to the student. If the student's school or district is paying for the student's coursework, notification of removal from the program also will be provided to the student's school or district.

Admissions Policy

I. New Student Admissions

NJCTL allows open admissions to its courses. NJCTL's admissions requirements for its graduate degree programs align with the admissions requirements for the endorsement programs for physics, chemistry, and mathematics which was approved by the DOE.

These requirements include the following:

A. Evidence of being a successful certified New Jersey teacher.

Applicants are required to submit a copy of their existing teaching certificate and evidence (in the form of recommendation letters or equivalent) indicating that their district supports them and their participation in this program.

B. Assessment used to demonstrate knowledge of math or science.

NJCTL teaches highly-skilled teachers the content knowledge of mathematics and science, at the same time as teaching them the approaches to successfully teach that content to their students. As a result, our emphasis is on recruiting teachers who are well regarded for their teaching ability and who are very interested in learning both science content, and how to teach it.

C. Procedure for determining candidate's interest in a science or mathematics teaching career

Applicants must submit an application to be part of PSI or PMI and be recommended by their school district. Applicants will be participating in more than 450 hours of instruction in physics, chemistry, and/or mathematics, as well as the teaching of one of these subjects; this is testament to their interest in a science teaching career.

D. Procedure for documenting experience in the application of math and science skills in previous employment or experience in working with school-age children

Candidates are all current in-service teachers.

E. Description of any other criteria being used for selecting program participants

Participants are experienced, certified teachers who have been recommended by their school district to participate in PSI or PMI. Districts may be investing a considerable amount of time and money in the training of these teachers and supplying them the necessary equipment and technology. They know the candidates best and are unlikely to support them without having confidence in them.

II. Transfer Student Policy

NJCTL would welcome any articulation or credit transfer programs with other higher education institutions that would enhance the effective efficient learning of NJCTL students. Student learning is a key goal of NJCTL's work and any and all collaborative arrangements that help us reach that goal would be embraced.

NJCTL currently has no credit-transfer option or articulation agreements with other universities since its programs are not currently credit bearing.

Accommodations for Students with Disabilities

NJCTL supports the protections available to members of its community under Section 503 and 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act Amendments Act of 2008 and all applicable State regulations. Consistent with state and federal statutes that affirm and protect the equal opportunity rights of persons with disabilities, NJCTL has a policy of non-discrimination and equal opportunity for otherwise-qualified persons with disabilities.

Any student with a disability who needs accommodations to successfully complete a course should contact the Dean of Students.

Any instructor or student with a disability who believes that s/he has been the victim of discrimination may file a complaint to the office of the Executive Director under the New Jersey State Policy Prohibiting Discrimination in the Workplace.

Affordability

NJCTL is committed to ensuring affordability for students from all backgrounds. The tuition for NJCTL courses is \$275 per credit and there are no fees. This is substantially less than the tuition of many NJ state colleges and universities which are about \$718 per graduate credit plus \$299 per credit for other fees: a total of \$1017 per credit.

Also, NJCTL students typically are not required to purchase textbooks, as all course materials are free and open source. This represents a major cost savings for students.

NJCTL is currently seeking recognition as an Institute of Higher Education. If the proposed courses and programs are approved, NJCTL will apply for first-time approval to be designated as an eligible institution and, if applicable, to participate in the federal student financial assistance programs. Such programs will create opportunities for all educators to pursue participation in our programs, regardless of economic need or whether their district is offering to pay the costs.

Discrimination

I. Introduction

A. Laws Against Discrimination

NJCTL is committed to addressing discrimination/harassment by students or against students because discrimination is unlawful and undermines the integrity of the academic environment. The New Jersey Law Against Discrimination (LAD) and federal civil rights laws prohibit discrimination/harassment by or against instructors or students based upon the following protected categories: race, creed, religion, color, national origin, nationality, ancestry, age, sex/gender (including pregnancy), familial status, marital/civil union status, sexual orientation, gender identity or expression, domestic partnership status, atypical hereditary cellular or blood trait, genetic information, disability, (including perceived disability, physical, mental and/or intellectual disabilities), or liability for service in the Armed Forces of the United States.

B. Applicability

This policy applies to protect all students and instructors from discrimination/harassment by others at NJCTL, including students, faculty, staff members, vendors, and contractors. This policy applies to both physical and verbal conduct that occurs at NJCTL, (including electronic communications sent or received on campus) and that occurs at any location, which can be reasonably regarded as an extension of NJCTL (i.e., any field location, online course, or any facility where NJCTL-sponsored activities are being conducted or discussed).

C. Protection of First Amendment Rights

This policy will not be applied to abridge a student's exercise of free speech or expression which is protected by the Constitution of the State of New Jersey and the First Amendment to the U.S. Constitution.

II. Prohibited Conduct

It is a violation of this policy for a student, teacher taking NJCTL courses, or NJCTL faculty or staff to engage in discriminatory conduct against another member of the NJCTL community based upon any of the protected categories outlined in Section A that is sufficiently severe, pervasive, and objectively offensive so as to substantially disrupt college operations or materially limit another instructor ability to participate in or to receive the benefits, services or opportunities of NJCTL. Discrimination/harassment or the creation of a hostile environment can occur even if there was no intent on the part of an individual to harass or demean another.

III. Faculty/Staff Responsibilities

A. Policy on Discrimination/Harassment

Faculty/staff should make every effort to maintain an educational environment for students that is free from any form of prohibited discrimination/harassment. Faculty/staff and/or supervisors are required to take seriously all student allegations or complaints of discrimination/harassment, including sexual

harassment, and to immediately report these matters to the office of the Executive Director for confidential investigation and to consult with the Executive Director on interim corrective measures which may be recommended to prevent continued violations of this policy. All employees are expected to cooperate with the investigation. Failure to cooperate in an investigation may result in disciplinary action.

- B. Policy on Faculty Research, Professional Development, and Scholarship
NJCTL supports faculty, staff and students by cultivating scholarship and research, encouraging research in emerging areas to advance basic knowledge in STEM education. Stakeholders are encouraged to provide ongoing suggestions to improve NJCTL courses and NJCTL methods, and to share research articles with NJCTL that address emerging issues in STEM education. NJCTL faculty regularly review each other's work – providing suggestions to improve research surveys, the interpretation of research results, research design, and articles for publication. Faculty input is sought on all NJCTL research projects.

IV. Dissemination

NJCTL will annually disseminate this Policy through the student handbook and employee handbook.

V. Complaint Process

NJCTL follows the State of New Jersey Model Procedures for Processing Internal Complaints Alleging Discrimination with regard to reporting, investigating, and where appropriate, remediating claims of discrimination/harassment. Each State entity is responsible for designating an individual or individuals to receive complaints of discrimination/harassment (including sexual harassment and sexual violence), investigating such complaints, and recommending appropriate remediation of such complaints. The office of the Executive Director is responsible for handling complaints against discrimination.

The Executive Director shall maintain a written record of the discrimination/harassment complaints received. Written records shall be maintained as confidential records to the extent practicable and appropriate.

VI. Prohibition Against Retaliation

Retaliation against any person who either alleges that s/he was the victim of discrimination/harassment, provides information in the course of an investigation into claims of discrimination/harassment in the academic environment, or opposes a discriminatory practice is prohibited by the Policy. Any teacher or student bringing a complaint, providing information for an investigation, or testifying in any proceeding under the Policy will not be subjected to adverse academic or employment

consequences based upon such involvement nor be the subject of retaliation.

V. False Accusations and Information

An instructor or student who knowingly makes a false accusation of prohibited discrimination/harassment, or who knowingly provides false information in the course of an investigation of a complaint, may be subjected to administrative and/or disciplinary action. Complaints made in good faith, even if found to be unsubstantiated, will not be considered a false accusation.

VI. Confidentiality

All complaints and investigations shall be handled, to the extent possible, in a manner that will protect the privacy interests of those involved. To the extent practical and appropriate, confidentiality shall be maintained throughout the investigatory process. During the course of an investigation, it may be necessary to discuss the claims with the person against whom the complaint was filed and other persons who may have relevant knowledge or those who have a legitimate need to know about the matter. All persons interviewed, including witnesses, shall be directed not to discuss any aspect of the investigation with others in light of the important privacy interests of all concerned. Appropriate administrative authorities may be contacted in the interim (before a final report is submitted to the Provost) if immediate or temporary actions must be taken to ensure the safety or well-being of any party to the complaint or to ensure the integrity of the investigation.

Drug-Free Environment

Students may not be under the influence of any controlled substance, such as drugs or alcohol, while participating in NJCTL in-person events (e.g., workshops, labs, etc.). Prescription drugs or over-the-counter medications, taken as prescribed, are an exception to this policy.

Facilities and Student Support Services

As an online institution, NJCTL has no buildings or facilities. However, a variety of student supports are available and described throughout this Handbook, including support for students with disabilities, protection from discrimination, etc. Students with any concerns or needs should reach out to their instructor or the dean of students for assistance.

General Event Photography and Video Policy

NJCTL instructors and students may be included in marketing and communications materials via photographs and/or video. As a general rule, it is not necessary to obtain an image/photo release of any individual or group that is photographed or videoed in public venues (such as classrooms) or attending public events in order to use those photos or videos to promote NJCTL. However, it is the policy of NJCTL that all instructors and students will sign a general Release Form when enrolling in NJCTL courses, for the purpose of marketing.

Instructors or students who have a concern about the use of their image or who would like NJCTL to remove their image from being used can contact the office of the Executive Director.

Individuals taking a Field Experience course will be asked to submit video recordings of their lessons to NJCTL instructors. It is the responsibility of the enrolled individual to submit any necessary documentation requested by NJCTL instructors, including video recording releases/consents. Additionally, it is the responsibility of the enrolled individual to comply with their district's policies and procedures regarding video recording of students if students are to be included in the video recording. Enrolled individuals should contact their NJCTL instructor for help setting up video recordings.

Grading Scale

GPA (grade point average) is reported on a traditional 4.0 scale. NJCTL calculates GPA based on the following:

Letter Grade	Percent Grade	GPA
A	93-100	4.0
A-	90-92	3.7
B+	87-89	3.3
B	83-86	3.0
B-	80-82	2.7
C+	77-79	2.3
C	73-76	2.0
C-	70-72	1.7
D+	67-69	1.3
D	65-66	1.0
F	Below 65	0.0

Grade Appeals

NJCTL recognizes a student's right to file an appeal of an academic nature. Course instructors must follow NJCTL's course requirements and performance standards. An instructor's evaluation of students' academic performance is based on the requirements set forth in the course syllabus and is expressed through the submission of final course grades. Under certain limited circumstances, a student may appeal a grade.

I. Circumstances Justifying an Appeal

Grade appeals will be considered only if a student can provide documentation supporting his/her case. Circumstances that might justify a grade appeal include, but are not limited to, computational error; grading error, or contesting an alleged violation of academic integrity or policy.

II. Appeals Process

If circumstances such as those described above can be documented, the student may appeal a grade by taking the following steps:

- A. No later than twenty (20) calendar days after the posting of grades, a student must bring his/her appeal to the attention of the course instructor in writing by email. Supporting documentation must be provided. Both parties should make good faith efforts to share viewpoints and mediate differences of opinion.
- B. If it is mutually agreed that a grade adjustment is warranted, the course instructor will make the adjustment and notify the Dean of Students of the final grade earned.
- C. If a student and the course instructor cannot reach an agreement and a student wishes to further pursue a grade appeal, the student must email a written appeal, including pertinent course materials or course work, to the Dean of Students. The Dean of Students will confer with the student and the course instructor, jointly or independently as he/she sees fit, review pertinent documents and course materials, and confer with other faculty or administrative staff members as appropriate.
- D. If the Dean of Students determines that a grade change is warranted, he/she will advise the course instructor and student in writing.
- E. If the Dean of Students determines that a grade change is not warranted, the course instructor and student will be so informed in writing.
- F. If the instructor or student disagrees with the decision of the Dean of Students, the student or teacher may appeal this decision to the Office of the Executive Director. Appeals, including all pertinent documents related to the appeal, should be submitted within 7 days after the decision of the Dean of Students.
- G. The decision of the Office of the Executive Director is final.

Graduation

A graduation ceremony typically occurs once per year, in July. However, NJCTL will provide all paperwork for students who have met the graduation requirements promptly upon program completion.

Graduation is not an automatic process. Students must complete an application upon completion of all course requirements for their program. This application is sent to students in

each cohort by the dean of students via email in the spring prior to anticipated graduation, or upon request. Upon review and final approval by the dean of students that course, grade, and any outstanding balance requirements have been satisfied, student graduation is authorized and diplomas are issued.

Students seeking the release of the paperwork required to apply for endorsement are required to provide evidence that have successfully met all Praxis exam score requirements.

Students' diplomas indicating successful award of program completion, three (3) sealed, official copies of their transcripts, and endorsement verification of program completion (VOPC) forms, if applicable, will be mailed to students promptly upon program completion.

Students should check their transcript carefully. Any discrepancies should be brought to the attention of the dean of students immediately.

If a student does not meet all of the requirements for graduation in the term for which he or she applied, the student must submit a new graduation application for a subsequent term.

Library Services

NJCTL is a virtual and collaborative institution and does not host a physical library collection. Instead, NJCTL has an extensive list of K-12 STEM courses, research, and online resources posted on its website – www.njctl.org. This includes more than 90,000 slides for K-12 mathematics and science courses.

The website also directs visitors to additional sources, including:

New Jersey State Library (<http://www.njstatelib.org/>). All New Jersey residents have access to this library for additional research, if necessary.

ERIC (<http://eric.ed.gov/>): Education Resources Information Center, indexes a wide variety of education research journal sources. This resource is part of the U.S. Department of Education.

PTRA (<http://www.aapt.org/PTRA/>): Physics Teaching Resource Agents, “a professional membership association of scientists dedicated to enhancing the understanding and appreciation of physics through teaching.” This resource is maintained by the American Association of Physics Teachers.

eMentoring (<http://ementoring.aapt.org/>): a service that “connects high school physics educators who desire additional guidance with experienced high school physics educators.” This resource is maintained by the American Association of Physics Teachers.

ComPADRE Digital Library (<http://www.compadre.org>): a digital physics library of “free online resource collections supporting faculty, students, and teachers in Physics and Astronomy Education.” This resource is maintained by the American Association of Physics Teachers.

PhET (<http://phet.colorado.edu/>): Free, interactive educational simulations covering diverse topics designed by the University of Colorado; available in multiple languages.

RAFT (<http://www.raft.net/>): Resource Area For Teaching, “a non-profit organization founded in 1994 in California whose main focus is to inspire, engage and educate children through the power of hands-on teaching.”

Official Communications

All faculty and students are required to have a current email address account which they check daily for important information and announcements from NJCTL. Instructors and students will be held responsible for information disseminated in this way.

Responsible Use of Electronic Communications

It is a violation of federal law and NJCTL policy to share and/or distribute copyrighted materials without the permission of the copyright holder. Violators may be subject to civil and criminal prosecution under the provisions of the Digital Millennium Copyright Act (DMCA), as well as personal sanctions specified in NJCTL policy.

Student Records

NJCTL recognizes the importance of maintaining confidential records for each instructor and student.

In order to protect the rights of students regarding educational records, NJCTL has established policies and guidelines which describe what personal and non-personal information is collected and maintained, policies for releasing information, and compliance with the “Family Educational Rights and Privacy Act of 1974 as amended,” (FERPA) also known as the Buckley Amendment). Students enrolled in NJCTL courses, anyone registering at the NJCTL website or downloading NJCTL course materials must agree to these [Terms of Service](#).

Withdrawal

If a student decides to withdraw from a course, a refund will be provided if the withdrawal occurs within the first two weeks after registering for the course.

APPENDIX A
(Sample Authorization Letter for Field Experience)

[Date]

Dear [Student]:

Congratulations on concluding the first phase of NJCTL's Physics Endorsement Program by successfully completing both MET-6101 and PHYS-6601.

This email authorizes you to teach PSI Algebra-Based Physics during the 2018-19 academic year as part of the next phases of the DOE-approved endorsement program in which you are participating.

The next phases of the program, with deadlines, are outlined below:

- Phase II: PHYS-6602 and PHYS-6603 – to be completed by 1/31/2019.
- Phase III: PHYS 6604 and PHYS 6605 – to be completed by 5/31/2019.
- Phase IV: PHYS 6607 – to be completed by 6/30/2019.
- Phase V: Pass the General Science Praxis (5435) and the Physics Praxis (5265) and apply to the DOE for your physics endorsement on or before 7/31/2019.

If you are not able to meet any of these deadlines, please contact me to make alternative plans.

The provisional teaching authorization for Algebra Based Physics will expire on August 31, 2019, as your endorsement application should be in process by then. If you need more time due to delays in your program completion, extensions of that authorization, for six months at a time, can be made as long as an NJCTL-approved plan is in place and progress is being made.

Sincerely,

Jamie Lee Kornis
Dean of Students & Program Manager
New Jersey Center for Teaching and Learning

115 Franklin Turnpike #203 - Mahwah, NJ 07430
Ph: 609-310-1285