

**Manhattanville in West Harlem Implementation Plan Report
October 16, 2023 Submission**

Declaration Reference and Key Data

Obligation Section Number: **5.07(c)(ix)**

Obligation Title: **Availability of Faculty**

Obligation Page Number: **54**

Obligation Trigger: **When Upper Level Students Matriculate**

Obligation Start Date: **Beginning of 2012-2013 Academic Year**

Obligation End Date: **End of 2036-2037 Academic Year (25 Years from Commencement)**

Obligation Status: **In Compliance**

Obligation: Innovation/Changed Conditions

In accordance with the Declaration of Covenants and Restrictions Section 5.08, Obligation 5.07 (c)(ix) is modified to clarify the obligation. In general, the scope of services to be provided has not been changed. Additionally, the obligation in Section 5.07(c)(viii) New Public Middle and High School for Math, Science and Engineering that focuses on curriculum support from Columbia Faculty has been moved to this obligation for clarity of faculty engagement. Empire State Development and Columbia University agreed to this modification on November 28, 2018.

Modified Language:

Availability of Faculty. Columbia shall provide curriculum support to the faculty of Columbia Secondary School created in accordance with Section 5.07(c)(viii) to ensure the highest level of education in math, science and engineering, and continuing for a 25 year period from May 20, 2009. This portion of the commitment will end in 2034.

Commencing with the academic year in which the School matriculates upper level students eligible for competing in regional and national math, science and engineering competitions, CU shall endeavor in good faith to make its faculty from existing campuses available to upper level students from the School interested in competing in regional and national math, science and engineering competitions. As the Project Site is developed, CU shall endeavor in good faith to make its faculty from the Project Site available to upper level students at the School interested in competing in regional and national math, science and engineering competitions. Columbia shall provide curriculum support to the faculty of the new school to ensure the highest level of education in math, science and engineering, and continuing for a 25 year period from commencement.

Evidence of Compliance

1. Annual report

Columbia University's Implementation Plan and all supporting documentation are made available on the Columbia Neighbors Webpage at <https://neighbors.columbia.edu/content/community-commitments>.

COLUMBIA SECONDARY SCHOOL

for Math, Science, & Engineering

425 West 123rd Street, New York, NY 10027



A Public School, Community, and University Partnership

Challenging Academics – A Passion for Reason and Knowledge – Strength in Diversity

Memorandum

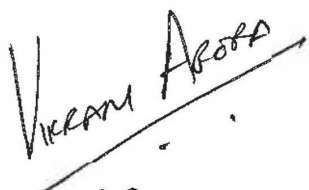
To: [REDACTED], Interim Provost
From: Vikram Arora, Principal
Re: Columbia University/Columbia Secondary School Staff and Student Interactions
Updated: September 1st, 2023

Columbia Secondary School for Math, Science, and Engineering (CSSMSE) opened in 2007 and has been providing the community with an excellent public secondary school (grades 6–12) option for over a decade. Based on feedback about the school’s needs and priorities from my staff and our leadership team, the University has continuously supported CSSMSE and its students through access to the expertise of Columbia’s faculty and to campus facilities.

This report describes the projects and programs through which CSSMSE accessed Columbia’s faculty and campus resources from September 1, 2022 through August 31, 2023. As is noted in the report, most are ongoing. While Columbia’s obligations under the *Availability of Faculty* and *Availability of Facilities* sections of the Declaration began in 2012, CSSMSE’s interactions with Columbia’s faculty began as early as 2007.

In addition to the other projects and programs noted in this report, CSSMSE upper-level students access Columbia University’s libraries, computing facilities, and other academic support facilities and services while taking both for-credit and pre-college courses at the University. These programs are administered by Columbia’s School of Professional Studies and described in more detail in this report. CSSMSE students who are enrolled in classes at Columbia have the support and guidance of their instructors and classmates and have demonstrated the maturity and responsibility needed to successfully navigate a university campus.

In addition to the campus experience and access enjoyed by students who are taking courses, these and other students also visit the campus under the supervision of CSSMSE teachers in collaboration with Columbia’s administrative staff and academic faculty for a variety of other projects and programs, as also described herein.


(PRINCIPAL)

University faculty, instructor, or staff member:

[REDACTED]

School, department, or unit:

Fu Foundation School of Engineering and Applied Science (SEAS)

CSS-MSE students or staff member:

[REDACTED]; 3 12th-grade students

Project/purpose:

Engineering the Next Generation (ENG): Rising high school seniors match with engineering labs and research mentors and are supervised by faculty members. Program components include research, mentoring, college preparation, and presentation skills, as well as academic and professional workshops. Students are challenged with high-level academic expectations by both the researchers and undergraduate mentors. Participants must be at least 16 years of age in order to participate and are granted a stipend for their time in the program. In addition, CU partnered with New York City's Department of Youth and Community Develop (DYCD) to utilize the Summer Youth Employment Program (SYEP) so that eligible students could receive a greater stipend than in previous years.

Outreach to students:

Identification of potential participants and outreach to students is conducted by CSS-MSE faculty and administration. Columbia Engineering Outreach Programs team also holds info sessions at CSS-MSE.

Process by which students access benefit:

CSS-MSE faculty members facilitate students' participation in the program as part of the ongoing collaboration with CU faculty. Students submit applications individually.

Time period:

Ongoing

University faculty, instructor, or staff member:

Varies

School, department, or unit:

Vagelos College of Physicians & Surgeons, Office of Diversity & Multicultural Affairs

CSS-MSE students or staff member:

[REDACTED]

Project/purpose:

S-PREP is a free high school and college preparatory program for 7th - 12th grade students who are interested in a career in medicine or related STEM professions. The long-range objective is to increase the number of historically underrepresented and economically disadvantaged students prepared to enter college, and improve their participation rate in healthcare and STEM.

Outreach to students:

Identification of potential participants and outreach to students is conducted by CSS-MSE faculty and administration.

Process by which students access benefit:

CSS-MSE faculty members facilitate students' participation in the program as part of the ongoing collaboration with CU faculty. Students submit applications individually.

Time period:

Ongoing, Summer, Fall, Spring

University faculty, instructor, or staff member:

[REDACTED]

School, department, or unit:

Columbia Zuckerman Institute

CSS-MSE students or staff member:

[REDACTED]

4 CSS-MSE students in grades 10 through 12

Project/purpose:

CSS-MSE worked with Columbia's Zuckerman Institute to include CSS-MSE students in BRAINYAC (Brain Research Internships in New York at Columbia). BRAINYAC is a program for students with an interest in biomedical - specifically neuroscience - research. Students learn basic neuroscience concepts and laboratory skills which prepare them for a seven-week mentored science research experience in Columbia University research laboratories. Students receive a stipend for their participation and produce a poster that they present to scientists and family members at the end of the summer. BRAINYAC provides high-schoolers with an immersive, hands-on summer research experience in a Columbia laboratory. They emphasize opportunities to connect with real scientists, learn key skills required to work in a research environment, and become part of the Columbia University community. The 2023 program has returned to fully in person programming.

Outreach to students:

Identification of potential participants and outreach to students is conducted by BRAINYAC program staff in collaboration with CSS-MSE faculty and administration.

Process by which students access benefit:

CSS-MSE faculty members facilitate students' participation in the program as part of the ongoing collaboration with CU faculty. BRAINYAC program staff facilitate an information session for interested CSS-MSE students to learn more about the program and its application process.

Time period:

Ongoing, January -August

University faculty, instructor, or staff member:

[REDACTED]

School, department, or unit:

Office of the Provost

CSS-MSE students or staff member:

[REDACTED]

Project/purpose:

Provide outreach and introductions to University departments and promote CSS-MSE throughout the University.

Outreach to students:

Varies by project

Process by which students access benefit:

Varies by project

Time period:

Ongoing

University faculty, instructor, or staff member:

[REDACTED]

School, department, or unit:

School of Professional Studies (SPS)

CSS-MSE students or staff member:

[REDACTED]

Project/purpose:

Facilitating registration of CSS-MSE students in Columbia classes, including outreach to University faculty and staff, refining a system to vet courses to ensure that they are suitable for CSS-MSE students, creating and delivering orientations regarding CSS-MSE student registration and access to CU resources.

Outreach to students:

CSS-MSE administration and faculty identify students prepared for college-level coursework and independence and select student participants through a rigorous application and review process. CSS students also submit a CU Pre-College application to ensure completeness and accurate and timely account setup. CSS-MSE administration and faculty work with students to choose classes that are of interest and support their learning.

Process by which students access benefit:

CSS-MSE administration and SPS staff finalize the list of students each term. Students apply individually through the SPS application portal and their applications are reviewed for eligibility by SPS Admissions. After their accounts are set up in the SPS system, students who are participating for the term receive instructions from CSS-MSE administrators about how to enroll. An in-person orientation is conducted for participating CSS-MSE students by SPS staff, including familiarizing them with the Morningside campus, getting their CUIDs, and visiting the Columbia Bookstore to get their books (which have been set aside for CSS-MSE students based on their courses). Once enrolled and oriented, CSS-MSE students begin attending their classes alongside other students in the class. CSS-MSE administration oversees students' success and offers mentoring and tutoring opportunities when available to support students in their CU coursework. Students who take classes for credit are able to request a CU transcript following completion of their senior year, which can be submitted to colleges.

Time period:

Ongoing

University faculty, instructor, or staff member:

[REDACTED]

CSS-MSE students or staff member:

[REDACTED] - all 10th grade students

Project/purpose:

Faculty and graduate students in CU's History Department are engaged in a program with CSS-MSE's History faculty to support and improve the focus on research and writing in CSS-MSE's history curriculum and prepare students for college-level work. This past academic year, the program included the following elements: pairing graduate students with CSS-MSE history teachers to assist 10th grade students and history teachers to support essay writing and to help develop research and research papers.

Outreach to students:

The project was a mandatory component of 10th grade coursework.

Process by which students access benefit:

CSS-MSE faculty members facilitated students' participation as part of the ongoing collaboration with CU faculty. Collaboration between CU and CSS-MSE faculty has facilitated enhancements to the CSS-MSE curriculum, affecting all students.

Time period:

Ongoing

University faculty, instructor, or staff member:

Various

School, department, or unit:

Various

CSS-MSE students or staff member:

Available to CSS-MSE classroom teachers and certain full-time CSS-MSE employees

Project/purpose:

Taking graduate courses in specific specializations through CSS-MSE/CU tuition scholarship program to further pedagogical work at CSS-MSE

Outreach to students:

n/a

Process by which students access benefit:

n/a

Time period:

Ongoing

University faculty, instructor, or staff member:

[REDACTED]

School, department, or unit:

School of Professional Studies (SPS)

CSS-MSE students or staff member:

[REDACTED]

; 26 CSS-MSE students in 8th and 9th grades

Project/purpose:

Through SPS's Pre-College Immersion Program, CSS-MSE students take Columbia non-credit courses and participate in extracurricular and co-curricular activities, including college preparedness programming, community outreach and awareness activities, and special lectures. At a course's conclusion, participants receive a Certification of Participation and an evaluation letter from the instructor.

Outreach to students:

Identification of potential participants and outreach to students is conducted by CSS-MSE faculty and administration.

Process by which students access benefit:

CSS-MSE faculty members facilitate students' participation in the program as part of the ongoing collaboration with CU faculty.

Time period:

Ongoing

University faculty, instructor, or staff member:

[REDACTED]

School, department, or unit:

School of Professional Studies

CSS-MSE students or staff member:

26 CSS-MSE students

Project/purpose:

Online writing workshop offered in three 3-week modules over a total of nine weeks, taught by specialist in undergraduate writing

Outreach to students:

Students enrolled in Pre-College Immersion (see above) are eligible to participate.

Students do not incur any expenses from the Bookstore for required course books. Students return all hardcover and non-consumable books after the completion of their CU semester.

Time period:

Ongoing

University faculty, instructor, or staff member:

[REDACTED]

School, department, or unit:

Fu Foundation School of Engineering and Applied Science (SEAS)

CSS-MSE students or staff member:

[REDACTED]

Project/purpose:

COSMOS is a Research Experience for Teachers (RET) program funding by the National Science Foundation (NSF) to support teachers learning new skills that can be applied to the classroom. This three week program selects certified high school teachers to learn how cutting-edge 5G/wireless technology developed as part of the COSMOS program can be integrated into technology courses. Teachers work alongside researchers to build lesson plans that can be replicated by other teachers.

Outreach to students:

Fu Foundation School of Engineering and Applied Science (SEAS) outreach distributes flyers and email invites to partner schools.

Process by which students access benefit:

N/A

Time period:

July, ongoing

University faculty, instructor, or staff member:

[REDACTED] /2 Columbia Engineering students ([REDACTED])

School, department, or unit:

Fu Foundation School of Engineering and Applied Science (SEAS)

CSS-MSE students or staff member:

[REDACTED]; 37 students in grades 9-12

Project/purpose:

FIRST Robotics: Throughout the year, CSS-MSE students prepare for and participate in the FIRST Robotics Competition, an annual national robotics competition for students in grades 9-12. The team meets on campus multiple times a week, working closely with peer team members, undergraduate mentors, and staff from the Mechanical Engineering Department, CSS-MSE students build and program robots and compete at the local and regional level. Fu Foundation School of Engineering and Applied Science (SEAS) Outreach Programs hosts the FIRST competition kickoff event not only for CSS-MSE but also including other local teams each January. This year, under the guidance of SEAS faculty and staff, CSS-MSE launched its own team with 37 students from CSS participating in 2022-2023 and 3 students from Columbia Engineering served as mentors.

Outreach to students:

Identification of potential participants and outreach to students is conducted by CSS-MSE faculty and administration. Columbia Engineering Outreach Programs team also holds info sessions at CSS-MSE.

Process by which students access benefit:

CSS-MSE faculty members facilitate students' participation in the program as part of the ongoing collaboration with CU faculty. Students submit applications individually.

Time period:

AY 2022-2023

Chemistry; East Asian Languages and Culture; German; History; Mathematics; Philosophy; Psychology; Statistics

CSS-MSE students or staff member:

12 CSS-MSE students; [REDACTED]

Project/purpose:

In the fall 2022 term, 12 CSS-MSE students took courses for college credit at Columbia University, including 6 CSS-MSE students who were newly enrolled at Columbia. Students enroll through the School of Professional Studies and are provided with a student orientation and access to discounted textbooks at the Columbia University bookstore. Students have full access to Columbia instructors, including use of office hours if needed. Courses this semester included Abnormal Behavior, Ancient History, Calculus II; Elementary German and Second Year Chinese I; Introduction to Statistics.

Outreach to students:

CSS-MSE administration and faculty identify students prepared for college-level coursework and independence and work with them to choose classes that are of interest and support their learning. The program is well established at CSS-MSE and discussions about preparedness are a standard part of all CSS-MSE students' experiences.

Process by which students access benefit:

CSS-MSE administration and SPS staff finalize the list of students each term, and after their accounts are set up in the SPS system, students who are participating for the term receive instructions from CSS-MSE administrators about how to enroll. An in-person orientation is conducted for participating CSS-MSE students by SPS staff, including familiarizing them with the Morningside campus, getting their CUIDs, and visiting the Columbia Bookstore to get their books (which have been set aside for CSS-MSE students based on their courses). Once enrolled and oriented, CSS-MSE students begin attending their classes alongside, and indistinguishable from, other students in the class.

Time period:

Fall 2022

University faculty, instructor, or staff member:

[REDACTED]

School, department, or unit:

Computer Science; Economics; History; Mathematics; Sociology; Statistics.

CSS-MSE students or staff member:

12 CSS-MSE students

Project/purpose:

In the spring and summer 2023 terms, 12 CSS-MSE students took courses for college credit at Columbia university, including 2 CSS-MSE students who were newly enrolled at Columbia. Students enroll through the School of Professional Studies and are provided with a student orientation and access to discounted textbooks at the Columbia University bookstore. Students have full access to Columbia instructors, including use of office hours if needed. Courses these semesters included Computer Science, Linear Algebra, Principles of Economics, The Social World and US Presidency Washington.

Outreach to students:

CSS-MSE administration and faculty identify students prepared for college-level coursework and independence and work with them to choose classes that are of interest and support their learning. The program is well established at CSS-MSE and discussions about preparedness are a standard part of all CSS-MSE students' experience.

Process by which students access benefit:

CSS-MSE administration and SPS staff finalize the list of students each term, and after their accounts are set up in the SPS system, students who are participating for the term receive instructions from CSS-MSE administrators about how to enroll. An in-person orientation is conducted for

participating CSS-MSE students by SPS staff, including familiarizing them with the Morningside campus, getting their CUIDs, and visiting the Columbia Bookstore to get their books (which have been set aside for CSS-MSE students based on their courses). Once enrolled and oriented, CSS-MSE students begin attending their classes alongside, and indistinguishable from, other students in the class.

Time period:

Spring and Summer 2023 terms

University faculty, instructor, or staff member:

██████████ Director of Educational Technology at Tutoring and Learning Center (“TLC”)

CSS-MSE students or staff member:

100 9th and 10th students in Geometry and Calculus

Project/purpose:

Through the Tutoring and Learning Center, Columbia and Barnard students offer math tutoring to individual students and small groups. Sessions can include math remediation, social and emotional learning skills, growth mindset, mentoring, and homework help.

Outreach to students:

Identification of potential participants and outreach to students is conducted by CSS-MSE faculty and administration.

Process by which students access benefit:

CSS-MSE faculty members facilitate students’ participation in the program as part of the ongoing collaboration with CU faculty.

Time period:

Fall 2022 and Spring 2023

University faculty, instructor, or staff member:

██████████

School, department, or unit:

Fu Foundation School of Engineering and Applied Science (SEAS)

CSS-MSE students or staff member:

██████████ 6 students participated

Project/purpose:
SHAPE, Columbia Engineering’s Summer High School Academic Program for Engineers, is a selective pre-college program for rising sophomores, juniors, seniors, and recent high school graduates. SHAPE is geared toward students with an aptitude for STEM: science, technology, engineering, and mathematics. This summer, two 3-week sessions offered college-level, project-based courses in engineering taught by faculty at Columbia University. Students engage with peers and Columbia University faculty, staff, students, alumni, and industry partners through interactive programming, site visits, and workshops.

Outreach to students:

Identification of potential participants and outreach to students is conducted by CSS-MSE faculty and administration.

Process by which students access benefit:

CSS-MSE faculty members facilitate students’ participation in the program as part of the ongoing collaboration with CU faculty.

Time period:

July and August

University faculty, instructor, or staff member:

██████████

School, department, or unit:

IEOR Department at SEAS

CSS-MSE students or staff member:

██████████

Project/purpose:

AI Lab for Middle School Students (8th graders) and High School students

As mentioned CSS was the pilot program during the 2022-2023 Academic year.

An hour talk on Career Day in March and then 5 sessions April-June

Outreach to students:

Identification of potential participants and outreach to students is conducted by CSS-MSE faculty and administration.

Process by which students access benefit:

CSS-MSE faculty members facilitate students' participation in the program as part of the ongoing collaboration with CU faculty.

Time period:

April to June 2023