**Declaration Reference and Key Data**

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

Obligation Title: **Availability of Facilities**

Obligation Page Number: **54**

Obligation Trigger: **Acquisition by ESD or CU of all Initial Stage 1 Condemnation Parcel(s)**

Obligation Start Date: **March 12, 2012**

Obligation End Date: **March 12, 2038\* (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)(vi) is modified to clarify the obligation. In general, the scope of services to be provided has not been changed.

*Availability of Facilities.* Commencing with the acquisition by ESD or CU of all Initial Stage 1 Condemnation Parcels, and continuing for a 25-year period from commencement, CU, in coordination with the School's guidelines, shall make its libraries, computing facilities and other academic support facilities and services available to upper level students from the School.

\* Planning activities were still ongoing upon the obligation trigger date. Facilities were made available in 2013, one year after the trigger date. Therefore, this obligation will be in effect until 2038, 25 years from the commencement of the obligation implementation.

**Evidence of Compliance**

1. Annual report

Columbia University's Implementation Plan and all supporting documentation are made available on the Community Services Webpage at http://manhattanville.columbia.edu/community-services. For more information about communications and outreach efforts regarding the obligations, please refer to the Annual Community Outreach and Communications Report, which is also available on the Community Services Webpage.

**EOC Checklist for Obligation 5.07(c)(x):**

Please check to verify EOC items submitted for review.

☐ 1. Annual report

**Monitor's Notes / Comments:**

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**Status:**
Please check to indicate the status of Obligation 5.07(c)(x):

☐ In Compliance

☐ In Progress

☐ Not In Compliance

☐ Not Triggered

# COLUMBIA SECONDARY SCHOOL
## for Math, Science, & Engineering
*425 West 123rd Street, New York, NY 10027*

**Memorandum**

To:           ▮▮▮▮▮▮, Office of the Provost, Columbia University
From:      Miriam Nightengale, Principal
Re:         Columbia University Faculty/Columbia Secondary School Staff Interactions
Updated:   September 16, 2015

Columbia University's libraries, computing facilities and other academic support facilities and services have been made available to those upper level students at Columbia Secondary School for Math, Science and Engineering that are currently taking courses at the university. This access benefits our students and staff by exposing them to high-quality research databases and computing facilities on Columbia's Morningside campus. Columbia Secondary Students who are enrolled in classes at Columbia University have the support and guidance of their instructors and classmates and have demonstrated the maturity and responsibility needed to successfully navigate a university campus without direct supervision. Students who are not taking courses will visit the campus under the supervision of CSS-MSE teachers in collaboration with Columbia's administrative and academic faculty.

In addition to this access to Columbia's facilities, from September 22, 2014 through September 1, 2015, the staff and students at Columbia Secondary School for Math, Science, and Engineering have benefitted from the following interactions/services from the faculty and staff at Columbia University.

| University Faculty/Staff Member | Department | CSS-MSE Staff Member | Project/Purpose | Time Period |
|---|---|---|---|---|
| ▮▮▮▮▮▮ ▮▮▮▮▮▮ | Fu Foundation School of Engineering and Applied Science | ▮▮▮▮ | Faculty member ▮▮▮▮▮▮▮▮▮ Professor of Mechanical Engineering at the Fu Foundation School of Engineering and Applied Science, has been working closely with CSS-MSE for several years on the Young Scholar's Summer Program. Through this program CSS-MSE students get hands-on lab experience in Columbia research laboratories, primarily mechanical engineering. This evolved into CSS-MSE's inclusion in a grant that resulted in the establishment of the MRSEC (Material Research Science and Engineering Center) at Columbia, which is under the direction of Professor Hone. CSS-MSE is an integral, long-term part of the program, which the National Science Foundation has funded for six years with matching support for outreach programs from Columbia University. This started as a smaller scale program for CSS-MSE students, evolved into a long-term partnership involving CSS-MSE students, teachers, and school leadership, and will include ongoing consultation to enhance the CSS-MSE curriculum.<br><br>Due to the success of the collaboration, the summer research program, now called the E.N.G.Program (Engineering the Next Generation, changed from Young Scholars), doubled in size from last summer and will continue to develop as it matures. It includes academic development and college readiness components in addition to hands on research. The program also follows a "tiered mentoring" format, which | Ongoing |

| University Faculty/Staff Member | Department | CSS-MSE Staff Member | Project/Purpose | Time Period |
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| | | | structurally incorporates opportunities to interact with members of the research team at all levels. This format has a range of benefits for students and professionals alike. For this program, tiered mentorship includes high school, undergraduate, graduate, and postdoc researchers, in addition to the faculty members, and each member of the group represents a unique educational or professional level. | |
| ▉▉▉▉▉ | Math Department | ▉▉▉▉ | Columbia worked closely with CSS students to host a MoSAIC Festival at Columbia Secondary School on October 25-26 that highlighted the connections between math and art. The purpose of the festival, which is held at several U.S. universities each year, is to promote awareness and interest in mathematics through its connection to the arts. The festival includes a variety of hands-on workshops, lectures, a mathematical art exhibit, short films, and an area for informal exchange. It is designed to be easily accessible by audiences, high school aged and older. MoSAIC is a joint venture between The Mathematical Sciences Research Institute and The Bridges Organization. | September-October 2014 |
| ▉▉▉▉ | Zuckerman Mind Brain and Behavior Institute | ▉▉▉▉ | CSS worked with Columbia's Zuckerman Mind Brain and Behavior Institute to include six CSS students in its BRAINYAC Program from January 2014 through August 2015. The eight month BRAINYAC Program has replaced the four week summer internship program that was hosted by Columbia. Another group of students will participate again in 2015-2016. BRAINYAC is a program for students with an interest in biomedical and specifically neuroscience research. Through the program, students learn basic neuroscience concepts and laboratory skills, which will prepare them for a four-week research experience at a Columbia University Medical Campus (CUMC) neuroscience lab the following summer. Students receive a stipend for their participation. The students' contributions can be extremely meaningful; one CSS student was invited to continue conducting her research after the completion this month of the formal BRAINYAC program. | Ongoing |
| ▉▉▉▉ | CU Teachers College | ▉▉▉▉▉ | Helping to design and implement research and action steps to reduce student anxiety around science and to encourage persistence through increasingly difficult materials. Current work includes interviewing CSS students to determine attitudes around science and academic struggle, and the ongoing creation and modification of CSS curricular materials that support students' development of persistence and appreciation of the scientific inquiry process to problem-solve. | Ongoing |
| ▉▉▉▉ | Office of the Provost | ▉▉▉▉ | Improving existing admissions structures for CSS-MSE students to enroll in the University's School of Continuing Education (SCE) through meetings and calls with SCE and CSS staff. Continue providing outreach and introductions to University departments. | Weekly or monthly as needed, ongoing |

| University Faculty/Staff Member | Department | CSS-MSE Staff Member | Project/Purpose | Time Period |
|---|---|---|---|---|
| ██████████ | Office of the Provost | ██████ | Working with Vice Provost to promote CSS within Columbia. | Ongoing |
| ██████████ | CU Teachers College | ██████ | Member of ongoing principal network engaged in monthly meetings related to the work of school improvement and implementing the new Common Core Standards and teacher evaluation system. | Ongoing |
| ██████████ | CU School of Continuing Education | ██████████ | Facilitating registration of CSS students in CU classes, including outreach to CU staff, refining a system to vet courses to ensure that they are suitable for CSS students, creating and delivering an orientation for CSS student registration. | Ongoing |
| ██████████ | Columbia University Bookstore, School of Continuing Education | All CSS-MSE students enrolled in CU courses through CSS-MSE; ████████ ████████ | The Columbia University Bookstore, in conjunction with School of Continuing Education, has developed a streamlined process to facilitate CSS-MSE's acquisition of textbooks for the CU courses for which they are registered. This partnership was developed specifically for CSS-MSE students and is evaluated and improved each semester to ensure students have easy access to appropriate course materials. | Ongoing |
| Various CSS Faculty | Various, CU Teachers College | ████ ██████ ████ ██████ ██████ | Taking graduate courses in specific specializations to further work at CSS-MSE. | Ongoing |
| ██████ | Office of the Provost | ██████ | Providing administrative coordination. Assisting with production of CSS-MSE 2015 graduation at Lerner Hall. | June 2015 |
| ██████████ | Metacognition and Memory Lab, Psychology Department | ██████ | CSS-MSE was included in a grant recently awarded to Department of Psychology faculty member ████████ by the U.S. Department of Education's Institute for Education Sciences to study the role of errors in learning math. CSS-MSE students will benefit through an after-school academic support program. A key aim of the program is to enhance CSS-MSE students' understanding of math. | Ongoing |
| ██████████ | SEAS | CSS students, ██████ ██████ | This summer five CSS-MSE students received scholarships to participate in a Robotics course offered in partnership with SEAS and the School of Continuing Education at the Summer Program for High School Students. Each scholarship is valued between $5-6K and five students also participated in summer of 2014 for total CSS student support exceeding $50K. Through this program, students design and fabricate toy robots capable of executing a posed task within a pre-determined maze. Through the design-for-manufacture process, students acquire an understanding of fundamental concepts such as engineering design and mechanical design. Further, students learn principles of solid modeling, sensor technology, and locomotion. | June - July 2015 |

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| [REDACTED] | SEAS | CSS students [REDACTED] | Throughout the year, CSS students prepare for and participate in the FIRST Robotics Competition, an annual national robotics competition for students in grades 9-12. Working closely with peer team members, undergraduate mentors, and staff from the Mechanical Engineering Department, CSS students build and program robots and compete at the local and regional level. | Ongoing |
| SEAS Outreach Staff & volunteers | SEAS | [REDACTED] | SEAS staff and graduate students acted as judges for the CSS middle school science fair | Spring semester / May |
| SEAS Outreach Staff | SEAS | [REDACTED] | SEAS has adopted an online platform to match student volunteers with local STEM teachers and students, which it will use at CSS this academic year. A CSS faculty member has been working with the founder to develop a mobile app version of the platform. Through use of this tool, a greater number of matches between SEAS tutors and CSS students is anticipated with the work being conducted on the application. | Ongoing |
| [REDACTED] | Statistics Sociology Computer Science Mathematics Mathematics Mathematics Mathematics Mathematics Mathematics History Philosophy Political Science Statistics Chemistry Anthropology Political Science Classics Mathematics Mathematics Psych Cognitive Neuroscience Mathematics Mathematics Mathematics Mathematics | 43 CSS-MSE students | In the fall 2014 semester, 43 CSS-MSE students took courses for college credit at Columbia university, including 25 CSS-MSE students who were newly enrolled at Columbia. Students enroll through the School of Continuing Education and 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 Calculus I, II, III, and IV; Linear Algebra; Introduction to Computer Science and Programming; Chemistry; Latin; Philosophy of Language; Intro to Higher Mathematics; Intro to Statistical Reasoning; International Politics; and General Chemistry. | September through December 2014 |
| [REDACTED] | Statistics School of Arts - Writing MidEast, S Asian &African Studies Computer Science Chemistry Mathematics Mathematics Computer Science History Mathematics Political Science Psychology Psychology Sociology German Mathematics Economics School of Arts Psychology Mathematics | 32 CSS-MSE students | In the spring and summer 2015 semesters, 32 CSS-MSE students took courses for college credit at Columbia university, including 16 CSS-MSE students who were newly enrolled at Columbia. Students enroll through the School of Continuing Education and 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 Calculus I and II; Bengali; German; Linear Algebra; Introduction to Computer Science and Programming; Chemistry; Intro to Higher Mathematics; Intro to Statistics; International Politics; Principals of Economics; Mind, Brain, and Behavior; Photography; General Chemistry; Nonfiction Writing; and the Science of Psychology. | January through August 2015 |

# Recommendation Rubric for Columbia University Courses

| | 3 Points | 2 Points | 1 Point |
|---|---|---|---|
| **Demonstrates Discipline & Responsibility** | • Well behaved & models appropriate behavior for others<br>• Takes responsibility for his/her actions even if inappropriate<br>• Takes initiative to be a self-starter | • Usually well behaved but can be easily distracted<br>• Follows what the group is doing<br>• Usually on task but can be distracted by certain students | • Often disruptive to / in class<br>• Does not accept responsibility for his / her actions<br>• Does not work unless there is teacher direction |
| **Demonstrates Work Ethic/ Commitment** | • Always does his/her best when performing tasks<br>• Above average work submitted for grade<br>• Goes above & beyond teacher expectations & hands work in with pride | • Takes some initiative to go above & beyond what is asked<br>• Average work quality submitted<br>• Work meets teacher expectations exactly with no creative thought | • Only does the minimal amount of work the teacher asks<br>• Work is sloppy and done carelessly<br>• No / little pride in the quality of the work to be handed in |
| **Is Prepared & Attentive** | • Always comes to class prepared & on time, makes up missed work<br>• Always attentive & contributes to the class discussions<br>• Homework / Classwork is always complete & done as assigned, on time | • Usually prepared for class but occasionally asks teacher or other students for materials, missed work<br>• Usually attentive in class but prone to "day dreaming"<br>Homework / Classwork is usually complete but at times turned in late | • Comes to class unprepared & late, does not make up missed work<br>• Teacher must continually focus the student's attention to the lesson<br>• Homework / Classwork often not complete, turned in late |
| **Demonstrates Memorization Skills** | • Takes the time to memorize & come to class prepared for class, tests & quizzes | • Memorizes selectively<br>• Performs adequately in class and on tests / quizzes | • Does not take the time to memorize material for class, tests, or quizzes |
| **Demonstrates Fluency in Verbal Expression** | • Participates in class discussions<br>• Does not wait to be called upon to contribute to class discussions | • Talks with knowledge when called upon<br>• Sometimes volunteers to contribute to class discussions | • Does not contribute to class discussion<br>• Does not speak in class unless called upon |
| **Demonstrates Fluency in Written Expression** | • Excellent command of writing techniques & grammar<br>• Enjoys using writing as a communicative devise | • Has some trouble with grammar & sentence structure<br>• Will write when directed | • Has trouble with writing & the proper use of grammar<br>• Does not like to write |
| **Generalizes / Predicts / Hypothesizes** | • Is keenly aware of new information and the application to previous learning<br>• Always thinks a "step ahead" of others | • Has the ability to make connections between ideas & can usually transfer learning<br>• Some direction needed to make connections | • Has trouble with higher level thinking skills & cannot transfer learning from situation to situation<br>• Has difficulty making connections even after teacher direction |

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| **Demonstrates Problem Solving Skills** | • Solves abstract problems with ease & often without assistance<br><br>• Advanced math skills; fully capable for higher level coursework | • Has the ability to solve abstract problems with assistance<br><br>• Adequate math skills for higher level coursework | • Has trouble with solutions too difficult or abstract concepts even with teacher assistance<br><br>• Math skills inadequate for higher level coursework |
| **Demonstrates Critical Thinking** | • Understands the application of material to other topics learned & utilizes novel approaches for difficult solutions<br><br>• Excellent Analytical ability | • Can sometimes understand the larger picture of the material presented & often comes up with novel approaches for solutions<br><br>• Emerging Analytical thought | • Takes information at "face value" & does not understand the larger implications of the material<br><br>• Does not "think critically" (see the world though "critical lens") |
| **Content Knowledge** | • GPA 86-100<br>• Demonstrates fluency discussing advanced course concepts and seeks out further content information<br>• Shows high level and consistent proficiency in application, analysis, synthesis, & evaluation of historical documents, issues, events, and concepts | • GPA below 85<br>• Demonstrates proficiency in basic concepts and emerging comprehension of advanced concepts<br>• Inconsistent in proficiency in application, analysis, synthesis,& evaluation of historical documents, issues, events, and concepts | • GPA below 75<br>• Rudimentary understanding of basic concepts, little understanding of advanced concepts<br>• Not proficient in application, analysis, synthesis, & evaluation of historical documents, issues, events, and concepts |

** Students need a minimum score of 22 out of 30 to be recommended for a course.**

# Recommendation Rubric for Columbia University Courses

Dear CU Course Evaluation Team,

Please use the attached rubric as a guideline for recommending this student for the Fall 2012 course options at Columbia University.  Please circle your evaluation for each category listed below and add the total (out of 30) when finished.

Students Name: _____

Performance Checklist

| | | | |
|---|---|---|---|
| 1. Demonstrates Discipline and Responsibility | 1 | 2 | 3 |
| 2. Demonstrates Work Ethic/ Commitment | 1 | 2 | 3 |
| 3. Is Prepared and Attentive | 1 | 2 | 3 |
| 4. Demonstrates Memorization Skills | 1 | 2 | 3 |
| 5. Demonstrates Fluency in Verbal Expression | 1 | 2 | 3 |
| 6. Demonstrates Fluency in Written Expression | 1 | 2 | 3 |
| 7. Generalizes / Predicts / Hypothesizes | 1 | 2 | 3 |
| 8. Demonstrates Problem Solving Skills | 1 | 2 | 3 |
| 9. Demonstrates Critical Thinking | 1 | 2 | 3 |
| 10. Content Knowledge | 1 | 2 | 3 |

Total Score _____

(Minimum of 22 to be recommended for a course)