NEW YORK CITY COLLEGE OF TECHNOLOGY OFFICE OF COLLABORATIVE PROGRAMS

SUMMER 2019 Program

Introduction to Engineering and Computer Technologies

ENGR1000 PROGRAM ELIGIBILITY REQUIREMENTS

Eligible students will demonstrate: Strong record of attendance; no schedule conflicts during the summer 2019 semester and other requisites noted below. For admissions to the College Now ENGR1000 course students must be in **10th or 11th grade** (rising juniors or seniors) **in good academic standing at their home schools (GPA 80+)** and have a good record of attendance. Furthermore, students must have demonstrated proficiency in the appropriate area(s) via SAT or Regents scores.

Students must meet BOTH 1 (Math requirement) and 2 (Reading/Writing Requirement) below, and register for the ACCUPLACER Math placement exam prior to acceptance.

1. **Math Requirement:**

Students must have

- **A.** Scored 70+ in Algebra I (Common Core) **OR** scored 70+ in Geometry (Common Core) **OR** scored 65+ on Algebra II (Common Core)
  OR
- **B.** Scored 530+ on SAT/Math
  OR
- **C.** Scored 21+ on ACT Math

*All Math applicants are required to take the ACCUPLACER Math placement exam to determine level of proficiency in college Math.

2. **Reading/Writing Requirement:**

Students must have

- **A.** Scored 75+ on ELA Regents
  OR
- **B.** SAT I Verbal score of 480+ ***or*** SAT Critical Reading score of 480+ ***or*** SAT Evidence-Based Reading and Writing (EBRW) section score of 480+
  OR
- **C.** Scored 21+ on ACT English

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SUMMER 2019 Program

Introduction to Engineering and Computer Technologies

July 1 – August 6, 2019

Orientation: July 1, 2019 (9:30AM -2:00PM)
Oral presentation: August 6 (10:30AM-1:00PM)
Week 1: Computer Systems Technology/CIS
Week 2: Computer Engineering Technology
Week 3: Mechanical Engineering Technology/Industrial Design
Week 4: Electrical Engineering Technology/Telecommunications

Afternoon activity (Room TBA): Program Coordinator Tom Deignan
July 9-12 (10:20am-1:20pm) Prof. Bader Oudjehane & CLT (Lam Doung)
July 16-19 (10:20am-1:20pm) Prof. Ohbong Kwon & CLT (Karen LeonDuarte)
July 23-26 (10:20am-1:20pm) Prof. Masato Nakamura & CLT (Jahanzaib Adil)
July 30-August 2 (10:20am-1:20pm) Prof Hamid Marandi & CLT (Chi Jau Yuan)

TIME	Monday	Tuesday		
Orientation Week				
9:30am - 11:30am	**July 1** Room: N119 **Orientation & Learning Center** Matthew Brittain & Program Coordinator (Tom Deignan)	**July 2** Room: TBA **Pre-Test** **Overview of each discipline** Prof. Hamid Marandi & Prof. Masato Nakamura		
12:00pm - 2:00pm	Library (A438), Campus Learning Center (AG18), Student IDs (N109) & Metro cards	Prof. Ohbong Kwon & Prof. Bader Oudjehane Sum'18 Student Pres.		
TIME	**Monday**	**Tuesday**	**Wednesday**	**Thursday**
Week 1: Computer Systems Technology/Computer Information Systems				
10:30am - 1:20pm	**July 8** Room: N928 Instructor: Prof. Bader Oudjehane **Lecture**: Computer Systems Architecture **Lab**: Build your Computer system **Topic**s: Computer hardware, software. Operating Systems. Binary System.	**July 9** Room: N419 Instructor: Prof. Bader Oudjehane **Lecture**: Did you say program? **Lab**: ALICE : 3D programming environment Creating an Alice Project **Topics**: Programming Languages Fundamentals	**July 10** Room: N419 Instructor: Prof. Bader Oudjehane **Lecture**: Internet you said! Who's running the ship?" **Lab**: Local Area Networks Intro to Microsoft networking (Win Server) **Topics**: The Internet, Networking, databases and security	**July 11** Trip to: Cisco Time: 9:00 -3:30 Instructor: Prof. Bader Oudjehane Journal Writing: How the field trip illustrated how Computer Systems Technology/CIS is used.
1:20pm - 2:00pm	LUNCH – Room M404	LUNCH – Room M404	LUNCH – Room M404	
2:00pm - 3:30pm	• 2:00-3:00pm Guest speaker (TBD) • 3:00-3:30pm – Reading & Writing Exercises – Coordinator	• 2:00pm-2:30 Discussion & Grouping for final project– Coordinator • 2:30pm-3:30pm – Brainstorming for final project	• 2:00-3:00pm Team Building & College-Readiness Exercises • 3:00-3:30pm – Reading & Writing Exercises – Coordinator	

TIME	Monday	Tuesday	Wednesday	Thursday
Week 2: Computer Engineering Technology				
10:30am - 1:20pm	**July 15** Room: V608 Instructor: Prof. Ohbong Kwon **Lecture:** Introduce students to the binary numbering systems **Lab:** Build the digital logic circuits using the Quartus II software	**July 16** Room: V608 Instructor: Prof. Ohbong Kwon **Lecture**: 7-segment display for the digital design **Lab**: Display BCD numbers on the 7-segment on Altera DE2 board.	**July 17** Room: V610 Instructor: Prof. Ohbong Kwon **Lecture**: Introduce students to the basics capabilities of MATLAB **Lab**: Linear Algebra using MATLAB	**July 18** Trip to: CUNY High Performance Computing Center Time: 9:00 -3:30 Instructor: Prof. Ohbong Kwon Journal Writing: How the field trip illustrated how Computer Engineering is used.
1:20pm - 2:00pm	LUNCH – Room M404	LUNCH – Room M404	LUNCH – Room M404	
2:00pm - 3:30pm	• 2:00-3:00pm Guest speaker (TBD) • 3:00-3:30pm – Reading & Writing Exercises – Coordinator	• 2:00-3:00pm Research skills – Library (Anne Leonard) & Avoiding Accidental Plagiarism • 3:00-3:30pm group meeting for final project at Library – Coordinator	• 2:00pm-2:30pm Presentation group meetings – Coordinator • 2:30-3:30pm – Public Speaking – Prof. Applewhite	
Week 3: Mechanical Engineering Technology/Industrial Design				
10:30am - 1:20pm	**July 22** Room: V509 Instructor: Prof. Masato Nakamura **Lecture:** Renewable Energy **Lab:** 2D CAD drawing	**July 23** Room: V509 Instructor: Prof. Masato Nakamura **Lecture:** Flying cars **Lab:** 3D CAD modeling	**July 24** Room: V509 Instructor: Prof. Masato Nakamura **Lecture:** Travel to Mars **Lab:** 3D animation and Simulation	**July 25** Trip to: Sunset Park Material Recovery Facility of SIMS Municipal Recycling Time: 9:00 -3:30 Instructor: Prof. Masato Nakamura Journal Writing: How the field trip illustrated how Mechanical Engineering is used.
1:20pm - 2:00pm	LUNCH – Room M404	LUNCH – Room M404	LUNCH – Room M404	
2:00pm - 3:30pm	• 2:00-3:00pm Guest speaker (TBD) • 3:00-3:30pm – Reading & Writing Exercises – Coordinator	• 2:00-3:00pm How to create PowerPoint & Google Slides – Coordinator • 3:00-3:30pm group meeting for final project- Coordinator	• 2:00-3:00pm Rehearsals for Group Projects • 3:00-3:30pm Peer Feedback on the rehearsal – Coordinator • 1st draft group project report due	

TIME	Monday	Tuesday	Wednesday	Thursday
Week 4: Electrical Engineering Technology/Telecommunication				
10:30am - 1:20pm	**July 29** Room: V716 **Instructor**: Prof. Hamid Marandi **Lecture::** Introduction to AC & DC circuits **Lab:** Feedback Board, DC voltmeter, and Ammeter	**July 30** Room: V704 **Instructor:** Prof. Hamid Marandi **Lecture:** Introduction to Solid-State Electronic Fundamentals **Lab:** general diodes for half-wave and full-wave rectifiers in the power supplies.	**July 31** Room: V706 **Instructor**: Prof. Hamid Marandi **Lecture:** Introduction to Digital Electronic Fundamentals and Switching Theory **Lab:** Digiac, oscilloscope, and signal generator	**August 1** Trip to: MTA Time: 9:00 -3:30 Instructor: Prof. Hamid Marandi Journal Writing: How the field trip illustrated how Electrical Engineering Technology is used.
1:20pm - 2:00pm	LUNCH – Room M404	LUNCH – Room M404	LUNCH – Room M404	
2:00pm - 3:30pm	• 2:00-3:00pm Guest Speaker (TBD) • 3:00-3:30pm – Reading & Writing Exercises – Coordinator	• 2:00-2:45pm- group meeting for final project - Coordinator • 2:45-3:30pm Preparation for Oral Presentations – Coordinator	• 2:00-3:00pm Presentations Rehearsal – Coordinator • 3:00-3:30pm Peer Feedback on the rehearsal – Coordinator	
Week 5: Final Presentations				
10:30am - 1:00pm	**August 5** Final Presentation Prep – Coordinator, room AG-30 **Self-Assessment**	**August 6** Final Presentation – Coordinator & faculty, room AG-30 **Post-Assessment**		

***Trip schedule subject to change, pending availability.**