New York City College of Technology, CUNY

CURRICULUM MODIFICATION PROPOSAL FORM

This form is used for all curriculum modification proposals. See the [Proposal Classification Chart](http://openlab.citytech.cuny.edu/collegecouncil/files/2014/08/2013-10-09-Proposal_Classification_Chart.pdf) for information about what types of modifications are major or minor. Completed proposals should be emailed to the Curriculum Committee chair.

|  |  |
| --- | --- |
| **Title of Proposal** | **Minor Modification to TCET B.Tech Program- Elimination of Three Tracks** |
| **Date** | **02/20/2020** |
| **Major or Minor** | **Minor** |
| **Proposer’s Name** | **Prof. Mohammed Kouar** |
| **Department** | **Electrical and Telecommunications Engineering****Technology (ETET)** |
| **Date of Departmental Meeting in which proposal was approved** | **2/13/2020** |
| **Department Chair Name** | **Prof. Mohammad Razani** |
| **Department Chair Signature and****Date** | Mohammad Razani Digitally signed by Mohammad RazaniDate: 2020.03.14 18:27:35 -04'00' |
| **Academic Dean Name** | **Prof. Gerarda M. Shields** |
| **Academic Dean Signature and Date** |  |
| **Brief Description of Proposal** (Describe the modifications contained within this proposal in a succinct summary. More detailed content will be provided in theproposal body. | **Elimination of three tracks of Telecommunications Engineering Technology (TCET) B.Tech Program** |
| **Brief Rationale for Proposal** (Provide a concise summary of why this proposed change is important to the department. More detailed content will be provided in the proposal body). | Over the past 15 years, students have continuously opted for the general TCET BT track that focuses on a broad spectrum of subjects, instead of taking the three more focused tracks that were created. For logistical simplicity the department has decided that it would be best to remove those three tracks from the program while still

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| preserving the existing courses as  |

electives, which they are currentlybeing used for in the EET BT program. |
| **Proposal History**(Please provide history of this proposal: is this a resubmission? An updated version? This may most easily be expressed as a list). | First submission.No previous history. |

Please submit this document as a single .doc or .rtf format. If some documents are unable to be converted to

.doc, then please provide all documents archived into a single .zip file.

**ALL PROPOSAL CHECK LIST**

|  |  |
| --- | --- |
| Completed CURRICULUM MODIFICATION FORM including: |  |
| * Brief description of proposal
 |  |
| * Rationale for proposal
 |  |
| * Date of department meeting approving the modification
 |  |
| * Chair’s Signature
 |  |
| * Dean’s Signature
 |  |
| Evidence of consultation with affected departmentsList of the programs that use this course as required or elective, and courses that use this as a prerequisite. | N/A |
| Documentation of Advisory Commission views (if applicable). |  |
| Completed [Chancellor’s Report Form.](http://openlab.citytech.cuny.edu/collegecouncil/files/2014/08/2013-10-09-Chancellor_Report_Quick_Reference_Guide1.doc) |  |

**EXISTING PROGRAM MODIFICATION PROPOSALS**

|  |  |
| --- | --- |
| Documentation indicating core curriculum requirements have been met for new programs/options or program changes. | N/A |
| Detailed rationale for each modification (this includes minor modifications) |  |

**CHANCELLOR’S REPORT FORM**

**Section AIII: Changes in Degree Programs**

**The following revisions are proposed for Bachelor of Technology in Telecommunications Engineering Technology (TCET) Program**

**Program: Telecommunications Engineering Technology (TCET) B.Tech Program Code: TCET**

**Effective: Fall 2020**

**Eliminate three tracks of Telecommunications Engineering Technology (TCET) Program.**

|  |  |
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| **FROM:** | **TO:** |
| ~~Based on a thorough study of trends in modern telecommunications~~ ~~technology and the present and future job markets in this area, the~~ ~~Department of Electrical and Telecommunications Engineering Technology~~ ~~is offering the following three tracks (areas of concentration) within~~~~the existing baccalaureate program in Telecommunications Engineering~~ ~~Technology: wireless communications, optical communications and~~ ~~telecommunications network management. The general BTech program is~~ ~~recommended for those students who want to obtain a general well~~ ~~integrated~~~~education in telecommunications technology. For those students who are~~ ~~interested in a deeper specialization, one of the tracks is~~~~recommended. Please speak with a faculty advisor if you are interested in~~ ~~more information about the available tracks.~~**~~REQUIRED COURSES IN THE WIRELESS COMMUNICATIONS TRACK~~** ~~Credits~~~~TCET 3102 Analog and Digital Communications I 4~~ ~~TCET 3120 Switching and Automata Theory 3~~ ~~TCET 3142 Computer Systems 3~~~~TCET 3222 Satellite Transmission 3~~~~TCET 3202 Analog and Digital Communications II 4~~ ~~TCET 4102 Fiber-Optic Communications 3~~~~TCET 4110 Electromagnetics and Antenna Design 3~~ ~~TCET 4132 Wireless Communications 3~~~~TCET 4202 Advanced Telecommunications 3~~~~TCET 4210 Fundamentals of Microwave Remote Sensing 3~~~~Technical Elective 4~~ ~~Subtotal 36~~~~ADDITIONAL REQUIRED COURSES~~~~CST Elective 3~~~~ENG 3771 Advanced Career Writing 3~~ ~~ENG 3773 Advanced Technical Writing 3~~~~CET 4942 Economics of Engineering and Management 3~~ ~~MAT 2572 Probability and Mathematical Statistics I 3~~ ~~MAT 15751 Calculus II 4~~~~PHIL 3212 Engineering Ethics 3~~ ~~Subtotal 22~~~~REMAINING CORE DISTRIBUTION 6~~ | **None** |

~~TOTAL CREDITS REQUIRED FOR THE DEGREE 64~~

**~~REQUIRED COURSES IN THE OPTICAL COMMUNICATIONS TRACK~~** ~~Credits~~

~~TCET 3102 Analog and Digital Communications I 4~~ ~~TCET 3120 Switching and Automata Theory 3~~ ~~TCET 3142 Computer Systems 3~~

~~TCET 3222 Satellite Transmission 3~~

~~TCET 3202 Analog and Digital Communications II 4~~ ~~TCET 4152 Optical Network Components 3~~

~~TCET 4162 Photonic Devices 3~~

~~TCET 4132 Wireless communications 3~~ ~~TCET 4202 Advanced Telecommunications 3~~ ~~TCET 4232 Optical Networks 3~~

~~Technical Elective 4~~

~~Subtotal 36~~

~~ADDITIONAL REQUIRED COURSES~~

~~CST Elective 3~~

~~ENG 3771 Advanced Career Writing 3~~ ~~ENG 3773 Advanced Technical Writing 3~~

~~CET 4942 Economics of Engineering and Management 3~~ ~~MAT 2572 Probability and Mathematical Statistics I 3~~ ~~MAT 15751 Calculus II 4~~

~~PHIL 3212 Engineering Ethics 3~~ ~~Subtotal 22~~

~~REMAINING CORE DISTRIBUTION 6~~

~~TOTAL CREDITS REQUIRED FOR THE DEGREE 64~~

**~~REQUIRED COURSES IN THE NETWORK MANAGEMENT TRACK~~** ~~Credits~~

~~TCET 3102 Analog and Digital Communications I 4~~ ~~TCET 3120 Switching and Automata Theory 3~~ ~~TCET 3142 Computer Systems 3~~

~~TCET 3242 Advanced Communication Network 3~~ ~~TCET 4102 Fiber-Optic Communications 3 TCET 4140 Telecom Network Management 3~~

~~TCET 4120 Legal and Regulatory Issues in Telecom 2~~ ~~TCET 4172 Telecommunications Protocols and~~ ~~Network Performance 3~~

~~CST 3610 Network Security Fundamentals 3~~

~~TCET 4282 Telecommunications Capstone Project 2~~ ~~CST Elective 3~~

~~Technical Elective 4~~

~~Subtotal 36~~

~~ADDITIONAL REQUIRED COURSES~~

~~CST Elective 3~~

~~ENG 3773 Advanced Technical Writing 3~~ ~~ENG 3771 Advanced Career Writing 3~~

~~CET 4942 Economics of Engineering and Management 3~~ ~~MAT 1572 Probability and Mathematical Statistics I 3~~ ~~MAT 15751 Calculus II 4~~

~~PHIL 3212 Engineering Ethics 3~~ ~~Subtotal 22~~

~~REMAINING CORE DISTRIBUTION 6~~

~~TOTAL CREDITS REQUIRED FOR THE DEGREE 64~~

**Rationale :** Over the past 15 years, students have continuously opted for the general TCET BT track that focuses on a broad spectrum of subjects, instead of taking the three more focused tracks that were created. For logistical simplicity the department has decided that it would be best to remove those three tracks from the program while still preserving them as electives, which they are currently being used for in the EET BT program.

**Documentation of Advisory Commission views**

The documents in the following pages are submitted as evidence of the views from various members of the department’s Industry Advisement Commission (IAC).

# RE: ETET Dept. kindly requests your feedback

Dear Prof. Marantz,

Yes, I would support the department’s push to remove the tracks due to the fact that not one student completed the individual tracks in the past 12 years.

Regards,

**Wai Aung**

MTA/IT, Infrastructure

RCC Operations and Systems Support

354 W 54th Street, Rm 2207.14, New York, NY 10019 212-712-4195 | 646-739-5257 | wai.aung@mtahq.org

**From:** Zory Marantz <ZMarantz@citytech.cuny.edu>

**Sent:** Thursday, March 5, 2020 2:06 PM

**To:** Aung, Wai <Wai.Aung@mtahq.org>

**Subject:** ETET Dept. kindly requests your feedback

Dear Prof. Aung,

I hope this email finds you well! The ETET department is in need of your input.

The department is in the process of removing three focused tracks from within the telecommunications engineering technology baccalaureate degree program (TCET BT). These three tracks focus individually on fiber optic, wireless, and networking communications. Unfortunately, the majority of our students take the primary general program, which provides them with a taste of each individual subject in a broad sense.

Not one student has actually completed the individual tracks in the past 12 years and we feel that it would be in the department's, as well as the school's, best interest to remove the tracks, but we would like to obtain your feedback.

## Aung, Wai <Wai.Aung@mtahq.org>

Thu 3/5/2020 2:27 PM

To:Zory Marantz <ZMarantz@citytech.cuny.edu>;

Please note that if the tracks are removed, the specific in depth courses that were created for them will still remain as elective options for students to take in our electrical engineering technology baccalaureate program (EET BT).

Do you support the department's push to remove the three telecom tracks (fiber optic, wireless, networking) from the TCET BT program?

We ask that you please respond at your earliest convenience to allow us to make the necessary modification as soon as possible.

Thank you.

Regards,

Zory Marantz, PH.D., P.E. Associate Professor

NYC College of Technology - ETET Dept.

Brooklyn, NY 11201

#: 718-260-4929

<http://www.citytech.cuny.edu/electrical-telecomm/faculty.aspx>

# Re: ETET Dept. kindly requests your feedback

Dear Zory!

I support all your changes. Alexander Bolonkin

On Thu, Mar 5, 2020 at 2:10 PM Zory Marantz <ZMarantz@citytech.cuny.edu> wrote:

Dear Dr. Bolonkin,

I hope this email finds you well! The ETET department is in need of your input.

The department is in the process of removing three focused tracks from within the telecommunications engineering technology baccalaureate degree program (TCET BT). These three tracks focus individually on fiber optic, wireless, and networking communications. Unfortunately, the majority of our students take the primary general program, which provides them with a taste of each individual subject

in a broad sense.

Not one student has actually completed the individual tracks in the past 12 years and we feel that it would be in the department's, as well as the school's, best interest to remove the tracks, but we would like to obtain your feedback.

Please note that if the tracks are removed, the specific in depth courses that were created for them will still remain as elective options for students to take in our electrical engineering technology baccalaureate program (EET BT).

Do you support the department's push to remove the three telecom tracks (fiber optic, wireless, networking) from the TCET BT program?

We ask that you please respond at your earliest convenience to allow us to make the necessary modification as soon as possible.

Thank you.

## Alexander Bolonkin <abolonkin@gmail.com>

Thu 3/5/2020 4:42 PM

To:Zory Marantz <ZMarantz@citytech.cuny.edu>;

Regards,

Zory Marantz, PH.D., P.E. Associate Professor

NYC College of Technology - ETET Dept.

Brooklyn, NY 11201

#: 718-260-4929

<http://www.citytech.cuny.edu/electrical-telecomm/faculty.aspx>

# RE: ETET Dept. kindly requests your feedback

Dear Dr. Marantz:

I support the department’s decision to remove the three telecom tracks (fiber optic, wireless, networking), since no students have completed the individual tracks in the past 12 years. I also support the decision to keep the individual courses as electives.

Best Regards, Adam A. Filios

**From:** Zory Marantz <ZMarantz@citytech.cuny.edu>

**Sent:** Thursday, March 5, 2020 2:05 PM

**To:** Adam A. Filios <filiosaa@farmingdale.edu> **Subject:** ETET Dept. kindly requests your feedback Dear Dr. Filios,

I hope this email finds you well! The ETET department is in need of your input. The department is in the process of removing three focused tracks from within the telecommunications engineering technology baccalaureate degree program (TCET BT). These three tracks focus individually on fiber optic, wireless, and networking communications. Unfortunately, the majority of our students take the primary general program, which provides them with a taste of each individual subject in a broad sense.

Not one student has actually completed the individual tracks in the past 12 years and we feel that it would be in the department's, as well as the school's, best interest to remove the tracks, but we would like to obtain your feedback.

Please note that if the tracks are removed, the specific in depth courses that were created for them will still remain as elective options for students to take in our electrical engineering technology baccalaureate program (EET BT).

## Adam A. Filios <filiosaa@farmingdale.edu>

Mon 3/9/2020 5:15 PM

To:Zory Marantz <ZMarantz@citytech.cuny.edu>;

Do you support the department's push to remove the three telecom tracks (fiber optic, wireless, networking) from the TCET BT program?

We ask that you please respond at your earliest convenience to allow us to make the necessary modification as soon as possible.

Thank you.

Regards,

Zory Marantz, PH.D., P.E. Associate Professor

NYC College of Technology - ETET Dept.

Brooklyn, NY 11201

#: 718-260-4929

<http://www.citytech.cuny.edu/electrical-telecomm/faculty.aspx>

# Re: ETET Dept. kindly requests your feedback

Dear Dr Marantz

Since the courses remain available as electives I support the decision to eliminate the tracks.

Best regards Alex

Alexander Gelman, PhD

On Mar 5, 2020, at 14:06, Zory Marantz <ZMarantz@citytech.cuny.edu> wrote:

Dear Dr. Gelman,

I hope this email finds you well! The ETET department is in need of your input.

The department is in the process of removing three focused tracks from within the telecommunications engineering technology baccalaureate degree program (TCET BT).

These three tracks focus individually on fiber optic, wireless, and networking communications. Unfortunately, the majority of our students take the primary general program, which provides them with a taste of each individual subject in a broad sense.

Not one student has actually completed the individual tracks in the past 12 years and we feel that it would be in the department's, as well as the school's, best interest to remove the tracks, but we would like to obtain your feedback.

Please note that if the tracks are removed, the specific in depth courses that were created for them will still remain as elective options for students to take in our electrical engineering technology baccalaureate program (EET BT).

## Alexander Gelman <gelman.alexander@gmail.com>

Thu 3/5/2020 3:33 PM

To:Zory Marantz <ZMarantz@citytech.cuny.edu>;

Cc:adg@ieee. org <adg@ieee.org>;

Do you support the department's push to remove the three telecom tracks (fiber optic, wireless, networking) from the TCET BT program?

We ask that you please respond at your earliest convenience to allow us to make the necessary modification as soon as possible.

Thank you.

Regards,

Zory Marantz, PH.D., P.E. Associate Professor

NYC College of Technology - ETET Dept.

Brooklyn, NY 11201

#: 718-260-4929

<http://www.citytech.cuny.edu/electrical-telecomm/faculty.aspx>

# RE: ETET Dept. kindly requests your feedback

Good morning, Prof. Marantz, I think removing the 3 tracks and putting these courses as elective in our department curriculum is a good idea. I

do support this idea.

Thanks and have a nice day. Song

-------- Original message --------

From: Zory Marantz <ZMarantz@citytech.cuny.edu> Date: 3/5/20 1:58 PM (GMT-05:00)

To: stangny@gmail.com

Subject: ETET Dept. kindly requests your feedback

Dear Prof. Tang,

I hope this email finds you well! The ETET department is in need of your input. The department is in the process of removing three focused tracks from within the telecommunications engineering technology baccalaureate degree program (TCET BT). These three tracks focus individually on fiber optic, wireless, and networking communications. Unfortunately, the majority of our students take the primary general program, which provides them with a taste of each individual subject in a broad sense.

Not one student has actually completed the individual tracks in the past 12 years and we feel that it would be in the department's, as well as the school's, best interest to remove the tracks, but we would like to obtain your feedback.

Please note that if the tracks are removed, the specific in depth courses that were created for them will still remain as elective options for students to take in our electrical engineering technology baccalaureate program (EET BT).

Do you support the department's push to remove the three telecom tracks (fiber optic, wireless, networking) from the TCET BT program?

## stangny <stangny@gmail.com>

Tue 3/10/2020 9:10 AM

To:Zory Marantz <ZMarantz@citytech.cuny.edu>;

We ask that you please respond at your earliest convenience to allow us to make the necessary modification as soon as possible.

Thank you.

Regards,

Zory Marantz, PH.D., P.E. Associate Professor

NYC College of Technology - ETET Dept.

Brooklyn, NY 11201

#: 718-260-4929

<http://www.citytech.cuny.edu/electrical-telecomm/faculty.aspx>

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| ***college blue_yellow2 | **NEW YORK CITY****COLLEGE OF TECHNOLOGY**The City University of New York300 Jay Street  Brooklyn, NY 11201-2983**Department of Electrical and Telecommunications Engineering Technology**TEL (718) 260-5300 - FAX: (718) 254-8643 |

### Minutes of the ETET Departmental Meeting On Thursday, February 13, 2020

**Present:** Professors Geng, Goykadosh, Hossain, Kalechman, Kouar, Marandi, Razani, Ummy, and Wei

**Excused:** Professor Geng, Vladutescu

* The meeting was called to order at 12:30 P.M.
* The minutes from the previous meeting on December 12 2019, were approved.
* Chairman announced VOE deadline of February 19th.
* Chairman reported that there has been an increase in the departmental enrollment numbers in fall of 2019 about 9% and spring 2020 of 13% respectively compared with last year’s numbers.
* Chairman announced that Professor Mynbaev will retire at the end of current academic year and added that Professor Geng is back from China and she has to stay at home for two weeks as a self-quarantine and after getting the letter of clearance from her doctor, she can report to College.
* Chairman updated about the TCET Tracks for the upcoming ABET visit in fall 2020 and announced that the deadline for the changes will be February 21st. Professor Razani added that, the Provost office believes the changes are majors and as a result is not doable, but if the changes are minor, as Chairman believes then it is doable.
* Professor Kouar reported that ABET Coordinators will be working on the departmental minutes and requested Professor Marandi to submit the minutes for the past six years
* Professor Maldonado reported that she is working on the textbooks and course syllabus as part of ABET preparation. Chairman suggested that the EET & TCET coordinators should discuss and assign the members for the task
* Professor Kouar suggested that the new adjunct faculty members should send their CVs to Professors Geng and Wei as soon as possible. He added that the ABET posters should be updated by Professor Marandi who prepared the original posters.
* Professor Hossain reported that he did send a list of items which are needed for ABET visitation, to the Dean’s office.
* Professor Wei reported that he and Professor Geng were working together on data collection for the ABET visitation by coordination with Professor Marantz. He added that during the Winter Break, the IEEE members had some winter activities.
* Chairman distributed the faculty members’ Tasks and Observations assignments for Spring 2020.
* Professor Hossain reported on his paper on 5G.
* Chairman asked Professor Marandi to submit the departmental minutes in the past 6 years to the ABET coordinators.
* Professor Marantz reported that he worked on a textbook for TCET 3102 and EET 3102 courses during his Fellowship Leave and submitted a report to OFSR as part of the requirements. He added that he also did research on traffic safety and submitted a paper to WTS 2020.
* The meeting was adjourned at 2:00 P.M.
* Cc: Dean Gerarda Shields

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| SEDseal | **THE STATE EDUCATION DEPARTMENT** / THE UNIVERSITY OF THE STATE OF NEW YORK / ALBANY, NY 12234**Application to Change or Adapt a Registered** **Professional Education Program**  |

**Form Instructions:**

* Prior to implementing **any changes** in a program leading to a professional license or a related field, please contact the Professional Education Program Review Unit at OPPROGS@nysed.gov.
* Use this form to request program changes that require approval by the State Education Department.[[1]](#footnote-1)
* For programs that are registered jointly with another institution, all participating institutions must confirm their support of the changes.2
* If the change involves offering an existing registered program at a new location, or creating a dual-degree program from existing programs, complete a [new registration application](http://www.nysed.gov/common/nysed/files/gapropoposal-absolute.docx) for the proposed program.

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| **Section I: General Information**  |
| **Institution name and address** | New York City College of Technology, 300 Jay Street, Brooklyn, NY 11201*Additional information*:* Specify campus where program is offered, if other than the main campus:
 |
| **Identify the program you wish to change**  | Program title: Bachelors of Technology in Telecommunications Engineering TechnologyAward (e.g., B.A., M.S.): BTechCredits: 131-133 HEGIS code: 0925.00[Program code](http://www.nysed.gov/heds/IRPSL1.html)(s): 90200 |
| **Contact person for this proposal** | Name and title: Bonne August, Provost and Vice President for Academic Affairs Telephone: 718-260-5560 Fax:       E-mail: baugust@citytech.cuny.edu |
| **CEO** (or designee) **approval** *Signature affirms the institution’s commitment to support the program as revised.* | Name and title:      Signature and date:       |
| If the program will be registered jointly[[2]](#footnote-2) with another institution, provide the following information: |
| Partner institution’s name:      Name and title of partner institution’s CEO:      Signature of partner institution’s CEO:       |
| **Section II: Identify the Proposed Changes.**  |
| **Check all the changes that apply and complete the required section that follows:**  |
| [ ]  **Discontinuing a Program.** Indicate the effective date: [[3]](#footnote-3)[ ]  **Change in** **Program Title.** Indicate the proposed new title: [ ]  **Change in** **Program Award.** Indicate the proposed new award:**Note:** This may require altering the liberal arts and science content, as defined in Section 3.47(c)(1-4) of [**Regents Rules**](http://www.nysed.gov/college-university-evaluation/education-law-rules-and-regulations).[ ]  [**Format**](http://www.nysed.gov/college-university-evaluation/format-definitions) **Change(s).** Indicate the proposed new format(s):**Note**: if the change involves adding a **distance education format** to a registered program, please complete the [**distance education application**.](http://www.nysed.gov/common/nysed/files/het-de-app.docx)[ ]  **Curricular Change(s)**X **Other Change(s).** Please specify: **Removing three tracks from the program.** |

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| **Section III: Describe the Proposed Changes.**  |
| 1. **In a brief narrative explain the rationale for the changes. The national trend in the offering of and students' enrollment in telecommunications programs has taken a downside over the last decade. Consequently, many TCET programs around the country have either closed and/or did not renew their accreditations. Similarly, enrollment in our telecommunications program cannot support three tracks. It is important to note that while the three tracks are being eliminated, the individual courses from the tracks remain available as electives for both the Telecommuncations Engineering Technology and Electrical Engineering Technology BTech degree programs.**
 |
| 1. **Describe the plan for implementing the proposed changes, including the effective date and the impact on the currently enrolled students.**

 We have been gradually phasing out the tracks and currently have no students registered in them. Upon registration of these changes, we will close the tracks immediately with no impact on currently enrolled students. |
| 1. **For Format Change(s),**

1) Describe availability of courses and any change in faculty, resources, or support services related to the change.      2) Use [Table 1](#Table2) to provide a sample program schedule to show the sequencing and scheduling of courses in the new format. |
| 1. **For Curricular Change(s),**
2. Use [Table 2](#SidebySide) to provide a side-by-side comparison of the existing and newly modified program plan as shown in the College’s Catalog.
3. For each new or modified course, provide a syllabus. Syllabi should include a course description and identify course credit, objectives, topics, student outcomes, texts/resources, and the basis for determining grades.
4. For each new course, list the name, qualifications, and relevant experience of faculty teaching the course.
 |

**Table 1:** For **format change(s)**, use/adapt the table below to show how a typical student may progress through the program.Expand the table as needed.

Indicate academic calendar type: [ ]  Semester [ ]  Quarter [ ]  Trimester [ ]  Other (describe)

|  |  |
| --- | --- |
|  Term: | Term: |
| **Course Number and Title** | **Credit** | **R/E\*** | **Course Number and Title** | **Credit** | **R/E\*** |
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|  |  |  |  |  |  |
| Term Credit Total:  |  |  |  |  |  |

\* Required or Elective

**Table 2:** For **curricular change(s)**, use/adapt the table below to compare the existing and newly modified program plan. Expand the table as needed.

|  |  |
| --- | --- |
| **Current Program** | **New Program** |
| **Course Number and Title** | **Credit** | **R/E\*** | **Course Number and Title** | **Credit** | **R/E\*** |
| **~~GENERAL EDUCATION COMMON CORE 46 CREDITS~~** **~~I – REQUIRED CORE 1 (4 COURSES, 14-15 CREDITS)~~** **~~English Composition (2 courses, 6 credits)~~** ~~ENG 1101\* English Composition I 3~~ ~~ENG 1121\* English Composition II 3~~ **~~Mathematical and Quantitative Reasoning (1 course, 4 credits)~~** ~~MAT 1375\*, 2 Precalculus or higher 4~~ **~~Life and Physical Sciences (1 course, 4-5 credits)~~** ~~PHYS 1433\* General Physics I: Algebra Based 4~~ **~~or~~** ~~PHYS 1441\* General Physics I: Calculus Based 5~~**~~II – FLEXIBLE CORE (6 COURSES, 20-21 CREDITS)~~** ~~Select two additional courses in categories not met at the associate level. 6~~ **~~World Cultures and Global Issues~~** ~~Any Approved Course~~ **~~US Experience in its Diversity~~** ~~ECON 1101 Macroeconomics 3~~ **~~Individual and Society~~** ~~PHIL 2106 Philosophy of Technology 3~~ **~~Creative Expression~~** ~~Any Approved Course~~ **~~Scientific World~~** ~~PHYS 1434\* General Physics II: Algebra Based 4~~ **~~or~~** ~~PHYS 1442\* General Physics II: Calculus Based 5~~ **~~One additional course from any group~~** ~~MAT 1475 Calculus I or higher 4~~ **~~III – COLLEGE OPTION REQUIREMENTS 3 (10-13 CREDITS)~~** ~~• One course in Speech/Oral Communication~~ ~~COM 1330 4 Public Speaking or higher 3~~ ~~• One interdisciplinary Liberal Arts and Sciences course~~ ~~Any Approved Course 3~~ ~~• Additional liberal arts credits to reach a total of at least 42 credits in general education, including one advanced course.~~ ~~MAT 1575 Calculus II 4~~ ~~[PHIL 3212 5 Engineering Ethics 3]~~ **~~Writing Intensive Requirement~~** ~~Students at New York City College of Technology must complete two courses designated WI for the associate level, one from GenEd and one from the major; and two additional courses designated WI for the baccalaureate level, one from GenEd and one from the major.~~ **~~PROGRAM-SPECIFIC DEGREE REQUIREMENTS 84 CREDITS~~** **~~Associate-Level Courses~~** ~~EET 1102 Techniques of Electrical Technology 2~~ ~~EET 1122 Circuit Analysis I 4~~ ~~EET 1222 Circuit Analysis II 5~~ ~~EET 1240 Electronics 4~~ ~~EET 1241 Electronics Laboratory 1~~ ~~EET 2140 Communications Electronics 3~~ ~~EET 2141 Communications Electronics Laboratory 1~~ ~~EET 2162 Digital Electronics I 3~~ ~~TCET 1100 Introduction to Telecommunications 2~~ ~~TCET 2102 Analog and Digital Telephony 4~~ ~~TCET 2202 Data Communications and Systems 4~~ ~~TCET 2220 Transmission Systems 3~~ ~~TCET 2242 Microcomputer Interfacing 3~~~~MAT 1375 Precalculus or higher Met as GenEd~~ ~~PHYS 1433 General Physics I: Algebra Based~~ **~~or~~** ~~PHYS 1441 General Physics I: Calculus Based Met as GenEd~~ ~~PHYS 1434 General Physics II: Algebra Based~~ **~~or~~** ~~PHYS 1442 General Physics II: Calculus Based Met as GenEd~~ ~~MAT 1475 Calculus I or higher Met as GenEd~~ **~~Baccalaureate-Level Courses~~** ~~TCET 3102 Analog and Digital Communications I 4~~ ~~TCET 3122 Switching and Automata Theory 3~~ ~~TCET 3142 Computer Systems 3~~ ~~TCET 3202 Analog and Digital Communications II 4~~ ~~TCET 3222 Satellite Transmission 3~~ ~~TCET 4102 Fiber-Optic Communications 3~~ ~~TCET 4132 Wireless Communication 3~~ ~~TCET 4140 Telecommunications Network Management 3~~ ~~TCET 4202 Advanced Telecommunications 3~~ ~~TCET 4182 Telecommunications Capstone Project I 2~~ ~~TCET 4282 Telecommunications Capstone Project II 2~~ ~~CST 2403 Intro C++ Programming Language I 3~~ ~~ENG 2570 Writing in the Workplace 3~~ ~~ENG 2575 Technical Writing 3~~ ~~ECON 1101 Macroeconomics Met as GenEd~~ ~~MAT 1372 Statistics with Probability 3~~ ~~MAT 1575 Calculus II Met as GenEd~~ ~~PHIL 2106 Philosophy of Technology Met as GenEd~~ ~~PHIL 3212 5 Engineering Ethics Met as GenEd~~ **~~REQUIRED COURSES IN THE WIRELESS COMMUNICATIONS TRACK CREDITS~~** ~~TCET 3102 Analog and Digital Communications I 4~~ ~~TCET 3122 Switching and Automata Theory 3~~ ~~TCET 3142 Computer Systems 3~~ ~~TCET 3222 Satellite Transmission 3~~ ~~TCET 3202 Analog and Digital Communications II 4~~ ~~TCET 4102 Fiber-Optic Communications 3~~ ~~TCET 4110 Electromagnetics and Antenna Design 3~~ ~~TCET 4132 Wireless Communications 3~~ ~~TCET 4202 Advanced Telecommunications 3~~ ~~TCET 4210 Fundamentals of Microwave Remote Sensing 3~~ ~~Technical Elective Click here for choices 4~~ **~~Subtotal 36~~** **~~ADDITIONAL REQUIRED COURSES~~** ~~CST Elective 3~~ ~~ENG 2570 Writing in the Workplace 3~~ ~~ENG 2575 Technical Writing 3~~ ~~CET 4942 Economics of Engineering and Management 3~~ ~~MAT 1372 Statistics with Probability 3~~ ~~MAT 15751 Calculus II 4~~ ~~PHIL 3212 Engineering Ethics 3~~ **~~Subtotal 22~~** **~~REMAINING CORE DISTRIBUTION 6~~** **~~TOTAL CREDITS REQUIRED FOR THE DEGREE 64~~** **~~REQUIRED COURSES IN THE OPTICAL COMMUNICATIONS TRACK CREDITS~~** ~~TCET 3102 Analog and Digital Communications I 4~~ ~~TCET 3122 Switching and Automata Theory 3~~ ~~TCET 3142 Computer Systems 3~~ ~~TCET 3222 Satellite Transmission 3~~ ~~TCET 3202 Analog and Digital Communications II 4~~ ~~TCET 4152 Optical Network Components 3~~ ~~TCET 4162 Photonic Devices 3~~ ~~TCET 4132 Wireless communications 3~~ ~~TCET 4202 Advanced Telecommunications 3~~ ~~TCET 4232 Optical Networks 3~~ ~~Technical Elective Click here for choices 4~~ **~~Subtotal 36~~****~~ADDITIONAL REQUIRED COURSES~~** ~~CST Elective 3~~ ~~ENG 2570 Writing in the Workplace 3~~ ~~ENG 2575 Technical Writing 3~~ ~~CET 4942 Economics of Engineering and Management 3~~ ~~MAT 1372 Statistics with Probability 3~~ ~~MAT 15751 Calculus II 4~~ ~~PHIL 3212 Engineering Ethics 3~~ **~~Subtotal 22~~** **~~REMAINING CORE DISTRIBUTION 6~~** **~~TOTAL CREDITS REQUIRED FOR THE DEGREE 64~~****~~REQUIRED COURSES IN THE NETWORK MANAGEMENT TRACK CREDITS~~** ~~TCET 3102 Analog and Digital Communications I 4~~ ~~TCET 3122 Switching and Automata Theory 3~~ ~~TCET 3142 Computer Systems 3~~ ~~TCET 3242 Advanced Communication Network 3~~ ~~TCET 4102 Fiber-Optic Communications 3~~ ~~TCET 4140 Telecom Network Management 3~~ ~~TCET 4120 Legal and Regulatory Issues in Telecom 2~~ ~~TCET 4172 Telecommunications Protocols and~~ ~~Network Performance 3~~ ~~CST 3610 Network Security Fundamentals 3~~ ~~TCET 4282 Telecommunications Capstone Project II 2~~ ~~CST Elective 3~~ ~~Technical Elective Click here for choices 4~~ **~~Subtotal 36~~** **~~ADDITIONAL REQUIRED COURSES~~** ~~CST Elective 3~~ ~~ENG 2570 Writing in the Workplace 3~~ ~~ENG 2575 Technical Writing 3~~ ~~CET 4942 Economics of Engineering and Management 3~~ ~~MAT 1372 Statistics with Probability 3~~ ~~MAT 15751 Calculus II 4~~ ~~PHIL 3212 Engineering Ethics 3~~ **~~Subtotal 22~~** **~~REMAINING CORE DISTRIBUTION 6~~** **~~TOTAL CREDITS REQUIRED FOR THE DEGREE 64~~****~~LIST OF ELECTIVE (ELECT) COURSES~~** **~~TECHNICAL ELECTIVES AS THEY APPLY TO EACH TRACK~~** **~~TCET ELECT~~** ~~TCET 3202 Analog and Digital Communications II~~ ~~TCET 3242 Advanced Communication Network~~ ~~TCET 4110 Electromagnetics and Antenna Design~~ ~~TCET 4132 Wireless Communications~~ ~~TCET 4152 Optical Network Components~~ ~~TCET 4120 Legal and Regulatory Issues in Telecommunications~~ ~~TCET 4140 Telecommunications Network Management~~ ~~TCET 4162 Photonic Devices~~ ~~TCET 4172 Telecommunications Protocols and Network Performance~~ ~~TCET 4210 Remote Sensing~~ ~~TCET 4232 Optical Networks~~ ~~TCET 4202 Advanced Telecommunications~~ ~~TCET 4282 Telecommunications Capstone Project II~~ ~~TCET 4000 Internship~~ **~~CST ELECT~~** ~~CST 2403 Intro C++ Programming Language I~~ ~~CST 2406 Introduction to Systems Analysis and Design~~ ~~CST 2410 Introduction to Computer Security~~ ~~CST 2801 Special Topics in Information Technology~~ ~~CST 3503 C++ Programming II~~ ~~CST 3504 Database Design~~ ~~CST 2309 Web Programming I~~ ~~CST 3603 Object-Oriented Programming~~ ~~CST 3604 Quality Database Implementation~~ ~~CST 2409 Web Programming II~~ ~~CST 3610 Network Security~~ ~~CST 4703 UNIX Networking and the Internet~~ ~~CST 4704 Data Warehousing~~ ~~CST 4706 Software Development Methodologies~~ ~~CST 4710 Advanced Network Security~~ **~~MAT ELECT~~** ~~MAT 3787 Applied Mathematics: Finite Fields~~ **~~OTHER ELECTIVE COURSES~~** ~~ELECT Electives with Department Approval~~**~~TOTAL PROGRAM-SPECIFIC REQUIRED AND ELECTIVE COURSES 84~~** **~~TOTAL NYSED LIBERAL ARTS AND SCIENCE CREDITS 47-49~~** **~~TOTAL CREDITS REQUIRED FOR THE DEGREE 131-133~~** |  |  | **GENERAL EDUCATION COMMON CORE 46 CREDITS** **I – REQUIRED CORE 1 (4 COURSES, 14-15 CREDITS)** **English Composition (2 courses, 6 credits)** ENG 1101\* English Composition I 3 ENG 1121\* English Composition II 3 **Mathematical and Quantitative Reasoning (1 course, 4 credits)** MAT 1375\*, 2 Precalculus or higher 4 **Life and Physical Sciences (1 course, 4-5 credits)** PHYS 1433\* General Physics I: Algebra Based 4 **or** PHYS 1441\* General Physics I: Calculus Based 5**II – FLEXIBLE CORE (6 COURSES, 20-21 CREDITS)** Select two additional courses in categories not met at the associate level. 6 **World Cultures and Global Issues** Any Approved Course **US Experience in its Diversity** ECON 1101 Macroeconomics 3 **Individual and Society** PHIL 2106 Philosophy of Technology 3 **Creative Expression** Any Approved Course **Scientific World** PHYS 1434\* General Physics II: Algebra Based 4 **or** PHYS 1442\* General Physics II: Calculus Based 5 **One additional course from any group** MAT 1475 Calculus I or higher 4 **III – COLLEGE OPTION REQUIREMENTS 3 (10-13 CREDITS)** • One course in Speech/Oral Communication COM 1330 4 Public Speaking or higher 3 • One interdisciplinary Liberal Arts and Sciences course Any Approved Course 3 • Additional liberal arts credits to reach a total of at least 42 credits in general education, including one advanced course. MAT 1575 Calculus II 4 [PHIL 3212 5 Engineering Ethics 3] **Writing Intensive Requirement** Students at New York City College of Technology must complete two courses designated WI for the associate level, one from GenEd and one from the major; and two additional courses designated WI for the baccalaureate level, one from GenEd and one from the major. **PROGRAM-SPECIFIC DEGREE REQUIREMENTS 84 CREDITS** **Associate-Level Courses** EET 1102 Techniques of Electrical Technology 2 EET 1122 Circuit Analysis I 4 EET 1222 Circuit Analysis II 5 EET 1240 Electronics 4 EET 1241 Electronics Laboratory 1 EET 2140 Communications Electronics 3 EET 2141 Communications Electronics Laboratory 1 EET 2162 Digital Electronics I 3 TCET 1100 Introduction to Telecommunications 2 TCET 2102 Analog and Digital Telephony 4 TCET 2202 Data Communications and Systems 4 TCET 2220 Transmission Systems 3 TCET 2242 Microcomputer Interfacing 3MAT 1375 Precalculus or higher Met as GenEd PHYS 1433 General Physics I: Algebra Based **or** PHYS 1441 General Physics I: Calculus Based Met as GenEd PHYS 1434 General Physics II: Algebra Based **or** PHYS 1442 General Physics II: Calculus Based Met as GenEd MAT 1475 Calculus I or higher Met as GenEd **Baccalaureate-Level Courses** TCET 3102 Analog and Digital Communications I 4 TCET 3122 Switching and Automata Theory 3 TCET 3142 Computer Systems 3 TCET 3202 Analog and Digital Communications II 4 TCET 3222 Satellite Transmission 3 TCET 4102 Fiber-Optic Communications 3 TCET 4132 Wireless Communication 3 TCET 4140 Telecommunications Network Management 3 TCET 4202 Advanced Telecommunications 3 TCET 4182 Telecommunications Capstone Project I 2 TCET 4282 Telecommunications Capstone Project II 2 CST 2403 Intro C++ Programming Language I 3 ENG 2570 Writing in the Workplace 3 ENG 2575 Technical Writing 3 ECON 1101 Macroeconomics Met as GenEd MAT 1372 Statistics with Probability 3 MAT 1575 Calculus II Met as GenEd PHIL 2106 Philosophy of Technology Met as GenEd PHIL 3212 5 Engineering Ethics Met as GenEd **TOTAL PROGRAM-SPECIFIC REQUIRED AND ELECTIVE COURSES 84** **TOTAL NYSED LIBERAL ARTS AND SCIENCE CREDITS 47-49** **TOTAL CREDITS REQUIRED FOR THE DEGREE 131-133** |  |  |
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\* Required or Elective

***Submit the application electronically to*** ***OPPROGS@nysed.gov*** ***AND mail one hard copy to the following address:***

*Professional Education Program Review*

*Office of the Professions
2nd Floor, West Wing, EB*

*New York State Education Department*

*89 Washington Avenue
Albany, NY 12234*

1. **CUNY and SUNY** institutions: contact System Administration for guidance. [↑](#footnote-ref-1)
2. If the partner institution is non-degree-granting. [↑](#footnote-ref-2)
3. If any students do not complete the program by the proposed termination date, the institution must request an extension of the registration period for the program or make other arrangements for those students. [↑](#footnote-ref-3)