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** | **CET 2023 Minor Curriculum Changes** |
| **Date** | **9/14/2023** |
| **Major or Minor** | **Minor** |
| **Proposer’s Name** | **Yu Wang, Farrukh Zia, Aparicio Carranza, Ohbong Kwon** |
| **Department** | **Computer Engineering Tech** |
| **Date of Departmental Meeting in which proposal was**  **approved** | **10/9/2023** |
| **Department Chair Name** | **Sunghoon Jang** |
| **Department Chair Signature**  **and Date** |  |
| **Academic Dean Name** | **Gerarda 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 the proposal body. | Modifications in this proposal include:  Updates to course Pre-requisite(s) or Pre/Co-requisite(s): EMT 1220, CET 3525, CET 3625, CET 4711, CET 4960, and  CET 4962  Updates to Course Titles:  CET 4705, CET4805, CET 4960, and CET 4962  Updates to Course Descriptions : CET4805, CET 4960, and CET 4962 |
| **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). | The changes of pre-requisites or pre/co-requisites make sure students, especially for transfer students, are prepared for their middle- and upper-level coursework. The modification of the course titles and descriptions will provide our students with more appropriate information on the content of the courses. Change of course title, and  course description reflects up to date industry trends. |
| **Proposal History**  (Please provide history of this proposal: is this a resubmission? An updated version? This may most easily be expressed as a list). | This is the updated version with CET BTech degree map and the minor change of CET 4960 course description. |

Please include all appropriate documentation as indicated in the Curriculum Modification Checklist. For each new course, please also complete the New Course Proposal and submit in this document.

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 | X |
| * Rationale for proposal | X |
| * Date of department meeting approving the modification | X |
| * Chair’s Signature |  |
| * Dean’s Signature |  |
| Evidence of consultation with affected departments  List 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). | N/A |
| Completed [Chancellor’s Report Form.](http://openlab.citytech.cuny.edu/collegecouncil/files/2014/08/2013-10-09-Chancellor_Report_Quick_Reference_Guide1.doc) | X |

**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) | X |

## CET Minor Curriculum Changes and Rationale in 2023

This proposal indicates the Computer Engineering Technology Department to change some of EMT and CET major course descriptions, course titles, course prerequisites and pre/corequisites. The changes of Prerequisites or Pre/corequisites make sure students, especially for transfer students, are prepared for their middle- and upper-level coursework. The modification of the course titles and descriptions will provide our students with more appropriate information on the content of the courses. Change of course title and course description reflects up to date industry trends.



A thick orange line indicates recent changes of prerequisites or pre/corequisites.

The changes will streamline the educational pathway and allow transfer students to take 15 credits or more each semester. Refer to CET BTech Degree Map for transfer students from MEC AAS of LaGuardia Community College. This program has an articulation agreement to CET BTech program of NYCCT.

A screenshot of a computer screen

Description automatically generated

CET BTech Degree Map for the transfer students from MEC AAS of LaGuardia Community college

## Changes to Existing Courses EMT 1220 (Mechanism) (Prof. Wang and Prof. Kwon)

The current EMT 1220 prerequisites and pre/co-requisites are as follows:

**CURRENT COURSE PREREQUISITES** : EMT 1120, EMT 1130

**CURRENT COURSE PRE/COREQUISITES**: MAT 1275 or higher, PHYS 1433/PHYS 1441

**UPDATED COURSE PREREQUISITES**: EMT 1120 and EMT 1130

**UPDATED COURSE PRE/COREQUISITES:** MAT 1275CO or MAT 1275 or higher, PHYS 1433/PHYS 1441

Rationale: Since MAT 1275 became “MAT 1275 or and MAT 1275CO” for prerequisite purposes, MAT 1275 should be changed to MAT 1275CO or MAT 1275 as pre/co-requisite for this course.

## Changes to Existing Courses CET3525 (Electrical Networks) (Prof. Wang and Prof. Kwon)

**CURRENT COURSE PRE/COREQUISITE(S)**: MAT 1575 or higher

**UPDATED COURSE PREREQUISITE:** CET 2350

**UPDATED COURSE PRE/COREQUISITE:** MAT1575 or higher

Rationale: The change of prerequisites makes sure students, especially transfer students, are prepared for their middle- and upper-level coursework. It will eliminate the mistake of registering CET3525 without the background of the electronics and electrical circuits. The course sequence was advised by faculty advisor in the past.

## Changes to Existing Courses CET 4711 (Computer Controlled System Design) (Prof. Wang and Prof. Zia)

The current CET 4711 prerequisites and pre/co-requisites are as follows:

**CURRENT COURSE PREREQUISITE** : CET 3640

**CURRENT COURSE PRE/COREQUISITE** : CET4705

**UPDATED COURSE PRE/COREQUISITES:** CET 3640 and CET 4705

Rationale: Experience in the class showed that students can be successful when taking CET3640 as a pre-requisite or co-requisite instead of a pre-requisite and brought the class in line with new sequence with CET3640. The changes make sure students, especially transfer students, are prepared for their middle- and upper-level coursework and reduce the number of overrides required each semester.

## Changes to Existing Courses CET 3625 (Applied Analysis Laboratory) (Prof. Wang and Prof. Kwon)

The current CET 3625 prerequisites and pre/co-requisites are as follows:

# CURRENT COURSE PRE/COREQUISITE: MAT 2680

**UPDATED COURSE PRE/COREQUISITE:** MAT 2680

**UPDATED COURSE PREREQUISITE:** CET 3525

Rationale: The content taught in CET 3525 prepares students to study CET 3625. The course sequence with CET 3625 and CET 3525 was advised by faculty advisor in the past.

The changes make sure students, especially transfer students, are prepared for their middle- and upper-level coursework. It will eliminate the mistake to register CET3625 without the background of CET 3525.

## Changes to Existing Courses CET 4705 (Component and Subsystem Design I) (Prof. Wang and Prof. Kwon)

**UPDATED COURSE CODE AND TITLE:** CET 4705 - Component and Subsystem Design

Rationale: CET 4705 course name is modified from “Component and Subsystem Design I” to “Component and Subsystem Design,” since CET 4805 course name is proposed to be changed from “Component and Subsystem Design II” to “Digital System Design Using HDL”.

1. **Changes to Existing Courses CET 4960 - Applied Digital Technology (Prof. Carranza)**

# CURRENT COURSE DESCRIPTION:

An introduction to the use of digital computer for measurements of real-world signals and control of real world devices. Students program data acquisition and control hardware in a high- level language such as C.

**CURRENT COURSE PREREQUISITES**: MAT 1575 or higher; EMT 2410 or CST 2403

**UPDATED COURSE PREREQUISITE**: CET3510

**UPDATED COURSE CODE AND TITLE:** CET 4960 - Applied Cybersecurity Technology

# UPDATED COURSE DESCRIPTION:

The course focuses on case study activities, hands-on experimentation performed in a contained Virtual Environment, and development of a technical report. The guided research aims at exploring key Cybersecurity Technology methods such as: Penetration Testing, Vulnerability Analysis, Virtualization and Cloud Security, Wireless Security, Computer Forensics, etc.

## Changes to Existing Courses CET 4962 - Applied Software Technology (Prof. Carranza)

The current and updated course title, description, prerequisites and co-requisites for CET 4962 is presented below:

**CURRENT COURSE CODE AND TITLE:** CET 4962 - Applied Software Technology

**CURRENT COURSE DESCRIPTION:** Development of hardware-oriented programming skills. Students write programs to access external devices via a serial port or other interfaces.

**CURRENT COURSE PREREQUISITES**: MAT 1575 or higher; EMT 2410 or CST 2403

**UPDATED COURSE CODE AND TITLE:** CET 4962 – Applied Information Technology

# UPDATED COURSE DESCRIPTION:

The course focuses on the principles of Information Technology (IT) and Information Systems (IS). Students perform guided practical research activity on key Emerging Technologies such as: Software Defined Networking (SDN), Network Programming, Cloud Computing, Networking and Security, Cloud Database, Quantum Computing, Cryptography, Enterprise Computing, etc., and develop a formal comprehensive technical report paper.

**UPDATED COURSE PREREQUISITE**: CET3510

Rationale: The current course titles and course descriptions have been active since the year 2000. The modification of the course titles and descriptions will provide our students with more appropriate information on the content of both courses (CET 4960 and CET 4962). The updated versions will permit us to prepare our Computer Engineering Technology students with practical skills in Cybersecurity and Information Technology. The practical nature of the courses will also motivate them to further pursue their knowledge in these ever-changing technical fields. The updated prerequisite allows the flexibility to CET students in the BTECH program while still ensuring the relevant coursework has been completed.

## Changes to Existing Courses CET 4805 – Component and Subsystem Design II (Prof. Wang and Prof. Kwon)

The current and updated course title, description, prerequisites for CET 4805 is presented below:

**CURRENT COURSE CODE AND TITLE:** CET 4805 - Component and Subsystem Design II

**CURRENT COURSE DESCRIPTION:** Continuation of CET 4705. Further design of systems requiring solution by differential equations. Worst-case designs and component tolerances, development of control systems.

**CURRENT COURSE PREREQUISITES**: CET4705

**UPDATED COURSE CODE AND TITLE:** CET 4805 - Digital System Design Using HDL

# UPDATED COURSE DESCRIPTION:

Introduce theory and modern design methodologies that allow complex digital systems to be rapidly designed, verified, and implemented using a hardware description language (HDL) and programmable ICs. Topics include coding for different levels of abstraction,

implementation of combinational and sequential circuits and finite state machines, hierarchical designs, reusable component design, design constraints and verification. Contemporary CAD tools and target digital technologies including Field Programmable Gate Arrays (FPGAs) are utilized.

Rationale: The proposed change in the course description aims to provide students with relevant, practical, and up-to-date skills in digital system design, aligning the curriculum with current industry needs and technological trends. This shift ensures that graduates are well- prepared to make meaningful contributions in the rapidly evolving field of digital engineering and embedded systems.

## Section AV: Changes in Existing Courses

**Changes to be offered in the Computer Engineering Technology Department**

|  |  |  |  |
| --- | --- | --- | --- |
| **CUNYFirst Course ID** | 038713 | | |
| **Course Number** | EMT 1220 Mechanism | | |
| **FROM:** |  | **TO:** |  |
| **Department(s)** |  | **Department(s)** |  |
| **Course Number** |  | **Course Number** |  |
| **Course Title** |  | **Course Title** |  |
| **Prerequisite** | ~~EMT 1120, EMT 1130~~ | **Prerequisite** | EMT 1120; EMT 1130 |
| **Corequisite** |  | **Corequisite** |  |
| **Pre- or corequisite** | ~~MAT 1275 or higher, PHYS~~ ~~1433/PHYS 1441~~ | **Pre- or corequisite** | MAT 1275CO or MAT  1275 or higher, PHYS 1433/PHYS 1441 |
| **Hours** |  | **Hours** |  |
| **Credits** |  | **Credits** |  |
| **Description** |  | **Description** |  |
| **Requirement** |  | **Requirement** |  |
| **Liberal Arts** | [ ] Yes [x ] No | **Liberal Arts** | [ ] Yes [x ] No |
| **Course Attribute** |  | **Course Attribute** |  |
| **(e.g. Writing** | **(e.g. Writing** |
| **Intensive, Honors,** | **Intensive, Honors,** |
| **etc** | **etc** |
|  | [x ] Major | sit**C**y**ourse Applicability** | [x ] Major |
|  | [ ] Gen Ed Required | [ ] Gen Ed Required |
|  | [ ] English Composition | [ ] English Composition |
|  | [ ] Mathematics | [ ] Mathematics |
|  | [ ] Science | [ ] Science |
|  | [ ] Gen Ed - Flexible | [ ] Gen Ed - Flexible |
| **Course Applicability** | [ ] World Cultures  [ ] US Experience in its Diver [ ] Creative Expression | [ ] World Cultures  [ ] US Experience in its [ ] Creative Expression |
|  | [ ] Individual and Society | [ ] Individual and Socie |
|  | [ ] Scientific World | [ ] Scientific World |
|  | [ ] Gen Ed - College Option | [ ] Gen Ed - College Opti |
|  | [ ] Speech | [ ] Speech |
|  | [ ] Interdisciplinary | [ ] Interdisciplinary |
|  | [ ] Advanced Liberal Arts | [ ] Advanced Liberal Ar |
| **Effective Term** | Spring 2024 |  |  |

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## Rationale:

Since MAT 1275 became “MAT 1275 or and MAT 1275CO” for prerequisite purposes, MAT 1275 should be changed to MAT 1275CO or MAT 1275 as pre/co-requisite for this course.

## Section AV: Changes in Existing Courses

**Changes to be offered in the Computer Engineering Technology Department**

|  |  |  |  |
| --- | --- | --- | --- |
| **CUNYFirst Course ID** | 0376475 | | |
| **Course Number** | CET3525 Electrical Networks | | |
| **FROM:** |  | **TO:** |  |
| **Department(s)** |  | **Department(s)** |  |
| **Course Number** |  | **Course Number** |  |
| **Course Title** |  | **Course Title** |  |
| **Prerequisite** |  | **Prerequisite** | CET 2350 |
| **Corequisite** |  | **Corequisite** |  |
| **Pre- or corequisite** | ~~MAT 1575 or higher~~ | **Pre- or corequisite** | Mat 1575 or higher |
| **Hours** |  | **Hours** |  |
| **Credits** |  | **Credits** |  |
| **Description** |  | **Description** |  |
| **Requirement** |  | **Requirement** |  |
| **Liberal Arts** | [ ] Yes [x ] No | **Liberal Arts** | [ ] Yes [x ] No |
| **Course Attribute** |  | **Course Attribute** |  |
| **(e.g. Writing** | **(e.g. Writing** |
| **Intensive, Honors,** | **Intensive, Honors,** |
| **etc** | **etc** |
|  | [x ] Major | sit**C**y**ourse Applicability** | [x ] Major |
|  | [ ] Gen Ed Required | [ ] Gen Ed Required |
|  | [ ] English Composition | [ ] English Composition |
|  | [ ] Mathematics | [ ] Mathematics |
|  | [ ] Science | [ ] Science |
|  | [ ] Gen Ed - Flexible | [ ] Gen Ed - Flexible |
| **Course Applicability** | [ ] World Cultures  [ ] US Experience in its Diver [ ] Creative Expression | [ ] World Cultures  [ ] US Experience in its [ ] Creative Expression |
|  | [ ] Individual and Society | [ ] Individual and Socie |
|  | [ ] Scientific World | [ ] Scientific World |
|  | [ ] Gen Ed - College Option | [ ] Gen Ed - College Opti |
|  | [ ] Speech | [ ] Speech |
|  | [ ] Interdisciplinary | [ ] Interdisciplinary |
|  | [ ] Advanced Liberal Arts | [ ] Advanced Liberal Ar |
| **Effective Term** | Spring 2024 |  |  |

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## Rationale:

The change of prerequisites makes sure students, especially transfer students, are prepared for their middle- and upper-level coursework. It will eliminate the mistake of registering CET3525 without the background of the electronics and electrical circuits. The course sequence was advised by faculty advisor in the past.

## Section AV: Changes in Existing Courses

**Changes to be offered in the Computer Engineering Technology Department**

|  |  |  |  |
| --- | --- | --- | --- |
| **CUNYFirst Course ID** | 037656 | | |
| **Course Number** | CET 4711 Computer Controlled System Design | | |
| **FROM:** |  | **TO:** |  |
| **Department(s)** |  | **Department(s)** |  |
| **Course Number** |  | **Course Number** |  |
| **Course Title** |  | **Course Title** |  |
| **Prerequisite** | ~~CET 3640~~ | **Prerequisite** |  |
| **Corequisite** |  | **Corequisite** |  |
| **Pre- or corequisite** | ~~CET 4705~~ | **Pre- or corequisite** | CET 3640 and CET 4705 |
| **Hours** |  | **Hours** |  |
| **Credits** |  | **Credits** |  |
| **Description** |  | **Description** |  |
| **Requirement** |  | **Requirement** |  |
| **Liberal Arts** | [ ] Yes [x ] No | **Liberal Arts** | [ ] Yes [x ] No |
| **Course Attribute** |  | **Course Attribute** |  |
| **(e.g. Writing** | **(e.g. Writing** |
| **Intensive, Honors,** | **Intensive, Honors,** |
| **etc** | **etc** |
|  | [x ] Major | sit**C**y**ourse Applicability** | [x ] Major |
|  | [ ] Gen Ed Required | [ ] Gen Ed Required |
|  | [ ] English Composition | [ ] English Composition |
|  | [ ] Mathematics | [ ] Mathematics |
|  | [ ] Science | [ ] Science |
|  | [ ] Gen Ed - Flexible | [ ] Gen Ed - Flexible |
| **Course Applicability** | [ ] World Cultures  [ ] US Experience in its Diver [ ] Creative Expression | [ ] World Cultures  [ ] US Experience in its [ ] Creative Expression |
|  | [ ] Individual and Society | [ ] Individual and Socie |
|  | [ ] Scientific World | [ ] Scientific World |
|  | [ ] Gen Ed - College Option | [ ] Gen Ed - College Opti |
|  | [ ] Speech | [ ] Speech |
|  | [ ] Interdisciplinary | [ ] Interdisciplinary |
|  | [ ] Advanced Liberal Arts | [ ] Advanced Liberal Ar |
| **Effective Term** | Spring 2024 |  |  |

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## Rationale:

Experience in the class showed that students can be successful when taking CET3640 as a pre-requisite or co-requisite instead of a pre-requisite and brought the class in line with new sequence with CET 3640. The changes make sure students, especially transfer students, are prepared for their middle- and upper-level coursework and reduce the number of overrides required each semester.

## Section AV: Changes in Existing Courses

**Changes to be offered in the Computer Engineering Technology Department**

|  |  |  |  |
| --- | --- | --- | --- |
| **CUNYFirst Course ID** | 037652 | | |
| **Course Number** | CET 3625 Applied Analysis Laboratory | | |
| **FROM:** |  | **TO:** |  |
| **Department(s)** |  | **Department(s)** |  |
| **Course Number** |  | **Course Number** |  |
| **Course Title** |  | **Course Title** |  |
| **Prerequisite** |  | **Prerequisite** | CET 3525 |
| **Corequisite** |  | **Corequisite** |  |
| **Pre- or corequisite** | ~~MAT 2680~~ | **Pre- or corequisite** | MAT 2680 |
| **Hours** |  | **Hours** |  |
| **Credits** |  | **Credits** |  |
| **Description** |  | **Description** |  |
| **Requirement** |  | **Requirement** |  |
| **Liberal Arts** | [ ] Yes [x ] No | **Liberal Arts** | [ ] Yes [x ] No |
| **Course Attribute** |  | **Course Attribute** |  |
| **(e.g. Writing** | **(e.g. Writing** |
| **Intensive, Honors,** | **Intensive, Honors,** |
| **etc** | **etc** |
|  | [x ] Major | sit**C**y**ourse Applicability** | [x ] Major |
|  | [ ] Gen Ed Required | [ ] Gen Ed Required |
|  | [ ] English Composition | [ ] English Composition |
|  | [ ] Mathematics | [ ] Mathematics |
|  | [ ] Science | [ ] Science |
|  | [ ] Gen Ed - Flexible | [ ] Gen Ed - Flexible |
| **Course Applicability** | [ ] World Cultures  [ ] US Experience in its Diver [ ] Creative Expression | [ ] World Cultures  [ ] US Experience in its [ ] Creative Expression |
|  | [ ] Individual and Society | [ ] Individual and Socie |
|  | [ ] Scientific World | [ ] Scientific World |
|  | [ ] Gen Ed - College Option | [ ] Gen Ed - College Opti |
|  | [ ] Speech | [ ] Speech |
|  | [ ] Interdisciplinary | [ ] Interdisciplinary |
|  | [ ] Advanced Liberal Arts | [ ] Advanced Liberal Ar |
| **Effective Term** | Spring 2024 |  |  |

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## Rationale:

The content taught in CET 3525 prepares students to study CET 3625. The course sequence with CET 3625 and CET 3525 was advised by faculty advisor in the past.

The changes make sure students, especially transfer students, are prepared for their middle- and upper-level coursework. It will eliminate the mistake of registering CET 3625 without the background of CET 3525.

## Section AV: Changes in Existing Courses

|  |  |  |  |
| --- | --- | --- | --- |
| **CUNYFirst Course ID** | 037655 | | |
| **Course Number** | CET 4705 Component and Subsystem Design I | | |
| **FROM:** |  | **TO:** |  |
| **Department(s)** |  | **Department(s)** |  |
| **Course Number** |  | **Course Number** |  |
| **Course Title** | Component and Subsystem Design I | **Course Title** | Component and Subsystem Design |
| **Prerequisite** |  | **Prerequisite** |  |
| **Corequisite** |  | **Corequisite** |  |
| **Pre- or corequisite** |  | **Pre- or corequisite** |  |
| **Hours** |  | **Hours** |  |
| **Credits** |  | **Credits** |  |
| **Description** |  | **Description** |  |
| **Requirement** |  | **Requirement** |  |
| **Liberal Arts** | [ ] Yes [x ] No | **Liberal Arts** | [ ] Yes [x ] No |
| **Course Attribute** |  | **Course Attribute** |  |
| **(e.g. Writing** | **(e.g. Writing** |
| **Intensive, Honors,** | **Intensive, Honors,** |
| **etc** | **etc** |
|  | [x ] Major | sit**C**y**ourse Applicability** | [x ] Major |
|  | [ ] Gen Ed Required | [ ] Gen Ed Required |
|  | [ ] English Composition | [ ] English Composition |
|  | [ ] Mathematics | [ ] Mathematics |
|  | [ ] Science | [ ] Science |
|  | [ ] Gen Ed - Flexible | [ ] Gen Ed - Flexible |
| **Course Applicability** | [ ] World Cultures  [ ] US Experience in its Diver [ ] Creative Expression | [ ] World Cultures  [ ] US Experience in its [ ] Creative Expression |
|  | [ ] Individual and Society | [ ] Individual and Socie |
|  | [ ] Scientific World | [ ] Scientific World |
|  | [ ] Gen Ed - College Option | [ ] Gen Ed - College Opti |
|  | [ ] Speech | [ ] Speech |
|  | [ ] Interdisciplinary | [ ] Interdisciplinary |
|  | [ ] Advanced Liberal Arts | [ ] Advanced Liberal Ar |
| **Effective Term** | Spring 2024 |  |  |

**Changes to be offered in the Computer Engineering Technology Department**

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## Rationale:

CET 4705 course name is modified from “Component and Subsystem Design I” to “Component and Subsystem Design,” since CET 4805 course name is proposed to be changed from “Component and Subsystem Design II” to “Digital System Design Using HDL”.

**Section AV: Changes in Existing Courses**

## Changes to be offered in the Computer Engineering Technology Department

|  |  |  |  |
| --- | --- | --- | --- |
| **CUNYFirst Course ID** | 037660 | | |
| **Course Number** | CET 4805 Component and Subsystem Design II | | |
| **FROM:** |  | **TO:** |  |
| **Department(s)** |  | **Department(s)** |  |
| **Course Number** |  | **Course Number** |  |
| **Course Title** | Component and Subsystem Design II | **Course Title** | Digital System Design Using HDL |
| **Prerequisite** |  | **Prerequisite** |  |
| **Corequisite** |  | **Corequisite** |  |
| **Pre- or corequisite** |  | **Pre- or corequisite** |  |
| **Hours** |  | **Hours** |  |
| **Credits** |  | **Credits** |  |
| **Description** | ~~Continuation of CET 4705.~~ ~~Further design of systems~~ ~~requiring solution by~~ ~~differential equations.~~  ~~Worst-case designs and~~ ~~component tolerances,~~ ~~development of control~~ ~~systems.~~ | **Description** | Introduce theory and modern design methodologies that allow complex digital systems to be rapidly designed, verified, and implemented using a hardware description language (HDL) and programmable ICs.  Topics include coding for different levels of abstraction, implementation of combinational and sequential circuits and finite state machines, hierarchical designs, reusable component design, design constraints and verification.  Contemporary CAD tools and target digital technologies including Field Programmable Gate Arrays (FPGAs) are utilized. |
| **Requirement** |  | **Requirement** |  |
| **Liberal Arts** | [ ] Yes [x ] No | **Liberal Arts** | [ ] Yes [x ] No |
| **Course Attribute (e.g. Writing Intensive, Honors,**  **etc** |  | **Course Attribute (e.g. Writing Intensive, Honors,**  **etc** |  |

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|  |  |  |  |
| --- | --- | --- | --- |
|  | [x ] Major |  | [x ] Major |
|  | [ ] Gen Ed Required |  | [ ] Gen Ed Required |
|  | [ ] English Composition |  | [ ] English Composition |
|  | [ ] Mathematics |  | [ ] Mathematics |
|  | [ ] Science |  | [ ] Science |
|  | [ ] Gen Ed - Flexible |  | [ ] Gen Ed - Flexible |
| **Course Applicability** | [ ] World Cultures  [ ] US Experience in its Di [ ] Creative Expression | ve**C**r**o**si**u**ty**rse Applicability** | [ ] World Cultures  [ ] US Experience in its Di [ ] Creative Expression |
|  | [ ] Individual and Society |  | [ ] Individual and Society |
|  | [ ] Scientific World |  | [ ] Scientific World |
|  | [ ] Gen Ed - College Option |  | [ ] Gen Ed - College Option |
|  | [ ] Speech |  | [ ] Speech |
|  | [ ] Interdisciplinary |  | [ ] Interdisciplinary |
|  | [ ] Advanced Liberal Arts |  | [ ] Advanced Liberal Arts |
| **Effective Term** | Spring 2024 |  |  |

## Rationale:

The proposed change in the course description aims to provide students with relevant, practical, and up-to-date skills in digital system design, aligning the curriculum with current industry needs and technological trends. This shift ensures that graduates are well-prepared to make meaningful contributions in the rapidly evolving field of digital engineering and embedded systems.

## Section AV: Changes in Existing Courses

**Changes to be offered in the Computer Engineering Technology Department**

|  |  |  |  |
| --- | --- | --- | --- |
| **CUNYFirst Course ID** | 037670 | | |
| **Course Number** | CET 4960 Applied Digital Technology | | |
| **FROM:** |  | **TO:** |  |
| **Department(s)** |  | **Department(s)** |  |
| **Course Number** |  | **Course Number** |  |
| **Course Title** | ~~Applied Digital Technology~~ | **Course Title** | Applied Cybersecurity Technology |
| **Prerequisite** | ~~MAT 1575 or higher; EMT~~ ~~2410 or CST 2403~~ | **Prerequisite** | CET 3510 |
| **Corequisite** |  | **Corequisite** |  |
| **Pre- or corequisite** |  | **Pre- or corequisite** |  |
| **Hours** |  | **Hours** |  |
| **Credits** |  | **Credits** |  |
| **Description** | ~~An introduction to the use of~~ ~~digital computers for~~ ~~measurements of real-world~~ ~~signals and control of real~~ ~~world devices.Students~~ ~~program data acquisition and~~ ~~control hardware in a high-~~ ~~level language such as C.~~ | **Description** | The course focuses on case study activities, hands-on experimentation performed in a contained Virtual  Environment, and development of a technical report. The guided research aims at exploring key  Cybersecurity Technology methods such as: Penetration Testing, Vulnerability Analysis, Virtualization  and Cloud Security, Wireless Security, Computer Forensics, etc. |
| **Requirement** |  | **Requirement** |  |
| **Liberal Arts** | [ ] Yes [ x ] No | **Liberal Arts** | [ ] Yes [x ] No |
| **Course Attribute (e.g. Writing Intensive, Honors,**  **etc** |  | **Course Attribute (e.g. Writing Intensive, Honors,**  **etc** |  |

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|  | [ x ] Major | sit**C**y**ourse Applicability** | [ x ] Major |
|  | [ ] Gen Ed Required | [ ] Gen Ed Required |
|  | [ ] English Composition | [ ] English Composition |
|  | [ ] Mathematics | [ ] Mathematics |
|  | [ ] Science | [ ] Science |
|  | [ ] Gen Ed - Flexible | [ ] Gen Ed - Flexible |
| **Course Applicability** | [ ] World Cultures  [ ] US Experience in its Diver [ ] Creative Expression | [ ] World Cultures  [ ] US Experience in its [ ] Creative Expression |
|  | [ ] Individual and Society | [ ] Individual and Socie |
|  | [ ] Scientific World | [ ] Scientific World |
|  | [ ] Gen Ed - College Option | [ ] Gen Ed - College Opti |
|  | [ ] Speech | [ ] Speech |
|  | [ ] Interdisciplinary | [ ] Interdisciplinary |
|  | [ ] Advanced Liberal Arts | [ ] Advanced Liberal Ar |
| **Effective Term** | Spring 2024 |  |  |

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## Rationale:

The current course titles and course descriptions have been active since the year 2000. The modification of the course prerequisites, titles, and descriptions will provide our students with more appropriate information on the content of the course. The updated versions will permit us to prepare our Computer Engineering Technology students with practical skills in Cybersecurity and Information Technology. The practical nature of the courses will also motivate them to further pursue their knowledge in these ever changing technical fields.

The updated prerequisite allows the flexibility to CET students in the BTECH program while still ensuring the relevant coursework has been completed.

## Section AV: Changes in Existing Courses

**Changes to be offered in the Computer Engineering Technology Department**

|  |  |  |  |
| --- | --- | --- | --- |
| **CUNYFirst Course ID** | 037671 | | |
| **Course Number** | CET 4962 - Applied Software Technology | | |
| **FROM:** |  | **TO:** |  |
| **Department(s)** |  | **Department(s)** |  |
| **Course Number** |  | **Course Number** |  |
| **Course Title** | ~~Applied Software Technology~~ | **Course Title** | Applied Information Technology |
| **Prerequisite** | ~~MAT 1575 or higher; EMT~~ ~~2410 or CST 2403~~ | **Prerequisite** | CET 3510 |
| **Corequisite** |  | **Corequisite** |  |
| **Pre- or corequisite** |  | **Pre- or corequisite** |  |
| **Hours** |  | **Hours** |  |
| **Credits** |  | **Credits** |  |
| **Description** | ~~Development of hardware-~~ ~~oriented programming skills.~~ ~~Students write programs to~~ ~~access external devices via a~~ ~~serial port or other interfaces.~~ | **Description** | The course focuses on the principles of Information Technology (IT) and Information Systems (IS). Students perform guided practical research activity on key Emerging Technologies such as: Software Defined Networking (SDN), Network Programming, Cloud Computing, Networking and Security, Cloud Database, Quantum Computing, Cryptography, Enterprise Computing, etc., and develop a formal comprehensive technical report paper. |
| **Requirement** |  | **Requirement** |  |
| **Liberal Arts** | [ ] Yes [ x ] No | **Liberal Arts** | [ ] Yes [ x ] No |
| **Course Attribute (e.g. Writing Intensive, Honors,**  **etc** |  | **Course Attribute (e.g. Writing Intensive, Honors,**  **etc** |  |

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| --- | --- | --- | --- |
|  | [x ] Major | sit**C**y**ourse Applicability** | [ x ] Major |
|  | [ ] Gen Ed Required | [ ] Gen Ed Required |
|  | [ ] English Composition | [ ] English Composition |
|  | [ ] Mathematics | [ ] Mathematics |
|  | [ ] Science | [ ] Science |
|  | [ ] Gen Ed - Flexible | [ ] Gen Ed - Flexible |
| **Course Applicability** | [ ] World Cultures  [ ] US Experience in its Diver [ ] Creative Expression | [ ] World Cultures  [ ] US Experience in its [ ] Creative Expression |
|  | [ ] Individual and Society | [ ] Individual and Socie |
|  | [ ] Scientific World | [ ] Scientific World |
|  | [ ] Gen Ed - College Option | [ ] Gen Ed - College Opti |
|  | [ ] Speech | [ ] Speech |
|  | [ ] Interdisciplinary | [ ] Interdisciplinary |
|  | [ ] Advanced Liberal Arts | [ ] Advanced Liberal Ar |
| **Effective Term** | Spring 2024 |  |  |

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