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** | **Curriculum Minor modification** |
| **Date** | **2/20/2015** |
| **Major or Minor** | **Minor** |
| **Proposer’s Name** | **Hong Li/Candido Cabo** |
| **Department** | **Computer Systems Technology** |
| **Date of Departmental Meeting in which proposal was approved** | **12/19/2014 and 2/20/2015** |
| **Department Chair Name** | **Hong Li** |
| **Department Chair Signature and Date** | **2/20/2015** |
| **Academic Dean Name** | **Kevin Hom** |
| **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. | 1. **Change of prerequisite of seven courses** 2. **Change of requirement of BTech degree: Add MAT1475 Calculus I as alternative option to the require college option MAT2540.** |
| **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). | 1. **After all new courses implemented since Fall 2013 major curriculum change, the department reviewed course prerequisite and proposes to make necessary adjustment** 2. **Offer option to students to choose either MAT2540 or MAT1475** |
| **Proposal History**  (Please provide history of this proposal: is this a resubmission? An updated version? This may most easily be expressed as a list). | **2/20/15 First submission**  **3/7/15 Second revision –correct chancellor report**  **3/27/15 Third revision – rationale for change of Math requirement** |

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 |  |
| * Rationale for proposal |  |
| * Date of department meeting approving the modification |  |
| * 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. |  |
| 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. |  |
| Detailed rationale for each modification (this includes minor modifications) |  |

**III. Section AV: Changes to the Existing Courses**

**Changes to be offered in Computer Systems Technology department**

**CST 1201 Programming Fundamentals**

|  |  |  |  |
| --- | --- | --- | --- |
| **CUNYFirst Course ID** | 037876 |  |  |
| **FROM:** |  | **TO:** |  |
| **Department(s)** |  | **Department(s)** |  |
| **Course** |  | **Course** |  |
| **Prerequisite** | ~~CST1101 or CST1100~~ | **Prerequisite** | CST1101 (and CST1100 for CST students) |
| **Corequisite** |  | **Corequisite** |  |
| **Pre- or corequisite** |  | **Pre- or corequisite** |  |
| **Hours** |  | **Hours** |  |
| **Credits** |  | **Credits** |  |
| **Description** |  | **Description** |  |
| **Requirement Designation** |  | **Requirement Designation** |  |
| **Liberal Arts** | [ ] Yes [ ] No | **Liberal Arts** | [ ] Yes [ ] No |
| **Course Attribute (e.g. Writing Intensive, Honors, etc** |  | **Course Attribute (e.g. Writing Intensive, Honors, etc** |  |
| **Course Applicability** | |  | | --- | | [ ] Major | | [ ] Gen Ed Required | | [ ] English Composition | | [ ] Mathematics | | [ ] Science | | [ ] Gen Ed - Flexible | | [ ] World Cultures | | [ ] US Experience in its Diversity | | [ ] Creative Expression | | [ ] Individual and Society | | [ ] Scientific World | | [ ] Gen Ed - College Option | | [ ] Speech | | [ ] Interdisciplinary | | [ ] Advanced Liberal Arts | | **Course Applicability** | |  |  | | --- | --- | | [ ] Major | | | [ ] Gen Ed Required | | | [ ] English Composition | | | [ ] Mathematics | | | [ ] Science | | | [ ] Gen Ed - Flexible | | | [ ] World Cultures | | | [ ] US Experience in its Diversity | | | [ ] Creative Expression | | | [ ] Individual and Society | | | [ ] Scientific World | | | [ ] Gen Ed - College Option | | | [ ] Speech | | [ ] Interdisciplinary | | | [ ] Advanced Liberal Arts | | |
| **Effective Term** | Fall 2015 |  |  |

**Rationale:** Covering thetopics of both CST 1100 and CST 1101 in advance gives students in the major a much stronger academic foundation for more advanced courses.

**CST 1204 Database Systems Fundamentals**

|  |  |  |  |
| --- | --- | --- | --- |
| **CUNYFirst Course ID** | 037878 |  |  |
| **FROM:** |  | **TO:** |  |
| **Department(s)** |  | **Department(s)** |  |
| **Course** |  | **Course** |  |
| **Prerequisite** | ~~CST1100 and CST1101~~ | **Prerequisite** | CST1101 (AND CST1100 for CST students ) |
| **Corequisite** |  | **Corequisite** |  |
| **Pre- or corequisite** |  | **Pre- or corequisite** |  |
| **Hours** |  | **Hours** |  |
| **Credits** |  | **Credits** |  |
| **Description** |  | **Description** |  |
| **Requirement Designation** |  | **Requirement Designation** |  |
| **Liberal Arts** | [ ] Yes [ ] No | **Liberal Arts** | [ ] Yes [ ] No |
| **Course Attribute (e.g. Writing Intensive, Honors, etc** |  | **Course Attribute (e.g. Writing Intensive, Honors, etc** |  |
| **Course Applicability** | |  | | --- | | [ ] Major | | [ ] Gen Ed Required | | [ ] English Composition | | [ ] Mathematics | | [ ] Science | | [ ] Gen Ed - Flexible | | [ ] World Cultures | | [ ] US Experience in its Diversity | | [ ] Creative Expression | | [ ] Individual and Society | | [ ] Scientific World | | [ ] Gen Ed - College Option | | [ ] Speech | | [ ] Interdisciplinary | | [ ] Advanced Liberal Arts | | **Course Applicability** | |  |  | | --- | --- | | [ ] Major | | | [ ] Gen Ed Required | | | [ ] English Composition | | | [ ] Mathematics | | | [ ] Science | | | [ ] Gen Ed - Flexible | | | [ ] World Cultures | | | [ ] US Experience in its Diversity | | | [ ] Creative Expression | | | [ ] Individual and Society | | | [ ] Scientific World | | | [ ] Gen Ed - College Option | | | [ ] Speech | | [ ] Interdisciplinary | | | [ ] Advanced Liberal Arts | | |
| **Effective Term** | Fall 2015 |  |  |

**Rationale:** Covering thetopics of both CST 1100 and CST 1101 in advance gives students in the major a much stronger academic foundation for more advanced courses.

**CST 3523 Task Automation in System Administration**

|  |  |  |  |
| --- | --- | --- | --- |
| **CUNYFirst Course ID** | 127031 |  |  |
| **FROM:** |  | **TO:** |  |
| **Department(s)** |  | **Department(s)** |  |
| **Course** |  | **Course** |  |
| **Prerequisite** | ~~CST1201 and CST2307~~ | **Prerequisite** | CST1201 and (CST2405 or CST2415) |
| **Corequisite** |  | **Corequisite** |  |
| **Pre- or corequisite** |  | **Pre- or corequisite** |  |
| **Hours** |  | **Hours** |  |
| **Credits** |  | **Credits** |  |
| **Description** |  | **Description** |  |
| **Requirement Designation** |  | **Requirement Designation** |  |
| **Liberal Arts** | [ ] Yes [ ] No | **Liberal Arts** | [ ] Yes [ ] No |
| **Course Attribute (e.g. Writing Intensive, Honors, etc** |  | **Course Attribute (e.g. Writing Intensive, Honors, etc** |  |
| **Course Applicability** | |  | | --- | | [ ] Major | | [ ] Gen Ed Required | | [ ] English Composition | | [ ] Mathematics | | [ ] Science | | [ ] Gen Ed - Flexible | | [ ] World Cultures | | [ ] US Experience in its Diversity | | [ ] Creative Expression | | [ ] Individual and Society | | [ ] Scientific World | | [ ] Gen Ed - College Option | | [ ] Speech | | [ ] Interdisciplinary | | [ ] Advanced Liberal Arts | | **Course Applicability** | |  |  | | --- | --- | | [ ] Major | | | [ ] Gen Ed Required | | | [ ] English Composition | | | [ ] Mathematics | | | [ ] Science | | | [ ] Gen Ed - Flexible | | | [ ] World Cultures | | | [ ] US Experience in its Diversity | | | [ ] Creative Expression | | | [ ] Individual and Society | | | [ ] Scientific World | | | [ ] Gen Ed - College Option | | | [ ] Speech | | [ ] Interdisciplinary | | | [ ] Advanced Liberal Arts | | |
| **Effective Term** | Fall 2015 |  |  |

**Rationale: The concepts in either CST 2405 or CST 2415 will prepare students academically for success in CST 3523**.

**CST 3615 Enterprise Applications**

|  |  |  |  |
| --- | --- | --- | --- |
| **CUNYFirst Course ID** | 127037 |  |  |
| **FROM:** |  | **TO:** |  |
| **Department(s)** |  | **Department(s)** |  |
| **Course** |  | **Course** |  |
| **Prerequisite** | ~~CST 3605 and CST 3610~~ | **Prerequisite** | CST3507 and (CST 2400 OR CST 2405 OR CST 2415) |
| **Corequisite** |  | **Corequisite** |  |
| **Pre- or corequisite** |  | **Pre- or corequisite** |  |
| **Hours** |  | **Hours** |  |
| **Credits** |  | **Credits** |  |
| **Description** |  | **Description** |  |
| **Requirement Designation** |  | **Requirement Designation** |  |
| **Liberal Arts** | [ ] Yes [ ] No | **Liberal Arts** | [ ] Yes [ ] No |
| **Course Attribute (e.g. Writing Intensive, Honors, etc** |  | **Course Attribute (e.g. Writing Intensive, Honors, etc** |  |
| **Course Applicability** | |  | | --- | | [ ] Major | | [ ] Gen Ed Required | | [ ] English Composition | | [ ] Mathematics | | [ ] Science | | [ ] Gen Ed - Flexible | | [ ] World Cultures | | [ ] US Experience in its Diversity | | [ ] Creative Expression | | [ ] Individual and Society | | [ ] Scientific World | | [ ] Gen Ed - College Option | | [ ] Speech | | [ ] Interdisciplinary | | [ ] Advanced Liberal Arts | | **Course Applicability** | |  |  | | --- | --- | | [ ] Major | | | [ ] Gen Ed Required | | | [ ] English Composition | | | [ ] Mathematics | | | [ ] Science | | | [ ] Gen Ed - Flexible | | | [ ] World Cultures | | | [ ] US Experience in its Diversity | | | [ ] Creative Expression | | | [ ] Individual and Society | | | [ ] Scientific World | | | [ ] Gen Ed - College Option | | | [ ] Speech | | [ ] Interdisciplinary | | | [ ] Advanced Liberal Arts | | |
| **Effective Term** | Fall 2015 |  |  |

**Rationale:** The prerequisite change allows students more flexibility while still ensuring their adequate academic preparation.

**CST 3605 Virtualization**

|  |  |  |  |
| --- | --- | --- | --- |
| **CUNYFirst Course ID** | 127042 |  |  |
| **FROM:** |  | **TO:** |  |
| **Department(s)** |  | **Department(s)** |  |
| **Course** |  | **Course** |  |
| **Prerequisite** | ~~CST3507 and CST2405 and CST2415~~ | **Prerequisite** | CST3507 and (CST2405 OR CST2415) |
| **Corequisite** |  | **Corequisite** |  |
| **Pre- or corequisite** |  | **Pre- or corequisite** |  |
| **Hours** |  | **Hours** |  |
| **Credits** |  | **Credits** |  |
| **Description** |  | **Description** |  |
| **Requirement Designation** |  | **Requirement Designation** |  |
| **Liberal Arts** | [ ] Yes [ ] No | **Liberal Arts** | [ ] Yes [ ] No |
| **Course Attribute (e.g. Writing Intensive, Honors, etc** |  | **Course Attribute (e.g. Writing Intensive, Honors, etc** |  |
| **Course Applicability** | |  | | --- | | [ ] Major | | [ ] Gen Ed Required | | [ ] English Composition | | [ ] Mathematics | | [ ] Science | | [ ] Gen Ed - Flexible | | [ ] World Cultures | | [ ] US Experience in its Diversity | | [ ] Creative Expression | | [ ] Individual and Society | | [ ] Scientific World | | [ ] Gen Ed - College Option | | [ ] Speech | | [ ] Interdisciplinary | | [ ] Advanced Liberal Arts | | **Course Applicability** | |  |  | | --- | --- | | [ ] Major | | | [ ] Gen Ed Required | | | [ ] English Composition | | | [ ] Mathematics | | | [ ] Science | | | [ ] Gen Ed - Flexible | | | [ ] World Cultures | | | [ ] US Experience in its Diversity | | | [ ] Creative Expression | | | [ ] Individual and Society | | | [ ] Scientific World | | | [ ] Gen Ed - College Option | | | [ ] Speech | | [ ] Interdisciplinary | | | [ ] Advanced Liberal Arts | | |
| **Effective Term** | Spring 2015 |  |  |

**Rationale:** Either window administration or unix/linux administration is sufficient for students to proceed to CST 3605.

**CST 4700 IT Service Management**

|  |  |  |  |
| --- | --- | --- | --- |
| **CUNYFirst Course ID** | 127034 |  |  |
| **FROM:** |  | **TO:** |  |
| **Department(s)** |  | **Department(s)** |  |
| **Course** |  | **Course** |  |
| **Prerequisite** | ~~CST2405 and CST2415~~ | **Prerequisite** | CST2405 OR CST2415 |
| **Corequisite** |  | **Corequisite** |  |
| **Pre- or corequisite** |  | **Pre- or corequisite** |  |
| **Hours** |  | **Hours** |  |
| **Credits** |  | **Credits** |  |
| **Description** |  | **Description** |  |
| **Requirement Designation** |  | **Requirement Designation** |  |
| **Liberal Arts** | [ ] Yes [ ] No | **Liberal Arts** | [ ] Yes [ ] No |
| **Course Attribute (e.g. Writing Intensive, Honors, etc** |  | **Course Attribute (e.g. Writing Intensive, Honors, etc** |  |
| **Course Applicability** | |  | | --- | | [ ] Major | | [ ] Gen Ed Required | | [ ] English Composition | | [ ] Mathematics | | [ ] Science | | [ ] Gen Ed - Flexible | | [ ] World Cultures | | [ ] US Experience in its Diversity | | [ ] Creative Expression | | [ ] Individual and Society | | [ ] Scientific World | | [ ] Gen Ed - College Option | | [ ] Speech | | [ ] Interdisciplinary | | [ ] Advanced Liberal Arts | | **Course Applicability** | |  |  | | --- | --- | | [ ] Major | | | [ ] Gen Ed Required | | | [ ] English Composition | | | [ ] Mathematics | | | [ ] Science | | | [ ] Gen Ed - Flexible | | | [ ] World Cultures | | | [ ] US Experience in its Diversity | | | [ ] Creative Expression | | | [ ] Individual and Society | | | [ ] Scientific World | | | [ ] Gen Ed - College Option | | | [ ] Speech | | [ ] Interdisciplinary | | | [ ] Advanced Liberal Arts | | |
| **Effective Term** | Spring 2015 |  |  |

**Rationale:** Either window admin or unix/linux administration is sufficient for students to proceed to CST4700.

**CST 4708 Software Development and the .NET Framework**

|  |  |  |  |
| --- | --- | --- | --- |
| **CUNYFirst Course ID** | 037913 |  |  |
| **FROM:** |  | **TO:** |  |
| **Department(s)** |  | **Department(s)** |  |
| **Course** | ~~CST3513~~ | **Course** | CST3513 or CST3503 |
| **Prerequisite** |  | **Prerequisite** |  |
| **Corequisite** |  | **Corequisite** |  |
| **Pre- or corequisite** |  | **Pre- or corequisite** |  |
| **Hours** |  | **Hours** |  |
| **Credits** |  | **Credits** |  |
| **Description** |  | **Description** |  |
| **Requirement Designation** |  | **Requirement Designation** |  |
| **Liberal Arts** | [ ] Yes [ ] No | **Liberal Arts** | [ ] Yes [ ] No |
| **Course Attribute (e.g. Writing Intensive, Honors, etc** |  | **Course Attribute (e.g. Writing Intensive, Honors, etc** |  |
| **Course Applicability** | |  | | --- | | [ ] Major | | [ ] Gen Ed Required | | [ ] English Composition | | [ ] Mathematics | | [ ] Science | | [ ] Gen Ed - Flexible | | [ ] World Cultures | | [ ] US Experience in its Diversity | | [ ] Creative Expression | | [ ] Individual and Society | | [ ] Scientific World | | [ ] Gen Ed - College Option | | [ ] Speech | | [ ] Interdisciplinary | | [ ] Advanced Liberal Arts | | **Course Applicability** | |  |  | | --- | --- | | [ ] Major | | | [ ] Gen Ed Required | | | [ ] English Composition | | | [ ] Mathematics | | | [ ] Science | | | [ ] Gen Ed - Flexible | | | [ ] World Cultures | | | [ ] US Experience in its Diversity | | | [ ] Creative Expression | | | [ ] Individual and Society | | | [ ] Scientific World | | | [ ] Gen Ed - College Option | | | [ ] Speech | | [ ] Interdisciplinary | | | [ ] Advanced Liberal Arts | | |
| **Effective Term** | Spring 2015 |  |  |

**Rationale:** Object-oriented programming in either Java or C++ is sufficient for students to advance to CST 4708.

**CST 4715 Advanced Topics in System Administration**

|  |  |  |  |
| --- | --- | --- | --- |
| **CUNYFirst Course ID** | 129318 |  |  |
| **FROM:** |  | **TO:** |  |
| **Department(s)** |  | **Department(s)** |  |
| **Course** |  | **Course** |  |
| **Prerequisite** | ~~CST3507 and CST2415 and CST2405~~ | **Prerequisite** | CST3523 and CST3607 and CST3610 |
| **Corequisite** |  | **Corequisite** |  |
| **Pre- or corequisite** |  | **Pre- or corequisite** |  |
| **Hours** |  | **Hours** |  |
| **Credits** |  | **Credits** |  |
| **Description** |  | **Description** |  |
| **Requirement Designation** |  | **Requirement Designation** |  |
| **Liberal Arts** | [ ] Yes [ ] No | **Liberal Arts** | [ ] Yes [ ] No |
| **Course Attribute (e.g. Writing Intensive, Honors, etc** |  | **Course Attribute (e.g. Writing Intensive, Honors, etc** |  |
| **Course Applicability** | |  | | --- | | [ ] Major | | [ ] Gen Ed Required | | [ ] English Composition | | [ ] Mathematics | | [ ] Science | | [ ] Gen Ed - Flexible | | [ ] World Cultures | | [ ] US Experience in its Diversity | | [ ] Creative Expression | | [ ] Individual and Society | | [ ] Scientific World | | [ ] Gen Ed - College Option | | [ ] Speech | | [ ] Interdisciplinary | | [ ] Advanced Liberal Arts | | **Course Applicability** | |  |  | | --- | --- | | [ ] Major | | | [ ] Gen Ed Required | | | [ ] English Composition | | | [ ] Mathematics | | | [ ] Science | | | [ ] Gen Ed - Flexible | | | [ ] World Cultures | | | [ ] US Experience in its Diversity | | | [ ] Creative Expression | | | [ ] Individual and Society | | | [ ] Scientific World | | | [ ] Gen Ed - College Option | | | [ ] Speech | | [ ] Interdisciplinary | | | [ ] Advanced Liberal Arts | | |
| **Effective Term** | Spring 2015 |  |  |

**Rationale:** Knowledge from CST 3523 and CST 3610 and CST 3607 is required to succeed in CST 4715.

**Section AIII: Changes in Degree Programs**

**AIII.1. The following revisions are proposed for the Department of Computer Systems Technology**

**Program: Bachelor of Technology in Computer Systems**

**Program Code: 2370**

**Effective Date: Fall 2015**

|  |  |
| --- | --- |
| **From** | **TO** |
| **GENERAL EDUCATION CORE (43 crs.)**  **Required Core1 (13 credits)**  ENG 1101 English Composition I 3  ENG 1121 English Composition II 3  MAT 1375  or higher \*,2 Precalculus 3  **Life and Physical Sciences (1 course, 3 credits)**  Any Approved Course  **FLExIBLE CORE (6 COURSES, 18 CREDITS)**  **World Cultures and Global Issues**  Any Approved Course  **US Experience in its Diversity**  Any Approved Course  **Individual and Society**  PSY 1101\* Introduction to Psychology  **Creative Expression**  Any Approved Course  **Scientific World**  Any Approved Course  **One additional course from any group**  PSY 2404 Personnel and Organizational Psychology 3  **III – COLLEGE OPTION REQUIREMENTS 3 (12 CREDITS)**  • One course in Speech/Oral Communication  COM 1330\* Public Speaking or higher 3  • One interdisciplinary Liberal Arts and Sciences course  Any Approved Course 3  Additional liberal arts credits to reach a minimum of  42 credits in general education.  In meeting their general education requirements overall, students must take at least one advanced liberal arts course or two sequential courses in a foreign language.  MAT 2440 Discrete Structures and Algorithms I 3  ~~MAT 2540 Discrete Structures and Algorithms II 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**  **Associate-Level Degree Requirements (38 credits)**   |  |  |  | | --- | --- | --- | | CST 1100 | Introduction to Computer Systems | 3 | | CST 1101 | Problem Solving with Computer Programming | 3 | | CST 1201 | Programming Fundamentals | 3 | | CST 1204 | Database Systems Fundamentals | 3 | | CST 1215 | Operating Systems Fundamentals | 3 | | CST 2307 | Networking Fundamentals | 3 | | CST 2309 | Web Programming I | 3 | | CST 2400 | Computer Systems Management and Support | 3 | | CST 2410 | Introduction to Computer Security | 3 | | CST 2801 | Special Topics in Information Technology | 1 | | ACC 1101 | Principles of Accounting | 4 | | BUS 2425 | Business Management | 3 |   Choose one elective from the following list: 3  CST 2301 Multimedia and Mobile Device Programming  CST 2405 System Administration (Windows)  CST 2406 Introduction to Systems Analysis and Design  CST 2409 Web Programming II  CST 2415 System Administration (UNIX/Linux) CST 2900 AAS Internship  **Baccalaureate-Level Degree Requirements (39 credits) Courses common to all tracks**  CST 4800 Project Management 3  CST 4900 Internship  **or**  CST 4905 Information Systems Project 3  Students must complete all courses in one of the following four tracks:  **Database**  CST 3504 Database Design 3  CST 2406 Introduction to Systems Analysis and Design  **or**  CST 3606 Object-Oriented Systems Analysis and Design 3  CST 3604 Quality Database Implementation 3  CST 3613 Application Development with Database 3  CST 4704 Data Warehousing 3  CST 4714 Database Administration 3  CST 4724 Data on The Web 3  Two Electives Elective courses shall be chosen from any CST 35xx, 6  CST 36xx and CST 47xx in the four tracks and  CST 3520 Computer Forensics, CST 4706 Software  Development Methodologies and CST 4701  Game Programming if prerequisites are met.  **Networking and Security**   |  |  |  | | --- | --- | --- | | CST 2405  CST 2415 | Systems Administration (Windows)  **or**  Systems Administration (UNIX/Linux) | 3 | | CST 3507 | Advanced Single-LAN Concepts | 3 | | CST 3523 | Task Automation in System Administration | 3 | | CST 3607 | Interconnectivity | 3 | | CST 3610 | Network Security Fundamentals | 3 | | CST 4707 | The LAN-Internet Connection | 3 | | CST 4710 | Advanced Security Technologies | 3 | | CST 4715 | Advanced Topics in System Administration | 3 | | One Elective | Elective courses shall be chosen from any CST 35xx, CST 36xx and CST 47xx in the four tracks and  CST 3520 Computer Forensics, CST 4706 Software  Development Methodologies and CST 4701  Game Programming if prerequisites are met. | 3 | | **IT Operations** |  |  | | CST 2405  CST 2415 | Systems Administration (Windows)  **or**  Systems Administration (UNIX/LINUX) | 3 | | CST 3507 | Advanced Single-LAN Concepts | 3 | | CST 3605 | Virtualization | 3 | | CST 3610 | Network Security Fundamentals | 3 | | CST 3615 | Enterprise Applications | 3 | | CST 4700 | IT Service Management | 3 | | CST 4709 | Installing and Maintaining Web Servers | 3 |   CST 4714 Database Administration  One Elective Elective courses shall be chosen from any CST 35xx, 3  CST 36xx and CST 47xx in the four tracks and  CST 3520 Computer Forensics, CST 4706 Software  Development Methodologies and CST 4701  Game Programming if prerequisites are met.  **Software Development**   |  |  |  | | --- | --- | --- | | CST 2301 | Multimedia and Mobile Device Programming  (If a student already took the course as part of  AAS degree requirement, he/she will need to take another 3 credit elective course) | 3 | | CST 3513 | Object-Oriented Programming | 3 | | CST 3519 | Advanced Web Client Technologies | 3 | | CST 3606 | Object-Oriented Systems Analysis and Design | 3 | | CST 3613 | Application Development with Databases | 3 | | CST 4708 | Software Development and .NET Framework | 3 | | CST 4713 | Dynamic Web Development: Servlets and JSP | 3 | | Two Electives | Elective courses shall be chosen from any CST 35xx, CST 36xx and CST 47xx in the four tracks and  CST 3520 Computer Forensics, CST 4706 Software  Development Methodologies and CST 4701  Game Programming if prerequisites are met. | 6 |   **ADDITIONAL PROGRAM-SPECIFIC REQUIREMENTS**  BUS 3525 Strategic Management 3  COM 1330 Public Speaking  or higher Met as GenEd  ENG 1101 English Composition I Met as GenEd ENG 1121 English Composition II Met as GenEd ENG 2575 Technical Writing 3  MAT 1375 Precalculus Met as GenEd MAT 2440 Discrete Structures and Algorithms I Met as GenEd MAT 2540 Discrete Structures and Algorithms II Met as GenEd PSY 1101 Introduction to Psychology Met as GenEd  PSY 2404 Personnel and Organizational  Psychology Met as GenEd   |  |  | | --- | --- | | **TOTAL PROGRAM-SPECIFIC REQUIRED AND ELECTIVE COURSES** | **77** | | **TOTAL NYSED LIBERAL ARTS AND SCIENCE CREDITS** | **43** | | **TOTAL CREDITS REQUIRED FOR THE DEGREE** | **120** | | **GENERAL EDUCATION CORE (43 crs.)**  **Required Core1 (13 credits)**  ENG 1101 English Composition I 3  ENG 1121 English Composition II 3  MAT 1375  or higher \*,2 Precalculus 3  **Life and Physical Sciences (1 course, 3 credits)**  Any Approved Course  **FLExIBLE CORE (6 COURSES, 18 CREDITS)**  **World Cultures and Global Issues**  Any Approved Course  **US Experience in its Diversity**  Any Approved Course  **Individual and Society**  PSY 1101\* Introduction to Psychology  **Creative Expression**  Any Approved Course  **Scientific World**  Any Approved Course  **One additional course from any group**  PSY 2404 Personnel and Organizational Psychology 3  **III – COLLEGE OPTION REQUIREMENTS 3 (12 CREDITS)**  • One course in Speech/Oral Communication  COM 1330\* Public Speaking or higher 3  • One interdisciplinary Liberal Arts and Sciences course  Any Approved Course 3  Additional liberal arts credits to reach a minimum of  42 credits in general education.  In meeting their general education requirements overall, students must take at least one advanced liberal arts course or two sequential courses in a foreign language.  MAT 2440 Discrete Structures and Algorithms I 3  **MAT 2540 Discrete Structures and Algorithms II 3**  **Or**  **MAT1475 Calculus I 4**  **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**  **Associate-Level Degree Requirements (38 credits)**   |  |  |  | | --- | --- | --- | | CST 1100 | Introduction to Computer Systems | 3 | | CST 1101 | Problem Solving with Computer Programming | 3 | | CST 1201 | Programming Fundamentals | 3 | | CST 1204 | Database Systems Fundamentals | 3 | | CST 1215 | Operating Systems Fundamentals | 3 | | CST 2307 | Networking Fundamentals | 3 | | CST 2309 | Web Programming I | 3 | | CST 2400 | Computer Systems Management and Support | 3 | | CST 2410 | Introduction to Computer Security | 3 | | CST 2801 | Special Topics in Information Technology | 1 | | ACC 1101 | Principles of Accounting | 4 | | BUS 2425 | Business Management | 3 |   Choose one elective from the following list: 3  CST 2301 Multimedia and Mobile Device Programming  CST 2405 System Administration (Windows)  CST 2406 Introduction to Systems Analysis and Design  CST 2409 Web Programming II  CST 2415 System Administration (UNIX/Linux) CST 2900 AAS Internship  **Baccalaureate-Level Degree Requirements (39 credits) Courses common to all tracks**  CST 4800 Project Management 3  CST 4900 Internship  **or**  CST 4905 Information Systems Project 3  Students must complete all courses in one of the following four tracks:  **Database**  CST 3504 Database Design 3  CST 2406 Introduction to Systems Analysis and Design  **or**  CST 3606 Object-Oriented Systems Analysis and Design 3  CST 3604 Quality Database Implementation 3  CST 3613 Application Development with Database 3  CST 4704 Data Warehousing 3  CST 4714 Database Administration 3  CST 4724 Data on The Web 3  Two Electives Elective courses shall be chosen from any CST 35xx, 6  CST 36xx and CST 47xx in the four tracks and  CST 3520 Computer Forensics, CST 4706 Software  Development Methodologies and CST 4701  Game Programming if prerequisites are met.  **Networking and Security**   |  |  |  | | --- | --- | --- | | CST 2405  CST 2415 | Systems Administration (Windows)  **or**  Systems Administration (UNIX/Linux) | 3 | | CST 3507 | Advanced Single-LAN Concepts | 3 | | CST 3523 | Task Automation in System Administration | 3 | | CST 3607 | Interconnectivity | 3 | | CST 3610 | Network Security Fundamentals | 3 | | CST 4707 | The LAN-Internet Connection | 3 | | CST 4710 | Advanced Security Technologies | 3 | | CST 4715 | Advanced Topics in System Administration | 3 | | One Elective | Elective courses shall be chosen from any CST 35xx, CST 36xx and CST 47xx in the four tracks and  CST 3520 Computer Forensics, CST 4706 Software  Development Methodologies and CST 4701  Game Programming if prerequisites are met. | 3 | | **IT Operations** |  |  | | CST 2405  CST 2415 | Systems Administration (Windows)  **or**  Systems Administration (UNIX/LINUX) | 3 | | CST 3507 | Advanced Single-LAN Concepts | 3 | | CST 3605 | Virtualization | 3 | | CST 3610 | Network Security Fundamentals | 3 | | CST 3615 | Enterprise Applications | 3 | | CST 4700 | IT Service Management | 3 | | CST 4709 | Installing and Maintaining Web Servers | 3 |   CST 4714 Database Administration  One Elective Elective courses shall be chosen from any CST 35xx, 3  CST 36xx and CST 47xx in the four tracks and  CST 3520 Computer Forensics, CST 4706 Software  Development Methodologies and CST 4701  Game Programming if prerequisites are met.  **Software Development**   |  |  |  | | --- | --- | --- | | CST 2301 | Multimedia and Mobile Device Programming  (If a student already took the course as part of  AAS degree requirement, he/she will need to take another 3 credit elective course) | 3 | | CST 3513 | Object-Oriented Programming | 3 | | CST 3519 | Advanced Web Client Technologies | 3 | | CST 3606 | Object-Oriented Systems Analysis and Design | 3 | | CST 3613 | Application Development with Databases | 3 | | CST 4708 | Software Development and .NET Framework | 3 | | CST 4713 | Dynamic Web Development: Servlets and JSP | 3 | | Two Electives | Elective courses shall be chosen from any CST 35xx, CST 36xx and CST 47xx in the four tracks and  CST 3520 Computer Forensics, CST 4706 Software  Development Methodologies and CST 4701  Game Programming if prerequisites are met. | 6 |   **ADDITIONAL PROGRAM-SPECIFIC REQUIREMENTS**  BUS 3525 Strategic Management 3  COM 1330 Public Speaking  or higher Met as GenEd  ENG 1101 English Composition I Met as GenEd ENG 1121 English Composition II Met as GenEd ENG 2575 Technical Writing 3  MAT 1375 Precalculus Met as GenEd MAT 2440 Discrete Structures and Algorithms I Met as GenEd MAT 2540 Discrete Structures and Algorithms II Met as GenEd PSY 1101 Introduction to Psychology Met as GenEd  PSY 2404 Personnel and Organizational  Psychology Met as GenEd   |  |  | | --- | --- | | **TOTAL PROGRAM-SPECIFIC REQUIRED AND ELECTIVE COURSES** | **77** | | **TOTAL NYSED LIBERAL ARTS AND SCIENCE CREDITS** | **43** | | **TOTAL CREDITS REQUIRED FOR THE DEGREE** | **120** | |
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**Rationale:** This change allows better optimization of the degree for different tracks. MAT 2450 is more useful for students who choose the Database or Software Development tracks, whereas MAT 1475 is a better option for students who choose the IT Operation or Networking & Security tracks.