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** | **CMCE 4473 and CMCE 4422 BTECH – Credit Hour modification** |
| **Date** | **11/29/23** |
| **Major or Minor** | **Major** |
| **Proposer’s Name** | **Samaneh Gholitbar** |
| **Department** | **Construction Management and Civil Engineering Technology** |
| **Date of Departmental Meeting in which proposal was approved** | **10/4/23** |
| **Department Chair Name** | **Melanie Villatoro** |
| **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. | Modification to Credit Hours for two BTECH Technical electives, CMCE 4473 and CMCE 4422.We are requesting to modify the class hours for CMCE 4473 and CMCE 4422, from 1 hour class and 4 lab hours to 3 class hours.  |
| **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 topics in the courses can be covered as a 3 hour lecture course. The credit count stays the same (3 credits). Homework assignments and projects have proven sufficient practice of application to meet the learning outcomes. These are the only BTECH electives that are currently not a 3 hr class therefore the modification will make the courses consistent with all other BTECH technical electives.  |
| **Proposal History**(Please provide history of this proposal: is this a resubmission? An updated version? This may most easily be expressed as a list). | New Submission |

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
 |  |
| * 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). | 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.  |  |
| Detailed rationale for each modification (this includes minor modifications) |  |

**Rationale for Modification:**

We are requesting to modify the class hours for CMCE 4473 and CMCE 4422, from 1 hour class and 4 lab hours to 3 class hours. The credit count stays the same. The topics in the courses can be covered as a 3 hour lecture course. Homework assignments and projects have proven sufficient practice of application to meet the learning outcomes.

These are the only BTECH electives that are currently not a 3 hr class therefore the modification will make the course consistent with all other BTECH technical electives.

**Chancellor’s Report:**

Please fill out one chart for each course. Remove any row that is not being changed with the exception of the Prerequisite, Corequisite, Pre/Corequisite rows: if any ONE of these is modified, then leave all three.

The following revisions are proposed for the BTECH in Construction Engineering Technology

Program: Construction Engineering Technology

|  |  |  |  |
| --- | --- | --- | --- |
| **CUNYFirst Course ID** | **CMCE 4473** **CMCE 4422 - Introduction to Geographic Information System** |  |  |
| **Course Number and Title** | **CMCE 4473 – Advanced Building Information Modeling** |  |  |
| **FROM:** |  | **TO:** |  |
| **Department(s)** |  | **Department(s)** |  |
| **Course Number** |  | **Course Number** |  |
| **Course Title** |  | **Course Title** |  |
| **Prerequisite** |  | **Prerequisite** |  |
| **Corequisite** |  | **Corequisite** |  |
| **Pre or co requisite**  |  | **Prerequisite**  |  |
| **Hours** | **~~5~~** | **Hours** | **3** |
| **Credits** |  | **Credits** |  |
| **Description** |  | **Description** |  |
| **Requirement Designation** |  | **Requirement Designation** |  |
| **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** |  |
| **Course Applicability** |

|  |  |
| --- | --- |
| **[X ] 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** |
| **College Option Detail\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |

 | **Course Applicability** |

|  |  |
| --- | --- |
| **[ X] Major** |  |
| **[ ] Gen Ed Required** |
| **[ ] English Composition** |
| **[ ] Mathematics** |
| **[ ] Science** |
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| **[ ] Scientific World** |
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| **College Option Detail\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |

 |
| **Effective Term** |  | **Spring 2022** |  |

Rationale: The topics in the courses can be covered as a 3 hour lecture course. Homework assignments and projects have proven sufficient practice of application to meet the learning outcomes. The modification will make the course consistent with all other BTECH technical electives.

|  |  |  |  |
| --- | --- | --- | --- |
| **CUNYFirst Course ID** |  **CMCE 4422** |  |  |
| **Course Number and Title** | **CMCE 4422 - Introduction to Geographic Information Systems (GIS)****CMCE 4422 - Introduction to Geographic Information System** |  |  |
| **FROM:** |  | **TO:** |  |
| **Department(s)** |  | **Department(s)** |  |
| **Course Number** |  | **Course Number** |  |
| **Course Title** |  | **Course Title** |  |
| **Prerequisite** |  | **Prerequisite** |  |
| **Corequisite** |  | **Corequisite** |  |
| **Pre or co requisite**  |  | **Prerequisite**  |  |
| **Hours** | **~~5~~** | **Hours** | **3** |
| **Credits** |  | **Credits** |  |
| **Description** |  | **Description** |  |
| **Requirement Designation** |  | **Requirement Designation** |  |
| **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** |  |
| **Course Applicability** |

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| **College Option Detail\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |

 | **Course Applicability** |

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| --- | --- |
| **[ X] Major** |  |
| **[ ] Gen Ed Required** |
| **[ ] English Composition** |
| **[ ] Mathematics** |
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| **[ ] Gen Ed - College Option** |
| **College Option Detail\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |

 |
| **Effective Term** |  | **Spring 2022** |  |

**Rationale:**

The topics in the courses can be covered as a 3 hour lecture course. The credit count stays the same. Homework assignments and projects have proven sufficient practice of application to meet the learning outcomes. The modification will make the course consistent with all other BTECH technical electives.

**Department Meeting Minutes – 11/29/23**

|  |  |
| --- | --- |
| X | Melanie Villatoro, Professor and Department Chair |
| X | Anne Marie Sowder, Assistant Professor |
| X | Benito Santiago, Senior Laboratory Technician |
| X | Cesar Salazar, Lecturer |
| X | Danielle Blount, Administrative Assistant |
| X | Hamidreza Norouzi, Professor |
| X | Ivan L. Guzman, Associate Professor |
| X | Marzi Azarderakhsh, Associate Professor |
| X | Navid Allahverdi, Associate Professor |
| X | Samaneh Gholitabar, Assistant Professor |
| X | Sigurd Stegmaier, Associate Professor |

* Ivan volunteered to translate open house presentation to Spanish.
* Degree videos are up and running.
* Facilities Management courses could be given as course substitution for students that need an elective for graduation.
* Remember to allow time in class for SET evaluations.

**Curriculum:**

* Vote #1: Introduced by Samaneh Gholitabar. Major Curriculum Change: Change CMCE 4473 and CMCE 4422 from 1 hour lecture + 4 hour lab, to 3 hour class. Yea – 9, Nay – 0, Abstained – 0.
* Vote #2: Introduced by Samaneh Gholitabar. Minor Curriculum Change: CMCE 4401 – Special Topics, can be taken by students up to 3 times, if the topics are different. Yea – 9, Nay – 0, Abstained – 0.
* Vote #3: Introduced by Ivan Guzman. Major and Minor curriculum changes to CE track BTech curriculum: Yea – 9, Nay – 0, Abstained – 0:
	+ - CMCE 1114 moved to AAS
		- CMCE 2416 moved to BTECH
		- CMCE 2454 moved to BTECH
		- CMCE 1221 replaces CMCE 2457
		- CMCE 1215 becomes 3 credits
		- CMCE 1215 and CMCE 2306 – Become Co-requisites
		- CMCE 2351 becomes 3 credits
		- CMCE 1110 becomes 3 credits
		- CMCE 2410 becomes 3 credits
		- CMCE 1211 is eliminated
		- CMCE 2416 moves to BTECH
		- CMCE 3520 becomes 3 credits
* Vote #4: Introduced by Ivan Guzman. Major and Minor curriculum changes to CE track BTech curriculum. Merge CMCE 4701 and CMCE 4702 (frees up 3 credits): Yea – 8, Nay – 0, Abstained – 1

 **NEW YORK CITY COLLEGE OF TECHNOLOGY of the City University of New York**

**The Department of Construction Management and Civil Engineering Technol**

**CMCE 4422 Introduction to Geographic Information Systems (GIS)**

**Course Description**

Students will gain a practical knowledge of GIS software and the fundamentals of how GIS marries databases to a spatial framework. The class work will include lectures on topologies, measurement methods, coordinate systems, map projections with practical instruction in the computer lab. Students will draw upon current projects and issues to create maps and provide analysis.

**Prerequisites:** CMCE 2322 and CMCE 2410

**3 Class hours, 3 credits**

**Textbook:** Geographic Information Systems and Science, Longley et al., 4th edition, Wiley 2015.

**Reference(s)**

Getting to Know ArcGIS Desktop: The Basics of ArcView, ArcEditor, and ArcInfo Updated for ArcGIS 9, 2nd edition, Esri Press, 2004.

**Student Learning Outcomes:**

Upon graduation, each student is expected to demonstrate the following:

1. an ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes; (Criterion 3.c)
2. an ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature; (Criterion 3.g)
3. utilize measuring methods, hardware, and software that are appropriate for field, laboratory, and office processes related to construction; (Criterion 9.c)

**Student Evaluation**

Projects 55% Midterm Exam 15% Final exam 30%

**Final Grade = 100%**

**Technology**

Computer software such as: GIS, word processing, spreadsheet, computer aided drafting and design and geographic information will be utilized in this course. Students are expected to use Blackboard® in this course.

**Attendance Policy**

Students are expected to adhere to the attendance policy as outlined in the Student Handbook.

**Academic Integrity Policy**

Students and all others who work with information, ideas, texts, images, music, inventions, and other intellectual property owe their audience and sources accuracy and honesty in using, crediting, and citing sources. As a community of intellectual and professional workers, the College recognizes its responsibility for providing instruction in information literacy and academic integrity, offering models of good practice, and responding vigilantly and appropriately to infractions of academic integrity.

Accordingly, **academic dishonestly is prohibited** in The City University of New York and at New York City College of Technology and is punishable by penalties, including failing grades, suspension, or expulsion.

**Class Outline**

|  |  |  |  |
| --- | --- | --- | --- |
| **Week**  | **Topic**  | **Reading**  | **Assignment** |
| **1**  | Course introduction and Overview Conceptual framework of GIS and Fundamentals  | Chapters 1-2  |  |
| **2**  | GIS Structure and Function Coordinate Systems and Datums  | Chapter 3  |  |
| **3**  | GIS Data Introduction to Databases and Metadata  | Chapter 4  |  |
| **4**  | Database Design and Maintenance Functions of Map Communicating Geospatially  | Chapter 5  |  |
| **5**  | Sources of Data: proprietary, imagery, government  | Chapter 6  |  |
| **6**  | Basic GIS Operations – Computer Lab Midterm Review  | Chapter 7 (Review)  |  |
| **7**  | Midterm Exam  | Chapter 7 (Review)  | Project 1 Due  |
| **8**  | Visualization – Computer Lab Searches and Queries  |  |  |
| **9**  | Data Analysis  | Chapter 8  |  |
| **10**  | Advanced Visualization and Presentation  | Chapter 9  |  |
| **11**  | Data Collection and Importing data  | Chapter 11  |  |
| **12**  | Create Topology and Join Database to Spatial Data Structure  | Chapter 12  |  |
| **13**  | Spatial Analysis  | Chapters 15, 17, 18  |  |
| **14**  | Project #2 Workshop Final Review  | Chapters 16, 19, 20  | Project 2 Due |
| **15**  | Final exam  |  |  |

**NEW YORK CITY COLLEGE OF TECHNOLOGY Of the City University of New York**

**The Department of Construction Management & Civil Engineering Technology**

**CMCE 4473 – Building Information Modeling (BIM)**

**Course Description:**

BIM is implemented as part of a comprehensive systems approach to the design, construction, management, operation, maintenance, and use of buildings. Topics will include discussion of how BIM supports more streamlined, integrated, and efficient business processes throughout the life cycle of buildings, from their initial conception through their eventual retirement or reuse.

**Prerequisites:** CMCE 4422

**3 Class hours, 3 credits**

**Required Textbook:** BIM and Construction Management: Proven Tools, Methods, and Workflows. Hardin and McCool, 2nd edition, Wiley 2015.

**References:** Instructor’s Notes

**Student Learning Outcomes:**

Upon graduation, each student is expected to demonstrate the following:

1. producing and utilizing design, construction, and operations documents (Criterion 9.a);
2. apply graphical communication in both technical and nontechnical environments; and an ability to identifyand use appropriate technical literature; (Criterion 3.g);
3. performing standard analysis and design within the technical specialty of BIM appropriate to the goals ofthe program. (Criterion 9.f)

**Student Evaluations**

Homework Assignments and Quizzes 20% Project 30% Midterm Exam 25% Final Exam 25%

**Final Grade 100%**

**Technology**

Computer software such as: building information modeling, word processing, spreadsheet, geographic information, and project scheduling software will be utilized in this course. Students are expected to use Blackboard® in this course.

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College of Technology and is punishable by penalties, including failing grades, suspension, or expulsion.

**Class Outline:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Week**  | **Topic**  | **Reading**  | **Assignment** |
| **1**  | Introduction  | Chapter 1  | Homework 1 |
| **2**  | BIM and Construction Management  | Chapter 2  |  |
| **3**  | BIM and Pre-Construction -Contracts  | Chapter 2  |  |
| **4**  | BIM and Pre-Construction -Estimating  | Chapter 3  | Homework 2 |
| **5**  | BIM and Construction -Scheduling  | Chapter 3  |  |
| **6**  | BIM and Construction – Trade Coordination  | Chapter 4  |  |
| **7**  | BIM and Updates -Prebid  | --­ |  |
| **8**  | Midterm Exam  | Chapter 4  | Homework 3 |
| **9**  | BIM and Updates – Budget management  | Chapter 5  |  |
| **10**  | BIM and Construction Administration – RFI & Punchlist  | Chapter 5  |  |
| **11**  | BIM and Construction Administration – Site Coord.  | Chapter 6  | Homework 4  |
| **12**  | BIM and Sustainability -Preconstruction  | Chapter 7  |  |
| **13**  | BIM and Facility Management  | Chapter 8  |  |
| **14**  | BIM and Future capabilities  | --­ | Project due |
| **15**  | Final Exam  | --­ |  |