

DEPARTMENT OF CONSTRUCTION MANAGEMENT AND CIVIL ENGINEERING TECHNOLOGY

DEGREE CHECKLIST FOR ASSOCIATE IN APPLIED SCIENCE IN CIVIL ENGINEERING TECHNOLOGY AND BACHELOR OF TECHNOLOGY IN CONSTRUCTION ENGINEERING TECHNOLOGY

For students entering the program Spring 2018 to Spring 2019.

ASSOCIATE DEGREE

GENERAL EDUCATION REQUIRED AND FLEXIBLE COMMON CORE (28 TO 30 CREDITS)

² Students who have already completed MAT 1575 may select another mathematics or flexible core course instead.

At least 1 course designated WI is required from the College Option or Gen Ed Flexible Common Core.

PROGRAM-SPECIFIC DEGREE REQUIREMENTS (36 CREDITS)

Double Duty² Specific courses listed indicate double duty courses, i.e., program degree requirements that also meet general education requirements in that category.

COURSE	COURSE TITLE	PRE/CO REQUISITES	CREDITS
ENG 1101	English Composition I (EC)	Prereq: CUNY Read and Write Proficiency	3 credits.
ENG 1121	English Composition II (EC)	Prereq: ENG 1101	3 credits.
MAT 1475 ²	Calculus I or higher (MQR)	Prereq: MAT 1375 or CUNY Placement	4 credits.
PHYS 1433 ² or PHYS 1441 ²	General Physics I: Algebra Based (LPS, WI) or General Physics I: Calculus Based (LPS, WI)	Prereq or Coreq: MAT 1275 Prereq or Coreq: MAT 1475 or higher	4 to 5 credits.
ECON 1101 ²	Macroeconomics (USED)	Prereq: CUNY Read and Write Proficiency	3 credits.
PHYS 1434 ² or PHYS 1442 ²	General Physics II: Algebra Based (sw) or General Physics II: Calculus Based (sw)	Prereq: PHYS 1433 Prereq: PHYS 1441	4 to 5 credits.
MAT 1575 ^{2,3}	Calculus II	Prereq: MAT 1475	4 credits.
	*Flexible Common Core Course: WCGI, IS, CE		3 credits.
CMCE 1110	Construction Drawings I		2 credits.
CMCE 1115	Statics (WI)	Prereq: MAT 1275 with grade C or higher Prereq or Coreq: PHYS 1433 or 1441	3 credits.
CMCE 1211	Construction Drawings II – Computer Aided Drawing (CAD)	Prereq: CMCE 1110	2 credits.
CMCE 1215	Strength of Materials	Prereq: CMCE 1115 with grade C or higher	2 credits.
CMCE 1222	Surveying I	Prereq: MAT 1275 or higher, CMCE 1110 Prereq or Coreq: CMCE 1211	3 credits.
CMCE 2306	Materials Testing Laboratory (WI)	Prereq or Coreq: CMCE 2315 CUNY Read and Write Proficiency	2 credits.
CMCE 2315	Elements of Structural Design-Steel	Prereq: CMCE 1215 with grade C or higher	3 credits.
CMCE 2322	Surveying II	Prereq: CMCE 1222	3 credits.
CMCE 2351	Fluid Mechanics (WI)	Prereq: CMCE 1215 with grade C or higher Coreq: CMCE 2351L	4 credits.
CMCE 2351L	Fluid Mechanics Lab	Prereq: CMCE 1215 with grade C or higher	0 credits.
CMCE 2410	Construction Drawings III	Prereq: CMCE 1110, 1211 and 1222 Prereq or Coreq: CMCE 2315, 2416	2 credits.
CMCE 2416	Elements of Structural Design-Concrete	Prereq: CMCE 1211, 2315	3 credits.
CMCE 2454	Applied Hydraulics-Water Supply	Prereq: CMCE 2351, 2351L	2 credits.
CMCE 2456	Soil Mechanics (WI)	Prereq: CMCE 2351	3 credits.
CMCE 2457	Construction Techniques in Civil Engineering	Prereq: CMCE 1222 or Dept. Approval	2 credits.

**ASSOCIATE IN APPLIED SCIENCE IN CIVIL ENGINEERING TECHNOLOGY: 64 TO 66 CREDITS.
MINIMUM REQUIRED LIBERAL ARTS AND SCIENCES CREDITS: 20 CREDITS.**

BACHELOR'S DEGREE

GENERAL EDUCATION FLEXIBLE COMMON CORE AND COLLEGE OPTION REQUIREMENTS (16 TO 18 CREDITS)

¹ Students must take at least one advanced liberal arts course or choose two sequential courses in a foreign language.

At least 1 course designated WI is required from the College Option or Gen Ed Flexible Common Core.

COURSE	COURSE TITLE	PRE/CO REQUISITES	CREDITS
	*Flexible Common Core Course: WCGI, IS, CE		3 credits.
	*Flexible Common Core Course: WCGI, IS, CE		3 credits.
	*Additional Flexible Common Core Course: WCGI, USED, IS, CE, SW		3 credits.
COM 1330	Public Speaking or higher	Prereq: CUNY Read, Write Proficiency	3 credits.
	*Interdisciplinary course		3 credits.
	*Liberal Arts Elective (LibArt) ¹ or Foreign Language Sequence (FL) ¹		3 credits.

PROGRAM-SPECIFIC DEGREE REQUIREMENTS (32 CREDITS)

Double Duty² Specific courses listed indicate double duty courses, i.e., program degree requirements that also meet general education requirements in that category.

CMCE 1114	Materials and Methods of Construction I		3 credits.
CMCE 2319	Building Service Systems	Prereq: CMCE 1224	2 credits.
CMCE 2412	Construction Estimating	Prereq: CMCE 2321 or department approval	2 credits.
CMCE 3501	Steel Fabrication Detailing	Prereq: CMCE 1224 or 2457 and CMCE 2315 and CMCE 2410 or department approval	3 credits.
CMCE 3520	Construction Management for Civil Engineering Technologists	Prereq: CMCE 2457	4 credits.
CMCE 3602	Heavy Construction Practices	Prereq: CMCE 1224 or CMCE 2457 and CMCE 2456 or department approval	3 credits.
CMCE 4700	Construction Law	Prereq: CMCE 3602	3 credits.
CMCE 4701	Construction Field Management	Prereq: CMCE 2421, 3602 or department approval	3 credits.
CMCE 4702	Construction and Site Safety Management	Prereq: CMCE 2421, 3602 or department approval	3 credits.
CMCE 4800	Senior Capstone Project (WI)	Prereq: CMCE 4700 or department approval	3 credits.
ARCH 3551	Sustainability: History and Practice	Prereq: ENG 1101	3 credits.
CMCE TECH	4400 Series		3 credits.
CMCE TECH	4400 Series		3 credits.
CMCE TECH	4400 Series		3 credits.

PROGRAM-SPECIFIC ELECTIVE COURSES (9 CREDITS)

**BACHELOR OF TECHNOLOGY IN CONSTRUCTION ENGINEERING TECHNOLOGY: 123 CREDITS.
MINIMUM REQUIRED LIBERAL ARTS AND SCIENCES CREDITS: 42 CREDITS.**

DEPARTMENT OF CONSTRUCTION MANAGEMENT AND CIVIL ENGINEERING TECHNOLOGY

CMCE TECHNICAL ELECTIVES

Choose three courses. Courses are 3 credits.

CMCE 4400 Bridge Building Technology (Prereq: CMCE 2416, 3501)
CMCE 4401 Special Topics (Prereq: CMCE 3602)
CMCE 4410 Land Development and Design (Prereq: CMCE 2322, 2410)
CMCE 4415 Real Estate Development Fundamentals (Prereq: CMCE 1224 or 2457)
CMCE 4422 Geographic Information Systems (Prereq: CMCE 2322, 2410)
CMCE 4423 Transportation Engineering Technology (Prereq: CMCE 2322, 2410)
CMCE 4456 Foundation Analysis and Design (Prereq: CMCE 2315, 2416, 2456)
CMCE 4458 Earth Retaining Structures (Prereq: CMCE 2315, 2416, 2456)
CMCE 4460 Design of Temporary Structures (Prereq: CMCE 2315, 2416, 2456)
CMCE 4471 Quality Assurance (Prereq: CMCE 2421 or department approval)
CMCE 4472 Risk Management in Construction (Prereq: CMCE 3602)
CMCE 4473 Advanced Building Information Modeling (BIM) (Prereq: CMCE 4422)

The Bachelor of Technology degree in Construction Engineering Technology is accredited by the Engineering Technology Accreditation Commission of ABET, <http://www.abet.org/>.

Progression and Graduation To meet prerequisites for required classes in the AAS degree in Civil Engineering Technology, AAS degree in Construction Management Technology, and BTech degree in Construction Engineering Technology, students must earn a C or higher in MAT 1275, CMCE 1115, and CMCE 1215.

SAMPLE COURSE OF STUDY

For Associate in Applied Science in Civil Engineering Technology and Bachelor of Technology in Construction Engineering Technology

SEMESTER 1

(Total Credits 16)

CMCE 1110	Construction Drawings I	2 credits.
CMCE 1115	Statics	3 credits.
ENG 1101	English Composition I	3 credits.
MAT 1475	Calculus I or higher	4 credits.
PHYS 1433	General Physics I: Algebra Based	4 credits.

SEMESTER 2

(Total Credits 18)

CMCE 1211	Construction Drawings II – Computer Aided Drawing (CAD)	2 credits.
CMCE 1222	Surveying I	3 credits.
CMCE 1215	Strength of Materials	2 credits.
MAT 1575	Calculus II	4 credits.
ENG 1121	English Composition II	3 credits.
PHYS 1434	General Physics II: Algebra Based	4 credits.

SEMESTER 3

(Total Credits 15)

CMCE 2306	Materials Testing Laboratory	2 credits.
CMCE 2315	Elements of Structural Design-Steel	3 credits.
CMCE 2322	Surveying II	3 credits.
CMCE 2351	Fluid Mechanics	4 credits.
CMCE 2351 L	Fluid Mechanics Lab	0 credits.
FlexCore		3 credits.

SEMESTER 4

(Total Credits 15)

CMCE 2410	Construction Drawings III	2 credits.
CMCE 2416	Elements of Structural Design-Concrete	3 credits.
CMCE 2454	Applied Hydraulics-Water Supply	2 credits.
CMCE 2456	Soil Mechanics	3 credits.
CMCE 2457	Construction Techniques in Civil Engineering	2 credits.
ECON 1101	Macroeconomics	3 credits.

SEMESTER 5

(Total Credits 14)

CMCE 1114	Materials and Methods of Construction I	3 credits.
CMCE 2319	Building Service Systems	2 credits.
CMCE 2412	Construction Estimating	2 credits.
CMCE 3501	Steel Fabrication Detailing	3 credits.
CMCE 3520	Construction Management for Civil Engineering Technologists	4 credits.

SEMESTER 6

(Total Credits 15)

CMCE 3602	Heavy Construction Practices	3 credits.
ARCH 3551	Sustainability: History and Practice	3 credits.
CMCE TECH		3 credits.
FlexCore		3 credits.
COM 1330	Public Speaking or higher	3 credits.

SEMESTER 7

(Total Credits 15)

CMCE 4700	Construction Law	3 credits.
CMCE 4701	Construction Field Management	3 credits.
CMCE 4702	Construction and Site Safety Management	3 credits.
ID	Interdisciplinary Course	3 credits.
FlexCore		3 credits.

SEMESTER 8

(Total Credits 15)

CMCE 4800	Senior Capstone Project	3 credits.
CMCE TECH		3 credits.
CMCE TECH		3 credits.
Add. Flex Core		3 credits.
LibArt		3 credits.

Footnotes

¹ Examples of advanced liberal arts courses include SOC 3301 (prerequisite: ECON 1101); SOC 2403 (prerequisite: PSY 1101). In meeting their general education requirements overall, students must take at least one advanced liberal arts course or choose two sequential courses in one of the foreign language (FL) course offerings, such as Arabic (ARB), Spanish (SPA), Chinese (CHN), or French (FREN).

² Specific courses listed indicate double duty courses, i.e., program degree requirements that also meet general education requirements. Choosing to take advantage of double duty can speed up progress toward graduation and increase elective credits. Consult with an advisor about your options.

³ Students who have already completed MAT 1575 may select another mathematics or flexible core course instead.

DEPARTMENT OF CONSTRUCTION MANAGEMENT AND CIVIL ENGINEERING TECHNOLOGY

DEGREE CHECKLIST FOR ASSOCIATE IN APPLIED SCIENCE IN CONSTRUCTION MANAGEMENT TECHNOLOGY AND BACHELOR OF TECHNOLOGY IN CONSTRUCTION ENGINEERING TECHNOLOGY

For students entering the program Spring 2018 to Spring 2019.

ASSOCIATE DEGREE

GENERAL EDUCATION REQUIRED AND FLEXIBLE COMMON CORE (24 TO 25 CREDITS)

At least 1 course designated WI is required from the College Option or Gen Ed Flexible Common Core.

COURSE	COURSE TITLE	PRE/CO REQUISITES	CREDITS
ENG 1101	English Composition I (EC)	Prereq: CUNY Read and Write Proficiency	3 credits.
ENG 1121	English Composition II (EC)	Prereq: ENG 1101	3 credits.
MAT 1275 ²	College Algebra and Trigonometry (MQR)	Prereq: MAT 1175 or CUNY Placement	4 credits.
PHYS 1433 ² or PHYS 1441 ²	General Physics I: Algebra Based (LPS, WI) or General Physics I: Calculus Based (LPS,WI)	Prereq or Coreq: MAT 1275 Prereq or Coreq: MAT 1475 or higher	4 to 5 credits.
ECON 1101 ²	Macroeconomics (USED)	Prereq: CUNY Read and Write Proficiency	3 credits.
MAT 1375 ²	Precalculus or higher (SW)	Prereq: MAT 1275 or CUNY Placement	4 credits.
	*Flexible Common Core Course: WCGI, IS, CE		3 credits.

PROGRAM-SPECIFIC DEGREE REQUIREMENTS (40 CREDITS)

Double Duty² Specific courses listed indicate double duty courses, i.e., program degree requirements that also meet general education requirements in that category.

CMCE 1110	Construction Drawings I		2 credits.
CMCE 1114	Materials and Methods of Construction I		3 credits.
CMCE 1115	Statics (WI)	Prereq: MAT 1275 with grade C or higher Prereq or Coreq: PHYS 1433 or 1441	3 credits.
CMCE 1211	Construction Drawings II – Computer Aided Drawing (CAD)	Prereq: CMCE 1110	2 credits.
CMCE 1215	Strength of Materials	Prereq: CMCE 1115 with grade C or higher	2 credits.
CMCE 1221	Construction Management I	Prereq: CMCE 1110, 1114 CUNY Read,Write Proficiency	3 credits.
CMCE 1222	Surveying I	Prereq: MAT 1275 or higher, CMCE 1110 Prereq or Coreq: CMCE 1211	3 credits.
CMCE 1224	Materials and Methods of Construction II	Prereq: CMCE 1110, 1114 CUNY Read,Write Proficiency	2 credits.
CMCE 2306	Materials Testing Laboratory (WI)	Prereq or Coreq: CMCE 2315 CUNY Read,Write Proficiency	2 credits.
CMCE 2315	Elements of Structural Design-Steel	Prereq: CMCE 1215 with grade C or higher	3 credits.
CMCE 2319	Building Service Systems	Prereq: CMCE 1224	2 credits.
CMCE 2321	Construction Management II	Prereq: CMCE 1110, 1221 Prereq or Coreq: CMCE 1224	3 credits.
CMCE 2410	Construction Drawings III	Prereq: CMCE 1110, 1211, 1222, Prereq or Coreq: CMCE 2315, 2416	2 credits.
CMCE 2412	Construction Estimating	Prereq: CMCE 2321 or department approval	2 credits.
CMCE 2416	Elements of Structural Design-Concrete	Prereq: CMCE 1211, 2315	3 credits.
CMCE 2421	Construction Management III	Prereq: CMCE 2321 or department approval	3 credits.

ASSOCIATE IN APPLIED SCIENCE IN CONSTRUCTION MANAGEMENT TECHNOLOGY: 64 TO 65 CREDITS. MINIMUM REQUIRED LIBERAL ARTS AND SCIENCES CREDITS: 20 CREDITS.

BACHELOR'S DEGREE

GENERAL EDUCATION FLEXIBLE COMMON CORE AND COLLEGE OPTION REQUIREMENTS (24 TO 25 CREDITS)

¹ Students must take at least one advanced liberal arts course or choose two sequential courses in a foreign language.

At least 1 course designated WI is required from the College Option or Gen Ed Flexible Common Core.

COURSE	COURSE TITLE	PRE/CO REQUISITES	CREDITS
	*Flexible Common Core Course: WCGI, IS, CE		3 credits.
	*Flexible Common Core Course: WCGI, IS, CE		3 credits.
PHYS 1434 ² or PHYS 1442 ²	General Physics II: Algebra Based or (SW) General Physics II: Calculus Based (SW)	Prereq: PHYS 1433 Prereq: PHYS 1441	4 to 5 credits.
COM 1330	Public Speaking or higher	Prereq: CUNY Read, Write Proficiency	3 credits.
	*Interdisciplinary course		3 credits.
MAT 1475	Calculus I or higher	Prereq: MAT 1375	4 credits.
MAT 1575 ³	Calculus II	Prereq: MAT 1475	4 credits.

PROGRAM-SPECIFIC DEGREE REQUIREMENTS (27 CREDITS)

Double Duty² Specific courses listed indicate double duty courses, i.e., program degree requirements that also meet general education requirements in that category.

CMCE 2322	Surveying II	Prereq: CMCE 1222	3 credits.
CMCE 2456	Soil Mechanics (WI)	Prereq: CMCE 2351	3 credits.
CMCE 3501	Steel Fabrication Detailing	Prereq: CMCE 1224/ 2457, 2315, 2410 or department approval	3 credits.
CMCE 3602	Heavy Construction Practices	Prereq: CMCE 1224/ 2457, 2456 or department approval	3 credits.
CMCE 4700	Construction Law	Prereq: CMCE 3602	3 credits.
CMCE 4701	Construction Field Management	Prereq: CMCE 2421, 3602 or department approval	3 credits.
CMCE 4702	Construction and Site Safety Management	Prereq: CMCE 2421, 3602 or department approval	3 credits.
CMCE 4800	Senior Capstone Project (WI)	Prereq: CMCE 4700 and department approval	3 credits.
ARCH 3551	Sustainability: History and Practice	Prereq: ENG 1101	3 credits.

PROGRAM-SPECIFIC ELECTIVE COURSES (9 CREDITS)

CMCE TECH	4400 Series		3 credits.
CMCE TECH	4400 Series		3 credits.
CMCE TECH	4400 Series		3 credits.

BACHELOR OF TECHNOLOGY IN CONSTRUCTION ENGINEERING TECHNOLOGY: 124 TO 126 CREDITS. MINIMUM REQUIRED LIBERAL ARTS AND SCIENCES CREDITS: 42 CREDITS.

DEPARTMENT OF CONSTRUCTION MANAGEMENT AND CIVIL ENGINEERING TECHNOLOGY

CMCE TECHNICAL ELECTIVES

4400 SERIES

Choose three courses. Courses are 3 credits.

- CMCE 4400 Bridge Building Technology (Prereq: CMCE 2416, 3501)
- CMCE 4401 Special Topics (Prereq: CMCE 3602)
- CMCE 4410 Land Development and Design (Prereq: CMCE 2322, 2410)
- CMCE 4415 Real Estate Development Fundamentals (Prereq: CMCE 1224 or 2457)
- CMCE 4422 Geographic Information Systems (Prereq: CMCE 2322, 2410)
- CMCE 4423 Transportation Engineering Technology (Prereq: CMCE 2322, 2410)
- CMCE 4456 Foundation Analysis and Design (Prereq: CMCE 2315, 2416, 2456)
- CMCE 4458 Earth Retaining Structures (Prereq: CMCE 2315, 2416, 2456)
- CMCE 4460 Design of Temporary Structures (Prereq: CMCE 2315, 2416, 2456)
- CMCE 4471 Quality Assurance (Prereq: CMCE 2421 or department approval)
- CMCE 4472 Risk Management in Construction (Prereq: CMCE 3602)
- CMCE 4473 Advanced Building Information Modeling (BIM) (Prereq: CMCE 4422)

The Bachelor of Technology degree in Construction Engineering Technology is accredited by the Engineering Technology Accreditation Commission of ABET, <http://www.abet.org/>.

Progression and Graduation

To meet prerequisites for required classes in the AAS degree in Civil Engineering Technology, AAS degree in Construction Management Technology, and BTech degree in Construction Engineering Technology, students must earn a C or higher in MAT 1275, CMCE 1115, and CMCE 1215.

SAMPLE COURSE OF STUDY

For Associate in Applied Science in Construction Management Technology and Bachelor of Technology in Construction Engineering Technology

SEMESTER 1

(Total Credits 16)

CMCE 1110	Construction Drawings I	2 credits.
CMCE 1114	Materials and Methods of Construction I	3 credits.
CMCE 1115	Strength of Materials	3 credits.
MAT 1275	College Algebra and Trigonometry	4 credits.
PHYS 1433	General Physics I: Algebra Based	4 credits.

SEMESTER 2

(Total Credits 15)

CMCE 1211	Construction Drawings II – Computer Aided Drawing (CAD)	2 credits.
CMCE 1215	Strength of Materials	2 credits.
CMCE 1221	Construction Management I	3 credits.
CMCE 1222	Surveying I	3 credits.
CMCE 1224	Materials and Methods of Construction II	2 credits.
ENG 1101	English Composition I	3 credits.

SEMESTER 3

(Total Credits 17)

CMCE 2306	Materials Testing Laboratory	2 credits.
CMCE 2315	Elements of Structural Design-Steel	3 credits.
CMCE 2319	Building Service Systems	2 credits.
CMCE 2321	Construction Management II	3 credits.
MAT 1375	Precalculus or higher	4 credits.
FlexCore		3 credits.

SEMESTER 4

(Total Credits 16)

CMCE 2410	Construction Drawings III	2 credits.
CMCE 2412	Construction Estimating	2 credits.
CMCE 2416	Elements of Structural Design – Concrete	3 credits.
CMCE 2421	Construction Management III	3 credits.
ENG 1121	English Composition II	3 credits.
ECON 1101	Macroeconomics	3 credits.

SEMESTER 5

(Total Credits 16)

CMCE 2322	Surveying II	3 credits.
CMCE 2456	Soil Mechanics	3 credits.
CMCE 3501	Steel Fabrication Detailing	2 credits.
MAT 1475	Calculus I or higher	4 credits.
PHYS 1434	General Physics II: Algebra Based	4 credits.

SEMESTER 6

(Total Credits 13)

CMCE 3602	Heavy Construction Practices	3 credits.
ARCH 3551	Sustainability: History and Practice	3 credits.
MAT 1575	Calculus II	4 credits.
COM 1330	Public Speaking or higher	3 credits.

SEMESTER 7

(Total Credits 15)

CMCE 4700	Construction Law	3 credits.
CMCE 4701	Construction Field Management	3 credits.
CMCE 4702	Construction and Site Safety Management	3 credits.
ID	Interdisciplinary Course	3 credits.
CMCE TECH		3 credits.

SEMESTER 8

(Total Credits 15)

CMCE 4800	Senior Capstone Project	3 credits.
CMCE TECH		3 credits.
CMCE TECH		3 credits.
FlexCore		3 credits.
Add. FlexCore		3 credits.

Footnotes

¹ Examples of advanced liberal arts courses include SOC 3301 (prerequisite: ECON 1101); SOC 2403 (prerequisite: PSY 1101). In meeting their general education requirements overall, students must take at least one advanced liberal arts course or choose two sequential courses in one of the foreign language (FL) course offerings, such as Arabic (ARB), Spanish (SPA), Chinese (CHN), or French (FREN).

² Specific courses listed indicate double duty courses, i.e., program degree requirements that also meet general education requirements in that category.

³ Students who have already completed MAT 1575 may select another mathematics or flexible core course instead.