



## **Construction Management, Associate in Applied Science**

### **Academic Program Review**

Years Covered: 2017-2022

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## I. Introduction

### A. Provide the current purpose of the program.

Many construction managers work from a main office, but most work out of a field office at the construction site, where they monitor the project and make daily decisions about construction activities. The need to meet deadlines and respond to emergencies that often requires long hours. Construction managers will be needed as overall construction activity increases over the coming decade. Those with a bachelor's degree in construction science, construction management or civil engineering, coupled with construction experience, will have the best job prospects. As such, NCC's program is designed to not only provide career pathways to local positions requiring an AAS, but also provides a direct articulation path to Pennsylvania College of Technology's Construction Management Bachelor of Science (B.S.) degree, and Bloomsburg University's (BAS Technical Leadership). There is also in place a course-by-course transfer evaluation from Thomas Jefferson University (BS Construction Management).

#### Career Paths

- Construction Administrators and Project Managers
- Building Inspectors and Code Enforcement Officers
- Construction Cost Estimators and Specifiers
- Construction Company Owners
- Construction Technicians and Equipment Operators

### B. How does the program advance the mission or strategic focus areas (SFAs) of the college? (Reflect on the program's curriculum, success rates, etc. to highlight where the program specifically promotes one or more of the SFAs)

The CMGT program addresses a number of our SFAs, the first being:

- **Enhancing Student Access.** The majority of the CMGT courses are offered online in either asynchronous or blended (synchronous with online activities imbedded into the Learning Management System (LMS). Which allows for students to engage in course learning to convenience their work-life balance.
- **Inspiring Academic Excellence.** Classes and lab activities are designed to engage learners in multiple modalities. Classroom/online lecture/discussion, video assignments that focus on specific topics, online support assessments, and summative evaluation projects focused on core content.
- **Fostering Diversity & Global Engagement.** In the past year, the college has undertaken improvement in our engagement with integrating activities in a majority of our courses, specifically Diversity, Ethics, and Communication Key

Abilities. Topics engaged in the CMGT courses address diversity and communication in our workforce.

- **Engaging with our Communities.** The members of the advisory committee are construction industry professionals and are involved with the CMGT curriculum and placement opportunities.
- **Advancing Excellence in Technology.** Most of the courses employ the usage of our LMS system to foster technical proficiency. The computer aided drafting (CAD) course “Revit Fundamentals,” specifically engages software that is used in industry.
- **Increasing Student Retention, Completion, & Transfer.** Student engagement includes activities that are relevant to the industry and instructors work with students to foster success. Transfer agreements are in place with Penn College of Technology (BS Construction Management), Bloomsburg University (BAS Technical Leadership), and a course-by-course transfer evaluation from Thomas Jefferson University (BS Construction Management).

- C. Comment on awards, honors, noteworthy accomplishments, or unique features related to the program during the review period.

Student feedback reflects positively concerning the program. One such statement is included in Appendix C.

Due to Covid, program schedules and placement in the construction industries was disrupted. Going forward, there is some uncertainty for some aspects of the industry, but the commercial and industrial sides are expected to increase. This is where many of our students are gaining knowledge about.

<https://www.levelset.com/news/commercial-construction-boom-continues/>

- D. Catalog Description

1. The current program catalog description is included in Appendix A.
2. Does this description accurately describe the current program?

Yes   X   No           

If No, what changes does the program review committee recommend?  
Explain reasons for any recommended changes.

- F. Previous Program Review

1. Provide the date of the last program review:   March, 2018 (12-17 Audit)
2. List the recommendations from that review and indicate the extent to which these recommendations have been implemented. Indicate "I" for recommendations implemented, "IP" for those in progress, and "NI" for those not implemented. For those recommendations not implemented, please explain the circumstances.

Table 1. Status of Recommendations from Last Program Review

Recommendation	Status
Engage students with experiential/internship opportunities.	IP
Implementation of industry standard software such as CAD Revit, Planning & Scheduling (Planswift and provide examples of others).	I
Improved marketing and outreach initiatives.	IP
Continue the program.	I

## II. Program Outcomes

### A. Program-Level Student Learning Outcomes (see Appendix B).

1. Have the PLOs been updated or revised since the last program review?

Yes \_\_\_\_\_ No   X  

2. If yes, briefly explain the rationale for the changes (e.g., improving assessability, conforming to best practices, etc.)

### B. Program-Level Performance Indicators

1. Describe the key indicators used to assess the quality and effectiveness of your program relative to its core purpose and the college mission. Best practice is to utilize 8-10 key performance indicators.

At a minimum, provide data related to retention, persistence, completion, and transfer/job-placement/licensure in Appendix C (year over year trend data for the last five years). Then select four to five other indicators as applicable to include in Appendix C as well. Suggestions include:

- Indicators of Student Success
- Transfer/job-placement
- National, state, or disciplinary benchmarks
- Student Satisfaction/Feedback, including CCSSE data
- Alumni Survey (conducted by Institutional Research)
- Employer Feedback/Placement Reports (Career Services)
- Other benchmarks as appropriate

Please consult the data provided through the program review website and discuss the unique indicators that demonstrate how your program is fulfilling its purpose as well as supporting the overall institution and/or other programs (i.e., STEM courses supporting Allied Health programs).

Due to Covid and the change in many course modality offerings, data was fragmented during this time. Looking back at student achievement in all the courses offered in the recent year, the final average grade for all CMGT courses was 80%.

Graduation data indicates that there have been 26 graduates during the audit period. 50% of those employed, 27% continuing their education, and 23% had no report.

### III. Environmental Scan

A. Identify current trends in the program's field or discipline.

The construction industry is positioned to find its largest growth segment in commercial and industrial. The residential market is expected to experience only moderate to low growth in the short-term years. Some of these numbers may change due to governmental investment in stimulus packages in the coming years.

B. What has the program done to respond to these trends?

An aspect of large construction firms is the trend towards using more technology to improve the workflow. The addition of CAD and planning software into the program was included to mirror the industry.

C. Does the program have any external transfer articulation or joint admissions agreements?

Yes   **X**        No           

If yes, complete Table 2.

Table 2. Top five program-to-program articulation agreements.

Name of the Institution	Type of Agreement	Average number of student who transfer here	Date agreement was last reviewed or updated
Penn College of Technology (PCT)	Articulation to their BS Construction Management	<5	2014 (slated for review with PCT this year).
Bloomsburg University	Articulation to their BAS Technical Leadership	<5	2021
Thomas Jefferson University	Course evaluation for transfer in place.	<5	2020

Have any problems been encountered concerning the transferability of courses?

Yes                 No   **X**  

If yes, specify the nature of these problems.

D. Does the program have any inbound articulation agreements?

Yes \_\_\_\_\_ No  X

If yes, complete Table 3.

Table 3. Inbound articulation agreements.

Name of the Institution	Type of Agreement	Average number of student who transfer here each year	Date agreement was last reviewed or updated

E. Provide regional workforce data with respect to (1) the number of people currently employed in the field; (2) projections for employment growth or decline; and (3) the current salary range. Discuss the implications of these numbers for the program.

**Occupation Title:** Construction Manager

**Occupation Code:** 11-9021

Location	Estimated total employment (excludes self-employed)	Median Hourly Wage	Median Annual Wage	Mean Hourly Wage	Mean Annual Wage	Job Outlook 2021 -2031
National	478,500*/284,750**	\$47.55	\$98,890	\$52.02	\$108,210	8% (Faster than average)
State - PA	2,820	\$47.81	\$99,450	\$52.32	\$108,820	
Local Area*	200	\$47.47	\$98,740	\$50.61	\$105,280	

**\*Local Area:** Allentown-Bethlehem-Easton, PA-NJ (includes Carbon, Lehigh, and Northampton PA Counties and Warren County NJ)

\*All Construction Management & Estimating Positions/\*\*Construction Management Only

“Employment of construction managers nationwide is projected to grow 8 percent from 2021 to 2031, faster than the average for all occupations.

About 41,500 openings for construction managers are projected each year, on average, over the decade. Many of those openings are expected to result from the need to replace workers who transfer to different occupations or exit the labor force, such as to retire.”

<https://www.bls.gov/ooh/management/construction-managers.htm>

- F. Does the program have any community partnerships or other associations or memberships of note?

Yes \_\_\_\_\_ No  X

If yes, describe the nature of these relationships

- G. Does the program have an advisory committee?

Yes  X  No \_\_\_\_\_

If yes, list the names and affiliations of the advisory committee members

Robert J. Avitabile, Project Manager, Alvin H. Butz, Inc.

Robert Perose, President and Chief Operating Officer, Skepton Construction, Inc.

Matt Puchyr, Vice President, Bracy Construction, Inc.

Matthew Walter, Department Head – Code Services, Barry Isett & Associates, Inc.

Paul Weiss, President, Weiss Construction

- H. How often does the advisory committee meet? \_\_\_\_\_ Biennial\*

Minutes from the last two meetings are in Appendix D.

\*Note: Covid shutdown in 2020 disrupted scheduling. Returning to normal going forward.

- I. Specify advisory committee contributions to the program's growth and development, including recommended curricular changes.

After review of student feedback about redundant content in the specific management courses and the advisory committee recommendation to instruct about industry Computer Aided Drafting skills, the course (CADM 235) – Revit Fundamentals was developed and replaced (CMGT 202) – Construction Supervision and Leadership in the sequence of required courses.

The previous Auditor for the program made the recommendation to replace MATH 120 – Nature of Mathematics with MATH 140 – College Algebra. After consideration as to the applicability of the AAS at the local level and the potential to articulate to BS level of education, the decision was made to provide for either course to satisfy the degree, but recommended MATH140 for transferability.

The improvement of Marketing of the program was also discussed and the College has been making improvements in increasing the visibility of this and other AAS programs with the restructuring of the educational divisions and providing for ready accessibility of program information on our website and related marketing literature.



## IV. Curriculum

### A. Curriculum Matrix

1. The program's most recent curriculum matrix for the program's learning outcomes can be found in Appendix E.
2. The key abilities matrix (see Appendix F) indicates how the program satisfies NCC's general education core requirements.
3. Based on the curriculum matrix and general education core review, are there any changes that need to be considered?

Yes   X   No         

If so, describe these changes.

Assessments are being done/followed according to the five-year plan for Gen-Ed core development.

In place have been assessments developed for Diversity, Ethics, and Communication.

Yet to identify will be Analyze and Technology; for these, the program learning outcomes will serve as the assessments for the gen-ed learning outcomes.

### B. Program and co-curricular maps are in Appendix G and Appendix H.

1. Based on the program map, validate the adequacy of the organized, intentional, sequential learning experiences.

The sequencing of courses has had only a few changes over the audit period. One change was the restructuring of course schedules so as not to have conflicts of CMGT courses in every semester.

Additionally, the program has gained some students who may have already completed related programs such as Architecture and Business. By changing (CMGT203) to be an asynchronous offering (no specific meeting time – online tasks and assignments, with arranged one-on-one or group appointments as the course progresses), and (CMGT103) to be a one evening offering allowed for these students to gain the Construction Management AAS with only one additional academic year.

2. Based on the co-curricular map, discuss the relationship between student learning and co-curricular experiences.

Strong partnership with Career Services and the coursework is primarily focused upon the "Get Ready for Life after Completion – Career Readiness" category. Students participate in career fairs and engage with our internship department as they are made aware of the opportunities presented. In many cases, they gain employment and continue on a full-time or part-time basis as their availability and responsibilities allow.

3. Are there any changes to the program map or co-curricular map that need to be considered?

Yes \_\_\_\_\_ No   X  

If so, describe these changes.

- C. Discuss career development and experiential opportunities for students within your program (e.g., internship, capstone, career research courses, service learning, etc.).

The program has been working closely with our internship department, industry, and 4-year colleges to gain opportunities with construction management companies and independent contractors. Potential employment and transfer are promoted in courses as postings and discussions reveal these opportunities. One example, Thomas Jefferson University has participated as a guest speaker, and they have a prepared course-to-course transfer planning document.

1. Based on a review of these opportunities, are there any changes that need to be considered?

Yes   X   No \_\_\_\_\_

If so, describe these changes.

As the industry opens towards pre-pandemic levels, contact about these opportunities needs to be more aggressively pursued. Additional staffing with career readiness and student success initiatives is being explored for this and the industry programs in general.

Another aspect, is to garner more interest from construction firms to visit and speak to CMGT classes while in session. This individualized connection has been met with success and a better student experience.

With better contact, the program can expand upon internship and experiential opportunities in the industry.

- D. Modality Awareness

1. If courses are being offered in online or hybrid formats, discuss the assessment of the effectiveness of these formats.

The majority of CMGT program courses have now pivoted to almost entirely online in a blended (one online meeting per week with online tasks and assignments), or in one case asynchronous. One exception is CMGT104 Construction Print Reading which is required for two other programs, Electrical Technology and HVAC, this is offered with both online and in-person courses to meet the needs of all three programs.

It is noted in student performance, especially first-year, that some of our traditional students may have not yet established a good work ethic and some struggle, but the performance of other students, many already in the industry is above average and having evening and remote offerings serves them well.

2. Are there any changes to these formats that need to be considered?

Yes \_\_\_\_\_ No   X  

If so, describe these changes.

## V. Assessment

- A. Append the current version of the program's Assessment Plan (Appendix I).
- B. Using Table 4, provide a summary of the assessment activity that has occurred since the last program review.

Table 4. PLO Assessment

Program Learning Outcomes (include all program outcomes that are listed in the College Catalog)	Describe how the outcome has been assessed in the last five-year period.	What have been the results of that assessment?
Understand the importance of management functions of planning, organizing, leading, and controlling. (CMGT203)	Students are assessed by tasks and assignments drawn from courses focused on project management, planning and scheduling, and associated business management and law courses.	Discussion board activities and in the case of work logs in the practicum, have shown a fundamental understanding of completing students with an 81% average. No significant changes expected.
Describe construction operations as they relate to production processes, logistics, specifications, and regulatory requirements. (CMGT201)	Students are assessed by tasks and assignments drawn from courses focused on construction codes, estimating, and planning and scheduling.	The estimating project tied all of the concepts into a coherent bid process. Overall average of completing students was 76%. Additional focus on the understanding of the project documentation and requirements is planned.
Integrate health and safety issues within the confines of regulatory compliance and current industry standards to the construction industry. (CMGT103)  Gen-ed (ethics)	Students were assessed by summative exams and two projects integrating adherence to regulations and OSHA standards.	Projects were of marginal success. Quizzes and exams were at a class average of 85%. Course is now being overhauled to better use the learning content.

Interpret building and zoning codes and other regulatory requirements. (CMGT101) Gen-ed (analyze)	Students were assessed with a mid-semester project on occupancy and use according to the International Building Code.	Some students struggled with this project. Overall average was 72%. In some cases, after delving further, part of the problem was participants not acquiring the necessary reference materials. Moving forward, more insistence on having the materials required for the course is planned.
Interpret technical information in the form of architectural drawings, schematics, specifications, graphs and procedures. (CMGT104)	In-class activities include close examination of building plans and follow-up quizzes and exams are assessed from the students' successful interpretation of those specific building plans.	The overall class average was 79% and more detail on specific information in the plans is planned.
Utilize effective written and oral communication skills. (CMGT203) Gen-ed (communication)	Students participated with discussion board postings, zoom meetings with the instructor, and work logs.	Discussion board activities and in the case of work logs in the practicum, have shown a fundamental understanding with an 81% average. No significant changes are planned.
Demonstrate the ability to work both independently and as part of a team. (CMGT201) Gen-ed (diversity)	Students work on individual bid/estimate projects and in-class exercises with groups. The practicum reflects on their ability to work with groups in industry.	Completion of program/course project results aggregate to a percentage of 79%. Instructors are evaluating ways in which to broaden team projects.
Apply legal and ethical principles related to the construction industry. (CMGT105) Gen-ed (ethics)	Students' complete assignments portraying their role in management and actions they would take in respect to moral implications and legal liabilities.	Example scenarios and discussion boards assignments averaged at 82% for completing students.
Demonstrate a basic understanding of accounting/finance functions as it relates to the construction industry. (CMGT105)	Project estimating and management courses apply these concepts with bid estimates and controlling project costs.	Construction bid assignment scored an average of 74%. Additional focus is planned for cost containment and rates.

C. What programmatic changes have been implemented as a result of recent programmatic assessment activities?

Before the start, and after the conclusion of courses, the instructors discuss ways to improve upon student performance. We have improved our implementation and structure of layout, assignments, and instructional sequence using each course's Blackboard shell.

- D. Identify desired changes as a result of programmatic assessment that have yet to take place.

Better alignment of course presentation and assessment order, as viewed by the students to help clear up expectations for completion.

## VI. Students

- A. Describe full-time and part-time enrollment trends since the last program review or the past five years.

Table 5. Student Enrollment Data

Academic Year	17/18	18/19	19/20	20/21	21/22
<b>FALL</b>					
Full-Time	17	15	17	18	9
Part-Time	13	15	18	20	24
Total Fall	30	30	35	30	33
<b>SPRING</b>					
Full-Time	21	20	15	16	11
Part-Time	11	16	17	14	15
Total Spring	32	36	32	30	26

The program is moving to a more part-time enrollment.

- B. Describe enrollment trends regarding student age, gender, race, and socio-economic status since the last program review or the past five years.

Data not available to disaggregate at the time of report submission.

- C. Describe any concerns the program review committee has regarding: (1) any enrollment trends mentioned above or (2) other enrollment-related issues.

There is concern college-wide about declining enrollment in several programs. But overall, the CMGT program has maintained a fairly stable enrollment, even post-pandemic.

We are working towards broadening awareness of the Prior-Learning Assessment (PLA) process for those that may have credible industry experience.

- D. Has the program instituted any methods or materials to encourage and increase applications by new students since the last program review or the past five years?

Yes   X   No           

If yes, please describe any initiatives.

The implementation of the areas of study has caused there to be more visibility on our now named "Industry & Manufacturing" page. This has caused an uptick in program information requests being responded to by the program manager.

- E. Has the program instituted any methods or materials to encourage and increase the recruiting of continuing students to choose this program major or emphasis?

Yes   X   No           

If yes, please describe any initiatives.

There is an increased awareness for these students to consider continuing towards the CMGT program after completing their previously completed major. Architectural and Business program students being the most prevalent due to the similar topics inherent in the industry.

In Fall of 2020, the President & CEO of Barry Isett & Associates, a multi-discipline engineering and consulting firm, served as an Entrepreneur in Residence for a week. Engaging with students, faculty, staff, and the community virtually.

- F. Comment on graduation rates since the last program review or the past five years.

The program had the highest graduation rate in 2019 (pre-pandemic). 2020 showed a significant drop (pandemic). The 2021 graduation rate reflected an increase to almost the 2019 rate. With the increase in construction activity nationwide, this is expected to increase going forward.

- G. Comment on transfer rates for students who have and who have not graduated from the program.

Transfer rates rose until 2020 and declined in 2021. This is expected to increase as we continue to rebound from the pandemic and fresh focus is provided on ongoing opportunities available.

- H. Discuss your program's engagement with and impact of new student orientation, advising, tutoring support, library services, disability support, student life, and career services.

The program only has one teaching administrator, but the Hartzell staff is always willing to talk with new students and show them the lab facilities. We work closely with our designated success navigator to answer any questions and make scheduling suggestions for new students and are also responsive to any others. Once the advising handoff is made, Dan Philipps is the active advisor for the CMGT program and works with students to overcome any scheduling or access difficulties.

## VII. Physical and Financial Resources

- A. Comment on the availability, adequacy, and use of learning tools, such as computer software, instructional media, laboratories, studios, etc.

Computer and media presentation equipment is sufficient for instruction.

- B. Discuss the adequacy of (1) instructional space, (2) office space, (3) instructional supplies, and (4) equipment for the program.

These are adequate for the needs of the program.

- C. Discuss library resources.

The library is sufficient for academic courses and has some trade content.

- D. Comment on the role of marketing and public relations in supporting the program.

Marketing efforts are improving. However, we still do not have enough public exposure and program-specific media.

- E. Program costs and income.

Table 7. Financial Data

Academic Year	FY2022	FY2021	FY2020	FY2019	FY2018
<b>Program Income</b>					
Tuition	124,603	147,313	138,445	143,199	130,775
Local Reimbursement	25,442	27,667	23,406	24,333	21,702
Operating Reimb.	59,978	67,717	56,766	56,923	49,552
<b>Total Income</b>	<b>210,023</b>	<b>242,697</b>	<b>218,617</b>	<b>224,455</b>	<b>202,029</b>
<b>Program Costs</b>					
Direct Costs	94,502	108,130	93,174	87,316	71,515
Indirect Costs	111,467	118,332	103,815	111,119	93,289
<b>Total Costs</b>	<b>205,969</b>	<b>226,462</b>	<b>196,990</b>	<b>198,435</b>	<b>164,804</b>
<b>FTE</b>	<b>22.85</b>	<b>27.97</b>	<b>27.22</b>	<b>28.96</b>	<b>27.04</b>
<b>Income per FTE</b>	<b>9,193</b>	<b>8,676</b>	<b>8,031</b>	<b>7,750</b>	<b>7,742</b>
<b>Cost per FTE</b>	<b>9,016</b>	<b>8,095</b>	<b>7,237</b>	<b>6,852</b>	<b>6,095</b>
<b>Inst. Avg. Cost per FTE</b>	<b>10,058</b>	<b>8,901</b>	<b>7,820</b>	<b>7,933</b>	<b>7,075</b>
<b>Rank</b>	<b>106 of 126</b>	<b>102 of 138</b>	<b>84 of 135</b>	<b>129 of 133</b>	<b>117 of 126</b>

1. Describe how the program is financed, including college budget (if any) as well as any grants that have been received over the past five years, and outline any major expenses over the past five years.

College budgetary resources primarily fund the program. The inclusion of the CADM235 Revit Fundamentals course into the program has increased overall cost for the program, but not significantly as AutoDesk is already a component of the required (CADM235) course.

2. If possible, analyze the program's cost-effectiveness (i.e., does current/projected student enrollment cover the cost of faculty, supplies, etc. and/or are the faculty staff, space and/or facilities appropriate for the current/projected enrollment).

Except for the dip in 2020, the cost-effectiveness of the program has been better than the *mean* at the College. This is primarily because of no or low equipment requirements and the reliance on adjuncts for instruction.

3. Are you getting additional funding from grants or donors?

Not at this time.

## VIII. Human Resources

- A. Briefly describe Program Leadership and oversight.

The program manager teaches some courses and oversees the adjunct faculty to provide resources and training with NCC systems, BlackBoard LMS, and other required administrative functions.

- B. Report the numbers of full-time and part-time faculty, professional staff, and clerical staff currently associated with the program.

Table 8. Faculty Demographic Data

Rank	Last Review	Current Review
Professional Staff/ Faculty	1	1
Part-Time Faculty	5	4
Clerical Staff	1	1

1. Note any changes that have occurred in these numbers since the last program review or the previous five years.

One instructor retired and one existing instructor took on the additional course.

2. Briefly explain how these changes have affected the program.

No change.



- C. What is the ratio of full-time to part-time faculty? What percentage of (1) day sections, (2) traditional evening/weekend sections, (3) distance education/hybrid sections, and total sections are taught by full-time faculty. Comment on the levels of full-time, part-time faculty, and professional or clerical staff.

There are no full-time faculty associated with this program. The program oversight is with a program manager with teaching responsibilities. All CMGT courses are offered in the evening and the majority are now distance blended or asynchronous. Evening offerings gain the most enrollment due to the percentage that are taking classes and work in what is primarily a daytime industry.

- D. Faculty Expertise/Experience

1. Northampton hires faculty members who are well-credentialed (see Appendix J) and understand and embrace the open-access mission of the community college.
2. How do faculty in this program promote academic excellence through professional development, scholarship, and service?

All instructors in the program possess decades of experience in their various subject areas and routinely study subject material, trade periodicals, attend training meetings, and engage in webinar sessions relevant to the industry.

## IX. Analysis of Findings

- A. Based upon the data collected in this document, discuss the strengths and weaknesses of your program. *For example: do students progress successfully through courses; are staffing/equipment/facilities needs filled; are assessment efforts successful; etc.*

The CMGT program at NCC is viewed favorably by motivated students and employers in the region. Students that are willing to learn and apply themselves have no trouble finding gainful employment. However, there is a need for more targeted marketing to improve program awareness.

- B. Based on the data collected in this document, discuss the opportunities for improvement available to your program and the internal and external challenges your program faces. *For example: is the program in demand; are graduates employable/able to transfer; what are the future plans for this program; etc..*

The program is in demand, and successful graduates are readily employable, or able to transfer to increase their skillset.

- C. What additional data that is currently not available would have been helpful to evaluate this program effectively?

Factors of enrollment that do not fully capture non-traditional students who may be taking only certain courses on their own or employer-funded. Most of the data points focus on traditional students.

## X. External Review Report

Refer to Appendix K for the external/accreditor review report.

## XI. Action Plan

A. Identify 2-3 program goals for the future.

1. Goal – Integrate the remaining gen-ed assessments into the core curriculum of CMGT courses.

i. Timeframe: Spring 2024

ii. Responsible Party(ies): Daniel Philipps

iii. Resource Implications: The remaining outcomes not yet integrated are the Analyze and Technology outcomes. As these are key items of the programs PLOs, there will be the ability to specifically identify normal coursework assessment to provide for meeting this goal.

2. Goal – Integrate course activities to strengthen student-to-student interactions, specifically in online courses.

i. Timeframe: Fall 2024 (to allow modification to LMS coursework)

ii. Responsible Party(ies): Daniel Philipps

iii. Resource Implications: Curriculum work to courses to either add to sequencing or as replacements for existing assignments.

## Appendix A: Program Description

### Overview

### Narrative

Large-scale construction requires well-trained managers whose role it is to stay on top of every detail of the job. Construction managers must be familiar with all aspects of the building process, but they also need to be strong leaders. Because of this, our program not only covers essentials such as codes and blueprint reading, but also includes business law, ethics, planning and scheduling and other important management tools. This comprehensive approach results in graduates who are ready to be effective managers and administrators within the construction industry.

### Features

Through our balanced mix of liberal arts, specialized courses and hands-on training, Northampton offers you tremendous opportunity for success and professional growth. Our required practicum provides essential real world experience. During the practicum you will have the opportunity to perform various construction management functions, gain insight into the challenges of managing a site, and enhance your critical thinking, problem solving and communication skills.

This program can be completed in the day or evening, on a full-time or part-time basis. A few courses may not be offered in the evening every semester so students are advised to plan their schedule carefully to avoid any delay in graduation.

### Requirements

Students are required to secure a workplace sponsor for the practicum. Assistance can be provided by the construction management staff to facilitate sponsorship.

### Core Progressive Threads of Construction Management

- Leadership and supervisory
- Health and Safety
- Legal and ethical
- Effective Communication and Public Relations

**Career Potential:** Construction Technicians and tradespersons, Construction Managers, Construction Administrators, Construction and Building Inspectors, Construction Cost Estimators Superintendents, Project Managers, Construction Company Owners, Construction Equipment Operators, Code Enforcement Officer, Construction Specifier

## Appendix B: Program-Level Learning Outcomes

### Outcomes

**Graduates of Northampton Community College's A.A.S. degree in Construction Management will be able to:**

- Understand the importance of management functions of planning, organizing, leading and controlling.
- Describe construction operations as they relate to production processes, logistics, specifications, and regulatory requirements.
- Integrate health and safety issues within the confines of regulatory compliance and current industry standards to the construction industry.
- Interpret building and zoning codes and other regulatory requirements.
- Interpret technical information in the form of architectural drawings, schematics, specifications, graphs and procedures.
- Utilize effective written and oral communication skills.
- Demonstrate the ability to work both independently and as part of a team.
- Apply legal and ethical principles related to the construction industry.
- Demonstrate a basic understanding of accounting/finance functions as it relates to the construction industry.

**Transfer Information:**

- The program designed to meet the needs of local workforce in various aspects of the industry not needing a Bachelor's degree.
- The program is specifically intended for transfer to Pennsylvania College of Technology for those that desire a Bachelor's in Construction Management.
- The program is eligible for the Bloomsburg partnership for their - Bachelor of Applied Science in Technical Leadership, that guarantees 60 credits of transfer for successfully completed AAS degrees.

## Appendix C: Program-Level Performance Indicator Data

2018 Graduate Survey Results						
Number of Graduates	Continuing Education	Employed	Job Hunting	Not Seeking Employment	Moved	No Report
6	1	4	0	0	0	1
	20%	80%	0%	0%	0%	
<b>Of the Total Number of Graduates Employed:</b>						
	Employed Related		Employed Unrelated		Employed Unrelated by Choice	
	4	100%	0	0%	0	0%
<b>Employers of Graduates</b>			<b>Positions Secured</b>			
Ace Hardware			Assistant Manager			
Acutech Construction, Inc.			Facilities Manager			
Advanced Networking, Inc.			Installer			
American Millwork & Cabinetry, Inc.			Project Manager			
<b>Summary of Hourly Starting Salaries</b>						
Number Reporting Salary	2018 Lowest Salary	2018 Highest Salary	2018 Mean Salary	2018 Median Salary	Previous Year Median Salary	Median Percent Change
3	\$11.54	\$26.92	\$17.63	\$14.42		
<b>Institutions to Which Graduates Transferred</b>						
Drexel University						

2019 Graduate Survey Results						
Number of Graduates	Continuing Education	Employed	Job Hunting	Not Seeking Employment	Moved	No Report
8	2	3	1	0	0	2
	33%	50%	17%	0%	0%	
<b>Of the Total Number of Graduates Employed:</b>						
Employed Related		Employed Unrelated		Employed Unrelated by Choice		
3 100%		0 0%		0 0%		
<b>Employers of Graduates</b>			<b>Positions Secured</b>			
Allied Technical Resources, Inc.			Construction Manager/Planner			
Quandel Construction Group			Estimator			
Vertek Construction Management			Project Superintendent			
<b>Summary of Hourly Starting Salaries</b>						
Number Reporting Salary	2019 Lowest Salary	2019 Highest Salary	2019 Mean Salary	2019 Median Salary	Previous Year Median Salary	Median Percent Change
0					\$14.42	
<b>Institutions to Which Graduates Transferred</b>						
Northampton Community College						
St. Joseph's University						

2020 Graduate Survey Results						
Number of Graduates	Continuing Education	Employed	Job Hunting	Not Seeking Employment	Moved	No Report
5	3	1	0	0	0	1
	75%	25%	0%	0%	0%	
<b>Of the Total Number of Graduates Employed:</b>						
Employed Related		Employed Unrelated		Employed Unrelated by Choice		
1 100%		0 0%		0 0%		
<b>Employers of Graduates</b>			<b>Positions Secured</b>			
Tobyhanna Army Depot			Sheet Metal Laborer			
<b>Summary of Hourly Starting Salaries</b>						
Number Reporting Salary	2020 Lowest Salary	2020 Highest Salary	2020 Mean Salary	2020 Median Salary	Previous Year Median Salary	Median Percent Change
0						
<b>Institutions to Which Graduates Transferred</b>						
Drexel University						
Northampton Community College						
Pennsylvania College of Technology						

2021 Graduate Survey Results						
Number of Graduates	Continuing Education	Employed	Job Hunting	Not Seeking Employment	Moved	No Report
7	1	5	0	0	0	1
	17%	83%	0%	0%	0%	
<b>Of the Total Number of Graduates Employed:</b>						
Employed Related		Employed Unrelated		Employed Unrelated by Choice		
4 80%		0 0%		1 20%		
<b>Employers of Graduates</b>			<b>Positions Secured</b>			
Iron Hill Construction Management			Assistant Project Manager			
Keystone Consulting Engineers, Inc.			Construction Superintendent Intern			
Nic Zawarski and Son			Municipal Construction Project Manager			
<b>Summary of Hourly Starting Salaries</b>						
Number Reporting Salary	2021 Lowest Salary	2021 Highest Salary	2021 Mean Salary	2021 Median Salary	Previous Year Median Salary	Median Percent Change
0						
<b>Institutions to Which Graduates Transferred</b>						
Colorado Technical University						



## Graduate Recommendation Transcript from Email

All,

My name is Roosevelt Rebimbas and I attended NCC to obtain a degree in Construction Management. Though it is not a highly sought after program, the education offered by NCC for my degree truly captured the key components needed to be successful in the field of construction management. During the time of working towards getting my degree, I worked full time for a construction company in New Jersey. I would commute from Pennsylvania to Newark, NJ daily to be an intern at a construction company willing to allow students to get in the field experience to aid in unison to their book studies. I would leave from my internship and return back to Pennsylvania to attend night courses at NCC for my Construction Management courses. Though this was extremely tough, it was definitely worth the long hours and struggles.

Due to the courses provided in the construction management program, it provided me with the skills needed to progress in my field. I have worked my way up to Project Manager for my current employer and have even started my own Construction Company in the state of New Jersey. Due to the business classes I took at NCC for my degree, that has also aided me in handling the fundamentals of my own business.

The reason for this email is to express my appreciation for Northampton Community College. The Construction Management program truly works. I know when I took this program it was not sought after and at times the classes didn't have enough students to fill a class which resulted in a cancellation of the course. I want to be proof that this program truly works and all of the professors I had along the way are responsible for the success I have achieved to date. I now have a younger sibling that is currently in the Construction Management program at NCC looking to follow along on the same career path that I have chosen. With the education provided at NCC, I don't see that being any issue at all! I appreciate you taking the time to read this email, and I thank you for all of your hard work in making NCC what it is today!

Thank you,

Roosevelt Rebimbas Jr.

Email: rebimbas95@gmail.com

## Appendix D: Advisory Committee Minutes

### Construction Management Advisory Board Meeting Minutes – Nov. 29, 2017 – 6-7 pm (CC117)

Advisory members (RSVP): Rob Avitabile, Mark Culp, Jim Hanna, Matt Puchyr, Mark Waddell, Matthew Walter, Paul Weiss, Daniel Philipps,

NCC representatives (RSVP):

- Christopher Gaylo, Director, Industrial Tech.
- Ken Nasatka, CAD/CAM Program Mgr.
- Tom Kolepp, CMGT Faculty
- George Rudolph, CMGT Faculty
- CMGT Students: Jonathon Corcoran, Lewis Ernst

Items:

- Welcomed committee members, new/existing CMGT faculty, students and guests.
- We reviewed the current courses and who is instructing them.
- Ken Nasatka – Reviewed the CAD program overhaul and asked questions to committee about potential offerings for electives that would dovetail with CMGT (Autodesk-Revit, etc.)
  - Discussion affirmed the goal to develop and integrate a Revit Fundamentals course into the program – Action will be taken.
- Other software was discussed, such as re-implementing PlanSwift into the Planning and Scheduling course. We currently use Microsoft Project as it is free for students.
  - We will research available packages and determine if they are cost-effective for the students.
- We reviewed the enrollment in CMGT Program, that indicated an increase, once other factors were accounted for.
  - Reported Fall 2015 – 25      Actual: 25
  - Reported Fall 2016 – 36\*      Actual: 30
  - Reported Fall 2017 – 31      Actual: 31
    - \* This anomaly was due to a specially scheduled FA16 section of Construction Estimating (CMGT201) as during SP15 and SP16 there was not a qualified instructor available.
  - Current Practicum (CMGT203) enrollment trends show an overall increase in students finishing the program.
    - Spring 2015 – 4
    - Spring 2016 – 5
    - Spring 2017 – 7
    - Spring 2018 – 10
  - Moving the CMGT courses from Fowler to the Bethlehem campus has also increased awareness of the program to a larger mix of students who may yet be undecided.
  - Discussion of the Articulation Agreement with Penn College sparks interest to prospective students.
- Public awareness initiatives
  - Recently, the college updated the public website to provide immediate information pathways to programs grouped into 9 categories.

- <https://northampton.edu/academics/programs-and-majors.htm>
- Program landing pages include relevant job-related details for those researching careers.
- Request for information inquiries now come directly to relevant program coordinators.
- Increased focus on reaching out to the high school guidance counselors and including information about the industry options available.
- There is a new marketing director and there have been increased initiatives with mobile adware/social media.
- From Spring Advisory Meeting – Janice Kenyatta, Experiential Learning/Internship Manager
  - Key points:
    - Internship Manual
    - Professional and Ethical Conduct
    - Liability
    - Insurance
    - Contact information and invitation for companies to participate in this route for finding internship/practicum placement.
      - Telephone: 610.861.5343 (Bethlehem); 570.369.1869 (Monroe)
      - Email: [jkenyatta@northampton.edu](mailto:jkenyatta@northampton.edu)
      - Office Locations:
        - Bethlehem – College Center 336C
        - Monroe – Keystone 109 (Fridays only or by appointment)
- Other Announcements – nothing was noted.
- Open Discussion: We discussed the upcoming audit and the need for an external auditor. A few will check their schedules and let us know if available.

Meeting adjourned at 7 pm.

### **Construction Management Advisory Board Meeting Minutes – 03/29/2021 – 2-3 pm (Via Zoom)**

In Attendance: Daniel Philipps, Matt Walter, Rob Avitabile, Paul Weiss, Sean Boyle, Jeff Hutwelker, Ken Nasatka

Reviewed the existing board members and spoke about the current adjuncts.

Ken Nasatka – Changed role at the college and is now the Director, Center for Advanced Industrial Technologies

Adjunct Staffing Changes:

- Jeff Hutwelker (CMGT101 and CMGT203)
- Ricaurte Reid (CMGT104)
- Mark Culp - retired

Spoke about the 2020 shutdown, most students were able to complete successfully even though we had to pivot to fully online. Previous discussion with Jim Hanna had mentioned this as a potential to gain enrollment to a wider audience due to the convenience of remote learning. We will evaluate this in future semesters.

All courses except for some sections of CMGT104 Construction Print Reading and CMGT201 Construction Estimating are staying in the online mode. The two, Spring in-person sections are mostly registered with Electrical Technology and HVAC students due to convenience of scheduling. CMGT student can also use this offering, but, as an example, on Tuesday and Thursday, a student can take HVAC102 in the morning, go to the CMGT104 course in early afternoon, and complete his day at the campus with ELTC107. This allows those that can, the opportunity to open up the remaining days to only taking a few classes and allow the time to intern with a company.

Changes to the program.

- As discussed by the committee, a Revit course was developed, and the curriculum process has been completed to replace CMGT202 Construction Supervision and Leadership with CADM235 Revit Fundamentals. So far, the feedback from students is positive.
  - I did check with Penn College of Technology and they affirmed that this would not affect the existing articulation agreement and that CADM235 would be applicable as a Construction elective.
- Another other change was to add the requirement of College Algebra to the choice for the program's MATH requirement. The recommendation is to take MATH140 if you intend to transfer to a 4-year program.
- Not directly affecting our program, but turning out to benefit all, was the adoption of the CMGT104 Construction Print Reading course into the Electrical and HVAC programs as the print reading requirement. This immediately has been beneficial. Not only to be a more suitable course, but also to broaden the program awareness of CMGT to other technical students.
- At this point, all CMGT courses except for some sections of CMGT104 Construction Print Reading are staying in the online mode. The in-person sections are mostly registered with ELTC and HVAC students due to convenience of scheduling. An example, on Tuesday and Thursday, a student can take HVAC102 in the morning, go to the CMGT course in early afternoon, and complete his day at the campus with ELTC107. This allows those that can, the opportunity to open the remaining days to only taking a few classes and allow the time to intern with a company.
- Another change that has been made is to move one course to fully online (CMGT203) and change one Monday/Wednesday course (CMGT103) to only be held on Wednesday. This has now allowed for students who may have already completed an associate's degree to viably take an additional two semesters and be able to complete the CMGT program. This is on a case-by-case basis, but only rarely is there an issue.

Jeff Hutwelker and I had a meeting with representatives from Thomas Jefferson University and have confirmed that there is now a course-to-course equivalency arrangement up to 54 credits, for students that wish to transfer upon their completion here.

New personnel in place at the college is:

- Katrina Schreefer – Assistant Director, Employer Engagement
  - [kschreefer@northampton.edu](mailto:kschreefer@northampton.edu) P: 610.332.6310
- Anna Rivera – Experiential Learning/Internship Manager
  - [arivera2@northampton.edu](mailto:arivera2@northampton.edu) P: 610.332.6334
- <https://www.northampton.edu/student-services/career-services/internships.htm>

Job Shadowing Program: <https://www.northampton.edu/student-services/career-services/job-shadow-program.htm>

Whiting Turner is offering two job shadow opportunities virtually.

Barry Isett, Inc. will be participating in a networking event at Fowler Center.

Reviewed BLS – Occupational Outlook for Construction Managers

- Currently growth is steady, currently employing 476,000 nationwide.
- Increased percentage of growth expected (2015 at 5% - 2019 at 8%)
- Construction Managers : Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics ([bls.gov](http://bls.gov))

Open Discussion

- Question about enrollment, “Has there been a decline or increase since the pandemic?”
  - Looking at the data, I noted that there has been a moderate increase (taken from the 20-21 enrollment information).
- Question about virtual vs in-person, especially in the Practicum, “how is that evaluated.”
  - In the class it is noted that there has been considerable work being done to accommodate for both populations (in this course), those with and those without the internship. Not all students have been able to gain a position due to position availability, work-life balance, already full-time employed and cannot sacrifice income for temporary placement, and other reasons.
  - Over the years there have been instances of only gaining partial hours, etc. Too many incompletes delaying graduation, especially during the fluctuating market due to the pandemic and its aftermath.
  - Jeff H. spoke to some of the measures taken (class runs asynchronously):
    - Scheduling for those that can attend presentations (and posting in BB after) on 15 subjects during the 15 weeks. Students can also review this on demand.
    - Requiring a three-subject essay every 3-4 weeks.
    - Using the discussion boards for more extensive interactions on the various topics. Posting questions, etc.
    - This has been fairly successful.

Nothing else was noted of concern.

Meeting adjourned.

## Appendix E: Curriculum Matrix

List all of the program learning outcomes for the program of study in the first column. List the program courses across the top row. Then make "I" for a learning outcome that is introduced (*addressed for the first time*), "R" for a learning outcome that is reinforced (*addressed again, but not emphasized in a major way*), and/or "M" for a learning outcome that emphasized (*addressed in a major way, emphasis toward mastery*) under each specific course.

*Please note: Not every course will address every program learning outcome.*

Name of the Academic Program: CMGT AAS

Academic School: Business & Industry

Completed by: Daniel Philipps

Date: 03/16/2021

Program Learning Outcomes (Upon completion of the program, students will be able to...)	COLS 101	CISC 101	CMGT 101	CMTH 102	ENGL 101	MATH 120 or MATH 140	CMGT 102	CMGT 103	PHIL 202G	ENGL 151R	ACCT 101	BUSA 205	CMGT 104	CMGT 105	CMGT 106	BUSA 152	CMGT 201	CADM 235	CMGT 203	
1. Understand the importance of management functions of planning, organizing, leading and controlling.												I, R		I, R	I, R					R, M
2. Describe construction operations as they relate to production processes, logistics, specifications, and regulatory requirements.							I, R									I, R				R, M



9. Demonstrate a basic understanding of accounting/finance functions as it relates to the construction industry.						I					I, R							R, M		R, M
--	--	--	--	--	--	---	--	--	--	--	------	--	--	--	--	--	--	------	--	------



## Appendix F: Key Abilities Program Matrix

The five Gen Ed Key Abilities help students navigate the world. In each class they take, they should expect to be challenged to develop and deepen their key abilities. After they graduate, these abilities will help them continue learning, adapt to change, and become citizens who can make wise choices and contribute to their communities.

### 1. **Communicate**

- *Students are able to share their ideas powerfully and clearly.*
  - *Uses appropriate, relevant, and compelling content and sources that illustrate knowledge and understanding of the topic.*
  - *Assignment is organized and understandable. Distinct intro, body, and conclusion, as appropriate for the discipline.*
  - *Language is clear and understandable. Executes assignment within conventions of a specific discipline, including source citation.*

### 2. **Analyze and Solve Problems**

- *Students are able see and solve the problems around them, using solid data to draw and communicate reasonable conclusions.*
  - *Identify and understand an issue, concept, or problem, any data needs, and constraints that have to be considered in order to analyze an issue or solve a problem. Students recognize multiple perspectives*
  - *Use various tools, representations, notation, etc. to help them organize data and see relationships or identify assumptions related to the issue, concept or problem*
  - *Evaluate any conclusions drawn, implications made, or plans for solving a problem, including evaluating any assumptions and any evidence gathered.*

### 3. **Use Technology**

- *Students are able to select and ethically use appropriate technology to create, communicate and discover.*
  - *Effectively select and use the appropriate technology applications or resources to accomplish specific goals.*
  - *Be an active and responsible participant in online communities.*
  - *Understand the legal and ethical facets of technology in a global society.*

### 4. **Understand Diversity**

- *Students are able to understand how each individual's experiences shape our society, and how societies, in turn, shape the way local and global resources are used.*
  - *Explain how the range of human differences shape the historical and current formation of artistic, economic, social, scientific, cultural or political institutions*
  - *Explain how individuals experience equality and inequality with a society, its institutions or its cultures*
  - *Analyze how individuals and institutions have addressed persistent global challenges, including physical resources and social values.*

### 5. **Engage in Ethical Questions**

- *Students are able to identify ethical choices, consider alternatives and consequences, and choose actions and choose actions keeping in mind everyone affected.*

Gen Ed (Key Abilities) Learning Outcomes (Upon completion of the program, students will be able to...)	COLS 101	CISC 101	CMGT 101	CMTH 102	ENGL 101	MATH 120 or MATH 140	CMGT 102	CMGT 103	PHIL 202G	ENGL 151R	ACCT 101	BUSA 205	CMGT 104	CMGT 105	CMGT 106	BUSA 152	CMGT 201	CADM 235	CMGT 203	
Communicate: Share their ideas powerfully and clearly.			A											A	A					A
Analyze and Solve Problems: See and solved the problems around them, using solid data to draw and communicate reasonable conclusions.			A				A	A						A	A					A
Understand Diversity: Understand how each individual's experiences shape our society, and how societies, in turn, shape the way local and global resources are used.							A													A
Engage in Ethical Questions. Identify choices, consider alternatives and consequences, and choose actions							A													A

keeping in mind everyone affected.																				
Use Technology. Select and ethically use appropriate technology to create, communicate, and discover.			A				A	A					A	A	A			A		A

**Communicate:**

- Research Reports in CMGT101, CMGT103, and CMGT203
- Job Analysis and Planning in CMGT105 and CMGT106
- Final Bid Documents in CMGT201
- Capstone Reports in CMGT203

**Analyze and Solve Problems**

- Standardized final exams and assessments
- All CMGT coursework applying to research and jobsite analysis.

**Understand Diversity**

- All PowerPoints and class materials will be reviewed and updated as needed.
- CMGT105 - Research will be completed to include a diversity topic
- Incorporating YouTube videos into lessons (EdPuzzle, etc.)
  - [https://www.youtube.com/watch?v=pccZPEXqUTY&ab\\_channel=warfelcc](https://www.youtube.com/watch?v=pccZPEXqUTY&ab_channel=warfelcc)
  - [https://www.youtube.com/watch?v=ECBWvNFb1tI&ab\\_channel=Bluebeam%2CInc.](https://www.youtube.com/watch?v=ECBWvNFb1tI&ab_channel=Bluebeam%2CInc.)
  - [https://www.youtube.com/watch?v=5iw0k0UqJxA&ab\\_channel=TheRealDeal](https://www.youtube.com/watch?v=5iw0k0UqJxA&ab_channel=TheRealDeal)
  - [https://www.youtube.com/watch?v=oRnqvDwFh30&ab\\_channel=HoarConstruction](https://www.youtube.com/watch?v=oRnqvDwFh30&ab_channel=HoarConstruction)
  - [https://www.youtube.com/watch?v=y-c3XX8LEss&ab\\_channel=AtlantaBlackStarEntertainment](https://www.youtube.com/watch?v=y-c3XX8LEss&ab_channel=AtlantaBlackStarEntertainment)
- Note: A majority of the supporting course items are supplied by the textbook companies and cannot be modified by NCC.

**Engage in Ethical Questions**

- Communication coursework instructions.

**Use Technology**

- Successfully conducting computer research on CMGT topics, articles, case studies, violations, etc.
- Utilizing estimating, planning, and scheduling software (CMGT106, CMGT201, and CADM235)
- All related online coursework and exams

# Appendix G: Program Map



**CONSTRUCTION MANAGEMENT – Associate in Applied Science (AAS) (2019-2020 Catalog)**

**Student Name:** \_\_\_\_\_

**Advisor Name:** \_\_\_\_\_

**Developmental Education Courses (if required)**

English Placement			Math Placement		
<input type="checkbox"/>	ACLS025	Academic Reading and Writing Skills I	<input type="checkbox"/>	MATH 020	Pre-Algebra
<input type="checkbox"/>	ACLS026	Academic Reading and Writing Skills II	<input type="checkbox"/>	MATH 022	Elementary Algebra
<input type="checkbox"/>	ACLS050	Introduction to Academic Literacy	<input type="checkbox"/>	MATH 026	Intermediate Algebra
<input type="checkbox"/>	ENGL027	Writing Skills Workshop			

**SEMESTER-BY-SEMESTER PROGRAM MAP FOR FULL-TIME STUDENTS**

**Courses are listed in preferred order of completion**

*Plans can be modified to fit the needs of part-time students by adding more semesters*

**Choose your courses with your Success Navigator or Faculty Advisor.**

Complete	Course #	Course Title	Credits	Gen Ed	Term/Location Offered (Fall, Winter, Spring, Summer) (Bethlehem, Monroe, Fowler, Online)	Pre-requisites / Co-requisites (PRE / CO)
<b>Semester 1</b>						
<input type="checkbox"/>	COLS101	College Success	1		FA, SP, SU; BETH, MROE, DIST	
<input type="checkbox"/>	CISC101	Introduction to Computers	3		FA, SP, SU; BETH, MROE, DIST	
<input type="checkbox"/>	CMGT101	Introduction to Construction Codes	3		F; BETH	
<input type="checkbox"/>	CMTH102	Introduction to Communication	3	Communication	FA, SP, SU; BETH, MROE, DIST	
<input type="checkbox"/>	ENGL101	English I	3	Communication	FA, SP, SU; BETH, MROE, DIST	PRE: ENGL Placement Policy
<input type="checkbox"/>	MATH120	Nature of Mathematics	3	QL	FA, SP, SU; BETH, MROE, DIST	PRE: MATH022 or Math Placement Policy
		OR				
<input type="checkbox"/>	MATH140	College Algebra (advised for transfer)	3	QL	FA, SP, SU; BETH, MROE, DIST	PRE: MATH026 or Math Placement Policy
	Total Semester Credits:		16			
<b>Semester 2</b>						
Complete	Course #	Course Title	Credits	Gen Ed	Term/Location Offered	Pre-requisites/Co-requisites
<input type="checkbox"/>	CMGT102	Construction Methods and Materials	3		SP; BETH	
<input type="checkbox"/>	CMGT103	Construction Safety and Health	3		SP; BETH	
<input type="checkbox"/>	ENGL151R	English II (Report Writing)	3	Communication	FA, SP, SU; BETH, MROE, DIST	PRE: ENGL101
<input type="checkbox"/>	PHIL202G	Ethics and Moral Problems (WI)	3		FA, SP, SU; BETH, MROE, DIST	PRE: ENGL101
<input type="checkbox"/>		SIT General Education Elective	3	SIT	FA, SP, SU; BETH, MROE, DIST	
	Total Semester Credits:		15			

Complete	Semester 3					
	Course #	Course Title	Credits	Gen Ed	Term/Location Offered	Pre-requisites/Co-requisites
<input type="checkbox"/>	ACCT101	Financial Accounting I	3		FA, SP, SU; BETH, MROE, DIST	
<input type="checkbox"/>	BUSA205	Management Fundamentals	3		FA, SP, SU; BETH, MROE, DIST	
<input type="checkbox"/>	CMGT104	Construction Print Reading	3		FA, SP; BETH	
<input type="checkbox"/>	CMGT105	Project Management and Administration	3		FA; BETH	PRE or CO: CMGT104
<input type="checkbox"/>	CMGT106	Construction Planning and Scheduling	3		FA; BETH	PRE or CO: CMGT104
<input type="checkbox"/>		Elective	3		FA, SP, SU; BETH, MROE, DIST	
	Total Semester Credits		18			
Complete	Semester 4					
	Course #	Course Title	Credits	Gen Ed	Term/Location Offered	Pre-requisites/Co-requisites
<input type="checkbox"/>	BUSA152	Business Law I	3		FA, SP, SU; BETH, MROE, DIST	
<input type="checkbox"/>	CMGT201	Construction Estimating	3		SP; BETH	PRE: CMGT106
<input type="checkbox"/>	CADM235	Revit Fundamentals	3		SP; BETH	PRE: CADM100 or ARCH101 or CMGT104
<input type="checkbox"/>	CMGT203	Construction Management Practicum*	3		SP; BETH	PRE or CO: CMGT201
<input type="checkbox"/>		SSHB General Education Elective	3	SSHB	FA, SP, SU; BETH, MROE, DIST	
	Total Semester Credits:		15			
	Total Degree Credits:		64			

**Notes:**

- \*Students are required to secure a workplace sponsor for the practicum. Assistance can be provided by the construction management staff to facilitate sponsorship.
- For the General Education Electives, students must take one course from Social Science: Societies and Institutions over Time (SIT) and Social Science: Scientific Study of Human Behavior (SSHB); one course should be designated as Diversity and Global Awareness (D).
- Completion of PHIL 202G satisfies the Writing Intensive (WI) requirement.
- Computer competencies are included in various course in this program. Thus, completing the program automatically satisfies the computing requirement for this program.

**Program Narrative:**

- Large-scale construction requires well-trained managers whose role it is to stay on top of every detail of the job. Construction managers must be familiar with all aspects of the building process, but they also need to be strong leaders. Because of this, our program not only covers essentials such as codes and blueprint reading, but also includes business law, ethics, planning and scheduling and other important management tools. This comprehensive approach results in graduates who are ready to be effective managers and administrators within the construction industry.
- Through our balanced mix of liberal arts, specialized courses and hands-on training, Northampton offers you tremendous opportunity for success and professional growth. Our required practicum provides essential real world experience. During the practicum you will have the opportunity to perform various construction management functions, gain insight into the challenges of managing a site, and enhance your critical thinking, problem solving and communication skills.
- This program can be completed in the day or evening, on a full-time or part-time basis. A few courses may not be offered in the evening every semester so students are advised to plan their schedule carefully to avoid any delay in graduation.
- *Core Progressive Threads of Construction Management*
  - Leadership and supervisory
  - Health and Safety
  - Legal and ethical
  - Effective Communication and Public Relations

**Program Learning Outcomes:** Graduates of NCC's A.A.S. degree in Construction Management will be able to:

- Understand the importance of management functions of planning, organizing, leading and controlling.
- Describe construction operations as they relate to production processes, logistics, specifications, and regulatory requirements.
- Integrate health and safety issues within the confines of regulatory compliance and current industry standards to the construction industry.
- Interpret building and zoning codes and other regulatory requirements.
- Interpret technical information in the form of architectural drawings, schematics, specifications, graphs and procedures.
- Utilize effective written and oral communication skills.
- Demonstrate the ability to work both independently and as part of a team.
- Apply legal and ethical principles related to the construction industry.
- Demonstrate a basic understanding of accounting/finance functions as it relates to the construction industry.

**Transfer Information:**

- The program is designed to meet the needs of local workforce in various aspects of the industry not needing a Bachelor's degree.
- The program is specifically intended for transfer to Pennsylvania College of Technology for those that desire a Bachelor's in Construction Management.
- The program is eligible for the Bloomsburg partnership for their - Bachelor of Applied Science in Technical Leadership, that guarantees 60 credits of transfer for successfully completed AAS degrees.

**Career Information:** Job titles related to Construction Management education:

- Construction
- Technicians and tradespersons
- Construction Managers
- Construction Administrators
- Construction and Building Inspectors
- See <https://northampton.emsicc.com/programs/construction-management-aas/214379>
- Construction Cost Estimators
- Superintendents
- Project Managers
- Construction Company Owners
- Construction Equipment Operators
- Code Enforcement Officer
- Construction Specifier

Arts & Humanities (AH) Electives	Arts & Humanities (AH) Electives (continued)	Scientific Study of Human Behavior (SSHB) Electives	Diversity (D) Electives (continued)
ARTA 100 Art and Visual Thinking	MUSC 101 Introduction to Music	ECON 201 Macroeconomics	ENGL 255 American Literature II
ARTA 101 Art History Survey	PHIL 111 On Death and Dying (G-WI)	GEOG 121 Environmental Sustainability (G-WI)	ENGL 256 Modern Poetry
CMTH 110 Introduction to the Theatre	PHIL 121 World Religions	ENGL 140 Investigating Climate Change	ENGL 257 20th Century Lit by Women
CMTH 111 Acting I	PHIL 201 Introduction to Philosophy	GEOG 271 Intro to Geographic Info Systems	ENGL 260 Contemporary Literature
CMTH 115 Technical Theatre	PHIL 202 Ethics and Moral Problems (G-WI)	HUMA 250 Research Methods in Social Sciences (G-WI)	ENGL 264 Irish Literature
CMTH 117 Stagecraft	PHIL 204 Asian Philosophies	INTS 250 Study Abroad	ENGL 265 African-American Literature
CMTH 126 The Communication Arts	PHIL 211 Ancient Philosophy	PSYC 103 Introduction to Psychology (G-WI)	ENGL 267 Poetry Writing
CMTH 189 Stage Voice and Movement	PHIL 215 Modern Philosophy	PSYC 230 Introduction to Health Psychology	GEOG 101 World Geography
CMTH 190 Stage Production	PHIL 225 What is Freedom?	PSYC 235 Dev Child Psychopathology	GEOG 121 Environmental Sustainability
CMTH 206 Directing		PSYC 245 Cognitive Psychology	GEOG 151 Geography of the U.S. and Canada
CMTH 211 Plays: Classical to Contemporary (G-WI)	<b>Societies &amp; Institutions over Time (SIT) Electives</b>	PSYC 255 Abnormal Psychology	GEOG 210 Weather and Climate
CMTH 212 Acting II	CMTH 221 History of Broadcasting	PSYC 258 Developmental Psychology (G-WI)	GLBL 130 Intro to Global Studies
CMTH 218 Theatre Portfolio	GEOG 101 World Geography	PSYC 265 Psychology of Sex and Gender	GLBL 160 Field Experience & Acad Research in GS
CMTH 220 Introduction to Film	GEOG 151 Geography of the U.S. and Canada (G-WI)	SOCA 103 Principles of Sociology (G-WI)	GLBL 230 Global Studies Capstone
DANC 101 Dance History	GLBL 130 Intro to Global Studies	SOCA 125 Sociology of Families (G-WI)	HIST 113 American History I
DANC 110 Ballet I	GLBL 160 Field Experience & Acad Research in GS	SOCA 210 Sociology of Gender	HIST 121 The Black Experience
DANC 120 Modern Dance I	GLBL 230 Global Studies Capstone		HIST 140 Modern Chinese History
DANC 130 Jazz I	HIST 103 Ancient and Medieval History		HIST 165 The American Experience of Warfare
DANC 210 Ballet II	HIST 113 American History I (G-WI)		HIST 166 Civil War & Reconstruction
DANC 220 Modern Dance II	HIST 121 The Black Experience (G-WI)		HIST 168 History of the Middle East
DANC 230 Jazz II	HIST 123 African Civilization		HIST 173 Mod Euro History: 1815-Present
ENGL 201 British Literature I (G-WI)	HIST 140 Modern Chinese History		HUMA 121 American Work Experience
ENGL 203 Shakespeare (G-WI)	HIST 153 Found of Mod Euro History, 1300-1815 (G-WI)		HUMA 140 Intro to Women and Gender Studies
ENGL 205 American Literature I (G-WI)	HIST 163 American History II		HUMA 150 Nature of the Environment
ENGL 211 Plays: Classical to Contemporary (G-WI)	HIST 165 The American Experience of Warfare		HUMA210 Creativity and The Origin of Ideas
ENGL 215 Multicultural Adolescent Literature (G-WI)	HIST 166 Civil War and Reconstruction (G-WI)		INTS 201 Implement Sustain Energy Sys in Dev Com
ENGL 250 Latin American Literature (G-WI)	HIST 168 History of the Middle East (G-WI)	<b>Diversity (D) Electives</b>	Modern Language - All MDLA Courses
ENGL 251 British Literature II (G-WI)	HIST 173 Mod European History, 1815 to Present (G-WI)	BIOS 126 Environmental Science	PHIL111 On Death and Dying
ENGL 253 Creative Writing	HIST 210 History of Mod Science, 1859 to Present	BIOS 210 Environmental Biology	PHIL 204 Asian Philosophies
ENGL 255 American Literature II (G-WI)	HIST 211 History of Pennsylvania	BUSA 115 Intro to International Business	POLS 101 Introduction to Political Science
ENGL 256 Modern Poetry (G-WI)	INTS 202 The Architecture of the City: Classic to Contemporary	CJST 250 Contemporary Issues in Criminal Justice	POLS 105G American Constitutional Law
ENGL 257 20th Century Lit by Women (G-WI)	POLS 101 Introduction to Political Science	CMTH 126 The Communication Arts	POLS 150 Peace Studies & Conflict Resolution (Study Abroad)
ENGL258 Fiction Writing	POLS 105 American Constitutional Law (G-WI)	CMTH 211 Plays: Classical to Contemporary	POLS 202 International Relations
ENGL 260 Contemporary Literature (G-WI)	POLS 110 American National Government (G-WI)	CMTH 215 Intercultural Communication	POLS205 Women & Politics
ENGL 264 Irish Literature (G-WI)	POLS 150 Peace Studies & Conflict Resolution (Study Abroad)	DANC 101 Dance History	POLS 251 State & Local Government
ENGL 265 African-American Literature (G-WI)	POLS 170 Politics of Modern Turkey (Study Abroad)	ENGL 151L English II (Literature)	PSYC 258 Developmental Psychology
ENGL 267 Poetry Writing	POLS 202 International Relations	ENGL 205 American Literature I	SOCA 102 Cultural Anthropology
HUMA 121 The American Work Experience (G-WI)	POLS 205 Women and Politics (G-WI)	ENGL 211 Plays: Classical to Contemporary	SOCA103 Principles of Sociology
HUMA 140 Intro to Women and Gender Studies (G-WI)	POLS 251 State and Local Government (G-WI)	ENGL 215 Multicultural Adolescent Literature	SOCA 105 American Ethnicity
HUMA210 Creativity and the Origin of Ideas	SOCA 102 Cultural Anthropology (G-WI)	ENGL 250 Latin American Literature	SOCA 150 Deviance
JOUR 101 Journalism and Society	SOCA 105 American Ethnicity	ENGL 251 British Literature II	SOCA160 Issues in Cont Genocide & Mass Violence
Modern Language - All MDLA Courses	SOCA 160 Issues in Contemporary Genocide & Mass Violence	ENGL 253 Creative Writing	SOCA204 Social Problems

## Appendix H: Co-curricular Map

### Construction Management

**PROGRAM NAME:**

**AY 21-22**

	0 - 15 credits	16 – 30 credits	31 – 45 credits	46+ credits
<b>Get the Courses You Need</b>	Take the following courses:	Take the following courses:	Take the following courses:	Take the following courses:
	COLS101 College Success (1) CISC101 Introduction to Information Technology (3) <b>CMGT101 Introduction to Construction Codes (3)</b> CMTH102 Introduction to Communication (3) ENGL101 English I (3) MATH120 Nature of Mathematics (3) OR MATH140 College Algebra (3) * Advised for Transfer  16 Credits	<b>CMGT102 Construction Methods &amp; Materials (3)</b> <b>CMGT103 Construction Safety &amp; Health (3)</b> PHIL202G Ethics & Moral Problems (3) ENGL151R English II (Report) (3) General Education Elective (SIT) (3)  15 Credits	ACCT101 Financial Accounting I (3) BUSA205 Management Fundamentals (3) <b>CMGT104 Construction Print Reading (3)</b> <b>CMGT105 Project Management &amp; Administration (3)</b> <b>CMGT106 Construction Planning &amp; Scheduling (3)</b> Elective (3)  18 Credits	BUSA152 Business Law I <b>CMGT201 Construction Estimating (3)</b> <b>CADM235 Revit Fundamentals (3)</b> General Education Elective (3) <b>CMGT203 Construction Management Practicum (3)</b>  15 Credits
	<i>For details on course requirements, see the Program Map.</i>	<i>For details on course requirements, see the Program Map.</i>	<i>For details on course requirements, see the Program Map.</i>	<i>For details on course requirements, see the Program Map.</i>
<b>Engage with the Spartan Experience</b>	<ul style="list-style-type: none"> <li>- Attend at least one campus recreation event</li> <li>- Attend Guest Speakers</li> <li>- Join student club(s)</li> <li>- Review academic plan</li> <li>- Seek out community service/ service learning opportunities</li> </ul>	<ul style="list-style-type: none"> <li>- Attend Guest Speakers</li> <li>- Discuss elective/gen ed options</li> <li>- Explore internships via Career Services</li> <li>- Seek out community service/ service learning opportunities</li> <li>- Tour Fowler/Fab Lab</li> </ul>	<ul style="list-style-type: none"> <li>- Attend Guest Speakers</li> <li>- Mentor new students</li> <li>- Research Center for Innovation &amp; Entrepreneurship</li> <li>- Seek out community service/ service learning opportunities</li> </ul>	<ul style="list-style-type: none"> <li>- Apply for student awards</li> <li>- Attend Guest Speakers</li> <li>- Mentor new students</li> <li>- Seek out community service/ service learning opportunities</li> </ul>



<p><b>Get Ready for Life after Completion – Career Readiness</b></p>	<ul style="list-style-type: none"> <li>- Attend Career Service Sessions</li> <li>- Attend on-campus Career Fairs – Fall &amp; Spring semesters at both Bethlehem &amp; Monroe campuses</li> <li>- Complete the career readiness GPS to help select a potential Business major</li> </ul>	<ul style="list-style-type: none"> <li>- Attend on-campus Career Fairs – Fall &amp; Spring semesters at both Bethlehem &amp; Monroe campuses</li> <li>- Attend sponsored company tours</li> <li>- Complete stackable credentials</li> </ul>	<ul style="list-style-type: none"> <li>- Arrange job shadowing experience</li> <li>- Attend on-campus Career Fairs – Fall &amp; Spring semesters at both Bethlehem &amp; Monroe campuses</li> <li>- Complete stackable credentials</li> <li>- Explore Internships, externships – list potential experiences</li> <li>- Explore job shadowing experience – list potential employers</li> <li>- Research practicum sponsors (list potential employers)</li> <li>- Resume Development</li> <li>- Social media creation or update</li> </ul>	<ul style="list-style-type: none"> <li>- Apply for FT jobs</li> <li>- Apply for graduation</li> <li>- Attend on-campus Career Fairs – Fall &amp; Spring semesters at both Bethlehem &amp; Monroe campuses</li> <li>- Complete practicum</li> <li>- Complete stackable credentials</li> <li>- Review and take certification testing</li> </ul>
<p><b>Get Ready for Life after Completion – Transfer Readiness</b></p>	<ul style="list-style-type: none"> <li>- Identify transfer colleges/universities – list transfer articulation agreements or other transfer opportunities</li> </ul>	<ul style="list-style-type: none"> <li>- Contact Transfer Advisor to gain knowledge of application process - Create list of potential transfer schools</li> </ul>	<ul style="list-style-type: none"> <li>- Attend college fairs/visits- View list of articulation agreements- Choose your transfer institution and gather application materials - Ask a professor(s) for an "excellent" reference</li> </ul>	<ul style="list-style-type: none"> <li>- Apply for graduation- Apply for transfer to a college or university at the beginning of the semester.</li> </ul>

## Appendix I: Assessment Plan

	Program Learning Outcomes (PLOs)
AY 2020-2021	3 & 4 CMGT101, 103 Codes and Safety
AY 2021-2022	5 & 7 CMGT104, 105, 106 Prints, Project Management and Project Planning
AY 2022-2023	1 & 2 CMGT 105, 106 Project Management and Project Planning
AY 2023- 2024	6 CMGT203 Capstone Reports
AY 2024-2025	8 CMGT203 Capstone Reports
AY 2025-2026	9 CMGT201, 203 Estimating/Reports

	MSCHE Visit									
	Fall 2020	Spring 2021	Fall 2021	Spring 2022	Fall 2022	Spring 2023	Fall 2023	Spring 2024	Fall 2024	Spring 2025
<b>Step five:</b>	Evaluate & Plan	Assess	Analyze	Evaluate & Plan	Assess	Analyze	Evaluate & Plan	Assess	Analyze	Evaluate & Plan
review		Evaluate & Plan	Assess	Analyze	Evaluate & Plan	Assess	Analyze	Evaluate & Plan	Assess	Analyze
Program			Evaluate & Plan	Assess	Analyze	Evaluate & Plan	Assess	Analyze	Evaluate & Plan	Assess
				Evaluate & Plan	Assess	Analyze	Evaluate & Plan	Assess	Analyze	Evaluate & Plan
					Evaluate & Plan	Assess	Analyze	Evaluate & Plan	Assess	Analyze

As you your Learning

Outcomes (PLOs) and assessment plans, review your programs for DEI work. Do your PLOs include language that demonstrates a commitment to diversity, equity, and inclusion? Please see the DEI rubric for more information (and complete if you haven't done so already). The Program Level DEI Rubric can be located on the CTLT webpage: <https://ctl62.wixsite.com/ctl/deirubrics>

## Appendix J: Teaching Faculty Credentials

Daniel Philipps, Program manager, CM/RSES, EPA 608 Cert, OSHA10, OSHA 29 CFR 1910/1926-602 Trainer, General Studies AA – NCC

- Training for OSHA compliance in general industry and construction, hospital HVAC/R systems, supermarket refrigeration, industrial and plastics process chilled water systems, hazardous ground water containment systems, and commercial HVAC/R systems in restaurant/convenience store chains.

Jeffrey Hutwelker, Adjunct Instructor, BS in Civil Engineering, MBA in Business Administration/Management

- Project Executive/Project Manager: LF Driscoll Co., LLC; RM Shoemaker Co.; Bechtel Power Corp
  - Projects: Villanova University, Philadelphia Museum of Art (various projects), Tower Heath Healthplex, Princeton University, Free Library of Philadelphia, Double Tree Hotel, The Barnes Foundation, UPenn Health Center, Lancaster General Hospital, Children’s Hospital of Philadelphia, Thomas Jefferson University, Limerick Generating Station

Phil Pederson, MS in Health and Safety, BS in Biology

- Manager Construction Safety, Construction Safety Officer, Senior Project Manager, Industrial Safety: Motor Transit Authority NY, Consolidated Edison, BEM Systems
  - NY Bridge and Tunnel Projects 2002-2014; Con-Ed – Corporate Safety and Training; BEM – Federal and State Environmental Remediation Projects

Barry Cohen, MS in Architectural Engineering, BS in Engineering

- Consultant, Materials Expert (construction), independent testing

Ricaurte Reid, BS in Architecture

- Builder/Architect, Project Manager, Consultant: All Borough Expediting, Port Authority NY/NJ, Litton Industry, Ben Thompson & Associates
  - Environmental control, inspections, renovations, mixed use, house lifting, project liaison to outside vendors, etc.

James G. Hanna, BS in Architecture

- Senior Project Manager, D’Huy Engineering, Inc.
  - Projects: Projects | D’Huy Engineering (dhuy.com)

## Appendix K: External Review Report



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### External Audit – Construction Management AAS

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NCC External Audit March 13, 2023

## External Evaluation of the Construction Management, AAS Degree Program

This external evaluation is based on review of program materials, syllabi, course content and materials used, online data, and interviews with Mr. Daniel Philipps, Program Manager, Mr. Jeffrey Hutwelker, Adjunct Professor and current students Dyleen Acosta and Ryan Madden.

### Evaluation Findings

Being a past instructor in the NCC program for the course, CMGT101 Introduction to Construction Codes, and a member of the programs Advisory Committee, I am aware of the parameters of the various courses and the overarching performance of the program.

To gain more detailed information I met with:

- Daniel Philipps, NCC – CMGT Program Manager and Instructor (CMGT103 Construction Safety and Health). We went over the program, and I reviewed the working audit documentation. Dan gave me a virtual tour of one of the courses, program catalog, course information, the syllabi for all the courses, and other student/program data as available at that time. We also discussed future planning for program improvement.
- Jeffrey Hutwelker, NCC – CMGT Instructor (Fall: CMGT101 Introduction to Construction Codes, CMGT106 Construction Planning and Scheduling and Spring: CMGT201 Construction Estimating, CMGT203 Construction Management Practicum/Capstone Course). We reviewed his experience with the courses he instructs, transfer and job opportunities for the students, and thoughts about programmatic goals for improvement.
- From these meetings, it is evident the post-pandemic Construction Management program has evolved into a highly functioning virtual experience that is meeting the needs of the students, faculty, and industry. There are challenges encountered for both the students and faculty when instruction is not performed in-person, in a classroom setting; however, it is apparent that NCC has taken many steps to ensure students are active participants in the coursework and are engaged with the faculty. Course work is being kept current and includes industry professionals discussing relevant matters, such as supply chain issues and material price escalation, and how these matters are dealt with in the current construction industry. NCC's articulations with Penn College of Technology, Bloomsburg University, and the course equivalency guideline with Thomas Jefferson University is an added benefit to those students continuing on their quest to obtain a Bachelor's degree in the field.

To gain background on the student experience in the program I interviewed:

- Dyleen Acosta, Plant Manager at JDM Materials Company, and an ongoing student who has completed all the CMGT courses. Dyleen is finishing the remaining requirements for the program in the current and coming semesters.
- From the interview I learned that some students would enjoy an in-person experience so that they can network and make connections with fellow students and professionals in their proposed career

field. Dyleen was extremely enthusiastic regarding the quality of the education she received and the professionalism and knowledge of the instructors. Dyleen feels prepared to enter the workforce and be an asset and contributor to her future employer immediately. Dyleen was working full-time during her education, which she feels helped her with her time management skills. She felt the course work was demanding, but not over-burdening.

- Ryan Madden, Operations Manager at Athena Contracting, and an ongoing student who is in the process of completing the last CMGT courses this semester and will continue forward completing the remaining requirements for the program in the coming semesters.
- From the interview I learned that Ryan specifically chose NCC for his education due to the asynchronous and merged class structures. Ryan does not live in Northampton County and works full-time predominantly in the City of Philadelphia. Due to these circumstances, Ryan would not have been able to attend in-person classes to meet his degree goals. Ryan has been working in the construction industry for 15 years and he feels the NCC program is extremely relevant and is providing him skills that he is able to employ in his career immediately and making him a much better project manager. Ryan would enthusiastically recommend this program to any potential Construction Management student. He feels the courses and instructors at NCC are first class. The course work for Ryan was manageable, but he structured a specific study regimen and stuck to it to stay on track.

## Recommendations

1. Coursework should include software that is currently predominate in the Construction Management field, such as BlueBeam Revu and Excel.
2. Include industry experts in each class to reinforce the topics of instruction.
3. Connect students with local industry leaders to inform them of all possible career opportunities with their specific degree.
4. Create a strong intern/job placement program with local industry.
5. Health and safety are an increasingly important topic in the construction industry. Could there be an opportunity for a degree path for Construction Safety and Health degree, or a merged degree path for Construction Management and Safety. The program should include obtaining OSHA certification.
6. Create a means for students and faculty to meet and network in-person at least twice a semester.
7. Course work should constantly reinforce proper written communication skills and basic construction math skills.
8. Career Fairs – explore providing a virtual option for those working full-time and unable to attend.



Matthew C. Walter, MCP, CFM  
Barry Isett & Associates, Inc.