

Articulation Coordinating Committee

Oversight Subcommittee Meeting
November 10, 2020 9:00am

Common Prerequisites for Approval

CIP	Title	Institution	Change
11.0103 T.2	Bachelor of Science Information Technology	UWF	Specified math requirement for UWF among alternatives.
11.0701	Bachelor of Science Computer Science	Poly	CIP change for Poly. Added footnotes and alternatives.
11.1003 T.1	Bachelor of Science Cybersecurity	MDC	Added alternatives.
11.1003 T.3	Bachelor of Science Cybersecurity	FAMU	Added alternative courses for FAMU students.
14.0901	Bachelor of Science Computer Engineering	FIU	Science alternatives added for FIU only.
14.1001	Bachelor in Science Electrical Engineering	FIU	Science alternatives added for FIU student only.
14.3601	Bachelor of Science Advanced Manufacturing	UNF	Change in CIP to New CIP for Manual.
26.0908	Bachelor of Science Applied Physiology & Kinesiology	UF	Footnote Clarification.
29.0207	Bachelor of Science Cybersecurity Engineering	Poly	New degree program in new CIP for manual.
30.0601	Bachelor of Science Data Science & Analytics	FAU	New degree program in new CIP for manual.
30.7001	Bachelor of Science Data Science	Poly	Change of CIP code for Poly. Added alternatives.

30.7102	Bachelor of Science Business Analytics	Poly	Change in CIP code.
43.0116	Bachelor of Science Cyber Criminology	FSU	Change in name and course requirement.
51.2309	Bachelor of Science Rehabilitation and Rec Therapy	FIU	New degree program in new CIP for manual.
52.0701	Bachelor of Science Entrepreneurship	FGCU	

Technical Changes

CIP	Title	Institution	Change
1.1001	Bachelor of Science Food Science	FAMU	Added to CIP
11.1003	Bachelor of Science Cybersecurity	MDC	Added to CIP
13.1001	Bachelor of Science Exceptional Student Education	IRSC	CPM program length to 121 hours (currently listed as 125 hours)
13.1001	Bachelor of Science Exceptional Student Education	MDC	CPM program length to 120 hours (currently listed as 125 hours)
13.1210	Bachelor of Science Early Childhood Education	CCF	CPM program length to 123 hours (currently listed as 120 hours)
13.1202	Bachelor of Science Elementary Education	FGC	Added to CIP
13.1210	Bachelor of Science Early Childhood Education; non- certification	FGC	CPM program length to 120 hours (currently listed as 123 hours)

13.1316	Bachelor of Science Secondary Science Education	EFSC	Added to CIP
13.1316	Bachelor of Science Secondary Earth Science Education	MDC	CPM program length to 120 hours (currently listed as 126 hours)
13.1322	Bachelor of Science Secondary Biology Education	MDC	CPM program length to 120 hours (currently listed as 129 hours)
13.1323	Bachelor of Science Secondary Chemistry Education	MDC	CPM program length to 120 hours (currently listed as 127 hours)
13.1329	Bachelor of Science Secondary Physics Education	MDC	CPM program length to 120 hours (currently listed as 126 hours)
26.0102 T.1	Bachelor of Science in Biomedical Sciences	UNF	Added to CIP
44.0000	Bachelor of Science Human Services	PBSC	Added to CIP
51.3801	Bachelor of Science Nursing	BC	CPM program length to 123 hours (currently listed as 120 hours)
51.3801	Bachelor of Science Nursing	PBSC	CPM program length to 120 hours (currently listed as 121 hours)
51.3801	Bachelor of Science Nursing	SJRSC	CPM program length to 120 hours (currently listed as 123 hours)
52.0299	Bachelor of Science Supervision and Management	CFK	Added to CIP
52.0301	Bachelor of Science Accounting	DSC	Added to CIP

52.0803	Bachelor of Science Financial Services	FSCJ	CPM program length to 120 hours (currently listed as 121 hours)
52.1201	Bachelor of Science in Business Intelligence	UNF	Added to CIP

CIP	Title	Institution	Change
11.0103 T.2	Bachelor of Science Information Technology	UWF	Specified math requirement for UWF among alternatives.

Common Prerequisite Request

Submission Directory Information

Name of Institution:	University of West Florida
Name of Person Making the Initial Request:	Dallas H. Snider, Ph.D.
Title for the Person Listed Above:	Associate Professor and Department Chair
Signature of Institution Common Prerequisite Liaison:	Emily Teets
Date of Submission:	10/12/2020

Academic Program Information:

1. Name of Academic Degree Program: [Information Technology](#)
2. Six Digit CIP Code: [11.0103](#)
3. Type of Baccalaureate Degree (Bachelor of Science, Bachelor of Arts, etc.):
[Bachelor of Science](#)
4. Credit Hours to Degree for the program: [120](#)
5. Is this program currently officially designated limited access? [No](#)
6. Is there currently a baccalaureate degree in the CIP listed above in the Common Prerequisite Manual? [Yes](#)
7. If this request is one for a new degree program at your institution, please specify your anticipated implementation date for the program: [N/A](#)
8. Do the anticipated common prerequisites for the program match those already listed in the Common Prerequisite Manual? [No](#) If so, please indicate where the common prerequisites are currently found: CIP: Track:
If the answer is yes to this question, you do not have to go any further in this document. You can stop at this point and submit the form.
9. Is this a new degree program for a CIP code not currently already found in the Common Prerequisite Manual? [No](#)
10. If this request is for a program already listed in the Common Prerequisite Manual, is the request due to an official CIP change for the program? [No](#) If so, what CIP is the program currently found in the manual: CIP: Track:
What CIP is the programming moving to: CIP:
11. Is the request is to modify currently approved common prerequisites? [Yes](#)

Changes to Currently Approved Common Prerequisites

If this is a request to modify currently approved common prerequisites, provide the following information. Please add additional rows if needed.

List Currently Required Coursework. Be sure to list any course requested to be deleted, including those listed as options to other courses. For example, if PHYX053C is listed as an option instead of taking PHYX048C and an institution believes only that PHYX048C can prepare a student for the degree program, then the deletion of PHYX053C will need to be explained.

Course Prefix and Number	# Credit Hours	Keep?	Delete?	If the course is requested to be deleted, please explain why it is necessary to delete the course?
PSYXXXX	3	☒ Yes ☐ No	☐ Yes ☒ No	
STAX023 OR STAX112	3	☒ Yes ☐ No	☐ Yes ☒ No	
ECOX013	3	☒ Yes ☐ No	☐ Yes ☒ No	
CGSXXX X	3	☒ Yes ☐ No	☐ Yes ☐ No	
COPXXX X	3	☒ Yes ☐ No	☐ Yes ☒ No	
COPXXX X	3	☒ Yes ☐ No	☐ Yes ☒ No	
MACXXX X	3-4	☒ Yes ☐ No	☐ Yes ☒ No	
PHIXXXX	3	☒ Yes ☐ No	☐ Yes ☒ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	

We are requesting to make the following changes to the footnotes:

Footnote 5: Please add MAC 2233: Calculus with Business Applications.

Footnote 6: Note #1 needs to be deleted. The UWF B.S. in Information Technology does not have institution tracks for Computer Technology, e-Learning Support Systems, and Web-Development Technologies.

List any additional coursework is being requested. Please check to see if the course is taught by at least three Florida College System (FCS) institutions (scns.fldoe.org).

Course Prefix and Number	# Credit Hours	If this course is to serve as an alternate to another currently approved course, please list the currently approved course	Taught at three FCS institutions ?	Please explain why it is necessary to add this course as a common prerequisite
MAC 2233	3	MAC XXXX footnoted as Pre-Calculus or Discrete math	☒ Yes ☐ No	MAC 2233: Calculus with Business Applications needs to serve as an alternate to the currently approved list of MAC courses. The student learning outcomes regarding limits, differentiation and integration in this course are more applicable to Information Technology than the Precalculus with Trig course that we currently offer. Adding MAC2233 will also make our curriculum more rigorous. Furthermore, UWF does not offer a Discrete Math course at the undergraduate level.
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	

Access

Number of Credit Hours for AA	60
Subtract Number of Credit Hours Required for Common Prerequisites	-24
Add the Number of Credit Hours for Common Prerequisites that are also general education core requirements	+12 to 13
Total number of semester hours left to complete the rest of the student's general education requirements	= 48 to 49

If a student does not have enough room in the “total” above to complete the rest of general education requirements, please provide a justification for requiring more common prerequisite course credit hours than can be accommodated by the student in 60 semester hours:

The requested change will eliminate our requirements for a 4 credit hour course (MAC 1147) and replace it with a 3 credit hour course (MAC 2233) which is easier for students and advisers to manage to avoid excess hours and eliminates the need for students to find and take a 2 credit hour course to stay at 120 credit hours for degree completion. The total number of credit hours in our Common Prerequisite block will be reduced from 25 to 24.

With these recommendations, how does your institution propose to assist transfer students in avoiding time to degree?

We will advise the transfer students to take MAC 2233 Business Calculus at their current institution or take the course upon arrival at UWF. We will also accept MAC 2311: Analytic Geometry and Calculus I as a substitute for MAC 2233.

Program:	<u>B.S. in Information Technology</u>	CIP:	<u>11.0103</u>
		Track:	<u>2</u>
Offered At:	<u>UWF, BC, FAMU, FIU, FSU, USF</u>	Program Length:	<u>120 Credit hours.</u>

LOWER LEVEL COURSES

MACX000-X999 or MADX000-X999

MACX233 (1)

3

Calculus with Business Applications

& STAX023 or STAX112

3

Statistics

& PSYX000-PSYX999

3

Any Psychology

& ECOX013

3

Macroeconomics

& COPX000-X999

3

Computer Programming –

& Or COPX000-X999
P

3

Computer Programming – Any Object-Oriented
Programming Course

& CGSX000-X999

3

Any Database Course

& PHIX000-X999

3

Philosophy

(1) Students interested in the UWF program must take MACX233.

60

Number of hours to complete the AA

-27

Number of Common Prerequisite Hours

+ 6

Minimum number of hours applicable to general education core

39

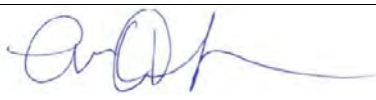
Number of hours available for the student to complete the rest of general ed (30 hours)

Note that there are additional math coursework that may be applicable within the institution's
general education hours.

CIP	Title	Institution	Change
11.0701	Bachelor of Science Computer Science	Poly	CIP change for Poly. Added footnotes and alternatives.

Common Prerequisite Request

Submission Directory Information

Name of Institution:	Florida Polytechnic University
Name of Person Making the Initial Request:	Tom Dvorske
Title for the Person Listed Above:	Vice Provost of Academic Affairs
Signature of Institution Common Prerequisite Liaison:	
Date of Submission:	October 2, 2020

Academic Program Information:

1. Name of Academic Degree Program: Computer Science
2. Six Digit CIP Code: 11.0899
3. Type of Baccalaureate Degree (Bachelor of Science, Bachelor of Arts, etc.):
Bachelor of Science
4. Credit Hours to Degree for the program: 120
5. Is this program currently officially designated limited access? No
6. Is there currently a baccalaureate degree in the CIP listed above in the Common Prerequisite Manual? Yes
7. If this request is one for a new degree program at your institution, please specify your anticipated implementation date for the program: No, existing program.
8. Do the anticipated common prerequisites for the program match those already listed in the Common Prerequisite Manual? If so, please indicate where the common prerequisites are currently found: CIP: **11.0899** Track: NA

If the answer is yes to this question, you do not have to go any further in this document. You can stop at this point and submit the form.

9. Is this a new degree program for a CIP code not currently already found in the Common Prerequisite Manual? **No**
10. If this request is for a program already listed in the Common Prerequisite Manual, is the request due to an official CIP change for the program? **Yes** If so, what CIP is the program currently found in the manual: CIP: **11.0899** Track: N/A

What CIP is the programming moving to: CIP: **11.0701**
11. Is the request to modify currently approved common prerequisites? **No**. If so, please indicate where the common prerequisites are currently found: CIP: **11.0701** Track: **Same as for UNF and UWF**

Attach information about the curriculum.

Changes to Currently Approved Common Prerequisites

If this is a request to modify currently approved common prerequisites, provide the following information. Please add additional rows if needed.

List Currently Required Coursework. Be sure to list any course requested to be deleted, including those listed as options to other courses. For example, if PHYX053C is listed as an option instead of taking PHYX048C and an institution believes only that PHYX048C can prepare a student for the degree program, then the deletion of PHYX053C will need to be explained.

Course Prefix and Number	# Credit Hours	Keep?	Delete?	If the course is requested to be deleted, please explain why it is necessary to delete the course?
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	

List any additional coursework is being requested. Please check to see if the course is taught by at least three Florida College System (FCS) institutions (scns.fldoe.org).

Course Prefix and Number	# Credit Hours	If this course is to serve as an alternate to another currently approved course, please list the currently approved course	Taught at three FCS institutions ?	Please explain why it is necessary to add this course as a common prerequisite
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	

Access

Number of Credit Hours for AA	60
Subtract Number of Credit Hours Required for Common Prerequisites	-25
Add the Number of Credit Hours for Common Prerequisites that are also general education core requirements	+13
Total number of semester hours left to complete the rest of the student's general education requirements	=48

If a student does not have enough room in the "total" above to complete the rest of general education requirements, please provide a justification for requiring more common prerequisite course credit hours than can be accommodated by the student in 60 semester hours:

With these recommendations, how does your institution propose to assist transfer students in avoiding time to degree?

Florida Poly actively works with all students, including transfers students, to create summer pathways that facilitate reduced time-to-degree as well as careful course

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sequencing to ensure that courses are offered in appropriate sequences so students can get the courses they need in the semesters they need them.

See attached pdf of Program Description, or visit:

Program:	<u>B.S. in Computer Science</u>	CIP:	<u>11.0701</u>
Offered At:	<u>POLY, UNF, UWF,</u>	Track:	
		Program Length:	<u>120 Credit hours.</u>

This is a CIP code change for Florida Polytechnic. Courses added were approved under the 11.0899 CIP code.

LOWER LEVEL COURSES

<u>STAX023</u> or <u>STAX122</u> or <u>STAX037</u> Or <u>STAX024</u> or <u>STAX100</u> Or <u>QMBX100</u> ⁽¹⁾	3	Introductory Statistic
& PHYX048C or PHYX048/X048L Or <u>PHYX053C</u> or <u>PHYX053/X053L</u> ⁽²⁾	4	Physics I and Lab
& PHYX049C or PHYX049/X049L Or <u>PHYX054C</u> or <u>PHYX054/X054L</u> Or <u>PHYX044C</u> ⁽²⁾	4	Physics II and Lab
& <u>CDAX018</u> or <u>CDAX105</u> or <u>CDAX201</u> ⁽¹⁾	3	
& COPX001 or COPX272C Or COPX270 or COPX334 Or COPX25X or COPX201 Or <u>COPX251</u> or <u>COPX330</u> Or <u>COPX552</u> or <u>COPX258</u> ⁽³⁾	3	
& <u>COPX000-X999</u> or <u>COPX271C</u> ⁽¹⁾	3	
& <u>CGSX542</u> or <u>CGSX540</u> or <u>COPX710</u> ⁽¹⁾	3	
& MACX311 or <u>MACX281</u> ⁽⁴⁾	4	Calculus I
& MACX312 or <u>MACX282</u> ⁽⁴⁾	4	Calculus II
& <u>MADX104</u> ⁽¹⁾	3	
& BSCX010C (or any science/lab for Science majors) ⁽⁵⁾	4	

(1) Only required for the Florida Polytechnic University degree.

(2) PHYX053 with lab and PHYX054 with lab or PHYX044C are only accepted alternatives by Florida Polytechnic University

(3) Florida Polytechnic University only accepts COPX251 or COPX330 or COPX552 or COPX258. No other university will accept those courses as meeting this common prerequisite requirement.

(4) Only Florida Polytechnic University will accept the MACX281 and MACX282 alternatives.

(5) Not required for the Florida Polytechnic University degree.

60	Number of hours to complete the AA
-34	Number of Common Prerequisite Hours
+ 6	Minimum number of hours applicable to general education core
32	Number of hours available for the student to complete the rest of general ed (30 hours)
	Note that there are additional math and science coursework that may be applicable within the institution's general education hours.

Florida Polytechnic University

2020-21 Academic Catalog

Bachelor of Science, Computer Science (Program Description)

 [Print this Page](#)

Total Degree Credits: 120

- See the [Bachelor of Science, Computer Science \(Plan of Study\)](#).

The Computer Science program is a high-quality program focused on education and research. The program is a STEM education based program that yields highly skilled graduates who have strong knowledge in the fundamentals of Computer Science and who are able to apply that knowledge to design and implement solutions for arising problems. The program prepares students for clear and concise communication when working in a team environment and for careers in industry, government, and academia.

Accreditation

The Bachelor of Science in Computer Science is accredited by the Computing Accreditation Commission of ABET, www.abet.org.

Program Educational Objectives

Updated, March 2019

1. Graduates demonstrate growth in professional development through graduate study or professional training.
2. Graduates demonstrate effective team work as members and leaders in professional environments.
3. Graduates demonstrate employability in industry, government, and entrepreneurial endeavors.

Student Outcomes

1. Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
3. Communicate effectively in a variety of professional contexts.
4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
5. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
6. Apply computer science theory and software development fundamentals to produce computing-based solutions.

****Course offering frequency subject to change****

College Skills (1) & Co-Curricular

All majors are required to complete an approved internship/professional experience prior to graduation.

- [SLS 1106 - Academic & Professional Skills](#) Credits: 1

- [IDS 4941 - Professional Experience Internship](#) **Credits: 0**

General Education (37)

Click here to view the complete list of [General Education](#) offerings. The State of Florida requires a minimum of 36 credit hours of general education for the baccalaureate degree. The following are required for the B.S. in Computer Science.

Communication (6)

- [ENC 1101 - English Composition 1: Expository and Argumentative Writing](#) **Credits: 3**
- [ENC 2210 - Technical Writing](#) **Credits: 3**

Arts and Humanities (6)

Required for CS majors:

- [IDS 2144 - Legal, Ethical, and Management Issues in Technology](#) **Credits: 3**

Required, Choose one:

- [ARH 2000 - Art Appreciation](#) **Credits: 3**
- [HUM 2020 - Introduction to the Humanities](#) **Credits: 3**
- [LIT 2000 - Introduction to Literature](#) **Credits: 3**
- [PHI 2010 - Introduction to Philosophy](#) **Credits: 3**

Social Sciences (6)

Required, one from the following:

- [AMH 2020 - American History Since 1877](#) **Credits: 3**
- [ECO 2013 - Principles of Macroeconomics](#) **Credits: 3**
- [PSY 2012 - General Psychology](#) **Credits: 3**

Optional, one from the following:

- [AMH 2010 - American History to 1877](#) **Credits: 3**
- [ECO 2023 - Principles of Microeconomics](#) **Credits: 3**
- [AMH 2930 - Special Topics](#) **Credits: 1-3**

Mathematics (11)

- [MAC 2311 - Analytic Geometry and Calculus 1](#) **Credits: 4**
- [MAC 2312 - Analytic Geometry and Calculus 2](#) **Credits: 4**
- [MAD 2104 - Discrete Mathematics](#) **Credits: 3**

Natural Sciences (8)

- [BSC 1010 - Biology 1](#) **Credits: 3**
- [BSC 1010L - Biology 1 Laboratory](#) **Credits: 1**

OR

- [CHM 2045 - Chemistry 1](#) **Credits: 3**
- [CHM 2045L - Chemistry 1 Laboratory](#) **Credits: 1**

And

- [PHY 2048 - Physics 1](#) **Credits: 3**

- [PHY 2048L - Physics 1 Laboratory](#) **Credits: 1**

Advanced Math and Science (13)

- [PHY 2049 - Physics 2](#) **Credits: 3**
- [PHY 2049L - Physics 2 Laboratory](#) **Credits: 1**
- [STA 2023 - Statistics 1](#) **Credits: 3**
- [MAS 3114 - Computational Linear Algebra](#) **Credits: 3**
- [MAP 2302 - Differential Equations](#) **Credits: 3**

OR

- [MAD 3401 - Numerical Analysis](#) **Credits: 3**

Computer Science Core (48)

- [IDS 1380 - Introduction to STEM](#) **Credits: 3**
- [EGN 1007C - Concepts and Methods for Engineering and Computer Science](#) **Credits: 1**
- [COP 2271C - Introduction to Computation and Programming](#) **Credits: 3**
- [COP 3337C - Object Oriented Programming](#) **Credits: 3**
- [COP 3353C - Introduction to Unix](#) **Credits: 2**
- [COP 3809C - Advanced Topics in Programming](#) **Credits: 3**
- [COP 3710 - Database 1](#) **Credits: 3**
- [DIG 2520C - Digital Media Production](#) **Credits: 3**
- [CDA 2108 - Introduction to Computer Systems](#) **Credits: 3**

OR

- [EEL 3702C - Digital Logic Design](#) **Credits: 3**
- [CNT 3004C - Introduction to Computer Networks](#) **Credits: 3**
- [COP 4415 - Data Structures](#) **Credits: 3**
- [COP 4531 - Algorithm Design & Analysis](#) **Credits: 3**
- [CAP 4630 - Artificial Intelligence](#) **Credits: 3**
- [CEN 4010 - Software Engineering](#) **Credits: 3**
- [EEL 4768C - Computer Architecture and Organization](#) **Credits: 3**
- [COP 4610 - Operating Systems Concepts](#) **Credits: 3**
- [COP 4020 - Programming Languages](#) **Credits: 3**

Capstone Design Sequence (6)

- [COP 4934C - Senior Design 1](#) **Credits: 3**
- [COP 4935C - Senior Design 2](#) **Credits: 3**

Concentrations (12)

Students choose 12 credits from one concentration area.

Advanced Topics

Select 12 credits from Big Data Analytics, Game Development & Simulation, Information Assurance & Cyber-Security, Software Engineering, Autonomous Systems, or Computer Science Electives courses.

Game Development & Simulation

All Game Development and Simulation students take these courses.

- [CAP 4730 - Computer Graphics](#) **Credits: 3**
- [CAP 4034 - Computer Animation](#) **Credits: 3**
- [CAP 4052 - Game Design and Development 1](#) **Credits: 3**
- [CAP 4056 - Game Design and Development 2](#) **Credits: 3**

Information Assurance and Cyber Security

All Information Assurance and Cyber Security students take these courses.

- [CIS 4362 - Applied Cryptography](#) **Credits: 3**
- [CIS 4367 - Computer Security](#) **Credits: 3**
- [CIS 4204 - Ethical Hacking](#) **Credits: 3**
- [CIS 4203 - Digital Forensics](#) **Credits: 3**

Software Engineering

- [CEN 4073 - Software Requirements Engineering](#) **Credits: 3**
- [CEN 4065 - Software Design and Architecture](#) **Credits: 3**
- [CEN 4072 - Software Verification and Quality Assurance](#) **Credits: 3**
- [CEN 4722 - User Interface and User Experience](#) **Credits: 3**

Big Data Analytics

- [CAP 4786 - Topics in Big Data Analytics](#) **Credits: 3**
- [COP 3729C - Database 2](#) **Credits: 3**
- [CAP 3774 - Data Warehousing](#) **Credits: 3**
- [CAP 4770 - Data Mining & Text Mining](#) **Credits: 3**

Autonomous Systems

- [COP 4421C - Autonomous Systems Programming](#) **Credits: 3**
- [CAP 4613 - Applied Deep Learning](#) **Credits: 3**
- [CEN 4721 - Human Computer Interaction](#) **Credits: 3**

Computer Science Electives (3)

- [COP 2034 - Introduction to Programming Using Python](#) **Credits: 3**
- [COP 3834C - Web Application Development](#) **Credits: 3**
- [CEN 4088 - Software Security Testing](#) **Credits: 3**
- [CAP 4122 - Virtual Reality](#) **Credits: 3**
- [CEN 4213 - Embedded Systems Programming](#) **Credits: 3**
- [CIS 4369 - Web Application Security](#) **Credits: 3**
- [CNT 4409 - Network Security](#) **Credits: 3**
- [CAP 4410 - Computer Vision](#) **Credits: 3**
- [COP 4520 - Introduction to Parallel and Distributed Computing](#) **Credits: 3**

- [CNT 4526 - Wireless and Mobile Networking](#) **Credits:** 3
- [COP 4620 - Compilers and Interpreters](#) **Credits:** 3
- [COP 4656 - Mobile Device Applications](#) **Credits:** 3
- [EEL 4660C - Autonomous Robotic Systems](#) **Credits:** 3
- [CEN 4721 - Human Computer Interaction](#) **Credits:** 3
- [CAP 4830 - Modeling and Simulation](#) **Credits:** 3
- [COP 4930 - Special Topics](#) **Credits:** 1-3

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CIP	Title	Institution	Change
11.1003 T.1	Bachelor of Science Cybersecurity	MDC	Added alternatives.



Common Prerequisite Proposal

I. Contact Information

Requesting Chief Program Chair: Antonio Delgado, Dean, School of Engineering, Technology, and Design	Email: adelgad9@mdc.edu Phone: (305)237-7006
Requesting Chief Academic Officer or University Common Prerequisite Liaison (person submitting this proposal to the Board of Governors or Division of Florida Colleges:	 First Name, Last Name Title: Email: jalexa1@mdc.edu Phone: (305)237-7061
Requesting institution: Miami Dade College	

II. Program Information

Title of Degree Program: Bachelor of Science in Cybersecurity	CIP Code: 11.1003	Track (if appropriate): 1
Does this proposal align with a current track?	Yes: X	No:
Is this program approved for limited access?	No	
Approved total program hours to the baccalaureate degree: 120		
Other Institutions offering the same program (CIP and Tracks or different CIP/Track if the same major): CIP# 11.1003: Track 1: PESC, Track 2: UWF, Track 3: USF, Track 4: SPC		

III. Proposed Changes – Add rows as necessary

A. All Current Approved Common Prerequisites (add rows if necessary).

Current Approved Common Prerequisites		
Course Prefix	Course Name	Cr. Hrs.
CTSX650	Networking Essentials	3
CTSX651 - or	Cisco Router Technology	3
CETX610 - or	Routers (L)	3
CETX614C - or	Cisco CCNA Security	3
CTSX314 - &	Network Defense & Countermeasures	3
CTSX317 - or	Advanced Security	3
CTSX318 - or	Information Security Management	3
CETX691 - or	Laws and Legal Aspects of Information Technology Security (L)	3
CETX830C - or	Information Assurance (L)	3
COPX510 - &	Programming Concepts	3
COPX224 - or	Programming in C++	3
COPX332 - or	Introduction to Windows Programming Using Visual Basic	3
COPX800 - or	Java Programming	3
CTSX149 - &	Fundamentals of Project Management – PMI Cert.	3
CGSX103 - or	Business Computer Management Application	3
CTSX142 - or	Project+	3
CTSX120	Security+	3
CTSX390	Install and Configure Windows Server 2012	3

Common Prerequisite Proposal



CTSX300	Designing Windows Networks	3
Current Approved Common Prerequisite Credit Hours		21

B. All Proposed Common Prerequisites and Commonality of Course Offerings (add rows if necessary)

Course Prefix	Credit Hours	Number of FCS Currently Offering Course	Number of SUS Currently Offering Course	Justification for the addition or deletion of course
CTS 1134	4	10	0	CTS 1134 - Networking Technologies prepares students for the technical areas of network connectivity, data communications, and communication protocols. It also prepares students with the foundation of networking technologies and data communication concepts. Topics covered include an exploration of computer networking development, the OSI reference model, data signaling, data translation, standards for communications and data transmissions, network topologies and access methods. <i>This course would be added as an additional option to CTSX650 for the requested track 1.</i>
CIS 1531	4	1	0	CIS 1531 - Introduction to Secure Scripting introduces students to create secure scripts and programs using system shells and programming languages; implement and debug algorithms to solve problems; automate and perform administrative tasks; manage data handling, and backup and storage. <i>This course would be added as an additional option to COPX510 for the requested track 1.</i>
COP 1047	4	2	0	COP 1047 – Python Programming introduces students to syntax and rules of the Python language, including how to code, compile, and execute programs. Students study program design, structured modular programming arrays, report generation, and file processing. <i>This course would be added as an additional option to COPX510 for the requested track 1.</i>
COP 1334	4	6	1	COP 1334 – Introduction to C++ Programming offers a foundation in computer programming. Students learn the syntax and rules of the C++ language, including how to code, compile, debug and execute programs. Students additionally learn program design, structured and modular programming, arrays, and file processing. <i>This course would be added as an additional option to COPX510 for the requested track 1.</i>
CTS 1120	4	16	2	CTS 1120 - Cybersecurity Fundamentals prepares students in general network security concepts; compliance and operational security; threats and vulnerabilities; application, data, and host security;



Common Prerequisite Proposal

				access control and identity management; and cryptography. <i>This course is shared with the requested track 1.</i>
CTS 1111	4	5	0	CTS 1111 – Linux+ gives students fundamental knowledge of administering GNU/Linux-based workstations and servers. In this course students learn how to plan, install, maintain, document, and troubleshoot GNU/Linux operating system services. <i>This course would be added as an additional option to COPX390 for the requested track 1.</i>

- C. If your request includes course(s) that are offered currently at three or fewer FCS institutions, please provide a justification as to why these courses are critical for a student's success in the baccalaureate degree program:

Course(s) limited to 3 or less FCS institutions	Justification as to why these courses are critical for a student's success in the baccalaureate program.
CIS 1531 and COP 1047	These two courses will expand the programming-based options to allow flexibility for students entering the program, while ensuring they provide the necessary foundation to succeed in upper division coursework. The inclusion of these two courses as options is necessary because it introduces students to Python programming and scripting languages that are integral to modern cybersecurity functions, including malware analysis, scanning and penetration testing tools.

- D. If your request includes courses that are offered only at your institution, explain what options are available to students at other institutions for completing the required courses:

Not Applicable

- E. Are you requesting to delete any of the currently approved common prerequisites? If so, please list below:

No

Review of Completion within 60 semester hours.

A. Course Prerequisites, if known, for Common Prerequisite

College Level Prerequisites for Common Prerequisite Courses		
Course Prefix for	College Level Prerequisites	Cr. Hrs.
CTS 1111	Prerequisite: CGS 1060C or computer experience is required (other FL institutions: CGS1060, CGS2060)	4
Number of College Level Prerequisites for Common Prerequisite Courses		4

B. Review of Coursework

Review of Common Prerequisite Completion within 60 hours	
60	Credit Hours for AA Degree
- 16	Minus Number of Proposed Common Prerequisite Credit Hours
- 4	Minus Number of College Level Course Prerequisites for Common Prerequisite Courses (if known)
+ 0	Plus Number of Common Prerequisites in General Education Core
40	Equals Number Credit Hours to complete remainder of General Education



Common Prerequisite Proposal

If the number of credit hours to complete remainder of general education is less than 24 credit hours, explain how students will meet the requirements of the common prerequisites:

Not Applicable

V. Supporting Documentation

Include the following with this proposal:

- The program page from the Common Prerequisite Manual, if applicable.
- The program requirements for the baccalaureate degree.

Date of Submission to the Board of Governors or the Division of Florida Colleges: _____

Program:	<u>Cybersecurity</u>	CIP:	<u>11.1003</u>
		Track:	<u>1/3</u>
Offered At:	<u>PESC</u>	Program Length:	<u>120 Cr. Hrs.</u>

Created February 2017
Track change 6/11/2019
Technical 6/19/2019

LOWER LEVEL COURSES

		Cr. Hrs.
	CTSX650	3
	or- CTSX651	3
	or- CETX610	3
	or- CETX614C	3
	&- CTSX314	3
	or- CTSX317	3
	or- CTSX318	3
	or- CETX691	3
	or- CETX830C	3
	&- COPX510	3
	or- COPX224	3
	or- COPX332	3
	or- COPX800	3
	&- CTSX149	3
	or- CGSX103	3
	or- CTSX142	3
&- CTSX120	3	
&- CTSX390	3	
&- CTSX300	3	



Bachelor of Science in Cybersecurity

Admissions Requirements

To be eligible for admissions, applicants must meet the following minimum requirements:

1. Complete the [MDC application](#) for admissions
2. Applicants should have completed an Associate of Arts degree, an Associate in Science degree, or at least 60 college credit hours (including satisfaction of General Education requirements), from a regionally or nationally accredited institution prior to admission.
3. Minimum 2.5 cumulative (overall) GPA in college coursework
4. Completed all common prerequisite coursework with a letter grade of “C” or higher:
 - o CTS 1120 Cybersecurity Fundamentals
 - o CTS 1134 Networking Fundamentals
 - o CTS 1111 Linux+AND one of the following three courses:
 - o CIS 1531 Introduction to Secure Scripting, OR
 - o COP 1334 Introduction to C++ Programming, OR
 - o COP1047C Introduction to Python Programming

Bachelor of Science in Cybersecurity (XXXX)

C.I.P. (11.1003, Track 1)

Total credits required for the degree is 120

The Bachelor of Science (BS) in Cybersecurity degree is designed to help meet the local need for cyber security professionals. Students in this program gain detailed understanding and hands-on skills regarding the tools and protocols needed to use and manage cybersecurity infrastructure, risks, and vulnerabilities in real-world situations. The program curriculum includes courses in network defense, penetration testing, computer and network forensics, risk management and ethics, among others. These courses prepare students for multiple industry certifications such as Certified Ethical Hacker, Computer Hacking Forensics Investigator and Certified Information Security Manager.

GENERAL EDUCATION REQUIREMENTS – 36 Credits Required

Courses require a grade of "C" or higher to satisfy the general education requirement.

		Credits	Requisites
1. Communications – 6 Credits Required			
ENC 1101	English Composition 1 (Gw)	3	Appropriate college placement
ENC 1102	English Composition 2 (Gw)	3	Pre-Req ENC 1101
2. Oral Communications – 3 Credits Required			
Select one course from the following offerings.			
ENC 2300	Advanced Composition & Communication (Gw)	3	Pre-Req ENC 1101, 1102
LIT 2480	Issues in Literature & Culture (Gw)	3	Pre-Req ENC 1102
SPC 1017	Fundamentals of Speech Communications (Gw)	3	
SPC 2608	Introduction to Public Speaking (Gw)	3	
3. Humanities – 6 Credits Required			
Select one course from Group A-State Core <u>AND</u> one course from Group B-MDC Core. At least one Gordon Rule Writing (Gw) course must be selected from Group A or Group B.			
Group A: State Core (3 credits)			
ARH 1000	Art Appreciation	3	
HUM 1020	Introduction to Humanities	3	
LIT 2000	Introduction to Literature (Gw)	3	Pre-Req ENC 1101
MUL 1010	Music Appreciation	3	
PHI 2010	Introduction to Philosophy (Gw)	3	Pre-Req ENC 1101
THE 2000	Theatre Appreciation (Gw)	3	
---AND---			
Group B: MDC Core (3 credits)			
ARC 2701	History of Architecture 1	3	
ARC 2702	History of Architecture 2 (Gw)	3	
ARH 1000	Art Appreciation	3	
ARH 2050	Art History 1	3	
ARH 2051	Art History 2 (Gw)	3	Pre-Req ARH 2050
ARH 2740	Cinema Appreciation (Gw)	3	
DAN 2100	Dance Appreciation	3	
DAN 2130	Dance History 1 (Gw)	3	
HUM 1020	Introduction to Humanities	3	
IND 1100	History of Interiors 1	3	
IND 1130	History of Interiors 2 (Gw)	3	
LIT 2000	Introduction to Literature (Gw)	3	Pre-Req ENC 1101
LIT 2120	A Survey of World Literature 2 (Gw)	3	Pre-Req ENC 1101, 1102
MUH 2111	Survey of Music History 1	3	
MUH 2112	Survey of Music History 2 (Gw)	3	Pre-Req MUH 2111
MUL 1010	Music Appreciation	3	
MUL 2380	Jazz & Popular Music in America (Gw)	3	
PHI 2010	Introduction to Philosophy (Gw)	3	Pre-Req ENC 1101
PHI 2604	Critical Thinking/Ethics (Gw)	3	Pre-Req ENC 1101
THE 2000	Theatre Appreciation (Gw)	3	
4. Behavioral and Social Science – 6 Credits Required			
Choose two courses from Option A <u>OR</u> Option B. Within selected option, one course must be State Core and one MDC Core. Selecting <u>AMH2020 or POS2041</u> (♦) is recommended as these courses also fulfill the civic literacy graduation requirement.			
<u>Option A (6 credits):</u> Choose one course from State Core A-Behavioral Sciences and one course from MDC Core A-Social Sciences.			
State Core A: Behavioral Sciences (3 credits)			
ANT 2000	Introduction to Anthropology	3	

PSY 2012	Introduction to Psychology	3
SYG 2000	Introduction to Sociology	3
AND		
MDC Core A: Social Sciences (3 credits)		
AMH 2010	History of the US to 1877	3
AMH 2020	History of the US Since 1877 (♦)	3
ECO 2013	Principles of Economics (Macro) (Gw)	3
ISS 1120	The Social Environment	3
POS 2041	American Federal Government (♦)	3
WOH 2012	History of World Civilization to 1789	3
WOH 2022	History of World Civilization from 1789	3

--- OR ---

Option B (6 credits): Choose one course from State Core B-Social Sciences and one course from MDC Core B-Behavioral Sciences.

State Core B: Social Sciences (3 credits)		
AMH 2020	History of the US Since 1877 (♦)	3
ECO 2013	Principles of Economics (Macro) (Gw)	3
POS 2041	American Federal Government (♦)	3
AND		
MDC Core B: Behavioral Sciences (3 credits)		
ANT 2000	Introduction to Anthropology	3
ANT 2410	Introduction to Cultural Anthropology	3
CLP 1006	Psychology of Personal Effectiveness	3
DEP 2000	Human Growth and Development	3
ISS 1161	The Individual in Society	3
PSY 2012	Introduction to Psychology	3
SYG 2000	Introduction to Sociology	3

5. Natural Science – 6 Credits Required

Choose two courses from Option A OR Option B. Within selected option, one course must be State Core and one MDC Core. Laboratory courses do not fulfill this area's requirements.

Option A (6 credits): Choose one course from State Core A-Life Sciences and one course from MDC Core A-Physical Sciences

State Core A: Life Sciences (3 credits)		
BSC 1005	General Education Biology	3
BSC 2010	Principles of Biology	3
BSC 2085	Human Anatomy and Physiology 1	3
EVR 1001	Introduction to Environmental Science	3
AND		
MDC Core A: Physical Sciences (3 credits)		
AST 1002	Descriptive Astronomy	3
ESC 1000	General Education Earth Science	3
PSC 1121	General Education Physical Science	3
PSC 1515	Energy in the Natural Environment	3
Any course with prefix CHM*, GLY*, MET*, OCE*, PHY*		3

--- OR ---

Option B (6 credits): Choose one course from State Core B-Physical Sciences and one course from MDC Core B-Life Sciences

State Core B: Physical Sciences (3 credits)		
AST 1002	Descriptive Astronomy	3
CHM 1020	General Education Chemistry	3
CHM 1045	General Chemistry and Qualitative Analysis	3
ESC 1000	General Education Earth Science	3
PHY 1020	General Education Physics	3
PHY 2048	Physics with Calculus 1	4
PHY 2053	Physics (without Calculus) 1	3
AND		
MDC Core B: Life Sciences (3 credits)		
BOT 1010	Botany	3
BSC 1005	General Education Biology	3
BSC 1030	Social Issues in Biology	3
BSC 1050	Biology & Environment	3
BSC 1084	Functional Human Anatomy	3
BSC 2010	Principles of Biology	3
BSC 2020	Human Biology: Fund. of Anatomy & Physiology	3
BSC 2085	Human Anatomy and Physiology 1	3
BSC 2250	Natural History of South Florida	3

EVR 1001	Introduction to Environmental Sciences	3	
HUN 1201	Essentials of Human Nutrition	3	
OCB 1010	Introduction to Marine Biology	3	
PCB 2033	Introduction to Ecology	3	Pre-Req PSC1515 or BSC2011
PCB 2340C	Field Biology	3	
ZOO 1010	Zoology	3	Co-Req ZOO 1010L

6. Mathematics – 6 Credits Required

MAC 1105 may be replaced by a higher-level mathematics with prefix MAC*, MAD*, MAS*, or MAP*. All courses accepted in this section fulfill the Gordon Rule Computation (Gc) graduation requirements.

MAC 1105	College Algebra (Gc)	3	Pre-Req MAT 1033
STA 2023	Statistical Methods (Gc)	3	Pre-Req MAT 1033 or MGF 1106

7. General Education Elective – 3 Credits Required

See Academic Advisor for approved selection.

Computer Competency Requirement

Students must satisfy the requirement by successfully completing a course (CGS1060C or CTS0050, an equivalent college credit course), or passing MDC's Computer Skills Placement examination, or a test exemption.

Foreign Language Competency Requirement

Students must fulfill this requirement via three options:

Option A: Successful completion of two (2) credits (i.e., the equivalent of two years) in one (1) foreign language at the secondary (high school) level.

---OR---

Option B: Successful completion of the following courses at the elementary 2 level: ASL1150C, CHI1121, FRE1121, GER1121, ITA1121, JPN1121, POR1121, RUS1121, SPN1121. These credits count towards the Lower Division Requirements area.

---OR---

Option C: Students may demonstrate completion of the elementary 2 level through standardized examination that document the required foreign language competency.

LOWER DIVISION REQUIREMENTS – 36 Credits Required

Group A: 12 credits

CTS 1111	Linux +	4	Pre-Req CGS1060C or Computer Competence
CTS 1120	Cybersecurity Fundamentals	4	
CTS 1134	Networking Technologies	4	

Group B: 4 credits

Select one course from the following offerings.

CIS 1531	Introduction to Secure Scripting	4	
COP 1047C	Introduction to Python Programming	4	
COP 1334	Introduction to C++ Programming	4	Pre-Req CGS1060C or Computer Competence

Group C: 20 credits

Any transferrable type-1 or type-2 courses. Please see academic advisor.

UPPER DIVISION REQUIREMENTS – 36 Credits Required

CIS 3215	Ethics in Cybersecurity	4	
CIS 3360	Principles of Information Security	4	Pre-Req CTS 1134 or CTS 1650
CIS 3361	Information Security Management	4	Pre-Req CIS 3360
CIS 4204	Ethical Hacking I	4	Pre-Req CIS 3360
CIS 4378	Ethical Hacking II	4	Pre-Req CIS 4204
CIS 4364	Intrusion Detection and Incident Response	4	Pre-Req CIS 3360
CIS 4366	Computer Forensics	4	Pre-Req CIS 3360
CIS 4388	Advanced Computer Forensics	4	Pre-Req CIS 4366
CIS 4891	Capstone Project	4	Departmental Approval Required

PROGRAM ELECTIVES – 12 Credits Required

Choose 12 credits from courses with the following prefixes:

CAP*, CEN*, CGS*, CIS*, CNT*, COP*, CTS*, CET*

IMPORTANT INFORMATION

Civic Literacy Competency: First time in college students for the 2018-2019 school year and thereafter must demonstrate competency in civic literacy to earn a baccalaureate. This requirement may be satisfied by passing AMH2020 or POS2041 (listed under the Social Sciences area), or an equivalent AP or CLEP exam.

Computer Competency: All MDC degree-seeking students with 16 or more credits must demonstrate computer competency prior to graduation. Students demonstrate this competency by passing the MDC computer competency test, currently known as CSP (Computer Skills Placement) examination or by enrolling in and successfully completing an equivalent course.

Foreign Language: Students admitted to the baccalaureate degree program without meeting the foreign language admissions requirement of at least 2 courses (8-10 credit hours) of sequential foreign language at the secondary level or the equivalent of such instruction at the postsecondary level must earn such credits prior to graduation.

Required Credit Hours and GPA: The baccalaureate requires student to earn a minimum of 120 unduplicated credit hours with a minimum cumulative grade point average of 2.0. All general education and all upper division requirements must be passed with the grade of "C" or better.

Pursuing or Have Earned an Associate's Degree: Students entering with an AS or AAS degree may have more than 24 elective credits and may need additional General Education credits to meet the 36 General Education credits required for the baccalaureate degree. Students entering with an AA degree may need additional electives to provide appropriate background for the baccalaureate program.

Graduation Requirements: This Program Sheet is effective for academic year 2020/2021. Additional requirements apply, which include, but are not limited to Gordon Rule (college level communication and computational skills) and residency (number of credits that must be earned at MDC). Students should review their individualized Degree Audit Report to determine the specific graduation policies in effect for their program of study for the year and term they entered Miami Dade College. Students are highly encouraged to meet with their academic advisor on a regular basis and review the College Catalog to learn about all requirements to receive the baccalaureate. The final responsibility for meeting graduation requirements rests with the student.

CIP	Title	Institution	Change
11.1003 T.3	Bachelor of Science Cybersecurity	FAMU	Added alternative courses for FAMU students.

Common Prerequisite Request

Submission Directory Information

Name of Institution:	Florida A&M University
Name of Person Making the Initial Request:	Sundra Kinsey
Title for the Person Listed Above:	Assistant Vice President of Program Quality
Signature of Institution Common Prerequisite Liaison:	
Date of Submission:	

Academic Program Information:

1. Name of Academic Degree Program: Cybersecurity
2. Six Digit CIP Code: 11.1003
3. Type of Baccalaureate Degree (Bachelor of Science, Bachelor of Arts, etc.):
Bachelor of Science
4. Credit Hours to Degree for the program: 120
5. Is this program currently officially designated limited access? No
6. Is there currently a baccalaureate degree in the CIP listed above in the Common Prerequisite Manual? Yes
7. If this request is one for a new degree program at your institution, please specify your anticipated implementation date for the program: Spring 2021
8. Do the anticipated common prerequisites for the program match those already listed in the Common Prerequisite Manual? No If so, please indicate where the common prerequisites are currently found: CIP: Track:
If the answer is yes to this question, you do not have to go any further in this document. You can stop at this point and submit the form.
9. Is this a new degree program for a CIP code not currently already found in the Common Prerequisite Manual? No
10. If this request is for a program already listed in the Common Prerequisite Manual, is the request due to an official CIP change for the program? No If so, what CIP is the program currently found in the manual: CIP: Track:
What CIP is the programming moving to: CIP:
11. Is the request is to modify currently approved common prerequisites? Yes If so, please indicate where the common prerequisites are currently found: CIP:
11.1003 Track: 3

Changes to Currently Approved Common Prerequisites

If this is a request to modify currently approved common prerequisites, provide the following information. Please add additional rows if needed.

List Currently Required Coursework. Be sure to list any course requested to be deleted, including those listed as options to other courses. For example, if PHYX053C is listed as an option instead of taking PHYX048C and an institution believes only that PHYX048C can prepare a student for the degree program, then the deletion of PHYX053C will need to be explained.

Course Prefix and Number	# Credit Hours	Keep?	Delete?	If the course is requested to be deleted, please explain why it is necessary to delete the course?
PSY X012	3	☒ Yes ☐ No	☐ Yes ☒ No	
ECO X013	3	☒ Yes ☐ No	☐ Yes ☒ No	
MAC XXXX ¹	3	☒ Yes ☐ No	☐ Yes ☒ No	
STA X023 (or STA X122)	3	☒ Yes ☐ No	☐ Yes ☒ No	
MAD XXXX ²	3	☐ Yes ☒ No	☐ Yes ☒ No	
PHY XXXX ³	3	☐ Yes ☒ No	☐ Yes ☒ No	
CGS XXXX ⁴	3	☐ Yes ☒ No	☐ Yes ☒ No	
COP XXXX	3	☒ Yes ☐ No	☐ Yes ☒ No	
COP XXXX	3	☒ Yes ☐ No	☐ Yes ☒ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	

We are requesting the following notes be added to the current approved common prerequisites.

¹Precalculus: Students may satisfy this requirement by taking the two course-sequence: (MAC1105 College Algebra or MAC1140 Precalculus Algebra) and MAC1114 Trigonometry

²Discrete Math: Course is required by the curriculum but is not required prior to enrollment

³Prospective transfer students can take any science course that satisfies the General Education science requirements. Students are encouraged to take lecture and lab.

⁴Course is optional but will not substitute for upper division database course in the curriculum

List any additional coursework is being requested. Please check to see if the course is taught by at least three Florida College System (FCS) institutions (scns.fldoe.org).

Course Prefix and Number	# Credit Hours	If this course is to serve as an alternate to another currently approved course, please list the currently approved course	Taught at three FCS institutions ?	Please explain why it is necessary to add this course as a common prerequisite
CNT X000	3	CGS XXXX	☒ Yes ☐ No	Provides the IT foundation expected for upper division cybersecurity and networking courses in the curriculum
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	

Access

Number of Credit Hours for AA	60
Subtract Number of Credit Hours Required for Common Prerequisites	- 21
Add the Number of Credit Hours for Common Prerequisites that are also general education core requirements	+ 12
Total number of semester hours left to complete the rest of the student's general education requirements	= 51

If a student does not have enough room in the "total" above to complete the rest of general education requirements, please provide a justification for requiring more common prerequisite course credit hours than can be accommodated by the student in 60 semester hours:

9/18/2020

N/A

With these recommendations, how does your institution propose to assist transfer students in avoiding time to degree?

The alternative course is offered by more than three FCS institutions and the course is offered semesterly by FAMU as a distance learning course. The other recommendations allow additional completion options so transfer students can select from their institutions' general education program.

Program:	<u>B.S. in Cybersecurity</u>	CIP:	<u>11.1003</u>
		Track:	<u>3</u>
Offered At:	<u>FAMU, USF</u>	Program Length:	<u>120 Credit hours.</u>

LOWER LEVEL COURSES

STAX023 or STAX122	3	Introductory Statistics
& PHYX000-X999 ⁽¹⁾	3-4	Any Physics course
& PSYX012	3	Intro to Psychological Science
& ECOX013	3	Macroeconomics
& COPX513 or COPX551C Or COPX000 or COPX224 Or COPX250 <u>or COPX000-X999</u>	3	
& COPX800 or COPX360 or COPX500 Or COPX220 or COPX512 or COPX210 Or COPX270 or COPX006 or COP 272C <u>Or COPX000-X999</u>	4	
& CGSX540 or CGSX545 or CGSX224 Or CGSX250 or CNTX00 ⁽²⁾		
& MACX417 or (MACX140 & MACX114) Or <u>[MACX105 or MACX140] & MACX114</u> ⁽³⁾		
& MADX104 ⁽⁴⁾		

- (1) Prospective transfer students to FAMU can take any science course that satisfies the General Education science requirements. Students are encouraged to take lecture and lab.
- (2) Course is optional but will not substitute for upper division database course in the curriculum.
- (3) Precalculus: Only students interested in the FAMU program may satisfy this requirement by taking the two course sequence (MACX105 College Algebra or MACX140 Precalculus Algebra) and MACX114 Trigonometry.
- (4) Discrete Math: Course is required by the curriculum but is not required prior to enrollment.

60	Number of hours to complete the AA
-27	Number of Common Prerequisite Hours
+ 6	Minimum number of hours applicable to general education core
<u>39</u>	Number of hours available for the student to complete the rest of general ed (30 hours)
	Note that there are additional math coursework that may be applicable within the institution's general education hours.

B.S. in Cybersecurity
Florida Agricultural and Mechanical University

The Department of Computer and Information Sciences (CIS) at Florida A&M University proposes to offer the Bachelor of Science in Cybersecurity (CyS) program. This program is designed to satisfy ABET program accreditation criteria for Cybersecurity and is based on the ACM Cybersecurity Curricula 2017 Guideline¹. The program will provide breadth through fundamental courses in the science of cybersecurity, the practice of cybersecurity, and the social impacts of cybersecurity. The student may achieve depth through elective courses in areas such as: digital forensics; cyber law and ethical hacking; cybersecurity risk management and audit; and cryptography. The program requires the completion of 120 credit hours.

The goal of the B.S. program in Cybersecurity is to prepare students to meet the cybersecurity needs of business, government, healthcare, education, and society. Program graduates will possess the skills and knowledge to assume appropriate entry-level professional positions, and to grow into leadership positions or pursue research or graduate studies in the field. The following objectives have been adopted:

- a. To provide a supportive learning environment that provides students real-world knowledge and work-relevant cybersecurity experiences.
- b. To provide foundational knowledge and experience so that students can adapt to changing contexts in which cybersecurity is relevant and to changes in the technologies of threats and defense strategies.
- c. To encourage life-long learning by encouraging personal professional development, e.g., professional certifications.

Graduates of this program will be equipped to enter career paths such as: Security Analyst, Security Engineer, Security Architect; Security Administrator, etc. Specific SOC 2010 disciplines for CIP 11.1003 include: Computer and Information Systems Managers, Information Security Analysts, Database Administrators, Network and Computer System Administrators, Computer Network Architects, and Computer Network Specialists.

CIP	Title	Institution	Change
14.0901	Bachelor of Science Computer Engineering	FIU	Science alternatives added for FIU only.

Program: Computer Engineering **CIP:** 14.0901
 FAMU, FAU, FSU, UCF, UNF, USF, FIU – 128 credit hours **Track:** 1
Offered At: UF – 126 credit hours UWF – 129 credit hours **Program Length:** 126, 127, 129

LOWER LEVEL COURSES

MACX311 or MACX281	3	Calculus I
& MACX312 or MACX282	3	Calculus II
& MACX313 or MACX283	3	Calculus III
& MAPX302	3	Differential Math
& PHYX048C or PHYX048/048L Or PHYX041/X048L	4	Physics I with lab
& PHYX049C or PHYX049/X049L Or PHYX044/X049L Or PHYX042/X049L	4	Physics II with lab
& CHMX045C or CHMX045/X045L Or CHSX440/CHMX045L <u>Or BSCX010/BSCX010L (1)</u> <u>Or BSCX010C (1)</u>	4	Chemistry I with Lab
& COPX000-X999	3	Any Computer Programming Course

(1) Alternative is only accepted by FIU.

60
 -24
 + 6
 42

Number of hours to complete the AA
 Number of Common Prerequisite Hours
 Minimum number of hours applicable to general education core
 Number of hours available for the student to complete the rest of general ed (30 hours)
 Note that there are additional science and mathematics coursework that may be applicable within the institution's general education hours.

CIP	Title	Institution	Change
14.1001	Bachelor in Science Electrical Engineering	FIU	Science alternatives added for FIU student only.



Common Prerequisite Proposal

Contact Information

Requesting Chief Program Chair: Herman Watson	Email: Herman.Watson@fiu.edu Phone: 305.348.3018
Requesting Chief Academic Officer or University Common Prerequisite Liaison (person submitting this proposal to the Board of Governors or Division of Florida Colleges:	X
Requesting institution: Florida International University	

First Name, Last Name
Title:

II. Program Information

Title of Degree Program: Electrical Engineering	CIP Code: 14.1001	Track (if appropriate):
Does this proposal align with a current track?	Yes: X	No:
Is this program approved for limited access?	No	
Approved total program hours to the baccalaureate degree: 128		
Other Institutions offering the same program (CIP and Tracks or different CIP/Track if the same major):		

III. Proposed Changes – Add rows as necessary

A. All Current Approved Common Prerequisites (add rows if necessary).

Current Approved Common Prerequisites		
Course Prefix	Course Name	Cr. Hrs.
CHM 1045/L	General Chemistry and Lab	4
MAC 2311	Calculus I	4
MAC 2312	Calculus II	4
MAC 2313	Multivariable Calculus	4
MAP 2302	Differential Equations	3
PHY 2048	Physics with Calculus I	4
PHY 2049/L	Physics with Calculus II and Lab	5
Current Approved Common Prerequisite Credit Hours		28

B. All Proposed Common Prerequisites and Commonality of Course Offerings (add rows if necessary)

Course Prefix	Credit Hours	Number of FCS Currently Offering Course	Number of SUS Currently Offering Course	Justification for the addition or deletion of course
CHM 1045/L "OR" BSC 2010/L	4			The additional option of BSC 2010/L allows for greater flexibility and degree progression for students transferring to FIU with BSC 2010/L from our largest sending partner colleges, Miami Dade College, Broward College, and Palm Beach State College. BSC 2010/L also satisfies the Natural Sciences Core requirements in Group 1 (State-required), which means students will satisfy a core curriculum course and prerequisite for Electrical Engineering.

Common Prerequisite Proposal



- C. If your request includes course(s) that are offered currently at three or fewer FCS institutions, please provide a justification as to why these courses are critical for a student's success in the baccalaureate degree program:

Course(s) limited to 3 or less FCS institutions	Justification as to why these courses are critical for a student's success in the baccalaureate program.
N/A	

If your request includes courses that are offered only at your institution, explain what options are available to students at other institutions for completing the required courses:

- D. Please explain how any additions or deletions of common prerequisites affect programmatic accreditation issues: There is no impact on accreditation by adding BSC 1010/L as an option.

IV. Review of Completion within 60 semester hours.

A. Course Prerequisites, if known, for Common Prerequisite

College Level Prerequisites for Common Prerequisite Courses		
Course Prefix for	College Level Prerequisites	Cr. Hrs.
Number of College Level Prerequisites for Common Prerequisite Courses		

B. Review of Coursework

Review of Common Prerequisite Completion within 60 hours	
60	Credit Hours for AA Degree
-	Minus Number of Proposed Common Prerequisite Credit Hours
-	Minus Number of College Level Course Prerequisites for Common Prerequisite Courses (if known)
+	Plus Number of Common Prerequisites in General Education Core
	Equals Number Credit Hours to complete remainder of General Education

If the number of credit hours to complete remainder of general education is less than 24 credit hours, explain how students will meet the requirements of the common prerequisites:

V. Supporting Documentation

Include the following with this proposal:

- The program page from the Common Prerequisite Manual, if applicable.
- The program requirements for the baccalaureate degree.

Date of Submission to the Board of Governors or the Division of Florida Colleges: 14 June 2019

Program: Electrical Engineering**CIP:** 14.1001

FAMU, FAU, FSU, UCF, UNF, USF, FIU – 128 credit hours

Track: 1**Offered At:** UF – 126 credit hours UWF – 129 credit hours**Program Length:** 126, 127, 129

LOWER LEVEL COURSES

MACX311 or MACX281	3	Calculus I
& MACX312 or MACX282	3	Calculus II
& MACX313 or MACX283	3	Calculus III
& MAPX305 or MAPX302	3	Differential Math
& PHYX048C or PHYX048/048L Or PHYX041/X048L	4	Physics I with lab
& PHYX049C or PHYX049/X049L Or PHYX044/X049L Or PHYX042/X049L	4	Physics II with lab
& CHMX045C or CHMX045/X045L Or CHSX440/CHMX045L <u>Or BSCX010/BSCX010L</u> ⁽¹⁾ <u>Or BSCX010C</u> ⁽¹⁾	4	Chemistry I with Lab

⁽¹⁾ Only FIU accepts this alternative.

60	Number of hours to complete the AA
-24	Number of Common Prerequisite Hours
+ 6	Minimum number of hours applicable to general education core
42	Number of hours available for the student to complete the rest of general ed (30 hours)
	Note that there are additional science and mathematics coursework that may be applicable within the institution's general education hours.

CIP	Title	Institution	Change
14.3601	Bachelor of Science Advanced Manufacturing	UNF	Change in CIP to New CIP for Manual.

Common Prerequisite Request

Submission Directory Information

Name of Institution:	University of North Florida
Name of Person Making the Initial Request:	Shawn W. Brayton
Title for the Person Listed Above:	Director for Academic Programs and SACSCOC Liaison
Signature of Institution Common Prerequisite Liaison:	Shawn W. Brayton
Date of Submission:	September 28, 2020

Academic Program Information:

1. Name of Academic Degree Program: Advanced Manufacturing
2. Six Digit CIP Code: 14.3601
3. Type of Baccalaureate Degree (Bachelor of Science, Bachelor of Arts, etc.):
Bachelor of Science
4. Credit Hours to Degree for the program: 120
5. Is this program currently officially designated limited access? No
6. Is there currently a baccalaureate degree in the CIP listed above in the Common Prerequisite Manual? No
7. If this request is one for a new degree program at your institution, please specify your anticipated implementation date for the program: Fall 2021
8. Do the anticipated common prerequisites for the program match those already listed in the Common Prerequisite Manual? Yes If so, please indicate where the common prerequisites are currently found: CIP: 14.1901 Track: 1
If the answer is yes to this question, you do not have to go any further in this document. You can stop at this point and submit the form.
9. Is this a new degree program for a CIP code not currently already found in the Common Prerequisite Manual?
10. If this request is for a program already listed in the Common Prerequisite Manual, is the request due to an official CIP change for the program? If so, what CIP is the program currently found in the manual: CIP: Track:
What CIP is the programming moving to: CIP:
11. Is the request is to modify currently approved common prerequisites?

Changes to Currently Approved Common Prerequisites

If this is a request to modify currently approved common prerequisites, provide the following information. Please add additional rows if needed.

List Currently Required Coursework. Be sure to list any course requested to be deleted, including those listed as options to other courses. For example, if PHYX053C is listed as an option instead of taking PHYX048C and an institution believes only that PHYX048C can prepare a student for the degree program, then the deletion of PHYX053C will need to be explained.

Course Prefix and Number	# Credit Hours	Keep?	Delete?	If the course is requested to be deleted, please explain why it is necessary to delete the course?
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	

List any additional coursework is being requested. Please check to see if the course is taught by at least three Florida College System (FCS) institutions (scns.fldoe.org).

Course Prefix and Number	# Credit Hours	If this course is to serve as an alternate to another currently approved course, please list the currently approved course	Taught at three FCS institutions ?	Please explain why it is necessary to add this course as a common prerequisite
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	

Access

Number of Credit Hours for AA	60
Subtract Number of Credit Hours Required for Common Prerequisites	-
Add the Number of Credit Hours for Common Prerequisites that are also general education core requirements	+
Total number of semester hours left to complete the rest of the student's general education requirements	=

If a student does not have enough room in the "total" above to complete the rest of general education requirements, please provide a justification for requiring more common prerequisite course credit hours than can be accommodated by the student in 60 semester hours:

With these recommendations, how does your institution propose to assist transfer students in avoiding time to degree?

Program: B.S. in Advanced Manufacturing **CIP:** 14.3601
Offered At: UNF **Track:** _____
Program Length: 120 Credit hours.

This is a new CIP for the manual. These are the common prerequisites that were approved for the UNF 14.1901 T. 1 program.

LOWER LEVEL COURSES

MACX311 or MACX281	3	Calculus I
& MACX312 or MACX282	3	Calculus II
& MACX313 or MACX283	3	Calculus III
& MAPX305 or MAPX302	3	
& PHYX048C or PHYX048/048L Or PHYX041/X048L	4	Physics I with lab
& PHYX049C or PHYX049/X049L Or PHYX044/X049L Or PHYX041/X049L	4	Physics II with lab
& CHMX045C or CHMX045/X045L Or CHSX240/X049L Or CHSX440/CHMX045L	4	Chemistry I with Lab

60
 -24
 + 6
 42

Number of hours to complete the AA
 Number of Common Prerequisite Hours
 Minimum number of hours applicable to general education core
 Number of hours available for the student to complete the rest of general ed (30 hours)
 Note that there are additional science and mathematics coursework that may be applicable within the institution's general education hours.

CIP	Title	Institution	Change
26.0908	Bachelor of Science Applied Physiology & Kinesiology	UF	Footnote Clarification.

Application to **Modify** Currently Approved Common Prerequisites

Degree Program Name: Applied Physiology & Kinesiology CIP Code: 26.0908

Anticipated Degree Total Hours: 120

Are other degree programs under this name currently found in the Common Prerequisite Manual (CPM)? X Yes No

If yes, under what CIP code: FSU uses the same CIP code: 26.0908; FGCU uses 31.0505

Institution Requesting Modification: University of Florida

Name of Contact Person: Joslyn Ahlgren, Ph.D.

Email Address of Above: jahlgren@ufl.edu Phone Number: 352-294-1728

Please list the current common prerequisites and any corresponding approved alternative courses. Please add rows to the table as appropriate.

CIP: 26.0908 Track: 1/2 (Exercise Physiology)

Current Primary Prerequisites	Current Alternative Course(s)
APKX100C	BSCX085/X085L or PETX322/X322L or BSCX093/X093L
APKX105C	BSCX086/X086L or PETX323C or BSCX094/X094L
PSYX012	None for any program
MACX311	None for UF
BSCX010/X010L	BSCX010C
CHMX045/X045L	CHMX045C
CHMX046/X046L	CHMX046C

1. Does this modification of currently approved common prerequisites involve adding another track to the currently approved prerequisites within the *Common Prerequisite Manual*?

No X Yes

Maybe - depends upon Discipline Committee Recommendation X

If yes or maybe above, please provide justification regarding the significant differences in your curriculum that would necessitate a new track with different common prerequisites:

Explanation: UF's BS degree in APK offers two tracks/specializations: Exercise Physiology (CIP 26.0908, Track 1/2) and Fitness Wellness (CIP 26.0908, Track 2/2). We are proposing to eliminate all tracks and offer a single curriculum that

would absorb students in both tracks. We are using our Exercise Physiology track as the model for our new curriculum. In order to ensure that we are in compliance with the articulation agreement, we'd like to request some changes to the Common Course Prerequisites for the Exercise Physiology track (see table below).

2. If adding a common prerequisite course or course substitute, please provide the following information. You can find details about individual courses at the hyperlink to the Statewide Course Numbering System ([SCNS](#)). Type in the prefix and four digit number of the proposed course. The hyperlink leads to a page with two worksheets: statewide course detail and institutions. Clicking on the institutions page will identify the institutions offering the course. Be aware that there may be institutions besides Florida College System (FCS) and State University System (SUS) institutions listed.

Proposed Course	Title of Proposed Course	# FCS Currently Offering Course	# SUS Currently Offering Course	Justification for the addition or deletion
Add HUN 2201 as a tracking course	Fundamentals of Human Nutrition	28/28	7/12	Aligns with other SUS programs who offer this course
Add CHM 1025 as an option to CHM X045/X045L or CHMX045C	General Chemistry 1 with Lab	17/28	5/12	Aligns with the University, College, Department mission to offer a program that supports the SUS strategic plan in the areas of STEM
Remove CHM 2046/206L	General Chemistry 2 with Lab	n/a	n/a	The original reason for having this in our tracking courses was to help prepare students for pre-health post-bac programs. Some of our students do not have that goal and will not need to take Chem 1 or 2 with Lab.
Add MAC 1147 as an option to MAC 2311	Calculus 1	20/28	11/12	Aligns with other SUS programs who offer this course

3. If your request includes course(s) that are offered currently at 3 or less FCS institutions, please provide a justification as to why these courses are critical for a student's success in your upper division.

n/a

4. If your request includes courses that are offered currently only at your institution, do you have the same amount of elective credit hour space in your upper division so that the associate in arts transfer student is held harmless in excess hours and time?

n/a a. Yes_____ b. No_____

5. If your request includes courses that are offered only at your institution, are you willing and able to offer these courses online or during the summer so that transfer students may pick up the courses without delaying admission for the fall?

n/a a. Yes_____ b. No_____

6. Is the credit hour total for required work more than 24?

___X___No _____Yes

If yes, how do you anticipate students meeting general education requirement:

- a. _____ Course(s) are anticipated to be "core" general education;
- b. _____ Anticipate that institutions will have course(s) as part of their institution's general education program.
- c. _____ Other:

n/a

Program:	<u>B.S. in Applied Physiology & Kinesiology</u>	CIP:	<u>26.0908</u>
Offered At:	<u>FSU, UF</u>	Track:	
		Program Length:	<u>120 Credit hours.</u>

LOWER LEVEL COURSES

HUNX201	3	Science of Nutrition
& MACX311 or MACX147 Or (MACX114 & MACX140) ⁽¹⁾	4	Calculus I
& APKX100C or BSCX085/X085L Or BSCX093/X094L Or PETX322/X322L	4	Anatomy and Physiology I with Lab
& APKX105C or BSCX086/X086L Or PETX323C or BSCX094/X094L	4	Anatomy and Physiology II with Lab
& BSCX010C or BSCX010/X010L	4	General Biology I with Lab
& BSCX011C or BSCX011/X011L	4	General Biology II with Lab
& PSYX012	3	Introduction to Psychology
& CHMX045/X045L or CHMX045C <u>Or CHMX025 or CHMX025C</u>	4	General Chemistry I with Lab
& CHMX046/X046L or CHMX046C ⁽²⁾	4	General Chemistry II with Lab

(1) MACX140 & MAC114 is not an option for the University of Florida program.

(2) CHMX046C or CHMX046/X0446L is not required for the University of Florida program.

60	Number of hours to complete the AA
-30	Number of Common Prerequisite Hours
+ 9	Minimum number of hours applicable to general education core
<u>39</u>	Number of hours available for the student to complete the rest of general ed (27 hours)
	Note that there are additional science coursework that may be applicable within the institution's general education hours.

CIP	Title	Institution	Change
29.0207	Bachelor of Science Cybersecurity Engineering	Poly	New degree program in new CIP for manual.

Common Prerequisite Proposal



I. Contact Information

Requesting Chief Program Chair: Dr. Muhammad Rashid	Email: mrashid@floridapoly.edu Phone: 863-874-8667
Requesting Chief Academic Officer or University Common Prerequisite Liaison (person submitting this proposal to the Board of Governors or Division of Florida Colleges): Dr. Tom Dvorske, Vice Provost of Academic Affairs	 Email: tdvorske@floridapoly.edu Phone: 863-974-8544
Requesting institution:	Florida Polytechnic University

II. Program Information

Title of Degree Program: Cybersecurity Engineering UPDATED: 10.09.2020	CIP Code: 29.0207	Track (if appropriate):
Does this proposal align with a current track?	Yes:	No: X
Is this program approved for limited access? No		
Approved total program hours to the baccalaureate degree: 120		
Other Institutions offering the same program (CIP and Tracks or different CIP/Track if the same major): Currently, in the BOG inventory, there are two programs under CIP 11.1003 (Computer information systems security/information assurance): a master's at FIU and a bachelor's at UWF. There are no programs in the SUS under CIP 29.0207, Cyber/Electronic Operations and Warfare. As such, the program is not duplicative of any existing program in the SUS, but the SUS does have some competition in Florida from similar programs at private institutions.		

III. Proposed Changes – Add rows as necessary

A. All Current Approved Common Prerequisites (add rows if necessary).

Current Approved Common Prerequisites		
Course Prefix	Course Name	Cr. Hrs.
COP x000-x999	e.g. Introduction to Computation and Programming or equivalent programming	3
CHM 2045 or C/BSC 1010	Chemistry 1 / Biology 1	3 or 5
CHM 2045L/BSC 1010L	Chemistry 1 Laboratory / Biology 1 Laboratory	1
MAC 2311 OR MAC X281	Analytic Geometry and Calculus 1	4
MAC 2312 OR MAC X282	Analytic Geometry and Calculus 2	4
MAC 2313 OR MAC X283	Analytic Geometry and Calculus 3	4
MAP 2302	Differential Equations	3
PHY 2048 OR PHY 2048C	Physics 1	3 or 5
PHY 2048L	Physic 1 Laboratory	1
PHY 2049 OR PHY 2049C	Physics 2	3 or 5
PHY 2049L	Physics 2 Laboratory	1
Current Approved Common Prerequisite Credit Hours		30



Common Prerequisite Proposal

B. All Proposed Common Prerequisites and Commonality of Course Offerings (add rows if necessary)

Course Prefix	Credit Hours	Number of FCS Currently Offering Course	Number of SUS Currently Offering Course	Justification for the addition or deletion of course
COP x000-x999	NaN	29	12	E.G. COP X224 (C++) satisfies our institutional need.
CHM 2045/BSC 1010 OR CHMX440C OR CHM2045C	3	29	12	Consistent with existing Common Prerequisites
CHM 2045L/BSC 1010L OR CHM2045C	1	29	12	Consistent with existing Common Prerequisites
MAP 2302	3	29	12	Consistent with existing Common Prerequisites
MAC 2311 OR MAC X281	4	29	12	Consistent with existing Common Prerequisites
MAC 2312 OR MAX X282	4	29	12	Consistent with existing Common Prerequisites
MAC 2313 OR MAC X283	4	28	12	Consistent with existing Common Prerequisites
MAP 2302	3	29	12	Consistent with existing Common Prerequisites
PHY 2048 OR PHY 2048C	3 5	29	12	Consistent with existing Common Prerequisites
PHY 2048L	1	29	12	Consistent with existing Common Prerequisites
PHY 2049 OR PHY 2049C	3 5	29	12	Consistent with existing Common Prerequisites
PHY 2049L	1	29	12	Consistent with existing Common Prerequisites

C. If your request includes course(s) that are offered currently at three or fewer FCS institutions, please provide a justification as to why these courses are critical for a student's success in the baccalaureate degree program:

Course(s) limited to 3 or less FCS institutions	Justification as to why these courses are critical for a student's success in the baccalaureate program.
Not applicable	

If your request includes courses that are offered only at your institution, explain what options are available to students at other institutions for completing the required courses:

Not applicable

1/31/2019

Common Prerequisite Proposal



D. Please explain how any additions or deletions of common prerequisites affect programmatic accreditation issues:

Content is essential for meeting content criterion for ABET-EAC accreditation for Cybersecurity Engineering, which this program will be seeking.

IV. Review of Completion within 60 semester hours.

A. Course Prerequisites, if known, for Common Prerequisite

College Level Prerequisites for Common Prerequisite Courses		
Course Prefix for	College Level Prerequisites	Cr. Hrs.
MAC 2311	MAC 1147 Pre-Calculus Algebra & Trigonometry	4
Number of College Level Prerequisites for Common Prerequisite Courses		4

B. Review of Coursework

Review of Common Prerequisite Completion within 60 hours	
60	Credit Hours for AA Degree
-30	Minus Number of Proposed Common Prerequisite Credit Hours
-4	Minus Number of College Level Course Prerequisites for Common Prerequisite Courses (if known)
+	Plus Number of Common Prerequisites in General Education Core
	Equals Number Credit Hours to complete remainder of General Education

If the number of credit hours to complete remainder of general education is less than 24 credit hours, explain how students will meet the requirements of the common prerequisites:

V. Supporting Documentation

Include the following with this proposal:

- The program page from the Common Prerequisite Manual, if applicable.
- The program requirements for the baccalaureate degree.

Date of Submission to the Board of Governors or the Division of Florida Colleges: 09.18.2020

Program: B.S. in Cybersecurity Engineering **CIP:** 29.0207
Offered At: Poly **Track:** _____
Program Length: 120 Credit hours.

This is a new CIP for the manual.

LOWER LEVEL COURSES

MACX311 or MACX281	3-4	Calculus I
& MACX312 or MACX282	3-4	Calculus II
& MACX313 or MACX283	3-4	Calculus III
& MAPX302	3	Differential Equations
& PHYX048C or PHYX048/048L	4	Physics I with lab
& PHYX049C or PHYX049/X049L	4	Physics II with lab
& CHMX045C or CHMX045/X045L Or BSCX010C or BSCX010/X010L	4	Chemistry I with Lab Biology I with Lab
& COPX000-X999 ⁱ or COPX271C Or COPX224C	3	Introduction to Computation & Programming

60
 -30
 + 6
 36

Number of hours to complete the AA
 Number of Common Prerequisite Hours
 Minimum number of hours applicable to general education core
 Number of hours available for the student to complete the rest of general ed (30 hours)
 Note that there are additional science and mathematics coursework that may be applicable
 within the institution's general education hours.

ⁱ Computer programming course. See university for any questions.

Common Prerequisite Proposal



I. Curriculum

- A. Describe the specific expected student learning outcomes associated with the proposed program. If a bachelor's degree program, include a web link to the Academic Learning Compact or include the document itself as an appendix.

The Program Learning Outcomes for the B.S. in Cybersecurity Engineering conform to the expectation for learning outcomes for ABET-EAC and are easily aligned to the broad skill areas required for the academic learning compact. In the following table, the learning outcomes are defined in the left column, while their alignment with the ALC skills are noted on the right.

Program (Student) Learning Outcomes	The Outcomes Involve These Skills:		
Upon Completion of the Cybersecurity Engineering Degree, students will possess:	Content	Critical Thinking	Communication
1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	X		
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors		X	
3. an ability to communicate effectively with a range of audiences			X
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts		X	
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives			X
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusion	X		
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.		X	

Common Prerequisite Proposal



B. Describe the admission standards and graduation requirements for the program.

Admissions standards and graduation requirements for the program are the same as for all undergraduate programs at Florida Poly. Details for admissions to Florida Poly may be found at <https://floridapoly.edu/admissions/>.

Requirements for graduation are found in the [University's Academic Catalog](#) and in Academic Policy FPU-5.0094AP Baccalaureate Degree Graduation Requirements.

C. Describe the curricular framework for the proposed program, including number of credit hours and composition of required core courses, restricted electives, unrestricted electives, thesis requirements, and dissertation requirements. Identify the total numbers of semester credit hours for the degree.

B.S. Cybersecurity Engineering				
05.20.2020				
The following program curriculum template was approved by the UCC and the Provost in spring 2017. This template exists to ensure a certain level of consistency across new and existing programs in terms of general education, foundations, program core, and capstone requirements.				
Category	Section	Course	Credits	Notes
I. Professional Foundations Core			8	8
		SLS 1106 - Academic & Professional Skills	1	1
		IDS 4941 - Professional Experience Internship	0	0
		IDS 1380 - Introduction to STEM	3	3
		EGN 1007C - Concepts and Methods for Engineering and Computer Science (req of Engineering and CS programs only).	1	1



Common Prerequisite Proposal

		COP 2271C - Introduction to Computation and Programming (required for all programs)	3	3
		<i>All but Professional Foundations may be distributed in categories below to allow for appropriate credit hour allocations.</i>		
II. General Education		<i>State Required Minimum</i>	<u>36</u>	<u>36</u>
	Rules	1. Students must complete at least one ♦ course in each category to satisfy state of Florida regulation. 2. Students must take 9 hours of Humanities and Social Sciences, to be divided 6/3 between the areas. 3. Courses not taught by Florida Poly but listed in the State of Florida "common core" menu of courses can be accepted as transfer credit. 4. Transfer students who have fulfilled the general education requirements at another institution are understood to have fulfilled the requirements at Florida Poly.		
	Section A	Communication	<u>6</u>	<u>6</u>
		ENC 1101 - English Composition 1: Exp and Arg Writing (W) ♦	3	3
		ENC 2210 - Technical Writing (W)	3	3
	Section B	Humanities	<u>3 to 6</u>	<u>6</u>
		ARH 2000 - Art Appreciation ♦	3	
		PHI 2010 - Introduction to Philosophy ♦	3	
		HUM 2022 Explorations in the Humanities (Special Topics)	3	
		IDS 2144 Legal, Ethical, and Management Issues in Technology	3	3R
	Section C	Social Science	<u>3 to 6</u>	<u>6</u>
		AMH 2010 - American History to 1877	3	
		AMH 2020 - American History Since 1877 (W) ♦ Satisfies Florida State Civics Requirement	3	
		AMH 2930 - History: Special Topics	3	



Common Prerequisite Proposal

		ECO 2013 - Principles of Macroeconomics (W) ♦	3	3R
		ECO 2023 - Principles of Microeconomics (W)	3	
		PSY 2012 - General Psychology (W) ♦	3	3R
	Section D	Mathematics	<u>7</u>	<u>7</u>
		MAC 2311 - Analytic Geometry and Calculus 1 ♦	4	4
		MAC 2312 - Analytic Geometry and Calculus 2	4	
		MAC 2313 - Analytic Geometry and Calculus 3	4	
		STA 2023 - Statistics 1 ♦	3	
		MAD 2104 - Discrete Mathematics	3	3
		MAP 2302 - Differential Equations	3	
		MAC 1147 - Pre-calculus Algebra and Trigonometry	4	
	Section E	Natural Sciences	<u>8</u>	<u>8</u>
		BSC 1010 - Biology 1 ♦	3	
		BSC 1010L - Biology 1 Laboratory	1	
		CHM 2045 - Chemistry 1 ♦	3	3
		CHM 2045L - Chemistry 1 Laboratory	1	1
		PHY 2048 - Physics 1 ♦	3	3
		PHY 2048L - Physics 1 Laboratory	1	1
		PHY 2049 - Physics 2	3	
		PHY 2049L - Physics 2 Laboratory	1	
	Section F	Open Inquiry: 3 Additional GE credits taken here	<u>3</u>	<u>3</u>
		MAP 2302 - Differential Equations	3	3



Common Prerequisite Proposal

II. Program Foundations / Advanced Math & Science			12	<u>15</u>
		1. This area may consist of additional general education courses or other foundational courses in a related field.		
		2. General education courses must be used first to fulfill General Education requirements before being applied here.		
		3. 15 credits here, plus 15 in Sections D and E (above) meet the 30 hour Basic Math/Science requirement for ABET.		
		4. Should count the following in this category: COP 2271C - Introduction to Computation and Programming (required for all programs) Credits: 3. Doing so ensures the 30 hour ABET requirement for "Basic Math/Science."		
		PHY 2049 - Physics 2		3
		PHY 2049L - Physics 2 Laboratory		1
		MAC 2312 - Analytic Geometry and Calculus 2		4
		MAC 2313 - Analytic Geometry and Calculus 3		4
		STA 3032 Probability and Statistics		3
III. Program Core			40	
		40 credits represents a minimum, depending on how many credits are included in Category II, above.		
		Pre-Capstone design sequences should be included in this category-- may be listed as a subset in catalog to stand out.		
Add Rows as needed	<i>The following may be counted in this category instead:</i>			<u>7</u>
		* IDS 1380 - Introduction to STEM: Credits: 3	Counted above	3
		* EGN 1007C - Concepts and Methods for Engineering and Computer Science: Credits: 3 (req of Engineering and CS programs only).		1
		* COP 2271C Introduction to Computation and Programming		3
				<u>43</u>
		COP 3337C Object Oriented Programming		3



Common Prerequisite Proposal

		EEL 3311C Circuits 1		4
		EEL 3702C Digital Logic Design		3
		EEL 3135 Systems and Signals		3
		EEL 3312C Circuits 2		3
		EEL 4746C Microcomputers		3
		EEL 4768C Computer Architecture and Organization		3
		CNT 3004C Introduction to Computer Networks		3
		COP 3530 Data Structures & Algorithms		3
		COP 4600 Operating Systems Concepts		3
		MAS 3105 Linear Algebra		3
		CAP 4612 Machine Learning		3
		EEL 4523 Information Theory and Cryptography		3
		EEL 4721 Protective Technologies and Forensic Technologies for Cyber Security		3
IV. Concentration			12	
		Concentrations should consist of no more than 12 credits. If other than "Advanced Topics," up to six credits may come from electives or courses in other concentrations.		
	Conc 1	Industrial Control Systems Security	12	<u>12</u>
		EEE 4531 Techniques for High Fidelity Acquisition		3
		EEL 4652 Control Theory		3
		EEL 4743 Cyber Physical Security of Industrial Control Systems		3
		Cybersecurity Engineering Concentration or Program Elective		3
	Conc 2	Smart-Grid Security	12	<u>12</u>
		EEL 4345 Renewable Energy Systems and Power Electronics		3
		EEL 4251 Power System Analysis		3



Common Prerequisite Proposal

		EEL 4543 Smart-Grid and Cyber Physical Security		3
		Cybersecurity Engineering Concentration or Program Elective		3
	Conc 3	Hardware Security	12	<u>12</u>
		EEE 3310 Digital Electronics		3
		EEL 4724 Hardware Design with FPGAs and Reconfigurable Computing		3
		EEL 4772 Hardware Security		3
		Cybersecurity Engineering Concentration or Program Elective		3
V. Electives			6	--
		The number of electives may be reduced to fill out the program core or meet institutional or state required general education requirements.		
Add Rows as needed		CDA 3631C Embedded Operating Systems		3
		CIS 4367 Computer Security		3
		EEL 4242 Power Electronics Circuits		3
		EEL 4515 Digital Communication Systems		3
		EEL 4664C Kinematics and Control of Robotic System		3
VI. Capstone			6	<u>6</u>
		All programs are required to have a 6 credit senior capstone sequence.		
		EEL 4914C Senior Design 1	3	3
		EEL 4915C Senior Design 2	3	3
TOTAL HOURS			120	<u>120</u>

Common Prerequisite Proposal



- D. Provide a sequenced course of study for all majors, concentrations, or areas of emphasis within the proposed program.

B.S. Cybersecurity Engineering Plan of Study	
<u>Freshman Year</u>	
Semester 1	
SLS 1106 Academic & Professional Skills	Credits: 1
BSC 1010 Biology 1	Credits: 3
or CHM 2045 - Chemistry 1	Credits: 3
BSC 1010L Biology 1 Laboratory	Credits: 1
or CHM 2045L - Chemistry 1 Laboratory	Credits: 1
ENC 1101 English Composition 1	Credits: 3
IDS 1380 Introduction to STEM	Credits: 3
MAC 2311 Analytic Geometry and Calculus 1	Credits: 4
Total Semester Credit Hours: 15	
Semester 2	
COP 2271C Introduction to Computation and Programming	Credits: 3
EGN 1007C Concepts & Methods	Credits: 1
ENC 2210 Technical Writing	Credits: 3
MAC 2312 Analytic Geometry and Calculus 2	Credits: 4
PHY 2048 Physics 1	Credits: 3
PHY 2048L Physics 1 Laboratory	Credits: 1
Total Semester Credit Hours: 15	
<u>Sophomore Year</u>	

Common Prerequisite Proposal



Semester 1	
COP 3337C Object Oriented Programming	Credits: 3
MAC 2313 Analytic Geometry and Calculus 3	Credits: 4
PHY 2049 Physics 2	Credits: 3
PHY 2049L Physics 2 Laboratory	Credits: 1
Social Science General Education: History	Credits: 3
Total Semester Credit Hours: 14	
Semester 2	
EEL 3311C Circuits 1	Credits: 4
EEL 3702C Digital Logic Design	Credits: 3
MAD 2104 Discrete Mathematics	Credits: 3
MAP 2302 Differential Equations	Credits: 3
Arts and Humanities General Education	Credits: 3
Total Semester Credit Hours: 16	
<u>Junior Year</u>	
Semester 1	
EEL 3135 Systems and Signals	Credits: 3
EEL 3312C Circuits 2	Credits: 3
EEL 4746C Microcomputers	Credits: 3
EEL 4768C Computer Architecture and Organization	Credits: 3
STA 3032 Probability and Statistics	Credits: 3
Total Semester Credit Hours: 15	
Semester 2	

Common Prerequisite Proposal



CNT 3004C Introduction to Computer Networks	Credits: 3
COP 3530 Data Structures & Algorithms	Credits: 3
COP 4600 Operating Systems Concepts	Credits: 3
IDS 4941 Professional Experience Internship	Credits: 0
MAS 3105 Linear Algebra	Credits: 3
Arts, Humanities, or Social Science General Education	Credits: 3
Total Semester Credit Hours: 15	
<u>Senior Year</u>	
Semester 1	
Cybersecurity Engineering Concentration Course	Credits: 3
Cybersecurity Engineering Concentration Course	Credits: 3
CAP 4612 Machine Learning	Credits: 3
EEL 4914C Senior Design 1	Credits: 3
EEL 4523 Information Theory and Cryptography	Credits: 3
Total Semester Credit Hours: 15	
Semester 2	
Cybersecurity Engineering Concentration Course	Credits: 3
Cybersecurity Engineering Concentration Course	Credits: 3
EEL 4915C Senior Design 2	Credits: 3
EEL 4721 Protective Technologies and Forensic Technologies for Cyber Security	Credits: 3
IDS 2144 Legal, Ethical, and Management Issues in Technology	Credits: 3
Total Semester Credit Hours: 15	
<u>Concentrations</u>	

Common Prerequisite Proposal



Industrial Control Systems Security	Credits: 3
EEE 4531 Techniques for High Fidelity Acquisition	Credits: 3
EEL 4652 Control Theory	Credits: 3
EEL 4743 Cyber Physical Security of Industrial Control Systems	Credits: 3
Cybersecurity Engineering Concentration or Program Elective	Credits: 3
Smart-Grid Security	
EEL 4345 Renewable Energy Systems and Power Electronics	Credits: 3
EEL 4251 Power System Analysis	Credits: 3
EEL 4543 Smart-Grid and Cyber Physical Security	Credits: 3
Cybersecurity Engineering Concentration or Program Elective	Credits: 3
Hardware Security	
EEE 3310 Digital Electronics	Credits: 3
EEL 4724 Hardware Design with FPGAs and Reconfigurable Computing	Credits: 3
EEL 4772 Hardware Security	Credits: 3
Cybersecurity Engineering Concentration or Program Elective	Credits: 3
Advanced Topics	
Choose 12 credits from this list of courses	
EEL 4652 Control Theory	Credits: 3
EEL 4251 Power System Analysis	Credits: 3
EEE 3310 Digital Electronics	Credits: 3
EEL 4543 Smart-Grid and Cyber Physical Security	Credits: 3
EEL 4743 Cyber Physical Security of Industrial Control Systems	Credits: 3
EEL 4772 Hardware Security	Credits: 3

Common Prerequisite Proposal

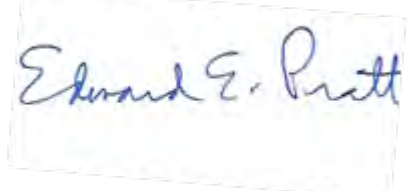


<u>Cybersecurity Engineering Electives</u>	
CDA 3631C Embedded Operating Systems	Credits: 3
CIS 4367 Computer Security	Credits: 3
EEL 4242 Power Electronics Circuits	Credits: 3
EEL 4515 Digital Communication Systems	Credits: 3
EEL 4664C Kinematics and Control of Robotic System	Credits: 3

CIP	Title	Institution	Change
30.0601	Bachelor of Science Data Science & Analytics	FAU	New degree program in new CIP for manual.

Common Prerequisite Request

Submission Directory Information

Name of Institution:	Florida Atlantic University
Name of Person Making the Initial Request:	Dr. Edward Pratt
Title for the Person Listed Above:	Dean of Undergraduate Studies
Signature of Institution Common Prerequisite Liaison:	
Date of Submission:	10/02/2020

Academic Program Information:

Name of Academic Degree Program: Bachelor of Science in Data Science and Analytics

Six Digit CIP Code: 30.0601

Type of Baccalaureate Degree: Bachelor of Science

Credit Hours to Degree for the program: 120

Is this program officially designated limited access? No

If this is a new degree program, please specify your anticipated implementation date:

Spring 2020

Related Current Common Prerequisite Manual Information:

Is there currently a baccalaureate degree in the CIP listed above in the Common Prerequisite Manual? No

Is this a request to:

1. Add your institution to the Common Prerequisite Manual without making curriculum changes to the Manual?
 - a. If so, which "track" is requested?

If your program is not requesting any changes, you do not have to complete anything further on this form.

2. Add Course(s) and/or Course Alternative(s)?
3. Eliminate Course(s) or Alternatives?
4. Establish a common prerequisite page in a six-digit CIP not currently established in the manual? A description of your program's curriculum must be attached.

Yes

5. Establish a completely new "track"?
 - a. If so, please specify how your program is different than those programs already found under this CIP code. Why do you need a new track?

Please provide the following information:

Track Number	Proposed Track Name	Justification for Additional Track

A description of your program's curriculum must be attached.

6. Change credit hour to degree listing for your institution's program?
 - a. If so, please specify your degree program length.
 - b. If your degree program is more than 120 semester credit hours, has the Board of Governors approved the request to exceed 120?
7. Change the limited access standing for your institution's program?
 - a. If requesting removal of limited access status, has the Board of Governors approved the removal?
8. Change your program's CIP code in the Manual?
 - a. Has the Board of Governors approved your request to change CIP codes?
 - b. Please list the former and the currently approved CIP codes:
 From CIP:
 Moved to CIP:
9. Are the common prerequisites for the degree remaining the same?

Adding Course(s) and/or Course Alternative(s):

After checking to determine access to courses for Florida College System students (<https://flscns.fldoe.org/>), **please list the following information for each course or alternative requested for common prerequisite consideration (add rows if necessary):**

Course Prefix and Number	Course Title	# Credit Hours	Course(s) recommended to serve as an alternative to the course listed in column one.	Why is this common prerequisite course needed?
STA 2023	Introductory Statistics	3		Statistics is central to Systems Science combining data with scientific models
MAC 1105	College Algebra	3		Mathematics is central to Systems Science combining data with scientific models
MAC 2311 **	Calculus 1	4		** for tracks in Natural Sciences and Engineering
MAD 2104 **	Discrete Mathematics	3		** for tracks in Natural Sciences and Engineering

** The courses MAC 2311 and MAD 2104 are recommended for students planning to enter either the Data Science in the Natural Sciences or Data Science and Engineering concentrations. They are not required as common prerequisites since there is room in the 120 credits for the degree for these courses to be taken as free electives. See the explanation below.

Does the recommendation above still provide course options for the Florida College System and other State University System institution students? Courses should be offered at 3 or more Florida College System Institutions. If three or more do not offer the course, please list the requested course prefix and number with an explanation as to how you will ensure access for transfer students without adding time to their degree. Add more lines if necessary:

Eliminating Course(s) and/or Course Alternative(s): Please list the following information for **each course or alternative that you would like to eliminate (add rows if necessary)**:

Course Prefix and Number	Course Title	Justification for elimination

This is due to a change in CIP code:

From CIP:

Moved to CIP:

Are the common prerequisites for the degree remaining the same?

Accessibility:

Number of Credit Hours for AA	60
Subtract Number of Credit Hours Required for Common Prerequisites	- 6
Add the Number of Credit Hours for Common Prerequisites that are also general education core requirements	+ 6
Total number of semester hours left to complete the rest of the student's general education requirements	= 60

If a student does not have enough room in the "total" above to complete the rest of general education requirements, please provide a justification for requiring more common prerequisite course credit hours than can be accommodated by the student in 60 semester hours:

With these recommendations, how does your institution propose to assist transfer students in avoiding time to degree?

There are 48 credits in the major requirements for the degree and 36 credits of IFP requirements. This leaves 36 free electives available which a student can use to take lower-division major courses that are specific to FAU such as MAP 2190, CAP 2750, and CAP 2751.

Program:	<u>B.S. in Data Science and Analytics</u>	CIP:	<u>30.0601(New CIP)</u>
		Track:	1
Offered At:	<u>FAU</u>	Program Length:	<u>120 Credit hours.</u>

LOWER LEVEL COURSES

<u>STAX23</u>	3	Introductory Statistics
& <u>MACX105</u>	3	College Algebra
& <u>MACX311 (1)</u>	4	Calculus I
& <u>MADX104 (1)</u>	<u>3</u>	Discrete Mathematics

(1) The courses MACX311 and MADX104 are recommended for students planning to enter either the Data Science in the Natural Sciences or Data Science and Engineering concentrations. They are not required as common prerequisites since there is room in the 120 credits for the degree for these courses to be taken as free electives.

60	Number of hours to complete the AA
- 6	Number of Common Prerequisite Hours
+ 3	Minimum number of hours applicable to general education core
<u>57</u>	Number of hours available for the student to complete the rest of general ed (33 hours)

Note that there are additional math coursework that may be applicable within the institution's general education hours.

Florida Atlantic University

University Submitting Proposal

**Science, Engineering & Computer
Science, Business, Arts & Letters,
Design and Social Inquiry**

Name of College(s) or School(s)

Data Science and Analytics

Academic Specialty or Field

30.0601

Proposed CIP Code

**Math/CEECS/ITOM/Political
Science/Criminology and Criminal Justice**

Name of Department(s)/ Division(s)

BS in Data Science and Analytics

Complete Name of Degree**Curriculum Requirements:****Common Core**

Introductory Statistics	STA 2023	3
Mathematics of Data Science	MAP 2190	3
Experimental Design and Data Analysis	CAP 2750	3
Tools for Data Science	CAP 2751	3
Data Management and Analysis with Excel	QMB 3302	3
Artificial Intelligence for Social Good	CCJ 3071	3
Data Science Capstone	ISC 4312	3
Common Core Credits:		21

Free Electives**CHOOSE 2 COURSES FROM THE TABLE****Free Elective Credits:** **6****Data Science in the Natural Sciences Concentration****Concentration Core Requirements:**

Introduction to Computational Mathematics	MAD 2502	3
RI: Introduction to Data Science	CAP 3786	3
Computational Statistics	STA 3100	3
Concentration Core Credits:		9

Concentration Core Electives: CHOOSE 4 COURSES

SAS for Data and Statistical Analyses	STA 3024	3
Probability and Statistics 1	STA 4442	3
Probability and Statistics 2	STA 4443	3
Applied Statistics 1 with Lab	STA 4234/4202L	3
Applied Statistics 2	STA 4702	3
Statistical Designs	STA 4222	3
Applied Time Series and Forecasting	STA 4853	3
Introduction to Biostatistics	STA 3173	3
RI: Industrial Problems in Applied Math	MAP 4913	3
Applied Mathematical Modeling	MAP 4103	3

Topology for Data Science	MTG 4328	3
Graph Theory	MAD 4301	3
Cryptography and Information Security	CIS 4362	3
Concentration Elective Credits:		12
Concentration Credits:		21

Data Science and Engineering Concentration

Concentration Core Courses:

Introduction to Programming in C, if applicable*	COP 2220	3
Foundations of Computer Science	COP 3014	3
Data Structures and Algorithm Analysis	COP 3530	3
Introduction to Data Science and Analytics	CAP 4773	3
Concentration Core Credits:		12

Concentration Elective Courses: CHOOSE 3 COURSES

Introduction to Deep Learning	CAP 4613	3
Introduction to Artificial Intelligence	CAP 4630	3
Introduction to Data Mining and Machine Intelligence	CAP 4770	3
Introduction to Computer Systems Performance Evaluation	CEN 4400	3
Introduction to Database Structures	COP 3540	3
Applied Database Systems	COP 4703	3
Python Programming	COP 4045	3
Introduction to Internet Computing	COP 3813	3
Concentration Elective Credits:		9
Concentration Credits:		21

* Students that have taken a college-level introductory course in programming can substitute this course with one of the Concentration Elective Courses, with permission of the advisor.

Data Science in Business Concentration

Concentration Core Requirements:

Introduction to Business Analytics and Big Data	ISM 3116	3
Business Communication for Data Analysts	GEB 3231	3
Data Mining and Predictive Analytics	ISM 4117	3
Advanced Business Analytics	ISM 4403	3
Concentration Core Credits:		12

Concentration Core Electives: CHOOSE 3 COURSES

Contemporary Issues of Digital Data Management	ISM 4041	3
Management of Information Assurance and Security	ISM 4323	3
Database Management Systems	ISM 4212	3
Social Media and Web Analytics	ISM 4420	3
Business Analytics for Marketing and Customer Relations	MAR 4615	3
Revenue Management and Predictive Analytics in the Hospitality and Tourism Industry	HFT 4881	3
Concentration Elective Credits:		9
Concentration Credits:		21

Table of Elective Courses for all Concentrations

Science Electives:

Spatial Data Analysis	GEO 4167C	3
Photogrammetry and Aerial Photograph Interpretation	GIS 4021C	3
Applications of Geographic Information Systems	GIS 4048	3
Geospatial Databases	GIS 4118	3
Computational Physics	PHZ 3151C	3
Solar System Astronomy	AST 3110	3
Mathematical Methods in Physics	PHZ 4113	3
Practical Cell Neuroscience	PCB 4843C	3
Laboratory Methods in Biotechnology	BSC 4403L	3
Epidemiology of Infectious Diseases	MCB 4276	3
Concepts in Bioinformatics	BSC 4434C	3
RI: Introduction to Data Science	CAP 3786	3
Computational Statistics	STA 3100	3
SAS for Data and Statistical Analyses	STA 3024	3
Probability and Statistics 1	STA 4442	3
Probability and Statistics 2	STA 4443	3
Applied Statistics 1 with Lab	STA 4234/4234L	3
Applied Statistics 2	STA 4702	3
Statistical Designs	STA 4222	3
Applied Time Series and Forecasting	STA 4853	3
Introduction to Biostatistics	STA 3173	3
RI: Industrial Problems in Applied Math	MAP 4913	3
Applied Mathematical Modeling	MAP 4103	3
Topology for Data Science	MTG 4328	3
Graph Theory	MAD 4301	3
Cryptography and Information Security	CIS 4362	3

Engineering Electives:

Introduction to Data Science and Analytics	CAP 4773	3
Introduction to Deep Learning	CAP 4613	3
Introduction to Artificial Intelligence	CAP 4630	3
Introduction to Data Mining and Machine Intelligence	CAP 4770	3
Introduction to Computer Systems Performance Evaluation	CEN 4400	3
Introduction to Database Structures	COP 3540	3
Applied Database Systems	COP 4703	3
Python Programming	COP 4045	3
Introduction to Internet Computing	COP 3813	3

Business Electives:

Introduction to Business Analytics and Big Data	ISM 3116	3
Business Communication for Data Analysts	GEB 3231	3
Data Mining and Predictive Analytics	ISM 4117	3
Advanced Business Analytics	ISM 4403	3
Contemporary Issues of Digital Data Management	ISM 4041	3
Management of Information Assurance and Security	ISM 4323	3
Database Management Systems	ISM 4212	3
Social Media and Web Analytics	ISM 4420	3
Business Analytics for Marketing and Customer Relations	MAR 4615	3
Revenue Management and Predictive Analytics in the Hospitality and Tourism Industry	HFT 4881	3

Arts and Letters Electives:

Research Methods	POS 3703	3
Public Opinion in America	POS 4202	3
Sociological Analysis Quantitative Methods	SYA 4400	3
Research Methods in Biological Archeology	ANT 4192	3
Information Technology in Public Administration	PAD 3712	3
Introduction to the Nonprofit Sector	PAD 4144	3
Research Methods for Public Management	PAD 4704	3
Quantitative Inquiry for Public Managers	PAD 4702	3

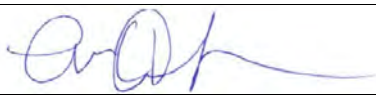
CDSI Electives:

Criminal Justice Technology	CJE 3692C	3
Crime Analysis	CJE 4663	3
Computer Crime	CJE 4668	3
Teen Technology Misuse	CCJ 4554	3
Research Methods in Criminal Justice	CCJ 4700	3
Research Methods in Social Work	SOW 4403	3

CIP	Title	Institution	Change
30.7001	Bachelor of Science Data Science	Poly	Change of CIP code for Poly. Added alternatives.

Common Prerequisite Request

Submission Directory Information

Name of Institution:	Florida Polytechnic University
Name of Person Making the Initial Request:	Tom Dvorske
Title for the Person Listed Above:	Vice Provost of Academic Affairs
Signature of Institution Common Prerequisite Liaison:	
Date of Submission:	October 2, 2020

Academic Program Information:

1. Name of Academic Degree Program: Data Science
2. Six Digit CIP Code: 11.0802
3. Type of Baccalaureate Degree (Bachelor of Science, Bachelor of Arts, etc.):
Bachelor of Science
4. Credit Hours to Degree for the program: 120
5. Is this program currently officially designated limited access? No
6. Is there currently a baccalaureate degree in the CIP listed above in the Common Prerequisite Manual? Yes.
7. If this request is one for a new degree program at your institution, please specify your anticipated implementation date for the program: No, existing program.
8. Do the anticipated common prerequisites for the program match those already listed in the Common Prerequisite Manual? Yes. If so, please indicate where the common prerequisites are currently found: CIP: **11.0802** Track:

If the answer is yes to this question, you do not have to go any further in this document. You can stop at this point and submit the form.

9. Is this a new degree program for a CIP code not currently already found in the Common Prerequisite Manual? **Yes, and No**
10. If this request is for a program already listed in the Common Prerequisite Manual, is the request due to an official CIP change for the program? **Yes** If so, what CIP is the program currently found in the manual: CIP: **11.0802** Track: N/A
What CIP is the programming moving to: CIP: **30.7001**
11. Is the request to modify currently approved common prerequisites? **Well, somewhat** If so, please indicate where the common prerequisites are currently found: CIP: **30.7001** Track: **Data Security-UCF—this was proposed last spring; not yet in CPM.**

Attach information about the curriculum.

Changes to Currently Approved Common Prerequisites

If this is a request to modify currently approved common prerequisites, provide the following information. Please add additional rows if needed.

List Currently Required Coursework. Be sure to list any course requested to be deleted, including those listed as options to other courses. For example, if PHYX053C is listed as an option instead of taking PHYX048C and an institution believes only that PHYX048C can prepare a student for the degree program, then the deletion of PHYX053C will need to be explained.

Course Prefix and Number	# Credit Hours	Keep?	Delete?	If the course is requested to be deleted, please explain why it is necessary to delete the course?
MACX311 OR MACX233 MACX281 MACX241	4 4 4 4	☒ Yes ☐ No	☐ Yes ☐ No	
&MACX312 OR MACX282 MACX234	4 4 4	☒ Yes ☐ No	☐ Yes ☐ No	
& MACx313 OR MACx283	4 4	☒ Yes ☐ No	☐ Yes ☐ No	
&STAx023	3	☒ Yes ☐ No	☐ Yes ☐ No	
&PHYx048	3	☒ Yes ☐ No	☐ Yes ☐ No	
&BSCx010	3	☒ Yes ☐ No	☐ Yes ☐ No	
&COPXXX	3	☒ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	

List any additional coursework is being requested. Please check to see if the course is taught by at least three Florida College System (FCS) institutions (scns.fldoe.org).

Course Prefix and Number	# Credit Hours	If this course is to serve as an alternate to another currently approved course, please list the currently approved course	Taught at three FCS institutions ?	Please explain why it is necessary to add this course as a common prerequisite
OR MADX104 MASX114	3 3	Alternative to MACx313 (added to the list of "or"s)	☒ Yes ☐ No	For more broad-field data science programs these courses provide students with a greater range of application.
OR +Lab	3 + 1	Other natural or life science, with lab	☒ Yes ☐ No	Again, for broad-field data science, it need not be restrictive to biology.
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	

Access

Number of Credit Hours for AA	60
Subtract Number of Credit Hours Required for Common Prerequisites	-24
Add the Number of Credit Hours for Common Prerequisites that are also general education core requirements	+13
Total number of semester hours left to complete the rest of the student's general education requirements	=49

If a student does not have enough room in the "total" above to complete the rest of general education requirements, please provide a justification for requiring more common prerequisite course credit hours than can be accommodated by the student in 60 semester hours: [There should be sufficient room.](#)

With these recommendations, how does your institution propose to assist transfer students in avoiding time to degree?

[Florida Poly actively works with all students, including transfers students, to create summer pathways that facilitate reduced time-to-degree as well as careful course](#)

9/18/2020

sequencing to ensure that courses are offered in appropriate sequences so students can get the courses they need in the semesters they need them.

See attached pdf of Program Description, or visit:

http://catalog.floridapoly.edu/preview_program.php?catoid=20&poid=822

Program:	<u>B.S. in Data Science</u>	CIP:	<u>30.7001</u>
Offered At:	<u>POLY, UCF</u>	Track:	
		Program Length:	<u>120 Credit hours.</u>

This is a CIP code change for Florida Polytechnic. Courses added were under the 11.0802 CIP code.

LOWER LEVEL COURSES

STAX023	3	Introductory Statistic
& MACX311 or MACX233 MACX253 or MACX281 or MACX241	4	Calculus I
& MACX312 or MACX282 or MACX234	4	Calculus II
& MACX313 or MACX283 <u>Or MADX104 or MASX114</u>	4	Calculus III Discrete Mathematics or Matrix Applications
& COPX000-X999	3	Any Computer Programming
& PHYX48	3	Physics with Calculus
& <u>BSCX010C</u> or BSCX010 & <u>BSCX010L</u> ⁽¹⁾	4	Natural or Life Science with Lab

(1) Or any Natural or Life Science with Lab

60	Number of hours to complete the AA
-25	Number of Common Prerequisite Hours
+ 6	Minimum number of hours applicable to general education core
41	Number of hours available for the student to complete the rest of general ed (30 hours)
	Note that there are additional math and science coursework that may be applicable within the institution's general education hours.

Bachelor of Science, Data Science (Plan of Study)

 [Print this Page](#)

Concentrations in Big Data Analytics, Health Systems Engineering, Intelligent Mobility, and Quantitative Economics and Econometrics

- ♦ To Print the Degree Planner, click this button in the upper right-hand corner  of this page.

****Course offering frequency subject to change****

Freshman Year

Semester 1

- ♦ MAC 2311 - Analytic Geometry and Calculus 1 **Credits: 4**
- ♦ CHM 2045 - Chemistry 1 **Credits: 3**
- ♦ CHM 2045L - Chemistry 1 Laboratory **Credits: 1**
- ♦ ENC 1101 - English Composition 1: Expository and Argumentative Writing **Credits: 3**
- ♦ IDS 1380 - Introduction to STEM **Credits: 3**
- ♦ SLS 1106 - Academic & Professional Skills **Credits: 1**

Total Semester Credits: 15

Semester 2

- ♦ MAC 2312 - Analytic Geometry and Calculus 2 **Credits: 4**
- ♦ PHY 2048 - Physics 1 **Credits: 3**
- ♦ PHY 2048L - Physics 1 Laboratory **Credits: 1**
- ♦ ENC 2210 - Technical Writing **Credits: 3**
- ♦ COP 2271C - Introduction to Computation and Programming **Credits: 3**
- ♦ EGN 1007C - Concepts and Methods for Engineering and Computer Science **Credits: 1**

Total Semester Credits: 15

Sophomore Year

Semester 1

- ♦ COP 2034 - Introduction to Programming Using Python **Credits: 3**

- PHY 2049 - Physics 2 **Credits:** 3
- PHY 2049L - Physics 2 Laboratory **Credits:** 1
- COP 3337C - Object Oriented Programming **Credits:** 3
- COP 3353C - Introduction to Unix **Credits:** 2
- STA 2023 - Statistics 1 **Credits:** 3

Total Semester Credits: 15

Semester 2

- MAS 3114 - Computational Linear Algebra **Credits:** 3
- ECO 2023 - Principles of Microeconomics **Credits:** 3
- CTS 2375 - Cloud Implementation Strategies and Cloud Providers **Credits:** 3
- MAD 2104 - Discrete Mathematics **Credits:** 3
- COP 2073 - Introduction to Data Science **Credits:** 3

Total Semester Credits: 15

Junior Year

Semester 1

- CNT 3004C - Introduction to Computer Networks **Credits:** 3
- COP 3530 - Data Structures & Algorithms **Credits:** 3
- QMB 3200 - Advanced Quantitative Methods **Credits:** 3
- EGS 3625 - Engineering & Technology Project Management **Credits:** 3
- Arts and Humanities Elective: **Credits:** 3
- IDS 4941 - Professional Experience Internship **Credits:** 0

Total Semester Credits: 15

Semester 2

- COP 3710 - Database 1 **Credits:** 3
- EGN 3448 - Operations Research **Credits:** 3
- STA 3241 - Statistical Learning **Credits:** 3
- CAP 4763 - Time Series Modeling and Forecasting **Credits:** 3
- Data Science Concentration course or program elective: **Credits:** 3

Total Semester Credits: 15

Senior Year

Semester 1

- IDC 4942 - Data Analytics Capstone I **Credits:** 3
- CAP 4770 - Data Mining & Text Mining **Credits:** 3
- Data Science Concentration Course or program elective - **Credits:** 3

Data Science Concentration Course or program elective - **Credits: 3**

Social Science Course - **Credits: 3**

Total Semester Credits: 15

Semester 2

- IDC 4943 - Data Analytics Capstone II **Credits: 3**
- CAP 4612 - Machine Learning **Credits: 3**
- Data Science Concentration course or program elective **Credits: 3**
- Data Science Concentration course or program elective **Credits: 3**
- Select any Arts and Humanities or Social Science courses: **Credits: 3**

Total Semester Credits: 15

Concentrations

Students select one concentration for twelve hours of credit.

Big Data Analytics

- COP 3729C - Database 2 **Credits: 3**
 - CAP 3774 - Data Warehousing **Credits: 3**
 - CAP 4786 - Topics in Big Data Analytics **Credits: 3**
- Program Elective **Credits: 3**

Health Systems Engineering

The Health Systems Engineering (HSE) concentration at Florida Poly prepares students for the dynamic and ever-changing field of healthcare. The concentration supplements traditional degree programs in Computer Science, Data Science and Business Analytics with application examples based on the challenging problems in the healthcare industry. The concentration is grounded in the fundamentals of systems engineering and analytics, and focuses on process improvement, health informatics, healthcare systems modeling and healthcare decision making.

- HIM 3490 - Introduction to Health Systems Engineering **Credits: 3**
 - HIM 3514 - Health Systems Modeling and Optimization **Credits: 3**
 - HIM 3654 - Health Systems Implementation **Credits: 3**
- Other DSBA concentration course OR program elective

Intelligent Mobility

- ESI 3005 - Introduction to Networks and a Connected World **Credits: 3**
- OR
- CNT 3004C - Introduction to Computer Networks **Credits: 3**
 - ESI 4011 - Data Analytics for Smart City & Transportation **Credits: 3**
 - ESI 4513 - Intelligent Mobility **Credits: 3**
- Select one course from the following:
- MAN 4593 - National Transportation Management **Credits: 3**
 - MAN 4594 - Reverse Logistics **Credits: 3**

- [AVM 3012 - Air Transportation and Operations](#) **Credits:** 3

Quantitative Economics & Econometrics

- [ECP 4044 - Economic Analysis for Technologists](#) **Credits:** 3
 - [ECO 3930 - Special Topics](#) **Credits:** 3
 - Other Concentration course or program elective **Credits:** 3
 - [ECP 4031 - Benefit Cost Analysis](#) **Credits:** 3
- OR**
- [CAP 4763 - Time Series Modeling and Forecasting](#) **Credits:** 3
- (students take whichever is not already required in the degree)

Data Science Electives

- [CNT 3200 - Distributed Information Systems](#) **Credits:** 3
- [COP 3330C - Computer Programming 2](#) **Credits:** 3
- [COP 4520 - Introduction to Parallel and Distributed Computing](#) **Credits:** 3
- [CAP 4793 - Advanced Data Science](#) **Credits:** 3
- [ENT 2112 - Entrepreneurial Opportunity Analysis](#) **Credits:** 3
- [HIM 4654 - Implementation of EHR/EMR and Clinical Support Methods](#) **Credits:** 3
- [HIM 4016 - Policy Issues in Health Informatics](#) **Credits:** 3
- [CAP 4630 - Artificial Intelligence](#) **Credits:** 3
- [EGN 3466 - Discrete Event Simulation](#) **Credits:** 3
- [CNT 4403 - Data Security](#) **Credits:** 3
- [CEN 4010 - Software Engineering](#) **Credits:** 3
- [CAP 4410 - Computer Vision](#) **Credits:** 3

Arts, Humanities, and Social Sciences

Note: Data Science majors select 12 credits from Art and Humanities and Social Sciences. Students may opt to take 9 credits in Social Science and 3 in Arts and Humanities, or divide them evenly. Six credits, *as noted below*, must be taken in Social Sciences.

Arts and Humanities

Select 3 and up to 6 credits from the following courses. At least 3 credits must come from the required list. If AMH 2020 is taken to satisfy the Social Science and the Civic Literacy requirement, then students may take an additional 3 credits from Arts and Humanities for a total of 6 credits from this area.

Required, one from the following:

- [ARH 2000 - Art Appreciation](#) **Credits:** 3
- [HUM 2020 - Introduction to the Humanities](#) **Credits:** 3
- [LIT 2000 - Introduction to Literature](#) **Credits:** 3
- [PHI 2010 - Introduction to Philosophy](#) **Credits:** 3

Optional, one from the following or one more from Arts & Humanities required or Social Sciences:

- [HUM 2022 - Explorations in the Humanities](#) **Credits:** 3
- [IDS 2144 - Legal, Ethical, and Management Issues in Technology](#) **Credits:** 3

Social Sciences

Select 6 to 9 credits. ECO 2023 is already in the plan of study, so students must choose at least 3 credits from the required list to fulfill the Social Sciences requirement. Unless the Civic Literacy requirement has been fulfilled separately, students must take

AMH 2020. If Civic Literacy has been fulfilled separately from AMH 2020, students must take a course from the required list AND and additional AMH course.

- ♦ **Required, one from the following:**

- ♦ AMH 2020 - American History [Since 1877](#) **Credits:** 3 Fulfills Civic Literacy Requirement
- ♦ ECO 2013 - Principles of Macroeconomics **Credits:** 3
- ♦ PSY 2012 - General Psychology **Credits:** 3

Optional, one from the following or one more from Social Science required or Arts & Humanities

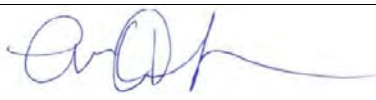
- ♦ AMH 2010 - American History [to 1877](#) **Credits:** 3
- ♦ AMH 2930 - Special Topics **Credits:** 1-3
- ♦ ECO 2023 - Principles of Microeconomics **Credits:** 3

Total Degree Credits: 120

CIP	Title	Institution	Change
30.7102	Bachelor of Science Business Analytics	Poly	Change in CIP code.

Common Prerequisite Request

Submission Directory Information

Name of Institution:	Florida Polytechnic University
Name of Person Making the Initial Request:	Tom Dvorske
Title for the Person Listed Above:	Vice Provost of Academic Affairs
Signature of Institution Common Prerequisite Liaison:	
Date of Submission:	October 2, 2020

Academic Program Information:

1. Name of Academic Degree Program: Business Analytics
2. Six Digit CIP Code: 52.1301
3. Type of Baccalaureate Degree (Bachelor of Science, Bachelor of Arts, etc.):
Bachelor of Science
4. Credit Hours to Degree for the program: 120
5. Is this program currently officially designated limited access? No
6. Is there currently a baccalaureate degree in the CIP listed above in the Common Prerequisite Manual? Yes
7. If this request is one for a new degree program at your institution, please specify your anticipated implementation date for the program: No, existing program.
8. Do the anticipated common prerequisites for the program match those already listed in the Common Prerequisite Manual? If so, please indicate where the common prerequisites are currently found: CIP: **52.1301** Track: NA

If the answer is yes to this question, you do not have to go any further in this document. You can stop at this point and submit the form.

9. Is this a new degree program for a CIP code not currently already found in the Common Prerequisite Manual? **YES**
10. If this request is for a program already listed in the Common Prerequisite Manual, is the request due to an official CIP change for the program? **Yes** If so, what CIP is the program currently found in the manual: CIP: **None** Track: N/A
What CIP is the programming moving to: CIP: **30.7102**
11. Is the request to modify currently approved common prerequisites? **YES**. If so, please indicate where the common prerequisites are currently found: **CIP: 52.1301** Track:

Attach information about the curriculum.

Changes to Currently Approved Common Prerequisites

If this is a request to modify currently approved common prerequisites, provide the following information. Please add additional rows if needed.

List Currently Required Coursework. Be sure to list any course requested to be deleted, including those listed as options to other courses. For example, if PHYX053C is listed as an option instead of taking PHYX048C and an institution believes only that PHYX048C can prepare a student for the degree program, then the deletion of PHYX053C will need to be explained.

Course Prefix and Number	# Credit Hours	Keep?	Delete?	If the course is requested to be deleted, please explain why it is necessary to delete the course?
MACx311 OR MAC X281	4	☒ Yes ☐ No	☐ Yes ☐ No	
ECOx023	3	☒ Yes ☐ No	☐ Yes ☐ No	
ECOx013	3	☒ Yes ☐ No	☐ Yes ☐ No	
CGSx000 OR CGS X100C CGS X000 CGS X530 CGS X531 CGS X570 ISM X000	3	☒ Yes ☐ No	☐ Yes ☐ No	
COPx010	3	☒ Yes ☐ No	☐ Yes ☐ No	
STAx023 OR EGS X025 ESI X230 QMB X100 STA X024 STA X032 STA X037 STA X122	3	☒ Yes ☐ No	☐ Yes ☐ No	
ACGx021 OR ACG X022 ACG X001 & ACG X011	3	☒ Yes ☐ No	☐ Yes ☐ No	
ASCx071 OR ACG X301 ACG X072	3	☒ Yes ☐ No	☐ Yes ☐ No	
FINx001	3	☐ Yes ☐ No	☐ Yes ☐ No	
BULx241 OR BUL 2241 BUL X131 CGS X092 GEB X350 MAN X440 PHI X600		☐ Yes ☐ No	☐ Yes ☐ No	

List any additional coursework is being requested. Please check to see if the course is taught by at least three Florida College System (FCS) institutions (scns.fldoe.org).

Course Prefix and Number	# Credit Hours	If this course is to serve as an alternate to another currently approved course, please list the currently approved course	Taught at three FCS institutions ?	Please explain why it is necessary to add this course as a common prerequisite
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	

Access

Number of Credit Hours for AA	60
Subtract Number of Credit Hours Required for Common Prerequisites	-28
Add the Number of Credit Hours for Common Prerequisites that are also general education core requirements	+10
Total number of semester hours left to complete the rest of the student's general education requirements	=42

If a student does not have enough room in the "total" above to complete the rest of general education requirements, please provide a justification for requiring more common prerequisite course credit hours than can be accommodated by the student in 60 semester hours: *Many of these courses are commonly take on-top of the AA general education requirements. Our current BS in Business Analytics is a 2+2 with Polk State College. This change in CIPs should not remove this status.*

With these recommendations, how does your institution propose to assist transfer students in avoiding time to degree? *Florida Poly actively works with all students, including transfers students, to create summer pathways that facilitate reduced time-to-degree as well as careful course sequencing to ensure that courses are offered in appropriate sequences so students can get the courses they need in the semesters they need them.*

See attached pdf of Program Description, or visit:

http://catalog.floridapoly.edu/preview_program.php?catoid=20&poid=824

Program:	<u>B.S. in Business Analytics</u>	CIP:	<u>30.7102</u>
Offered At:	<u>POLY</u>	Track:	
		Program Length:	<u>120 Credit hours.</u>

This is a CIP code change for Florida Polytechnic. Courses added were approved under the 52.1301 CIP code.

LOWER LEVEL COURSES

<u>STAX023</u> or <u>STAX122</u> or <u>QMBX100</u>	3	Introductory Statistic
Or <u>EGSX025</u> or <u>ESIX230</u>		
Or <u>STAX024</u> or <u>STAX032</u> or <u>STAX037</u>		

& <u>MACX311</u> or <u>MACX271</u>	3	Calculus I
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& <u>ECOX023</u>	3	
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& <u>ECOX013</u>	3	
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& <u>CGSX000</u> or <u>CGSX100C</u>	3	
or <u>CGSX530</u> or <u>CGSX531</u>		
or <u>CGSX570</u> or <u>ISMX000</u>		

& <u>COPX010</u>	3	
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& <u>ACGX021</u> or <u>ACGX022</u>	3	
or (<u>ACGX001</u> & <u>ACGX011</u>)		

& <u>ACGX071</u> or <u>ACGX301</u> or <u>ACGX072</u>	3	
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& <u>FINX001</u>	3	
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& <u>BULX241</u> or <u>BULX131</u> or <u>CGSX092</u>	3	
Or <u>GEBX350</u> or <u>MANX440</u>		
Or <u>PHIX600</u>		

60	Number of hours to complete the AA
-30	Number of Common Prerequisite Hours
+ 6	Minimum number of hours applicable to general education core
36	Number of hours available for the student to complete the rest of general ed (30 hours)
	Note that there are additional math and social science coursework that may be applicable within the institution's general education hours.

Bachelor of Science, Business Analytics (Program Description)

[Print this Page](#)

Total Degree Credits: 120

See the [Bachelor of Science, Business Analytics \(Plan of Study\)](#)

Business Analytics enable organizations to turn complex challenges into substantial opportunities by transforming data into information, & information into insights for making better decisions & improving results.

The Business Analytics curriculum provides training in the skills needed to solve complex problems that occur in the management of big data analytics, marketing, finance, and innovation and technology.

The undergraduate program in Business Analytics offers an education that can be found only at Florida Poly: data analytics expertise with a business focus by offering a cutting-edge program especially designed to prepare students for top jobs in today's technology and data intensive business world.

After completion of the B.S in Business Analytics, students will be able to:

1. Apply current business analytics concepts, techniques, and practices to solve business problems.
2. Analyze a given business problem using appropriate analytics techniques to generate insights and solutions.
3. Communicate effectively insights, analysis, conclusions, and solutions to a diverse audience.

****Course offering frequency subject to change****

College Skills (1) & Co-Curricular

All majors are required to complete an approved internship/professional experience prior to graduation.

- ♦ [SLS 1106 - Academic & Professional Skills](#) **Credits: 1**
- ♦ [IDS 4941 - Professional Experience Internship](#) **Credits: 0**

General Education (36)

Click here to view the complete list of [General Education](#) offerings. The State of Florida requires a minimum of 36 credit hours of general education for the baccalaureate degree. The following are required for the B.S. in Science and Technology Management.

Communication (6)

- ♦ [ENC 1101 - English Composition 1: Expository and Argumentative Writing](#) **Credits: 3**
- ♦ [ENC 2210 - Technical Writing](#) **Credits: 3**

Arts and Humanities (6)

Students select 6 credits from the following:

Required, one of the following:

- ♦ [ARH 2000 - Art Appreciation](#) **Credits:** 3
- ♦ [HUM 2020 - Introduction to the Humanities](#) **Credits:** 3
- ♦ [LIT 2000 - Introduction to Literature](#) **Credits:** 3
- ♦ [PHI 2010 - Introduction to Philosophy](#) **Credits:** 3

Optional, one of the following or another from above:

- ♦ [HUM 2022 - Explorations in the Humanities](#) **Credits:** 3
- ♦ [IDS 2144 - Legal, Ethical, and Management Issues in Technology](#) **Credits:** 3

Social Sciences (9)

Students in Business Analytics must take both ECO 2013 and ECO 2023 as well as 3 credits of history. If the student has met the civic literacy requirement, the student may take any history course.

Required, one of the following:

- ♦ [AMH 2020 - American History Since 1877](#) **Credits:** 3
- ♦ [ECO 2013 - Principles of Macroeconomics](#) **Credits:** 3
- ♦ [PSY 2012 - General Psychology](#) **Credits:** 3

Optional, one from the following or another from above:

- ♦ [AMH 2010 - American History to 1877](#) **Credits:** 3
- ♦ [AMH 2930 - Special Topics](#) **Credits:** 1-3
- ♦ [ECO 2023 - Principles of Microeconomics](#) **Credits:** 3

Mathematics (7)

- ♦ [MAC 2311 - Analytic Geometry and Calculus 1](#) **Credits:** 4
- ♦ [STA 2023 - Statistics 1](#) **Credits:** 3

Natural Sciences (8)

- ♦ [BSC 1010 - Biology 1](#) **Credits:** 3
- ♦ [BSC 1010L - Biology 1 Laboratory](#) **Credits:** 1
- ♦ [CHM 2045 - Chemistry 1](#) **Credits:** 3
- ♦ [CHM 2045L - Chemistry 1 Laboratory](#) **Credits:** 1

Technical Foundations (18)

- ♦ [IDS 1380 - Introduction to STEM](#) **Credits:** 3
- ♦ [COP 2271C - Introduction to Computation and Programming](#) **Credits:** 3
- ♦ [COP 2034 - Introduction to Programming Using Python](#) **Credits:** 3
- ♦ [QMB 3200 - Advanced Quantitative Methods](#) **Credits:** 3
- ♦ [EGN 3448 - Operations Research](#) **Credits:** 3
- ♦ [COP 3710 - Database 1](#) **Credits:** 3

Business Analytics Core (41)

All Business Analytics majors will take these courses.

- ♦ [CGS 1100C - Applications for Business](#) **Credits:** 2

- FIN 2001 - Introduction to Business Finance **Credits:** 3
- ACG 2020 - Accounting for Managers **Credits:** 3
- ENT 2112 - Entrepreneurial Opportunity Analysis **Credits:** 3
- BUL 2241 - Law, Public Policy, Negotiation and Business **Credits:** 3
- MAN 3520 - Six Sigma **Credits:** 3
- GEB 3373 - International & Comparative Dimensions of Business **Credits:** 3
- EGS 3625 - Engineering & Technology Project Management **Credits:** 3
- ECP 4031 - Benefit Cost Analysis **Credits:** 3
- MAN 4558 - Lean Operations Management **Credits:** 3
- MAN 4633 - Strategic Management **Credits:** 3
- CAP 4770 - Data Mining & Text Mining **Credits:** 3
- COP 2073 - Introduction to Data Science **Credits:** 3
- MAN 3504 - Introduction to Operations and Supply Chain Management **Credits:** 3

Business Analytics Concentrations (12)

Students choose one concentration (12 credits) to supplement their program.

Logistics and Supply Chain Management

- MAN 3570 - Purchasing and Materials Management **Credits:** 3
 - MAN 3610 - Global Logistics Management **Credits:** 3
 - MAN 4594 - Reverse Logistics **Credits:** 3
- or
- ENV 4610 - Sustainable Logistics **Credits:** 3
- Select one course from the following:
- MAN 4522 - Planning and Control Systems for Supply Chain Management **Credits:** 3
 - MAN 4593 - National Transportation Management **Credits:** 3
 - AVM 3012 - Air Transportation and Operations **Credits:** 3
 - EGN 3466 - Discrete Event Simulation **Credits:** 3

Intelligent Mobility

- ESI 3005 - Introduction to Networks and a Connected World **Credits:** 3
- or
- CNT 3004C - Introduction to Computer Networks **Credits:** 3
 - ESI 4011 - Data Analytics for Smart City & Transportation **Credits:** 3
 - ESI 4513 - Intelligent Mobility **Credits:** 3
- Select one course from the following:
- MAN 4593 - National Transportation Management **Credits:** 3
 - MAN 4594 - Reverse Logistics **Credits:** 3
 - AVM 3012 - Air Transportation and Operations **Credits:** 3

Quantitative Economics & Econometrics

- ECP 4044 - Economic Analysis for Technologists **Credits:** 3
- ECO 3930 - Special Topics **Credits:** 3
- Other Concentration course or program elective **Credits:** 3
- ECP 4031 - Benefit Cost Analysis **Credits:** 3

OR

- [CAP 4763 - Time Series Modeling and Forecasting Credits: 3](#)
(students take whichever is not already required in the degree)

Health Systems Engineering

The Health Systems Engineering (HSE) concentration at Florida Poly prepares students for the dynamic and ever-changing field of healthcare. The concentration supplements traditional degree programs in Computer Science, Data Science and Business Analytics with application examples based on the challenging problems in the healthcare industry. The concentration is grounded in the fundamentals of systems engineering and analytics, and focuses on process improvement, health informatics, healthcare systems modeling and healthcare decision making.

- [HIM 3490 - Introduction to Health Systems Engineering Credits: 3](#)
 - [HIM 3514 - Health Systems Modeling and Optimization Credits: 3](#)
 - [HIM 3654 - Health Systems Implementation Credits: 3](#)
- Other DSBA concentration course OR program elective

Business Analytics Electives (6)

Students choose six credits from the following electives:

- [STA 3241 - Statistical Learning Credits: 3](#)
- [CNT 3200 - Distributed Information Systems Credits: 3](#)
- [AVM 3012 - Air Transportation and Operations Credits: 3](#)
- [COP 3330C - Computer Programming 2 Credits: 3](#)
- [COP 3834C - Web Application Development Credits: 3](#)
- [ENV 4610 - Sustainable Logistics Credits: 3](#)
- [MAC 2312 - Analytic Geometry and Calculus 2 Credits: 4](#)
- [MAN 3613 - Supply Chain Risk Management Credits: 3](#)
- [HIM 4016 - Policy Issues in Health Informatics Credits: 3](#)
- [HIM 4654 - Implementation of EHR/EMR and Clinical Support Methods Credits: 3](#)
- [EGN 3466 - Discrete Event Simulation Credits: 3](#)

Program Capstone Sequence (6)

- [IDC 4942 - Data Analytics Capstone I Credits: 3](#)
- [IDC 4943 - Data Analytics Capstone II Credits: 3](#)

CIP	Title	Institution	Change
43.0116	Bachelor of Science Cyber Criminology	FSU	Change in name and course requirement.

Program:	<u>Computer Cyber Criminology</u>	CIP:	<u>43.0116</u>
		Track:	<u>1</u>
Offered At:	<u>FSU</u>	Program Length:	<u>120 Credit hours.</u>

LOWER LEVEL COURSES

COPXXXX	3	Any Computer Programming
& MACX105	3	College Algebra
& MACX140	3	Pre-Calculus Algebra
& <u>MACX311</u>	<u>4</u>	<u>Analytic Geometry & Calculus I</u>

60	Number of hours to complete the AA
-13	Number of Common Prerequisite Hours
+ 3	Minimum number of hours applicable to general education core
<u>50</u>	Number of hours available for the student to complete the rest of general ed (33 hours)
	Note that there are additional math coursework that may be applicable within the institution's general education hours.

CIP	Title	Institution	Change
51.2309	Bachelor of Science Rehabilitation and Rec Therapy	FIU	New degree program in new CIP for manual.

FIU Response to CIP 51 Common Prerequisite Faculty Discipline Committee

Thank you for your questions regarding our Common Course Pre-Req proposal. First, know that this new degree is an effort to move current tracks under Sport and Rec Management to be a standalone new degree. Currently, a smaller number actually complete the internships for Rec Therapy certification. Most are aiming for graduate education in OT, PT, etc. We designed the pre-reqs to keep them “manageable” so students who are also meeting graduate program pre-reqs of further sciences courses can get all that done.

This is from our new degree proposal:

The Bachelor of Science in Rehabilitation and Recreational Therapy is designed to prepare students to become competent entry-level rehabilitation professionals and recreational therapists in the cognitive (knowledge), psychomotor (skills) and affective (behavior) learning domains.

The rehabilitation track prepares individuals for assistant healthcare positions within a healthcare environment or human services setting. The rehabilitation track is suitable for students interested in graduate programs in allied healthcare professions.

The recreational therapy track prepares students to be eligible for certification as a Certified Therapeutic Recreation Specialist (CTRS) via the academic path and work as a recreational therapist right after graduation. The curriculum in the recreational therapy track emphasizes the role of recreational therapy in the health care team through treatment, education, and the provision of recreation and leisure-based interventions – all of which are instrumental to improving and maintaining physical, cognitive, emotional, & social functioning, preventing secondary health conditions, and enhancing quality of life.

Response to question about CIP code

The proposed CIP code is 21.2309, ‘other’. This CIP code was selected due to the degree having 2 tracks, a rehabilitation track and a recreational therapy track. The ‘other’ category matches the degree name as students in the rehabilitation track will be students interested in different rehabilitation professions including Physical Therapy, Occupational Therapy, Audiology and Speech Language Pathology, Athletic Training, Counseling Rehabilitation, Music Therapy, Art Therapy, Child Life Specialist, among others.

Response to question about abnormal psychology (CLP 2140)

Abnormal psychology is included in our program requirements/curriculum. At FIU, abnormal psychology is a 4000 level course and is called psychopathology, CLP4146. That class is part of our curriculum. Students who take it as a lower division credit will be able to transfer CLP2140 or equivalent to satisfy our program requirement.

Response to question about health care systems class (HSA 1100, HSA 3111 or HIM 3303)

We cover health care systems needed for the student learning outcomes (Academic Learning Compact) in our upper division courses including: 1) Client Assessment, Documentation and Evaluation in Recreational Therapy, 2) Program Planning in Recreational Therapy, and 3) Trends, Issues, and Managerial Aspects of Recreational Therapy.

Program:	<u>B.S. in Rehabilitation and Recreational Therapy</u>	CIP:	<u>51.2309</u>
		Track:	
Offered At:	<u>FIU</u>	Program Length:	<u>120 Credit hours.</u>

LOWER LEVEL COURSES

& BSCX085/X085L or BSCX05C	4	Anatomy and Physiology I with Lab
& BSCX086/X086L or BSCX086C	4	Anatomy and Physiology II with Lab
& DEPX000 or DEPX004	3	Human Growth and Development

60 -11 + 3 52	Number of hours to complete the AA Number of Common Prerequisite Hours Minimum number of hours applicable to general education core Number of hours available for the student to complete the rest of general ed (33 hours) Note that there are additional science coursework that may be applicable within the institution's general education hours.
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Program:	<u>Rehabilitation and Recreation Therapy</u>	CIP:	<u>51.2399</u>
		Track:	1
Offered At:	<u>FIU</u>	Program Length:	<u>120 Credit hours.</u>

LOWER LEVEL COURSES

<u>DEPX000</u>	<u>3</u>	<u>Human Growth and Development</u>
<u>& BSCX085 & BSCX085L</u> <u>Or</u> <u>BSCX085C</u>	<u>4</u>	<u>Anatomy and Physiology I</u>
<u>& BSCX086 & BSCX086L</u> <u>Or</u> <u>BSCX086C</u>	<u>4</u>	<u>Anatomy and Physiology II</u>

CIP	Title	Institution	Change
52.0701	Bachelor of Science Entrepreneurship	FGCU	



Common Prerequisite Proposal

I. Contact Information

Requesting Chief Program Chair: Dr. Sandra Kauanui, Director Daveler & Kauanui School of Entrepreneurship	Email: skauanui@fgcu.edu Phone: (239) 590-7433
Requesting Chief Academic Officer or University Common Prerequisite Liaison (person submitting this proposal to the Board of Governors or Division of Florida Colleges): Lucero Carvajal Assistant Director Academic and Curriculum Support	X First Name, Last Name Title: Email: lcavajal@fgcu.edu Phone: (239) 745-4368
Requesting institution:	Florida Gulf Coast University

II. Program Information

Title of Degree Program: Entrepreneurship (B.S.) (proposed)	CIP Code: 52.0701	Track (if appropriate): 1
Does this proposal align with a current track?	Yes: X	No:
Is this program approved for limited access?	No	
Approved total program hours to the baccalaureate degree: 120 (proposed)		
Other Institutions offering the same program (CIP and Tracks or different CIP/Track if the same major): USF, FSU		

III. Proposed Changes – Add rows as necessary

A. All Current Approved Common Prerequisites (add rows if necessary).

Current Approved Common Prerequisites		
Course Prefix	Course Name	Cr. Hrs.
ACGX021	Financial Accounting	3
ACGX071	Managerial Accounting	3
CGSX100	Computer Software & Technology	3
ECOX013	Princ of Macro Economics	3
ECOX023	Princ of Micro Economics	3
STAX023 or QMBX100 or STA 2122	Statistics	3
LDRXXXX or SLSX261	Leadership	3
MAC 2233	Elementary Calculus	3
Current Approved Common Prerequisite Credit Hours		24

B. All Proposed Common Prerequisites and Commonality of Course Offerings (add rows if necessary)

Course Prefix	Credit Hours	Number of FCS Currently Offering Course	Number of SUS Currently Offering Course	Justification for the addition or deletion of course



Common Prerequisite Proposal

ECOX023 Princ of Micro Economics or ECOX013 Princ of Macro Economics or ECOX000 Survey of Economics	3	>10	>10	Requiring 3 credits in ECO x023 with acceptable substitution ECOX013 or ECOX000
STAX023 Statistical Methods	3	>10	>10	
MACX105 College Algebra or MGF 1106 Finite Mathematics	3	>10	>10	Adding an acceptable substitution for MACX233.
ENTX000 Intro to Entrepreneurship	3	>10	3	The content of this course will provide students with introductory knowledge of entrepreneurship that will better prepare them to be successful in required courses in the program.

- C. If your request includes course(s) that are offered currently at three or fewer FCS institutions, please provide a justification as to why these courses are critical for a student's success in the baccalaureate degree program: N/A

Course(s) limited to 3 or less FCS institutions	Justification as to why these courses are critical for a student's success in the baccalaureate program.

If your request includes courses that are offered only at your institution, explain what options are available to students at other institutions for completing the required courses: N/A

- D. Please explain how any additions or deletions of common prerequisites affect programmatic accreditation issues: N/A

IV. Review of Completion within 60 semester hours.

A. Course Prerequisites, if known, for Common Prerequisite

College Level Prerequisites for Common Prerequisite Courses		
Course Prefix for Common Prerequisite	College Level Prerequisites	Cr. Hrs.
ECOX023 Princ of Micro Economics or ECOX013 Princ of Macro Economics or ECOX000 Survey of Economics	None	0
STAX023 Statistical Methods	Placement Exam (or MATX033)	0
MACx105 College Algebra or MGF 1106 Finite	Placement Exam (or MATX033)	0
ENTX000 Intro to Entrepreneurship	None	0
Number of College Level Prerequisites for Common Prerequisite Courses		0

Common Prerequisite Proposal



B. Review of Coursework

Review of Common Prerequisite Completion within 60 hours	
60	Credit Hours for AA Degree
- 15	Minus Number of Proposed Common Prerequisite Credit Hours
- 0	Minus Number of College Level Course Prerequisites for Common Prerequisite Courses (if known)
+ (12)	Plus Number of Common Prerequisites in General Education Core - Students may select one of the following to complete General Education Core Mathematics: STA 2023 (3) – At FGCU, this course is a general education requirement MAC 1105 (3) - Students may select from the following to complete General Education Social Sciences ECO 2023 (3) or ECO 2013 (3) or ECO 1000 (3) ENT 2000 (3)
57	Equals Number Credit Hours to complete remainder of General Education

If the number of credit hours to complete remainder of general education is less than 24 credit hours, explain how students will meet the requirements of the common prerequisites: N/A

V. Supporting Documentation

Include the following with this proposal:

- The program page from the Common Prerequisite Manual, if applicable.
- The program requirements for the baccalaureate degree.

Date of Submission to the Board of Governors or the Division of Florida Colleges: 9/30/20

Program:	<u>B.S. in Entrepreneurship</u>	CIP:	<u>52.0701</u>
		Track:	3
Offered At:	<u>FSU</u>	Program Length:	<u>124 Credit hours.</u>
	USF, <u>FGCU</u>		120 Credits

LOWER LEVEL COURSES

STAX023 or STAX122 or QMBX100	3	Introductory Statistics
& ACGX021 (1)(4)	3	Financial Accounting
& ACGX071 (1)(4)	3	Managerial Accounting
& CGSX100 (1)(4)	3	Computer Software & Tech
& ECOX013 (2)	3	Macro Economics
& ECOX023 (2)	3	Micro Economics
& LDRXXXX or SLSX261 (1)(5)	3	Leadership
& MACX233 (3)	3-4	Elementary Calculus
& <u>ENTX000</u>	3	Intro to Entrepreneurship

- (1) This course is not required by FGCU.
 (2) Students interested in the FGCU program should take either Economics course or ECOX000.
 (3) Students interested in the FGCU program may substitute MACX105 College Algebra or MGFX106 Finite Mathematics for MACX233.
 (4) Not required by FSU.
 (5) Only required by FSU

60	Number of hours to complete the AA
-15	Number of Common Prerequisite Hours
+ 6	Minimum number of hours applicable to general education core
<u>51</u>	Number of hours available for the student to complete the rest of general ed (30 hours)

Note that there are additional math coursework that may be applicable within the institution's general education hours.



Entrepreneurship (B.S.)

Daveler & Kauanui School of Entrepreneurship

<https://www.fgcu.edu/soe/entrepreneurship-bs>

2021-2022 Catalog Year

The B.S. in Entrepreneurship provides students with a comprehensive set of skills to create and lead new ventures or acquire jobs in established companies. Businesses recruit entrepreneurship students because of their eagerness to take initiative and see opportunities where others only see problems. The learning environment is both applied and experiential. Students in the major regularly engage with both retired and active business owners.

The coursework promotes active, project-based learning. Students will use cutting-edge tools to design new products, work effectively in teams, and make organizations grow. Entrepreneurs are action-oriented and know how to bring resources together to pursue opportunities. These skills are taught and reinforced throughout the curriculum.

Program Progression and Additional Graduation Requirements

- Submit an FGCU Undergraduate Admission Application and satisfy all applicable university admission requirements.
- Attend an orientation session.
- Sign an Advising Agreement document.
- The Entrepreneurship Minor cannot be declared with this major.
- Complete a minimum of 120 credits with at least 48 hours at the upper division (3-4000 level).
- Earn a minimum cumulative GPA of 2.0 for all coursework attempted at FGCU.
- Satisfy college-level skills and foreign language entrance requirements.
- Satisfy service learning requirement (See <https://www.fgcu.edu/studentlife/servicelearning/>).
- Satisfy residency requirement: thirty of the last sixty credits must be completed at FGCU.
- Complete summer course enrollment requirement.
- Satisfy Civic Literacy requirement

Program Requirements

1. FGCU General Education

Program (<https://www.fgcu.edu/academics/undergraduatestudies/generaleducation/>)

To prevent or minimize excess hours, select general education courses that satisfy common prerequisite requirements for your intended major.

2. Common Prerequisites

For this major, common prerequisite courses with an asterisk (*) require prior knowledge and skills demonstrated through degree acceleration programs (e.g., the College Board's Advanced Placement Program [AP], International Baccalaureate Program [IB], College-Level Examination Program [CLEP], Advanced International Certificate of Education Program [AICE]); dual enrollment; placement exam; or college coursework.

FGCU Course: ECO 2023 Principles of Micro Economics (3) Minimum grade of C
Acceptable Substitute: ECOX023 or ECOX013 or ECO x000

FGCU Course: STA 2023 Statistical Methods (3) Minimum grade of C
Acceptable Substitute: STAX023 or STAX122 or QMBX100

FGCU Course: *MAC 1105 College Algebra (3) Minimum grade of C
Acceptable Substitute: MACX233 or MAC x105 or MGFx106
[Prerequisites of MAT 1033 minimum grade of C then MAC 1105 minimum grade of B; or relevant accelerated credit; or placement exam]

FGCU Course: ENT 2000 Intro to Entrepreneurship (3) Minimum grade of C
Acceptable Substitute: ENT X000

Note: Common Prerequisites pending approval from ACC

3. Required Courses in the Major (30 credits)

A minimum grade of C is required in each course.

ENT 3004 Entrepreneurship & Creativity (3)

ENT 3114 New Venture Lab (Capstone) (3)

ENT 3121 Entrepreneurial Mindset (3)

ENT 3204 Scaling Ventures (3)

ENT 3273 Launching New Ventures (3)

ENT 3414 Innovative Decision Making (3)

ENT 3422 Venture Funding (3)

ENT 3607 Innovation by Design (3)

ENT 3618 Digital Technologies (3)

SPC 2023 Public Speaking (3) or SPC 1608 Effective Speaking (3)

4. Restricted Electives from the following: (9 credits)

ENT 3243 Promoting Ventures (3)

ENT 3xxx (3601) Visual Design (3)

ENT 3xxx (3602) Visual Software Development (3)

ENT 3503 Social Entrepreneurship (3)

ENT 4205 Founder's Dilemmas (3)

ENT 4305 Legal Strategies in Startups (3)

ENT 4901 Independent Study (3)

ENT 4902 Runway Program Seminar (3)

ENT 4943 Internship (3)

5. University Requirements (3 credits)

IDS 3920 University Colloquium (3)

6. Additional Electives- as needed to reach total credits required for the degree.

TOTAL CREDITS REQUIRED: 120