

Computer Programming & Development (A25590CP)

Program Planning Guides

2018 - 2019

Degree

Computer Programming & Development - *Day*

Computer Programming & Development - *Evening*

Certificates

C25590CC	C++ Programming
C25590CZ	C# Programming
C25590EJ	Enterprise Java
C25590JV	Java Programming
C25590JS	JavaScript
C25590NE	.NET Programming
C25590PF	Programming Fundamentals
C25590VB	Visual Basic Programming

IT - Computer Programming and Development (A25590CP)

A.A.S. Degree (Day)

PROGRAM PLANNING GUIDE

Updated: Fall 2018

Courses taken more than 5 yrs. ago may not receive transfer credit. Consult your advisor for details.

Curriculum By Semester

			Hours Per Week		Credits
			Class	Lab	
FIRST SEMESTER					
CSC	120	Computing Fundamentals I	3	2	4
CSC	121	Python Programming	2	3	3
CTI	110	Web, Pgm, and DB Foundations	2	2	3
ENG	111	Writing and Inquiry	3	0	3
		MAT 121, 143, 152 or 171	3	2	3
SECOND SEMESTER					
CTI	120	Network & Sec Foundations	2	2	3
CTS	115	Info Sys Business Concepts	3	0	3
DBA	120	Database Programming I	2	2	3
WEB	115	Web Markup and Scripting	2	3	3
		Programming Concentration Area	-	-	3
SUMMER SEMESTER					
CSC	154	Software Development	2	2	3
		Major Elective	-	-	3
THIRD SEMESTER					
CSC	227	Cloud Application Development	2	3	3
		Programming Concentration Area	-	-	12-13
FOURTH SEMESTER					
COM	120	Introduction to Interpersonal Communication	3	0	3
ECO	151	Survey of Economics	3	0	3
		Humanities/Fine Art Elective	3	0	3
		Programming Concentration Area	-	-	3
		Project Elective	-	-	3

GRADUATION REQUIREMENT:

Credit Hours 67-68

IT - Computer Programming and Development (A25590CP)

A.A.S. Degree (Day)

PROGRAM PLANNING GUIDE

General Education Electives					
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			Hours Per Week		
			Class	Lab	Credits

Humanities and Fine Arts Electives					
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(choose 3 credit hours from the following courses)

HUM	110	Technology and Society	3	0	3
HUM	115	Critical Thinking	3	0	3
HUM	230	Leadership Development	3	0	3
PHI	240	Introduction to Ethics	3	0	3

Required Major Electives					
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Concentration Area (Select 1 option grouping below)					
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Option 1 - Java Programming (19 Credit Hours, take in order listed)

CSC	151	Java Programming	2	3	3
CSC	130	Computing Fundamentals II	2	3	4
CSC	251	Advanced Java Programming	2	3	3
CSC	256	Software Quality Assurance	2	2	3
		Concentration Elective	-	-	3
CSC	258	Java Enterprise Programs	2	2	3

Concentration Elective (select a minimum of 3 credit hours from the following courses)

CSC	122	Python Application Development	2	2	3
CSC	134	C++ Programming	2	3	3
CSC	153	C# Programming	2	3	3
CSC	174	Server-Side Javascript	2	2	3
WEB	151	Mobile Applications Dev I	2	2	3

Option 2 - C++ Programming (19 Credit Hours, take in order listed)

CSC	134	C++ Programming	2	3	3
CSC	130	Computing Fundamentals II	2	3	4
CSC	234	Advanced C++ Programming	2	3	3
CSC	256	Software Quality Assurance	2	2	3
		Concentration Elective	-	-	3
CSC	216	Software Architecture	2	3	3

Concentration Elective (select a minimum of 3 credit hours from the following courses)

CSC	122	Python Application Development	2	2	3
CSC	151	Java Programming	2	3	3
CSC	153	C# Programming	2	3	3
CSC	174	Server-Side Javascript	2	2	3
WEB	151	Mobile Applications Dev I	2	2	3

Option 3 - .NET Programming (18 Credit Hours, take in order listed)

CSC	153	C# Programming	2	3	3
WEB	180	Active Server Pages	2	2	3
CSC	253	Advanced C# Programming	2	3	3
CSC	174	Server-Side JavaScript	2	2	3
CSC	226	.NET Programming	2	2	3

IT - Computer Programming and Development (A25590CP)

A.A.S. Degree (Day)

PROGRAM PLANNING GUIDE

DBA	221	SQL Server DB Programming II	2	2	3
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Major Elective

(choose a minimum of 3 credit hours from the following courses)

CSC	111	Introduction to Ethical Hacking	3	0	3
CSC	139	Visual Basic	2	3	3
CSC	163	C# Applications Development	2	3	3
CSC	221	Advanced Python Programming	2	2	3
CTS	285	Systems Analysis and Design	3	0	3
DBA	130	Introduction to NoSQL Databases	2	3	3
DBA	220	Oracle DB Programming II	2	3	3
DBA	240	Database Analysis/Design	2	3	3

Project Electives

(choose a minimum of 3 credit hours from the following courses)

CSC	289	Programming Capstone	1	4	3
WBL	111	Work-Based Learning	0	10	1
WBL	112	Work-Based Learning	0	20	2
WBL	113	Work-Based Learning	0	30	3

*Work-Based Learning is an elective. WBL courses completed for one program may not count toward the completion of another program. Contact your academic advisor or WBL faculty coordinator for verification. Students must have approval from the department head and pre register with the Computer Technologies Division office. As an alternative to CSC 289, three credit hours of Work-Based Learning can be taken. The Work-Based Learning work period may be taken as WBL 112, over two semesters as WBL-111 and WBL-112 or over one semester as WBL-113.

IT - Computer Programming and Development (A25590CP)

A.A.S. Degree (Evening)

PROGRAM PLANNING GUIDE

Updated: Fall 2018

Courses taken more than 5 yrs. ago may not receive transfer credit. Consult your advisor for details.

Curriculum By Semester					
			Hours Per Week		
			Class	Lab	Credits
FIRST SEMESTER					
CSC	120	Computing Fundamentals I	3	2	4
CTI	110	Web, Pgm, and DB Foundations	2	2	3
ENG	111	Writing and Inquiry	3	0	3
SECOND SEMESTER					
CSC	121	Python Programming	2	3	3
CTS	115	Info Sys Business Concepts	3	0	3
		MAT 121, 143, 152, or 171	3	2	3
FIRST SUMMER SEMESTER					
DBA	120	Database Programming I	2	2	3
		Programming Concentration Area	-	-	3
THIRD SEMESTER					
WEB	115	Web Markup and Scripting	2	3	3
CSC	154	Software Development	2	2	3
		Programming Concentration Area	-	-	3
FOURTH SEMESTER					
		Programming Concentration Area	-	-	6-7
CTI	120	Network & Sec Foundations	2	2	3
SECOND SUMMER SEMESTER					
CSC	227	Cloud Application Development	2	3	3
COM	120	Introduction to Interpersonal Communication	3	0	3
FIFTH SEMESTER					
		Programming Concentration Area	-	-	3
		Major Elective	-	-	3
ECO	151	Survey of Economics	3	0	3
SIXTH SEMESTER					
		Programming Concentration Area	-	-	3
		Project Elective	-	-	3
		Humanities/Fine Art Elective	3	0	3

GRADUATION REQUIREMENT:

Credit Hours 67-68

IT - Computer Programming and Development (A25590CP)

A.A.S. Degree (Evening)

PROGRAM PLANNING GUIDE

General Education Electives

			Hours Per Week		
			Class	Lab	Credits

Humanities and Fine Arts Electives

(choose 3 credit hours from the following courses)

HUM	110	Technology and Society	3	0	3
HUM	115	Critical Thinking	3	0	3
HUM	230	Leadership Development	3	0	3
PHI	240	Introduction to Ethics	3	0	3

Required Major Electives

Concentration Area (Select 1 option grouping below)

Option 1 - Java Programming (19 Credit Hours, take in order listed)

CSC	151	Java Programming	2	3	3
CSC	130	Computing Fundamentals II	2	3	4
CSC	251	Advanced Java Programming	2	3	3
CSC	256	Software Quality Assurance	2	2	3
		Concentration Elective	-	-	3
CSC	258	Java Enterprise Programs	2	2	3

Concentration Elective (select a minimum of 3 credit hours from the following courses)

CSC	122	Python Application Development	2	2	3
CSC	134	C ++ Programming	2	3	3
CSC	153	C# Programming	2	3	3
CSC	174	Server-Side Javascript	2	2	3
WEB	151	Mobile Applications Dev I	2	2	3

Option 2 - C++ Programming (19 Credit Hours, take in order listed)

CSC	134	C++ Programming	2	3	3
CSC	130	Computing Fundamentals II	2	3	4
CSC	234	Advanced C++ Programming	2	3	3
CSC	256	Software Quality Assurance	2	2	3
		Concentration Elective	-	-	3
CSC	216	Software Architecture	2	3	3

Concentration Elective (select a minimum of 3 credit hours from the following courses)

CSC	122	Python Application Development	2	2	3
CSC	151	Java Programming	2	3	3
CSC	153	C# Programming	2	3	3
CSC	174	Server-Side Javascript	2	2	3
WEB	151	Mobile Applications Dev I	2	2	3

Option 3 - .NET Programming (18 Credit Hours, take in order listed)

CSC	153	C# Programming	2	3	3
WEB	180	Active Server Pages	2	2	3

IT - Computer Programming and Development (A25590CP)

A.A.S. Degree (Evening)

PROGRAM PLANNING GUIDE

CSC	253	Advanced C# Programming	2	3	3
CSC	174	Server-Side JavaScript	2	2	3
CSC	226	.NET Programming	2	2	3
DBA	221	SQL Server DB Programming II	2	2	3

Major Elective

(choose a minimum of 3 credit hours from the following courses)

CSC	111	Introduction to Ethical Hacking	3	0	3
CSC	139	Visual Basic	2	3	3
CSC	163	C# Applications Development	2	3	3
CSC	221	Advanced Python Programming	2	2	3
CTS	285	Systems Analysis and Design	3	0	3
DBA	130	Introduction to NoSQL Databases	2	3	3
DBA	220	Oracle DB Programming II	2	3	3
DBA	240	Database Analysis/Design	2	3	3

Project Electives

(choose a minimum of 3 credit hours from the following courses)

CSC	289	Programming Capstone	1	4	3
WBL	111	Work-Based Learning	0	10	1
WBL	112	Work-Based Learning	0	20	2
WBL	113	Work-Based Learning	0	30	3

*Work-Based Learning is an elective. WBL courses completed for one program may not count toward the completion of another program. Contact your academic advisor or WBL faculty coordinator for verification. Students must have approval from the department head and pre register with the Computer Technologies Division office. As an alternative to CSC 289, three credit hours of Work-Based Learning can be taken. The Work-Based Learning work period may be taken over two semester as WBL 112, over two semesters as WBL-111 and WBL-112 or over one semester as WBL-113.

IT - Computer Programming and Development (A25590CP)

C++ Programming (C25590CC)

Certificate

(Day and Evening)

PROGRAM PLANNING GUIDE

Updated: Fall 2018

Prereq: C25590PF

Courses taken more than 5 yrs. ago may not receive transfer credit. Consult your advisor for details.

Curriculum

			Hours Per Week		Credits
			Class	Lab	
CSC	134	C ++ Programming	2	2	3
CSC	154	Software Development	2	2	3
CSC	227	Cloud Application Development	2	3	3
CSC	234	Advanced C++ Programming	2	3	3

GRADUATION REQUIREMENT:

Credit Hours 12

These four courses provide a student with C++ programming skills. All of the courses offered are part of the **A25590CP AAS degree**

IT - Computer Programming and Development (A25590CP)

C# Programming (C25590CZ)

Certificate

(Day and Evening)

PROGRAM PLANNING GUIDE

Updated: Fall 2018

Prereq: C25590PF

Courses taken more than 5 yrs. ago may not receive transfer credit. Consult your advisor for details.

Curriculum

			Hours Per Week		Credits
			Class	Lab	
CSC	153	C# Programming	2	3	3
CSC	154	Software Development	2	2	3
CSC	253	Advanced C# Programming	2	2	3
CSC	163	C# Applications Development	2	3	3

GRADUATION REQUIREMENT:

Credit Hours 12

These four courses provide a student with C# programming skills. All of the courses offered are part of the **A25590CP AAS degree**

IT - Computer Programming and Development (A25590CP)

Enterprise Java (C25590EJ)

Certificate

(Day and Evening)

PROGRAM PLANNING GUIDE

Updated: Fall 2018

Pre-Req: C25590JV

Courses taken more than 5 yrs. ago may not receive transfer credit. Consult your advisor for details.

Curriculum					
			Hours Per Week		
			Class	Lab	Credits
CSC	174	Server-Side JavaScript	2	2	3
CSC	258	Java Enterprise Programs	2	3	3
WEB	151	Mobile Applications Dev I	2	2	3
DBA	220	Oracle DB Programming II	2	2	3

GRADUATION REQUIREMENT:

Total Credits 12

IT - Computer Programming and Development (A25590CP)

Java Programming (C25590JV)

Certificate

(Day and Evening)

PROGRAM PLANNING GUIDE

Updated: Fall 2018

Prereq: C25590PF

Courses taken more than 5 yrs. ago may not receive transfer credit. Consult your advisor for details.

Curriculum					
			Hours Per Week		Credits
			Class	Lab	
CSC	151	Java Programming	2	3	3
CSC	154	Software Development	2	2	3
CSC	227	Cloud Application Development	2	3	3
CSC	251	Advanced Java Programming	2	3	3

GRADUATION REQUIREMENT:

Total Credits 12

These four courses provide a student with advanced Java programming skills. All of the courses offered are part of the **A25590CP AAS degree**

IT - Computer Programming and Development (A25590CP)

JavaScript (C25590JS) *Certificate* (Day and Evening) PROGRAM PLANNING GUIDE

Updated: Fall 2018

Prereq: C25590PF

Courses taken more than 5 yrs. ago may not receive transfer credit. Consult your advisor for details.

Curriculum

			Hours Per Week		Credits
			Class	Lab	
DBA	130	Introduction to NoSQL Databases	2	3	3
CSC	174	Server-Side Javascript	2	2	3
WEB	110	Internet/Web Fundamentals	2	2	3
WEB	215	Advanced Markup and Scripting	2	2	3

GRADUATION REQUIREMENT:

Credit Hours 12

IT - Computer Programming and Development (A25590CP)

.NET Programming (C25590NE)

Certificate

(Day and Evening)

PROGRAM PLANNING GUIDE

Updated: Fall 2018

Prereq: C25590CZ

Courses taken more than 5 yrs. ago may not receive transfer credit. Consult your advisor for details.

Curriculum

			Hours Per Week		
			Class	Lab	Credits
CSC	226	.NET Programming	2	3	3
CSC	227	Cloud Application Development	2	3	3
DBA	221	SQL Server DB Programming II	2	2	3
WEB	180	Active Server Pages	2	2	3

GRADUATION REQUIREMENT:

Credit Hours

12

These four courses provide a student with .NET programming skills. All of the courses offered are part of the **A25590CP AAS degree**

IT - Computer Programming and Development (A25590CP)

Programming Fundamentals (C25590PF)

Certificate

(Day and Evening)

PROGRAM PLANNING GUIDE

Updated: Fall 2018

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Curriculum					
			Hours Per Week		
			Class	Lab	Credits
CSC	120	Computing Fundamentals I	3	2	4
CSC	121	Python Programming	2	3	3
WEB	115	Web Markup and Scripting	2	3	3
DBA	120	Database Programming I	2	2	3

GRADUATION REQUIREMENT:

Credit Hours 13

These four courses provide a student with foundational full-stack programming skills. All of the courses offered are part of the **A25590CP AAS degree**

IT - Computer Programming and Development (A25590CP)

Visual Basic Programming (C25590VB)

Certificate

(Day and Evening)

PROGRAM PLANNING GUIDE

Updated: Fall 2018

Prereq: C25590PF

Courses taken more than 5 yrs. ago may not receive transfer credit. Consult your advisor for details.

Curriculum

			Hours Per Week		Credits
			Class	Lab	
CSC	139	Visual Basic	2	2	3
CSC	154	Software Development	2	2	3
CSC	227	Cloud Application Development	2	3	3
CSC	239	Advanced Visual Basic	2	3	3

GRADUATION REQUIREMENT:

Credit Hours 12

These four courses provide a student with Visual Basic programming skills. All of the courses offered are part of the **A25590CP AAS degree**