

## *Effective Fall 2017*

### **Degrees**

**Data Science and Programming Support  
(A25590DS)**

### **Certificates**

**Database Programming - General (C25590GB)**

**Database Programming - Microsoft (C25590SQ)**

**Database Programming - Oracle (C25590OR)**

**Database Programming - SAS (C25590SS)**

**Python Programming (C25590PY)**

**IT - Data Science and Programming Support Services (A25590DS)**  
**A.A.S. Degree (Day)**  
**PROGRAM PLANNING GUIDE**

**Updated: Fall 2017**

**Realignment: Fall 2016 (Replaces A2515B - Database Management Developer Degree)**

**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
DBA	110	Database Concepts	2	3	3
MAT	152	Statistical Methods	3	2	4

<b>SECOND SEMESTER</b>					
CSC	122	Python Applications Development	2	2	3
CSC	124	Intro to Programming for Data Science	2	2	3
CTI	120	Network & Sec Foundations	2	2	3
DBA	120	Database Programming I	2	2	3
ENG	111	Writing and Inquiry	3	0	3

<b>FIRST SUMMER SEMESTER</b>					
CSC	174	Server-Side JavaScript	2	2	3
WEB	115	Web Markup and Scripting	2	2	3

<b>THIRD SEMESTER</b>					
CSC	152	SAS	2	3	3
CSC	221	Advanced Python Programming	2	2	3
CTS	115	Info Sys Business Concepts	3	0	3
DBA	130	Introduction to NoSQL Databases	2	2	3
		DBA Elective	-	-	3

<b>FOURTH SEMESTER</b>					
COM	120	Introduction to Interpersonal Communication	3	0	3
CSC	227	Cloud Application Development	2	2	3
ECO	151	Survey of Economics	3	0	3
		Major Elective	-	-	3
		Humanities/Fine Art Elective	3	0	3

**GRADUATION REQUIREMENT:**

**Credit Hours    68**

# IT - Data Science and Programming Support Services (A25590DS)

*A.A.S. Degree (Day)*

## 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)

ART	111	Art Appreciation	3	0	3
HUM	115	Critical Thinking	3	0	3
MUS	110	Music Appreciation	3	0	3
PHI	240	Introduction to Ethics	3	0	3

### Required Major Electives

#### Major Electives

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

CSC	116	Introduction to Functional Programming	2	2	3
CSC	153	C# Programming	2	3	3
CSC	154	Software Development	2	2	3
CTS	225	Spreadsheet Data Analysis	2	2	3
DBA	115	Database Applications	2	2	3
DBA	240	Database Analysis/Design	2	3	3
DBA	285	Data Warehousing and Mining	3	2	3

#### DBA Electives

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

DBA	220	Oracle DB Programming II	2	2	3
DBA	221	SQL Server DB Programming II	2	2	3
DBA	223	MySQL DB Programming II	2	2	3
DBA	224	SAS DB Programming II	2	2	3

# IT - Data Science and Programming Support Services (A25590DS)

*A.A.S. Degree (Evening)*

## PROGRAM PLANNING GUIDE

**Updated: Fall 2017**

**Realignment: Fall 2016 (Replaces A25150B - Database Management Developer Degree)**

**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

<b>SECOND SEMESTER</b>					
CSC	122	Python Applications Development	2	2	3
DBA	110	Database Concepts	2	3	3
MAT	152	Statistical Methods	3	2	4

<b>FIRST SUMMER SEMESTER</b>					
CTI	120	Network & Sec Foundations	2	2	3
DBA	120	Database Programming I	2	2	3

<b>THIRD SEMESTER</b>					
CSC	124	Intro to Programming for Data Science	2	2	3
CSC	221	Advanced Python	2	2	3
WEB	115	Web Markup and Scripting	2	2	3

<b>FOURTH SEMESTER</b>					
CSC	174	Server-Side JavaScript	2	2	3
DBA	130	Introduction to NoSQL Databases	2	2	3
CTS	115	Info Sys Business Concepts	3	0	3

<b>SECOND SUMMER SEMESTER</b>					
CSC	152	SAS	2	3	3
ENG	111	Writing and Inquiry	3	0	3

<b>FIFTH SEMESTER</b>					
ECO	151	Survey of Economics	3	0	3
		Major Elective	-	-	3
		DBA Elective	-	-	3

<b>SIXTH SEMESTER</b>					
COM	120	Introduction to Interpersonal Communication	3	0	3
CSC	227	Cloud Application	2	2	3
		Humanities/Fine Art Elective	3	0	3

**GRADUATION REQUIREMENT:**

**Credit Hours 68**

# IT - Data Science and Programming Support Services (A25590DS)

*A.A.S. Degree (Evening)*

## PROGRAM PLANNING GUIDE

Updated: Fall 2017

### General Education Electives

Hours Per Week		Credits
Class	Lab	

### Humanities and Fine Arts Electives

(choose 3 credit hours from the following courses)

ART	111	Art Appreciation	3	0	3
HUM	115	Critical Thinking	3	0	3
MUS	110	Music Appreciation	3	0	3
PHI	240	Introduction to Ethics	3	0	3

### Required Major Electives

#### Major Electives

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

CSC	116	Introduction to Functional Programming	2	2	3
CSC	153	C# Programming	2	3	3
CSC	154	Software Development	2	2	3
CTS	225	Spreadsheet Data Analysis	2	2	3
DBA	115	Database Applications	2	2	3
DBA	240	Database Analysis/Design	2	3	3
DBA	285	Data Warehousing and Mining	3	2	3

### DBA Electives

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

DBA	220	Oracle DB Programming II	2	2	3
DBA	221	SQL Server DB Programming II	2	2	3
DBA	223	MySQL DB Programming II	2	2	3
DBA	224	SAS DB Programming II	2	2	3

**IT - Data Science and Programming Support Services (A25590DS)**  
**Database Programming - General (C25590GB)**  
*Certificate*  
 (Day and Evening)  
**PROGRAM PLANNING GUIDE**

**PreReq: DBA 110**

**Origination Date: Fall 2016**

**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	120	Computing Fundamentals I	3	2	4
CSC	174	Server-Side JavaScript	2	3	3
DBA	130	Introduction to NoSQL Databases	2	2	3
DBA	120	Database Programming I	2	2	3
		Elective	-	-	3

**GRADUATION REQUIREMENT:**

**Credit Hours     16**

Major Electives					
(choose a minimum of 3 credit hours from the following courses)					
CSC	122	Python Applications	2	2	3
CSC	153	C# Programming	2	3	3
DBA	115	Database Applications	2	2	3
DBA	223	MySQL DB Programming II	2	2	3
DBA	224	SAS DB Programming II	2	2	3

These five courses provide a student with general programming skills for databases. All of the courses offered are part of the **A25590DS AAS degree**

**IT - Data Science and Programming Support Services (A25590DS)**  
**Database Programming - Microsoft (C25590SQ)**  
*Certificate*  
 (Day and Evening)  
**PROGRAM PLANNING GUIDE**

**PreReq DBA 110**

**Realignment: Fall 2016 (Replaces C25150D - Database Developer Microsoft Certificate)**

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	120	Computing Fundamentals I	3	2	4
CSC	174	Server-Side JavaScript	2	3	3
DBA	120	Database Programming I	2	2	3
DBA	130	Introduction to NoSQL Databases	2	2	3
DBA	221	SQL Server DB Programming II	2	2	3

**GRADUATION REQUIREMENT:**

**Credit Hours     16**

These five courses provide a student with Oracle database programming skills. All of the courses offered are part of the **A25590DS AAS degree**

**IT - Data Science and Programming Support Services (A25590DS)**  
**Database Programming - Oracle (C255900R)**  
*Certificate*  
 (Day and Evening)  
**PROGRAM PLANNING GUIDE**

**PreReq DBA 110**

**Realignment: Fall 2016 (Replaces C25150B - Database Developer Oracle Certificate)**

**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	120	Computing Fundamentals I	3	2	4
CSC	174	Server-Side JavaScript	2	3	3
DBA	120	Database Programming I	2	2	3
DBA	130	Introduction to NoSQL Databases	2	2	3
DBA	220	Oracle DB Programming II	2	2	3

**GRADUATION REQUIREMENT:**

**Credit Hours     16**

These five courses provide a student with Oracle database programming skills. All of the courses offered are part of the **A25590DS AAS degree**



**IT - Data Science and Programming Support Services (A25590DS)**  
**Database Programming - SAS (C25590SS)**  
*Certificate*  
 (Day and Evening)  
**PROGRAM PLANNING GUIDE**

**PreReq DBA 110**

**Origination Date: Fall 2016**

**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	124	Intro to Data Science Prog	2	2	3
CSC	152	SAS	2	3	3
DBA	120	Database Programming I	2	2	3
DBA	224	SAS DB Programming II	2	2	3
DBA	240	Database Analysis / Design	2	3	3

**GRADUATION REQUIREMENT:**

**Credit Hours     15**

These five courses provide a student with general programming skills for databases. All of the courses offered are part of the **A25590DS AAS degree**

**IT - Data Science and Programming Support Services (A25590DS)**  
**Python Programming (C25590PY)**  
*Certificate*  
(Day and Evening)  
**PROGRAM PLANNING GUIDE**

**Origination Date: Fall 2016**

**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	120	Computing Fundamentals I	3	2	4
CSC	121	Python Programming	2	3	3
CSC	122	Python Application Development	2	2	3
CSC	124	Intro to Programming for Data Science	2	2	3
CSC	221	Advanced Python	2	3	3

**GRADUATION REQUIREMENT:**

**Credit Hours     16**

These five courses provide a student with Python and R programming skills. All of the courses offered are part of the **A25590DS AAS degree**