

# DATA SYSTEMS AND DEVELOPMENT

Program Code: T.CPL.AAS

## Associate in Applied Science (A.A.S.)

Minimum graduation requirement — 60 semester hours

The Data Systems and Development program equips students for a wide range of opportunities as computer programmers and software designers. Areas include mobile application development, systems and database programming, and web development. Students begin their training with foundational language courses and then may choose from a wide variety of advanced, industry-specific courses to customize their degree. Students may also choose to select from a number of smaller degree certificates embedded within the software development program. This program transfers to EIU, UIS, and SIU under the 2+2 agreement.

### Suggested Full-time Sequence

<i>FALL</i>	<i>SPRING</i>
<i>1st Semester</i>	<i>2nd Semester</i>
CIS 112	CIS 123 or CSC 140
CIS 122	CSC 128
CIS 152	MAT 200 or MAT 108 or MAT
ENG 101	124
	ENG 102
	Elec
<i>Fall</i>	<i>Spring</i>
<i>3rd Semester</i>	<i>4th Semester</i>
CSC 125 or CSC 256	CSC 130
CSC 176	CSC 155
CIS 137 or CSC 133	CSC 220
Elec	Elec
Gen Ed elec	Gen Ed elec

### Required Program Courses (35–37 hours) Cr. Hrs.

CIS 112	Computing Essentials	4
CIS 122	Introduction to Computer Programming	4
CIS 137	Basic PC Maintenance/Operating Systems Concepts	3
or CSC 133	PC Hardware and OS Maintenance	4
CIS 152	Web Design and Development I	3
CSC 123	Computer Science I (C/C)	4
or CSC 140	Computer Science I (Java)	3
CSC 125	Computer Science II (C++)	3
or CSC 256	Computer Science II (Java)	3
CSC 128	Introduction to Linux	3
CSC 130	Introduction to Computer Networks	3
CSC 155	Systems Development	3
CSC 176	Data Systems I	3
CSC 220	Data Structures	3

## Requirements for Specialty Tracks

### WEB DEVELOPMENT (10 hours)

Program Code: T.CPL.AAS.WEB

CSC 121	Web Design and Development II	3
CSC 175	JavaScript Development	3
	Program electives	4

### MOBILE DEVELOPMENT (10 hours)

Program Code: T.CPL.AAS.MOB

CSC 212	Mobile Application Development	4
	Program electives	6

### DATABASE FOUNDATION (10 hours)

Program Code: T.CPL.AAS.SQL

CSC 191	SQL	4
	Program electives	6

### Program Electives

CSC 121	Web Design and Development II	3
CSC 175	JavaScript Development	3
CSC 191	SQL	4
CSC 212	Mobile Application Development	4
CIS 231	Systems Analysis, Design, and Administration	3
CIS 298	Work Experience	3
CSC 151	CSC 151 MS OS Workstation	3
CSC 153	MS OS Server	3
CSC 171	Linux Installation and Administration	3
MAT 128	Calculus and Analytical Geometry	5
MAT 200	Introduction to Discrete Mathematics	3
	(recommended for UIS transfer)	

### Required General Education Courses (15–16 hours)

ENG 101	Composition I	3
ENG 102	Composition II	3
	Social and Behavioral Sciences, Humanities/Fine Arts, or Physical Sciences electives	6
MAT 200	Introduction to Discrete Mathematics	3
or MAT 108	Introduction to Applied Statistics	3
or MAT 124	College Algebra	4

Total Semester Credit Hours 60–62

# DATA SYSTEMS AND DEVELOPMENT CERTIFICATES

## DATABASE FOUNDATION

Program Code: T.SDV.CER

### Certificate

Minimum graduation requirement — 20 semester hours

Focuses on database applications; completion of certificate can be applied to the A.A.S. in Data Systems and Development.

### Suggested Sequence

FALL	SPRING	FALL
1st Semester	2nd Semester	3rd Semester
CIS 122 or CSC 140	CSC 176 CSC 155	CSC 191 CSC Elec
CSC 128		

### Required Program Courses (20–21 hours) Cr. Hrs.

CIS 122	Introduction to Computer Programming	4
or CSC 140	Computer Science I (Java)	3
CSC 128	Introduction to Linux	3
CSC 155	Systems Development I	3
CSC 176	Data Systems I	3
CSC 191	SQL	4
CSC elective		4
		4

Total Semester Credit Hours 20–21

## WEB DEVELOPMENT

Program Code: T.WAP.CER

### Certificate

Minimum graduation requirement — 15 semester hours

Focuses on web development skills; completion of certificate can be applied to the A.A.S. in Data Systems and Development.

### Suggested Sequence

FALL	SPRING	FALL
1st Semester	2nd Semester	3rd Semester
CSC 123 or CSC 140	CIS 152 CSC 128	CSC 155 CSC 175

### Required Program Courses (15–16 hours) Cr. Hrs.

CSC 123	Computer Science I (C/C++)	4
or CSC 140	Computer Science I (Java)	3
CIS 152	Web Design I	3
CSC 128	Introduction to Linux	3
CSC 155	CGI with Perl	3
CSC 175	Scripting	3
		15

Total Semester Credit Hours 15–16

## GENERAL PROGRAMMING

Program Code: T.GPR.CER

### Certificate

Minimum graduation requirement — 13 semester hours

Builds foundational programming skills; completion of certificate can be applied to the A.A.S. in Data Systems and Development.

### Suggested Sequence

FALL	SPRING	FALL	SPRING
1st Semester	2nd Semester	3rd Semester	4th Semester
CIS 122	CSC 123 or CSC 140	CSC 125 or CSC 256	CSC 220

### Required Program Courses (13–14 hours) Cr. Hrs.

CIS 122	Introduction to Programming	4
CSC 123	Computer Science I (C/C++)	4
or CSC 140	Computer Science I (Java)	3
CSC 125	Computer Science II (C++)	3
or CSC 256	Computer Science II (Java)	3
CSC 220	Data Structures	3
		13

Total Semester Credit Hours 13–14

## MOBILE DEVELOPMENT

Program Code: T.MOB.CER

### Certificate

Minimum graduation requirement — 10 semester hours

Builds skills needed to develop mobile apps; completion of certificate can be applied to the A.A.S. in Data Systems and Development.

### Suggested Sequence

FALL	SPRING
1st Semester	2nd Semester
CSC 140	CSC 212 CSC 256

### Required Program Courses (16 hours) Cr. Hrs.

CSC 140	Computer Science I (Java)	3
CSC 212	Mobile Application Development	4
CSC 256	Computer Science II (Java)	3
		10

Total Semester Credit Hours 10