DATABASE DEVELOPER: CP

Certificate of Proficiency | 36 credit hours minimum

Area of Interest: Science, Technology, Engineering, and Math (STEM)

Program Website (https://stlcc.edu/programs-academics/pathways/s-t-e-m/database-developer/)

Academic Advising (https://stlcc.edu/admissions/advising/)

Program Description:

Database Developer Certificate of Proficiency is a comprehensive program designed to equip the student with the skills and knowledge to become a successful database developer. Through this program, students will:

- master the fundamentals of database design, implementation, and management, covering relational, NoSQL, and object-oriented databases.
- learn to harness the power of databases and related software programs to create complex searchable databases (warehousing) and utilize analytical search tools for data extraction and mining.
- apply statistical models to uncover patterns and trends in data, critically evaluate analytical findings, and create insightful data visualizations using industry-standard tools.
- embrace the cloud with specialized courses on cloud database management, focusing on platforms like AWS and Azure.
- gain expertise in configuration, optimization, and security of cloud-based databases.

This program equips the student for a range of exciting career opportunities in database development, data analysis, and cloud computing.

Locations. This program is offered in its entirety at Meramec.

Related Programs. The Computer and Information Technology Department offers an associate in the following area:

> **Software Developer, Associate in Applied Science (http://catalog.stlcc.edu/programs/software-developer-aas/)**

Cost of Attendance. For more information on cost of attendance visit **MoSCORES (https://scorecard.mo.gov/Search/)**.

Program Career and Salary Information. Pursuant to Missouri HB 1606 (2018), information regarding the number of credit hours, program length, employment rate, wage data, and graduates employed in careers related to their program of study at St. Louis Community College can be found at the following URL: **https://scorecard.mo.gov/scorecard/ (https://www.google.com/url?q=https://scorecard.mo.gov/scorecard/&sa=D&ust=1555536894857000&usg=AFQjCNG1xf3E_i2lO96zEytILO-s5xaJCQ)**. Search using School / Program "St. Louis Community College" and choose the degree or credential type of interest.

The following limitations to the data apply: Information provided is based on the most recent cohorts available. Typically, most recent cohorts for wage and completion data are six years prior to the current academic year. Time to complete a program of study varies depending on the number of credit hours students earn per semester.

Interested in this program? Start the enrollment process by visiting the **Apply to STLCC (https://www.stlcc.edu/admissions/apply-to-stlcc/)** page.

At the completion of the program, students are expected to:

1. explain fundamental concepts of database management systems (DBMS) and their role in the modern digital world.
2. develop data-centric applications using analytical search tools to extract, analyze, and manipulate data within a database.
3. manage cloud and hybrid database systems.
4. implement security measures and best practices to comply with industry standards.
5. create advanced data visualizations (interactive dashboards, presentations) using visualization techniques and tools to communicate data insights effectively.
6. perform advanced visualization techniques, interactive dashboards, and visual presentations.
7. use business applications, programming tools, and software applications to design and develop database-related projects.

Code	Title	Credit Hours
Program Requirements		
CIT 112	Introduction to Computer Science	3
CIT 151	Computer Applications in Business	4
CIT 180	Programming I with Python	3
CIT 166	Programming I with C# and Java	4
CIT 125	Introduction to Databases	3
CIT 285	Principles of Data Analytics	3
CIT 155	Cloud Database Management	4
CIT 141	Introduction to UX/UI Design	3-4
or CIT 291	Workplace Learning: Computer and Information Technology	
CIT 160	Introduction to Data Visualization	3
WEB 101	Introduction to Web Development	3
CIT 257	Advanced Data Analytics	3
Total Credit Hours		**36-37**

Part-Time Academic Plan

PLEASE NOTE: If you originally enrolled at STLCC prior to Fall 2025, you may need to view an **archived catalog (http://catalog.stlcc.edu/archived-catalogs/)** for your correct program requirements. Please speak with an advisor or the program coordinator for more information.

Code	Title	Hours	Prerequisites	Milestones/Notes
First Year				
Fall				
CIT 112	Introduction to Computer Science	3	Reading Proficiency	Exploratory Course

CIT 151	Computer Applications in Business	4	Concurrent or prior enrollment in IS 122 or IS 123 or IT 102 or HIM 102 or CIT 112 with a minimum grade of "C" or equivalent experience and Reading Proficiency	
	Credit Hours	**7**		
Spring				
CIT 125	Introduction to Databases	3	Reading Proficiency	Critical Course
CIT 180	Programming I with Python	3	Reading Proficiency	Gateway Course
	Credit Hours	**6**		
Second Year				
Fall				
CIT 285	Principles of Data Analytics	3	CIT 125 with a minimum grade of "C" and Reading Proficiency	
WEB 101	Introduction to Web Development	3	Reading Proficiency	
	Credit Hours	**6**		
Spring				
CIT 155	Cloud Database Management	4	CIT 125 and CIT 151 with minimum grades of "C", and Reading Proficiency	Critical Course
CIT 166	Programming I with C# and Java	4	Reading Proficiency	Gateway Course
	Credit Hours	**8**		
Third Year				
Fall				
CIT 160	Introduction to Data Visualization	3	Concurrent or prior enrollment in CIT 125 and CIT 151 with minimum grade of "C" and Reading Proficiency	
CIT 257	Advanced Data Analytics	3	CIT 125, CIT 285, and CIT 155 with minimum grades of "C", and Reading Proficiency	
CIT 141 or 291	Introduction to UX/UI Design or Workplace Learning: Computer and Information Technology	3-4	Reading Proficiency	
	Credit Hours	**9-10**		
	Total Credit Hours	**36-37**		

Critical Courses: Critical courses are most important to a student's declared major and most strongly predict later success in the major. A critical course requires a minimal grade to progress to higher-level courses.

Exploratory Courses: Exploratory courses are first-semester courses that introduce the program and career field.

Gateway Courses: Gateway courses are courses in many career pathways that must be completed before progression in higher-level courses. These may be the same as critical and/or exploratory courses.

*Click on the hyperlinked course number to view additional information about the course.

**Students completing a course that has been assigned a MOTR number may transfer that course to any public institution in Missouri. Those who complete CORE 42 requirements will have that verification on their transcript.

*** It is your responsibility to verify that the courses listed above will transfer to the four-year institution of your choice. Maximize your transfer credits/classes by meeting with an academic advisor.

Full-Time Academic Plan

PLEASE NOTE: If you originally enrolled at STLCC prior to Fall 2025, you may need to view an **archived catalog (http://catalog.stlcc.edu/archived-catalogs/)** for your correct program requirements. Please speak with an advisor or the program coordinator for more information.

Code	Title	Hours	Prerequisites	Milestones/Notes
First Year				
Fall				
CIT 112	Introduction to Computer Science	3	Reading Proficiency	Exploratory Course
CIT 151	Computer Applications in Business	4	Concurrent or prior enrollment in IS 122 or IS 123 or IT 102 or HIM 102 or CIT 112 with a minimum grade of "C" or equivalent experience and Reading Proficiency	
CIT 180	Programming I with Python	3	Reading Proficiency	Gateway Course
CIT 125	Introduction to Databases	3	Reading Proficiency	Critical Course
	Credit Hours	**13**		
Spring				
CIT 285	Principles of Data Analytics	3	CIT 125 with a minimum grade of "C" and Reading Proficiency	
WEB 101	Introduction to Web Development	3	Reading Proficiency	
CIT 155	Cloud Database Management	4	CIT 125 and CIT 151 with minimum grades of "C", and Reading Proficiency	Critical Course
CIT 166	Programming I with C# and Java	4	Reading Proficiency	Gateway Course
	Credit Hours	**14**		
Second Year				
Fall				
CIT 141 or 291	Introduction to UX/UI Design or Workplace Learning: Computer and Information Technology	3-4	Reading Proficiency	
CIT 160	Introduction to Data Visualization	3	Concurrent or prior enrollment in CIT 125 and CIT 151 with minimum grade of "C" and Reading Proficiency	
CIT 257	Advanced Data Analytics	3	CIT 125, CIT 285, and CIT 155 with minimum grades of "C", and Reading Proficiency	
	Credit Hours	**9-10**		
	Total Credit Hours	**36-37**		

Critical Courses: Critical courses are most important to a student's declared major and most strongly predict later success in the major. A critical course requires a minimal grade to progress to higher-level courses.

Exploratory Courses: Exploratory courses are first-semester courses that introduce the program and career field.

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