

DATABASE DEVELOPER, CERTIFICATE OF PROFICIENCY

Meramec

The Database Developer Certificate of Proficiency prepares individuals to design and manage the construction of databases and related software programs and applications, including the linking of individual data sets to create complex searchable databases (warehousing) and the use of analytical search tools (mining). Includes instruction in database theory, logic, and semantics; transactional and warehouse modeling; dimensionality; attributes and hierarchies; data definition; technical architecture; access and security design; cloud services; integration; formatting and extraction; data delivery; index design; implementation problems; planning and budgeting; and client and networking issues.

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. develop database management systems that comply with current industry standards.
2. develop fast and secure data-centric applications using advanced SQL and reporting tools.
3. manage database systems for efficient storage, processing and data retrieval.

4. tune database queries for maximum high performance.
5. implement distributed cloud server systems.
6. mitigate against the common security vulnerabilities of database systems.
7. design transactional and data warehouse databases.
8. develop data-driven applications integrated with database systems.
9. deploy analytical search tools for extraction and data mining.

| Code | Title | Credit Hours |
|----------------------------------|--|--------------|
| IS 120 | Introduction to Excel | 1 |
| IS 153 or IS 187 or IS 167 | C# Programming I Java Programming I C++ Programming I | 4 |
| IS 225 | Database Management | 4 |
| IS 229 | Unix/Linux I | 3 |
| IS 240 | SQL and Database Development | 3 |
| IS 257 | Big Data Analytics | 3 |
| Select one of the following: | | 3 |
| IS 268 SQL Server Programming | | |
| IS 276 Oracle Programming | | |
| Select one of the following: | | 4 |
| IS 287 Java Programming II | | |
| IS 267 C++ Programming II | | |
| IS 253 C# Programming II | | |
| Electives | | |
| Select 6-8 credit hours: | | 6-8 |
| IS 285 | Excel for Data Analytics | |
| IS 237 | Fundamentals of Information Assurance/Security - CompTIA Security+ | |
| IS 241 | Systems Analysis and Design | |
| IS 280 | Python | |
| IS 283 | C# Programming III | |
| IS 288 | Java Programming III | |
| IS 290 | C# Frameworks: .NET Web App Framework | |
| IS 291 | Workplace Learning: Information Systems | |
| IS 294 | Java Frameworks: Struts and Hibernate | |
| IS 296 | Java Frameworks: Spring | |

Total Credit Hours **31-33**

PLEASE NOTE: If you originally enrolled at STLCC prior to Fall 2021, you may need to view an archived catalog (<https://www.stlcc.edu/programs-academics/course-catalog/>) 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 | | | | |
| IS 120 | Introduction to Excel | 1 | Reading Proficiency | |
| IS 153 or 187 or 167 | C# Programming I or Java Programming I or C++ Programming I | 4 | Reading Proficiency | |
| IS 225 | Database Management | 4 | Reading Proficiency | |

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|----------------------------|--|--------------|---|----------------------|
| IS 229 | Unix/Linux I | 3 | Reading Proficiency | |
| Elective | | 3-4 | | |
| Credit Hours | | 15-16 | | |
| Spring | | | | |
| IS 240 | SQL and Database Development | 3 | IS 225 and Reading Proficiency | First 8 weeks |
| IS 257 | Big Data Analytics | 3 | IS 225 and Reading Proficiency | Apply for graduation |
| IS 268 or 276 | SQL Server Programming or Oracle Programming | 3 | IS 240 with a minimum grade of "C" and Reading Proficiency | Second 8 weeks |
| IS 253 or 287 or 267 | C# Programming II or Java Programming II or C++ Programming II | 4 | IS 153 or IS 167 or IS 187 with minimum grades of "C" and Reading Proficiency | |
| Elective | | 3-4 | | |
| Credit Hours | | 16-17 | | |
| Total Credit Hours | | 31-33 | | |

*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.