SQL SERVER BUSINESS INTELLIGENCE PROGRAM

An eleven-week in-depth program covering Microsoft SQL Server® 2016 analysis services, integration services, and reporting services

DePaul University's SQL Server Business Intelligence Program is designed to provide a comprehensive introduction to the Microsoft Business Intelligence platform using SQL Server. The program focuses on teaching data professionals how to use the new SQL Server 2016 features and tools to build business intelligence solutions. These features include analysis services, integration services, data mining, reporting service and Power BI®. The tools to develop and manage the solutions are SQL Server Management Studio (SSMS) and SQL Server Data Tools (SSDT). This program provides students with the product knowledge and skills needed to support business users by using the current Microsoft SQL Server business intelligence platform.

Classroom lectures and demonstrations will be complemented by reading, assignments, and hands-on exercises. In addition, students will be provided with a copy of Microsoft SQL Server 2016 for installation on their personal computers. This computer must be running Windows® 10 and the student should have administrator privileges.

YOU WILL LEARN ABOUT:

- SQL Server Data Tools (SSDT)
- SQL Server Management Studio (SSMS)
- SQL Server Integration Services (SSIS) - Data Extraction, Transformation and Loading (ETL)
- SQL Server Analysis Services (SSAS)
- Unified Dimensional Modeling - cube and dimensions development
- Key Performance Indicators and calculations
- Developing and utilizing different data mining algorithms
- SQL Server Reporting Services (SSRS)
- Report management
- Power View and PowerPivot
- Power BI
- Designing reports with the new Report Builder tool
- Publishing and accessing reports with SSRS and Microsoft Office
- New features of SQL Server 2016 for the business intelligence developer
**SQL SERVER BUSINESS INTELLIGENCE PROGRAM**

Business Intelligence (BI) solutions provide the infrastructure that enables organizations to make better business decisions. In today’s business climate, those organizations that can collect, analyze and make timely decisions based on their data have a distinct competitive advantage over other organizations. As one of the fastest growing database management systems, Microsoft SQL Server platform also allows companies to gain greater insight from their business information and achieve faster results for a competitive advantage. It does so through its comprehensive set of tools for business intelligence including Analysis Services, Integration Services, Data Mining, Reporting Services and Power BI.

Analysis Services provides a unified and integrated view of all your business data as the foundation for all of your traditional reporting, OLAP analysis, Key Performance Indicator (KPI) scorecards, and data mining. Analysis Services also provides tools for data mining with which you can identify rules and patterns in your data, so that you can determine why things happen and predict what will happen in the future – giving you powerful insight that will help your company make better business decisions. Integration Services is a modern data integration platform that can integrate data from any source. It provides a scalable and extensible platform that empowers development teams to build, manage, and deploy integration solutions to meet unique integration needs. Reporting Services is a comprehensive, server-based reporting solution designed to help you author, manage, and deliver both paper-based and interactive Web-based reports. Power BI transforms company's data into rich visuals for better decisions.

The SQL Server Business Intelligence Program is designed for business intelligence or data analysis professionals who wish to learn about BI techniques and solutions available with Microsoft SQL Server. Students in the program are expected to do a considerable amount of work outside of class.

**CURRICULUM**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
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<tbody>
<tr>
<td>YOUR LEARNING ENVIRONMENT</td>
<td>The following topics are covered in the program. Each unit involves reading and assignments. All assignments can be done with the software provided.</td>
</tr>
<tr>
<td>MICROSOFT BUSINESS INTELLIGENCE OVERVIEW</td>
<td>Program overview. Tools provided to students.</td>
</tr>
<tr>
<td>SQL SERVER REPORTING SERVICES (SSRS)</td>
<td>Extract Transform Load (ETL) fundamentals and SSIS overview. SSIS architecture and tools. Implementing control flow and data flow. Debugging and error handling. Deploying and managing packages.</td>
</tr>
<tr>
<td>SQL SERVER ANALYSIS SERVICES (SSAS)</td>
<td>Developing reports by using PowerPivot and Power View for Microsoft Excel. PowerPivot empowers users to access and mash-up data from virtually any source and easily collaborate and share insight. Power View is an interactive browser-based data visualization and presentation experience for users to discover new insight.</td>
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<tr>
<td>POWER BI</td>
<td>Business Intelligence Development Studio. Dimensional modeling and Unified Dimensional Model (UDM). Measures and measure groups. Cube development and customization. Multidimensional OLAP (MOLAP), Relational OLAP (ROLAP), and Hybrid OLAP (HOLAP).</td>
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<tr>
<td>DATA MINING</td>
<td>Power BI is a suite of business analytics tools to quickly analyze data and share insights in visually-compelling ways. Monitor your business and get answers quickly with rich dashboards available on every device.</td>
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<tr>
<td></td>
<td>Data mining algorithms and models. Data mining application forecasting, training, and analyzing.</td>
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GENERAL INFORMATION

ADMISSION

Applicants should have knowledge of data analysis concepts and tools, of relational database concepts, and of data modeling. In addition, applicants should have basic SQL Server skills. A substantial commitment of time is required for this intensive course of study. Final admission will be determined by the admissions committee on the basis of an applicant's overall qualifications, including work history and educational background.

FACILITIES

To promote the learning process, the Institute maintains special-purpose laboratories as well as dedicated classrooms equipped with state-of-the-art audio/visual equipment.

In addition, the School’s unique Course OnLine (COL) technology allows students to replay classes over the Internet. COL captures and replays five components of the classroom experience—audio, video, PC screen, whiteboard, and document camera input—and incorporates them into one interface to provide an innovative rebroadcast system.

SCHEDULE

The Institute offers a session in the fall, winter, and spring quarters. Classes meet one evening per week. The option to take the program strictly online is also available.

FACULTY

The program will be taught by a faculty member from the College of Computing and Digital Media and an expert from industry. Faculty will be available throughout the program both in person and through electronic mail.
The college, through its School of Cinematic Arts, School of Computing, and its School of Design, offers a variety of programs at the undergraduate and graduate levels. Over 3,000 students are enrolled in the college’s bachelor’s programs and over 2,700 students are enrolled in the master's and Ph.D. programs making the college’s graduate program one of the largest in the country. The college offers more than 300 courses each quarter, many in the evening, and primarily in the Loop and Lincoln Park Campuses. Most of the degree programs are also available exclusively online.

**Offerings at the undergraduate level include:**
- Animation B.A. / B.F.A.
- Computer Science B.S.
- Cyber-Physical Systems Engineering B.S.
- Cybersecurity B.S.
- Data Science B.S.
- Film and Television B.A. / B.F.A.
- Game Design B.S.
- Game Programming B.S.
- Graphic Design B.F.A.
- Information Systems B.S.
- Information Technology B.S.
- Interactive and Social Media B.S.
- Math and Computer Science B.S.
- Network Engineering and Security B.S.

**Offerings at the graduate level include:**
- Animation M.A.
- Applied Technology M.S.
- Business Information Technology M.S.
- Computational Finance M.S.
- Computer Science M.S.
- Cybersecurity M.S.
- Digital Communication and Media Arts M.A.
- E-Commerce Technology M.S.
- Experience Design M.A.
- Film and Television M.S.
- Game Programming M.S.
- Health Informatics M.S.
- Human-Computer Interaction M.S.
- Information Systems M.S.
- IT Project Management M.S.
- Network Engineering and Security M.S.
- Predictive Analytics M.S.
- Product Innovation and Computing M.S.
- Software Engineering M.S.
- J.D./M.S. in Computer Science Technology

**Master’s of Fine Arts**
- Animation
- Creative Producing
- Documentary
- Film and Television
- Game Design
- Screenwriting

**Ph.D. in Computer and Information Sciences**
- Ph.D. in Human Centered Design

**INSTITUTE FOR PROFESSIONAL DEVELOPMENT**

The Institute for Professional Development was formed by the college in 1984 to assist both individuals and businesses in keeping pace with the rapid development of computer technologies. The Institute currently offers a variety of intensive certificate programs in these areas:

- Advanced SQL
- Big Data and NoSQL
- Big Data Using Hadoop
- Big Data Using Spark
- Cloud Computing Technologies
- Data Science for Business
- Introduction to SQL
- IPv6
- Java™ Developer
- Modern Information Technology
- Modern .NET Web Development
- SQL Server® Business Intelligence
- SQL Server® Database Administration
- Technology and Innovation
- Web Development with JavaScript & HTML5

**APPLICATION PROCEDURE:**

Complete the enclosed application and return it with a non-refundable $40.00 application fee (check or money order made payable to DEPAUL UNIVERSITY) to:

DePaul University
SQL Server Business Intelligence Program
Institute for Professional Development
243 S. Wabash Avenue, Room 301
Chicago, IL 60604-2300

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