



## **Data Analytics Certificate Embedded in Associate of Applied Business – Computer Technology course descriptions**

### **CIS121 – Help Desk and Computer Support Concepts**

This course provides the student with essential topics to support Windows client devices in an enterprise network. Topics include supporting client applications in the cloud, security, basic computer networking, data storage, remote connections, shared resources, and system recovery. There are numerous hands-on labs to practice implementing computer support concepts in a real-world situation. Upon completion, students will have critical-thinking and decision-making acumen needed for success as a support specialist. CTAG approved CTIT006, effective fall 2018.

3.000 Credit hours  
2.000 Lecture hours  
2.000 Lab hours

Levels: Undergraduate

Schedule Types: Lecture/Lab, Independent Study, W2 Web/Lecture, W3 Total Web, W4 Virtual

Information Tech Division  
Computer Science Department

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### **BUS125 – Data Analytics and Decision Making**

This course focuses on key technological areas used for the analysis and transforming of data into actionable information. Students will learn advanced database and data manipulation concepts relating to the storage, retrieval, and analysis of information. Popular tools will be utilized to evaluate various data sources, define business dimensions, store transactions, produce results and transfer data. Upon successful completion of this course, students will be prepared to leverage the power of these tools to perform data analysis.

3.000 Credit hours  
2.000 Lecture hours  
2.000 Lab hours

Levels: Undergraduate

Schedule Types: Lecture/Lab, Independent Study, Lecture, W2 Web/Lecture, W3 Total Web, W4 Virtual

### **CIS221 – Generating Reports for Decision Making**

This course provides students with exposure to various tools used to connect to databases, retrieve and modify raw data, and then generate various types of reports. Topics will include, but not limited to, the generation of various types of reports and extensive use of pivot tables, calculations, program logic, and SQL statements. Upon completion of this course, students will be able to use a variety of software tools to manipulate data and generate meaningful reports.

3.000 Credit hours

2.000 Lecture hours

2.000 Lab hours

Levels: Undergraduate

Schedule Types: Lecture/Lab, Independent Study, W2 Web/Lecture, W3 Total Web, W4 Virtual

Information Tech Division  
Computer Science Department

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### **CIS222 – Data Acquisition and Analysis**

The course is designed to build skills and confidence in data analysis and report writing. A substantial part of this time is spent analyzing data/datasets and producing a report using the techniques learned in the course. Using a workshop type learning atmosphere, the instructor advises participants in the analysis of the datasets and preparation of reports. Topics include frequency distributions, measures, and graphical presentation.

3.000 Credit hours

2.000 Lecture hours

2.000 Lab hours

Levels: Undergraduate

Schedule Types: Lecture/Lab, Independent Study, Lecture, W2 Web/Lecture, W3 Total Web, W4 Virtual

Information Tech Division  
Computer Science Department

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### **CPD123 – Structured Query Language**

This course introduces database technology, relational database concepts, and the powerful SQL programming language. This course provides the students with the essential SQL skills of querying the database and the metadata along with creating database objects. Demonstrations and hands-on practice reinforce the concepts. Upon completion, the student should have the confidence and skill to develop, maintain, and utilize SQL scripts and code.

3.000 Credit hours

2.000 Lecture hours  
2.000 Lab hours

Levels: Undergraduate  
Schedule Types: Lecture/Lab, Independent Study, W2 Web/Lecture, W3 Total Web, W4 Virtual

Information Tech Division  
Computer Science Department

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### **CPD224 – Advanced Microsoft SQL Server Database**

In this course students will gain the knowledge and skills to design server-side solutions for Microsoft SQL Server. The course focuses on teaching students the skills of database developers who are individuals who work in enterprise environments to identify and place database technologies during design to achieve a suitable solution that meets the needs of an organization. Students will also learn to consider the solution from a system-wide view instead of from a single database or server perspective.

3.000 Credit hours  
2.000 Lecture hours  
2.000 Lab hours

Levels: Undergraduate  
Schedule Types: Lecture/Lab, Independent Study, W2 Web/Lecture, W3 Total Web, W4 Virtual

Information Tech Division  
Computer Science Department

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### **CPD225 – Data Mining and Data Warehousing**

This course provides a thorough practical coverage of the techniques used to build a warehouse including requirements definitions, extract-transformation-loads of data, query applications and executive information systems. Additionally, data mining algorithms and techniques that identify expected and unexpected trends in data stored in a warehouse will be covered. Upon completion students will be able to design, implement and use a data warehouse and use data mining tools to analyze and identify patterns in data.

3.000 Credit hours  
2.000 Lecture hours  
2.000 Lab hours

Levels: Undergraduate  
Schedule Types: Lecture/Lab, Independent Study, W2 Web/Lecture, W3 Total Web, W4 Virtual

Information Tech Division  
Computer Science Department

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### **CPD236 – Analyzing Software Requirements and Developing Solutions**

Students will work in teams to investigate, analyze, design, and implement a computer software solution to a simulated or actual real-world business problem. Components that are emphasized are preliminary investigations, systems request, fact finding, systems requirements, logical modeling, input and output design principles, and the use of various applications for documentation, design, and development. Upon completion, students will be able to demonstrate an understanding of the software development life cycle.

3.000 Credit hours

1.000 Lecture hours

4.000 Lab hours

Levels: Undergraduate

Schedule Types: Lecture/Lab, Independent Study, W2 Web/Lecture, W3 Total Web, W4 Virtual

Information Tech Division

Computer Science Department

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### **GIS123 – Maps and Map Reading**

This course will focus on geographic concepts, history of map making, and cartographic terminology and processes. Principle topics covered in this course include map elements, map types, the use of symbology, projections, coordinate systems, scales, distance, contours, topographic features and the understanding of physical, economic and human effects on map making. TAG approved effective summer 2016 - OSS026

3.000 Credit hours

2.000 Lecture hours

2.000 Lab hours

Levels: Undergraduate

Schedule Types: Lecture/Lab, Independent Study, W2 Web/Lecture, W3 Total Web, W4 Virtual

Information Tech Division

Computer Science Department

Course Attributes:

TAG Approved Course

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### **GIS231 – Geographic Information Systems**

This course emphasizes the principles and concepts of a geographic information system and its applications. Upon completion, students will understand the components that make up a geographic information system, the proper project planning processes, components of global positioning systems, and how to build data layers through imagery identification and basic data queries. TAG approved OSS231 effective spring 2019

3.000 Credit hours  
2.000 Lecture hours  
2.000 Lab hours

Levels: Undergraduate  
Schedule Types: Lecture/Lab, Independent Study, W2 Web/Lecture, W3 Total Web, W4 Virtual

Information Tech Division  
Computer Science Department

Course Attributes:  
TAG Approved Course

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### **CIS126 – Fundamentals of Information Systems**

This course is designed to familiarize students with core information systems principles and practices. Topics include, but are not limited to, types of information systems, hardware and software, data modeling, database systems, internet technologies, systems development, careers, global and social impacts, and industry trends.

3.000 Credit hours  
2.000 Lecture hours  
2.000 Lab hours

Levels: Undergraduate  
Schedule Types: Lecture/Lab, Independent Study, Lecture, W2 Web/Lecture, W3 Total Web, W4 Virtual

Information Tech Division  
Computer Science Department

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### **CPD121 – Data Modeling and Database Design**

This course introduces database concepts and describes how to properly design, create and interface with a relational database. The course begins with definition of important terms. It demonstrates the specific rules that one must follow to design and create a normalized relational database. SQL is also an important topic. Students complete a collection of hands-on labs to learn how to apply the techniques presented.

3.000 Credit hours  
2.000 Lecture hours  
2.000 Lab hours

Levels: Undergraduate  
Schedule Types: Lecture/Lab, Independent Study, W2 Web/Lecture, W3 Total Web, W4 Virtual

Information Tech Division  
Computer Science Department

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**CSE122 – Programming Logic and Programming Solving**

This course introduces students to program logic and problem-solving techniques. Primary emphasis is on achieving familiarity with structured programming principles through awareness and application of structured programming and object-oriented concepts and techniques. Upon course completion, students will develop the logic to solve programming solutions using structured flowcharts and pseudocode. CTAG approved CTPROG001 effective fall 2017

3.000 Credit hours

2.000 Lecture hours

2.000 Lab hours

Levels: Undergraduate

Schedule Types: Lecture/Lab, Independent Study, W2 Web/Lecture, W3 Total Web, W4 Virtual

Information Tech Division

Computer Science Department

Course Attributes:

CTAG Approved Course

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**ITD122 – Computer Applications for Professionals**

Computer Applications for Professionals familiarizes students with major Windows-based applications software and introduces the Windows operating system, the Windows networking environment, and practices file and folder maintenance. The focus of the course is to provide students with basic understanding and competence in industry-standard word processing, spreadsheet, database, and presentation software applications that are used to solve scientific, business, and engineering problems.

3.000 Credit hours

2.000 Lecture hours

2.000 Lab hours

Levels: Undergraduate

Schedule Types: Lecture/Lab, Independent Study, Lecture, W2 Web/Lecture, W3 Total Web, W4 Virtual

Information Tech Division

Administrative Srv Off Applion Department

Course Attributes:

TAG Approved Course

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### **WDD121 – Internet Design and Development**

This course introduces the student to the overall methodologies of developing web sites. The history of the Internet, fundamentals of web design, and the HTML and CSS markup languages will be studied. Upon completion of this course, students should have an understanding of the web design and development process and be capable of hand coding a static website. CTAG approved CTIM004 effective fall 2017

3.000 Credit hours

2.000 Lecture hours

2.000 Lab hours

Levels: Undergraduate

Schedule Types: Lecture/Lab, Independent Study, W2 Web/Lecture, W3 Total Web, W4 Virtual

Information Tech Division

Computer Science Department

Course Attributes:

CTAG Approved Course

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### **SSC101 – Student Success Seminar**

This course is designed to aid students in gaining the skills necessary for academic success at Stark State College (SSC). Topics include learning styles, critical thinking, time management, study and test-taking techniques, communication skills, and a variety of personal development strategies. Students will learn how to access and use SSC resources such as mystarkstate, the College's Learning Management System (LMS), Digital Library, Writing Center, Career Development, advising, tutoring, and other College support services. This course also fosters connections between students, their respective academic divisions, and their classmates. Upon completion of this course, students should be able to incorporate into their degrees or certificate programs the tools and skills necessary to be academically and professionally successful.

1.000 Credit hours

1.000 Lecture hours

Levels: Undergraduate

Schedule Types: Lecture/Lab, Lecture, W2 Web/Lecture, W3 Total Web

Educ/ Liberal Arts/ Math Division

General Studies Department

Course Attributes:

Open Educational Resources

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### **COM121 – Effective Speaking**

This course is designed to introduce students to the process of researching, writing, and presenting speeches. Students will explore the basic theories and principles of oral

communication and will write and deliver formal speeches throughout the course. Areas of concentration include researching, outlining, organizing, language, verbal and nonverbal delivery, critical listening, and persuasion. TAG OCM004, summer 2007 TMCOM, Autumn 2008

3.000 Credit hours  
3.000 Lecture hours

Levels: Undergraduate

Schedule Types: Independent Study, Lecture, W2 Web/Lecture, W3 Total Web, W4 Virtual

Educ/ Liberal Arts/ Math Division  
Arts, Humanities & Rdg Department

Course Attributes:

Open Educational Resources, TAG Approved Course, Transfer Module Approval

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### **ENG124 – College Composition**

This course emphasizes writing based on reading response with review of essay development, grammar, and punctuation. Emphasis is on the process of drafting, revising, and editing to achieve clarity. A research project requires APA or MLA documentation. TMEC Approved effective Autumn 2008.

3.000 Credit hours  
3.000 Lecture hours

Levels: Undergraduate

Schedule Types: Lecture/Lab, Independent Study, Lecture, W2 Web/Lecture, W3 Total Web, W4 Virtual

Educ/ Liberal Arts/ Math Division  
English Department

Course Attributes:

Transfer Module Approval

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### **MTH118 – Quantitative Reasoning**

This is a college-level mathematics course focused on quantitative reasoning in real-world situations and data-analysis for students who are in a non-STEM major. Using numeracy, mathematical modeling, and statistical methods, students will use mathematical language to investigate, describe, analyze, calculate, interpret, and make decisions in real-world scenarios within fields such as personal finance, industry, and civics. OTM approved TMM011 effective summer 2021.

3.000 Credit hours  
3.000 Lecture hours



Levels: Undergraduate  
Schedule Types: Lecture/Lab, Independent Study, Lecture, W2 Web/Lecture, W3 Total Web

Educ/ Liberal Arts/ Math Division  
Mathematics Department

Course Attributes:  
Transfer Module Approval

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**PHL122 – Ethics**

Uses historical and contemporary theories to examine the role and application of ethics to a variety of personal and professional modern-day situations. TAG approved course- OAH046 effective summer 2020. TMAH Approved effective Autumn 2008.

3.000 Credit hours  
3.000 Lecture hours

Levels: Undergraduate  
Schedule Types: Independent Study, Lecture, W2 Web/Lecture, W3 Total Web

Educ/ Liberal Arts/ Math Division  
Arts, Humanities & Rdg Department

Course Attributes:  
TAG Approved Course, Transfer Module Approval

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**PSY121 – Psychology**

Surveys the scientific study of behavior, addressing a wide range of traditional topics including introduction and research; perception; consciousness; learning; cognition; personality; pathology/treatment; development; biological basis of behavior; social and organizational psychology. Emphasizes classical and current theory and research with selected attention to practical application.

3.000 Credit hours  
3.000 Lecture hours

Levels: Undergraduate  
Schedule Types: Independent Study, Lecture, W2 Web/Lecture, W3 Total Web, W4 Virtual

Educ/ Liberal Arts/ Math Division  
Social Sciences Department

Course Attributes:  
TAG Approved Course, Transfer Module Approval

