

Information Technologies

Students majoring in the information technologies may pursue associate of applied science degrees in computer science, computer networking and telecommunications, computer network administration and security and interactive media technology as well as associate of applied business degrees in the areas of computer technology, e-commerce and computer programming and database technology.

The associate of applied science degree has a greater focus on math and science where the associate of applied business degree is less math intensive and incorporates general business and accounting courses into the curriculum. All information technology programs cover the latest technologies and skills and were designed with the assistance of advisory committees composed of representatives of local employers.

Nearly every facet of our lives today is affected by computers. Positions for personnel with computer skills are growing as organizations of all sizes need help to manage overwhelming amounts of information. Stark State College offers practical education to prepare graduates to fill this need.

The programs offered by the information technology division are designed to prepare students for positions in the growing information technology field, but also prepares them to make use of the power of computers in any field.

Graduates have many employment opportunities, including:

- Analyst
- Application Developer
- Computer Operator
- Database Administrator
- Education Specialist
- Network Administrator
- Programmer
- System Administrator
- Database Designer
- Project Manager
- Consultant
- Technical Support
- Training Specialist
- Video Game Developer
- Network Engineer
- Web Developer
- Help Desk Analyst
- Security Specialist
- Technology Coordinator
- Audio/Video Technician
- Informatics Technician
- Graphic Artist

The division's curriculum is continuously updated to keep pace with the advances in the computer field and to provide timely education in a wide range of computer-related topics. In addition, students get hands-on experience in the classroom and in open labs with industry-approved computer hardware and software.

Information technology professors have practical experience in the field. Their education and industry experience allow them to offer real-life perspectives on the complex world of computer technology. Stark State's information technology programs have been successful in providing students with the practical background and skills needed for employment in the computer field. The information technology division is helping to produce computer professionals with the skills employers want and need.

Bachelor's degree: In most of the associate degree programs, all or nearly all courses may be applied toward a bachelor's degree in technology. Bachelor's degree requirements and course transferability are controlled by the institution to which the student plans to transfer and students are urged to discuss transferability of credits with the college or university to which they plan to transfer.

Bachelor of Science in Computer Science and Engineering Technology from the University of Toledo

The University of Toledo and Stark State College of Technology have formed a partnership to offer a bachelor of science degree completion program in computer science and engineering technology. All University of Toledo courses will be offered on the campus of Stark State College.

Participation in the program is for students who have completed either Stark State's computer science and engineering technology degree or the computer networking and telecommunications engineering technology degree.

Bachelor of Science from Franklin University

Franklin University and Stark State College of Technology have formed a partnership to offer a bachelor of science degree completion program in accounting, applied management, business administration, computer science, digital communication, health care management, information technology, management information systems and public safety. All Franklin University courses are offered online and can be taken on the campus of Stark State College.

Bachelor of Arts in Mass-Media Communications from the University of Akron

The University of Akron and Stark State College have formed a partnership to offer a bachelor of arts degree completion program in communications.

Participation in the program is mainly for students who have completed Stark State's interactive media technology degree, but is open to all information technology students.

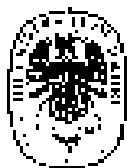
Bachelor of Science in Information Technology from Youngstown State University

Youngstown State University and Stark State College of Technology have formed a partnership to offer a bachelor of science degree completion program in information technology or computer information systems. Participation in the program is open to all students who have completed Stark State's information technology associate degree programs.

Students interested in the four-year programs at the University of Toledo, Franklin University, University of Akron University or Youngstown State University, should talk with their Stark State advisor for more details and application information.

In addition to these programs, the information technology division offers a number of career enhancement certificates designed to enhance specific sets of skills.

For more information, please call Stark State's Office of Admissions/Student Services at 330-966-5450.



Computer Network Administration and Security Technology

This program provides students with information on computer network administration, from basic PC hardware and software to the latest network operating systems. Students gain an understanding of Cisco, Microsoft and Unix-based operating systems and how they are used in today's marketplace. This is an ever-growing and rapidly changing field that requires graduates to work across many platforms and this option provides the appropriate training.

Network security skills are highly valued in today's market. According to a November 2003 report by Foote Partners, the average security professional's total cash compensation increased between 16 percent and 32 percent in the last three years. Occupations such as security officer or privacy officer, which didn't exist several years ago, are growing rapidly.

Students interested in pursuing a 2+2 or 2+3 bachelor of science degree should consult their academic advisor.

SUGGESTED COURSE SEQUENCE

| | | Credit Hours |
|-------------------|---|-----------------|
| Semester 1 | | |
| ECA122 | Computer Applications for Technical Professionals | 3 |
| EET131 | PC Upgrading and Maintenance | 3 |
| EET141 | Introduction to Computer Networking | 3 |
| ENG124 | College Composition † | 3 |
| MTH121 | College Algebra and Trigonometry I | 4 |
| | | 16 |
| Semester 2 | | |
| ECA127 | Programming Logic and Problem Solving | 3 |
| ECA131 | MS Windows XP and 2003 Server | 3 |
| ECA244 | MS Windows Server 2003 and Network Infrastructure | 3 |
| ECA249 | CCNA Phase I and II | 4 |
| EET257 | UNIX/LINUX Operating Environment | 3 |
| MTH122 | College Algebra and Trigonometry II | 3 |
| | | 19 |
| Semester 3 | | |
| EET242 | Microsoft SQL Server Administration | 3 |
| EET251 | UNIX/LINUX Network Administration | 3 |
| PHY121 | Physics I | 4 |
| SPH121/SPH122 | Effective Speaking or Inter-group Communications | 3 |
| | Technical Elective* | 3/4 |
| | Arts/Humanities/Social Sciences Elective** | 3 |
| | | 19/20 |
| Semester 4 | | |
| ECA245 | Designing Security for a Windows 2003 Network | 3 |
| ECA246 | Administering and Implementing Directory Services and Exchange Server | 3 |
| EET258 | Data Encryption and Firewall Technology | 3 |
| EET259 | Web Server Administration | 3 |
| ENG221 | Technical Report Writing | 3 |
| | Arts/Humanities/Social Sciences Elective** | 3 |
| | | 18 |

72/73 TOTAL CREDIT HOURS

† Based on SSCT placement score.

* Select from CAP138, ECA250, EET250 or EET261.

** Arts/Humanities/Social Sciences Electives: PSY121, PSY122, PSY123, PSY124, PSY221, PHL122, SOC121, SOC122, SOC123, SOC225, BUS122, BUS221, PSC121, ACC130.

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Computer Network Administration and Security Technology

CISCO Network Administration Option

Cisco Systems, Inc. is a leader in networking technologies for small businesses, corporations, and the Internet. Network technicians and administrators must have an understanding of their products and services in order to be a member of the information technology community.

Stark State College has been approved as a Cisco Networking Academy which allows students to access networking tools, software and other learning materials directly from Cisco. This program was developed to train network technicians to complete the Cisco Certified Network Associate (CCNA) examination, which has become a standard of excellence recognized worldwide.

SUGGESTED COURSE SEQUENCE

| | | Credit Hours |
|-------------------|--|-----------------|
| Semester 1 | | |
| ECA122 | Computer Applications for Technical Professionals | 3 |
| EET131 | PC Upgrading and Maintenance | 3 |
| EET141 | Introduction to Computer Networking | 3 |
| ENG124 | College Composition † | 3 |
| MTH121 | College Algebra and Trigonometry I | 4 |
| | | 16 |
| Semester 2 | | |
| ECA127 | Programming Logic and Problem Solving | 3 |
| EET120 | DC Circuits | 4 |
| EET257 | UNIX/LINUX Operating Environment | 3 |
| MTH122 | College Algebra and Trigonometry II | 3 |
| SPH121/SPH122 | Effective Speaking or Inter-group Communications Arts/Humanities/Social Sciences Elective** | 3 |
| | | 19 |
| Semester 3 | | |
| ECA254 | UNIX/LINUX Shell Scripting | 3 |
| ECA131 | MS Windows XP and 2003 Server | 3 |
| ECA244 | MS Windows Server 2003 Network Infrastructure | 3 |
| ECA249 | CCNA Phase I and II | 4 |
| PHY121 | Physics I | 4 |
| | | 17 |
| Semester 4 | | |
| ECA132 | Help Desk Concepts | 3 |
| ECA250 | CCNA Phase III and IV | 4 |
| ECA246 | Administering and Implementing Directory Services and Exchange Server | 3 |
| EET258 | Data Encryption and Firewall Technology | 3 |
| ENG221 | Technical Report Writing | 3 |
| | Technical Elective* | 3 |
| | | 19 |

71 TOTAL CREDIT HOURS

† Based on SSCT placement score.

* Select from CAP138, EET250, EET251 or EET261.

** Arts/Humanities/Social Sciences Electives: PSY121, PSY122, PSY123, PSY124, PSY221, PHL122, SOC121, SOC122, SOC123, SOC225, BUS122, BUS221, PSC121, ACC130.

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Computer Network Administration and Security Technology

Client-Server Support Specialist Option

As a client-server support specialist, students will design, build and install computer networks; maintain, upgrade and troubleshoot computer systems; and provide technical and help desk support. Client-server support specialists assess the computer needs and problems of businesses and help business owners and managers choose the correct technological solutions. Practical, hands-on training will feature technology that is currently being used in the workplace.

SUGGESTED COURSE SEQUENCE

| | Credit Hours |
|---|---|
| Semester I | |
| ECA122 Computer Applications for Technical Professionals | 3 |
| EET131 PC Upgrading and Maintenance | 3 |
| EET141 Introduction to Computer Networking | 3 |
| ENG124 College Composition † | 3 |
| MTH121 College Algebra and Trigonometry I | 4 |
| | Arts/Humanities/Social Sciences Elective* |
| | 3 |
| | 19 |
| Semester II | |
| CAP125 Advanced Microsoft Applications | 3 |
| ECA 127 Programming Logic and Problem Solving | 3 |
| EET257 UNIX/LINUX Operating Environment | 3 |
| MTH122 College Algebra and Trigonometry II | 3 |
| SPH121/SPH122 Effective Speaking or Inter-Group Communications | 3 |
| | Arts/Humanities/Social Sciences Elective* |
| | 3 |
| | 18 |
| Semester III | |
| CAP223 Microsoft Access Database | 3 |
| ECA131 Microsoft Windows XP and 2003 Server | 3 |
| ECA244 Microsoft Windows Server 2003 Network Infrastructure | 3 |
| ECA249 CCNA Phase I and II | 4 |
| PHY121 Physics I | 4 |
| | 4 |
| | 17 |
| Semester IV | |
| CAP134 Spreadsheet Analysis | 3 |
| ECA132 Help Desk Concepts | 3 |
| ECA248 Citrix Metaframe | 3 |
| EET242 Microsoft SQL Server Administration | 3 |
| ENG221 Technical Report Writing | 3 |
| | Elective** |
| | 3 |
| | 18 |

72 TOTAL CREDIT HOURS

† Based on SSCT placement score.

* Arts/Humanities/Social Sciences Electives: PSY121, PSY122, PSY123, PSY124, PSY221, PHL122, SOC121, SOC122, SOC123, SOC225, BUS122, BUS221, PSC121, ACC130.

** Select from CAP138, ECA246, EET250 and EET261.

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Computer Network Administration and Security Technology

Security and Forensics Option

SUGGESTED COURSE SEQUENCE

| | | Credit Hours |
|---------------------|---|-----------------|
| Semester I | | |
| ECA122 | Computer Applications for Technical Professionals | 3 |
| ECA127 | Programming Logic and Problem Solving | 3 |
| EET131 | PC Upgrading and Maintenance | 3 |
| EET141 | Introduction to Computer Networking | 3 |
| ENG124 | College Composition † | 3 |
| | | 15 |
| Semester II | | |
| ECA131 | MS Windows XP and 2003 Server | 3 |
| ECA130 | Software Vulnerabilities | 3 |
| ECA228 | Internet/Intranet Design & Development | 3 |
| EET260 | Computer Forensics | 3 |
| MTH121 | College Algebra and Trigonometry I | 4 |
| SPH121/122 | Effective Speaking or Inter-group Communications | 3 |
| | | 19 |
| Semester III | | |
| ECA249 | CCNA Phase I and II | 4 |
| PHY121 | Physics I | 4 |
| ECA222 | C++ Programming | 3 |
| EET257 | UNIX/LINUX Operating Environment | 3 |
| ECA244 | MS Windows Server 2003 Network Infrastructure | 3 |
| | Arts/Humanities/Social Sciences Elective* | 3 |
| | | 20 |
| Semester IV | | |
| ECA129 | Cryptography | 3 |
| EET251 | UNIX/LINUX Network Administration | 3 |
| EET258 | Data Encryption and Firewall Technology | 3 |
| EET259 | Web Server Administration | 3 |
| ENG221 | Technical Report Writing | 3 |
| | Arts/Humanities/Social Sciences Elective* | 3 |
| | | 18 |

72 TOTAL CREDIT HOURS

† Based on SSCT placement score.

* Arts/Humanities/Social Sciences Electives: PSY121, PSY122, PSY123, PSY124, PSY221, PHL122, SOC121, SOC122, SOC123, SOC225, BUS122, BUS221, BUS222, PSC121, ACC130.

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Computer Network Administration and Security Technology

UNIX/LINUX Database Administration Option

This program provides the student with knowledge on computer network administration with special emphasis on the Unix/Linux operating systems and also administration of the Oracle relational database management system. Medium to large scale companies typically have heterogeneous network environments. These companies will typically have many Windows desktop client machines, but store their critical data on one or more large Unix database servers. This course will provide the user with the standard knowledge of Microsoft Windows clients and server, administration of Unix/Linux servers, standard SQL syntax, and administration of the Oracle RDBMS.

SUGGESTED COURSE SEQUENCE

| | | Credit Hours |
|-------------------|---|-----------------|
| Semester 1 | | |
| ECA122 | Computer Applications for Technical Professionals | 3 |
| EET131 | PC Upgrading and Maintenance | 3 |
| EET141 | Introduction to Computer Networking | 3 |
| ENG124 | College Composition † | 3 |
| MTH121 | College Algebra and Trigonometry I | 4 |
| | | 16 |
| Semester 2 | | |
| CAP139 | Introduction to Oracle SQL | 3 |
| ECA127 | Programming Logic and Problem Solving | 3 |
| ECA253 | Data Modeling and Database Design | 3 |
| EET257 | UNIX/LINUX Operating Environment | 3 |
| MTH122 | College Algebra and Trigonometry II | 3 |
| PHY121 | Physics I | 4 |
| | | 19 |
| Semester 3 | | |
| CAP142 | Oracle Architecture and Administration | 3 |
| ECA254 | UNIX/LINUX Shell Scripting | 3 |
| ECA131 | MS Windows XP and 2003 Server | 3 |
| ECA244 | MS Windows 2003 Network Infrastructure | 3 |
| EET250 | UNIX/LINUX System Administration | 3 |
| EET251 | UNIX/LINUX Network Administration | 3 |
| | | 18 |
| Semester 4 | | |
| EET242 | Microsoft SQL Server Administration | 3 |
| SPH121/SPH122 | Effective Speaking or Inter-group Communications | 3 |
| EET259 | Web Server Administration | 3 |
| ENG221 | Technical Report Writing | 3 |
| | Technical Elective* | 3 |
| | Arts/Humanities/Social Sciences Elective** | 3 |
| | | 18 |

71 TOTAL CREDIT HOURS

† Based on SSCT placement score.

* Select from CAP249, CAP250, ECA222, ECA246 or EET261.

** Arts/Humanities/Social Sciences Electives: PSY121, PSY122, PSY123, PSY124, PSY221, PHL122, SOC121, SOC122, SOC123, SOC225, BUS122, BUS221, PSC121, ACC130.

In an effort to meet the needs of students, courses required in each of the programs are scheduled in sequence to accommodate those attending on a full-time or part-time basis. All students should consult their academic advisors to plan their schedules and course sequence appropriately.

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Computer Networking and Telecommunications Engineering Technology

This program provides students with information on computer networking, electronics, telecommunications and board-level functioning of computers. Students gain an understanding of software systems and software interaction.

The telecommunications information covers voice, video and data communications. It addresses the generation of the electrical signals, their transmission by various means; signal receiving and decoding, and information output.

This program is accepted by the University of Toledo for the first portion of a bachelor of science degree. Students interested in pursuing a 2+2 or 2+3 bachelor of science degree should consult their academic advisor prior to initial enrollment in the courses.

SUGGESTED COURSE SEQUENCE

| | | Credit Hours |
|---------------------|---|---------------------|
| Semester I | | |
| ECA122 | Computer Applications for Technical Professionals | 3 |
| EET120 | DC Circuit Analysis | 4 |
| ENG124 | College Composition † | 3 |
| MTH121 | College Algebra and Trigonometry I | 4 |
| PHY121 | Physics I | 4 |
| | | 18 |
| Semester II | | |
| EET131 | PC Upgrading and Maintenance | 3 |
| EET141 | Introduction to Computer Networking | 3 |
| EET122 | AC Circuit Analysis | 4 |
| EET123 | Electronic Devices and Circuits | 4 |
| MTH122 | College Algebra and Trigonometry II | 3 |
| | | 17 |
| Semester III | | |
| ECA127 | Programming Logic and Problem Solving | 3 |
| ECA131 | MS Windows XP and 2003 Server | 3 |
| EET129 | Optics | 2 |
| EET248 | Workstation Interfacing | 3 |
| EET262 | Pulse and Digital Integrated Circuits | 4 |
| | Arts/Humanities/Social Sciences Elective* | 3 |
| | | 18 |
| Semester IV | | |
| EET244 | Electronic Telecommunications | 3 |
| EET257 | UNIX/LINUX Operating Environment | 3 |
| ENG221 | Technical Report Writing | 3 |
| MTH221 | Concepts of Calculus | 3 |
| SPH121/SPH122 | Effective Speaking or Inter-group Communications | 3 |
| | Arts/Humanities/Social Sciences Elective* | 3 |
| | | 18 |

71 TOTAL CREDIT HOURS

† Based on SSCT placement score.

* Arts/Humanities/Social Sciences Electives: PSY121, PSY122, PSY123, PSY124, PSY221, PHL122, SOC121, SOC122, SOC123, SOC225, BUS122, BUS221, PSC121, ACC130.



**COLLEGE
TECH PREP**

A COLLEGE TECH PREP PARTICIPANT

In an effort to meet the needs of students, courses required in each of the programs are scheduled in sequence to accommodate those attending on a full-time or part-time basis. All students should consult their academic advisors to plan their schedules and course sequence appropriately.

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Computer Programming and Database Technology

This program prepares students for a professional career in software development. This aggressive program is a hands-on approach to teach students to design, create and implement the unique software tools that are in demand today. As a software developer, the student will evaluate the project requirements, participate in design meetings, help determine the best solution to a problem or feature and develop detailed design specifications.

The program provides a strong foundation in database related programming, administration, structure and setup. The students will obtain the skills necessary to provide high end, solution-based technical support for existing database implementations as well as for new database development.

SUGGESTED COURSE SEQUENCE

| | | Credit Hours |
|---------------------|--|-------------------------|
| Semester I | | |
| ECA122 | Computer Applications for Technical Professionals | 3 |
| ECA127 | Programming Logic and Problem Solving | 3 |
| ENG124 | College Composition † | 3 |
| MTH121 | College Algebra and Trigonometry I | 4 |
| SPH121/SPH122 | Effective Speaking or Inter-group Communications | 3 |
| | | 16 |
| Semester II | | |
| ECA128 | Visual Basic Programming | 3 |
| ECA223 | Java Programming | 3 |
| ECA228 | Internet/Intranet Design and Development | 3 |
| ENG221/ENG123 | Technical Report Writing or Business Communication | 3 |
| ECA253 | Data Modeling and Database Design | 3 |
| MTH222 | Statistics | 3 |
| | | 18 |
| Semester III | | |
| BUS121 | Business Administration | 4 |
| ACC121 | Principles of Accounting I | 4 |
| ECA229 | Microsoft Server Side Scripting | 3 |
| CAP223 | Microsoft Access Database | 3 |
| CAP139 | Introduction to Oracle: SQL | 3 |
| ECA230 | Java Web Database Programming | 3 |
| | | 20 |
| Semester IV | | |
| ECA236 | Open Source Server Side Scripting | 3 |
| ECA233 | Analyzing Software Requirements and Developing Solutions | 3 |
| ECA252 | Data Mining and Data Warehousing | 3 |
| | Technical Elective** | 3 |
| CAP224 | Visual Basic for Applications | 3 |
| | Arts/Humanities/Social Sciences Elective* | 3 |
| | | 18 |

72 TOTAL CREDIT HOURS

† Based on SSCT placement score.

* Arts/Humanities/Social Sciences Electives: PSY121, PSY122, PSY123, PSY124, PSY221, PHL122, SOC121, SOC122, SOC123, SOC225, BUS122, BUS221, PSC121, ACC130.

** Select from CAP134 or ECA226.

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Computer Science and Engineering Technology

The computer science and engineering technology program has been established to meet the burgeoning demand in Northeastern Ohio for software engineers, programmers/analysts and technical computer software consultants. The computer science and engineering technology program is accompanied by two options, the video gaming option and the University of Toledo transfer option, allowing a total of three curriculum paths.

There is currently a tremendous demand for individuals who know how to use Object Oriented Programming

(OOP) languages to develop software in the following OOP languages: Java, Visual C++ and Visual Basic. Many of the courses in this curriculum prepare individuals for certification exams found in Microsoft's MCSD professional certification sequence. This option allows students to get a degree and prepare for MCSD at the same time. Stark State is an authorized academic training program (AATP) for Microsoft. This means that students can take courses that will prepare them for Microsoft certification tests which can be taken at Stark State College.

SUGGESTED COURSE SEQUENCE

| | | Credit Hours |
|---------------------|---|-------------------------|
| Semester I | | |
| ECA122 | Computer Applications for Technical Professionals | 3 |
| ECA127 | Programming Logic and Problem Solving | 3 |
| ENG124 | College Composition † | 3 |
| MTH121 | College Algebra and Trigonometry I | 4 |
| PHY121 | Physics I | 4 |
| | | 17 |
| Semester II | | |
| ECA223 | Java Programming | 3 |
| ECA228 | Internet/Intranet Design and Development | 3 |
| ECA222 | C++ Programming | 3 |
| MTH122 | College Algebra and Trigonometry II | 3 |
| | Arts/Humanities/Social Sciences Elective* | 3 |
| | Arts/Humanities/Social Sciences Elective* | 3 |
| | | 18 |
| Semester III | | |
| ECA128 | Visual Basic Programming | 3 |
| ECA253 | Data Modeling and Database Design | 3 |
| ECA230 | Java Web Database Programming | 3 |
| ENG221 | Technical Report Writing | 3 |
| MTH221 | Concepts of Calculus | 3 |
| ECA226/ECA237 | Windows Programming with C# or Web Services with C# | 3 |
| | | 18 |
| Semester IV | | |
| ECA224 | Advanced C++ Programming | 3 |
| ECA227 | Assembly Language | 3 |
| ECA233 | Analyzing Software Requirements and Developing Solutions | 3 |
| ECA239 | Advanced Java Programming | 3 |
| SPH121/SPH122 | Effective Speaking or Inter-group Communications | 3 |
| EET257 | UNIX/LINUX Operating Environment | 3 |
| | | 18 |

71 TOTAL CREDIT HOURS

† Based on SSCT placement score.

* Arts/Humanities/Social Sciences Electives: PSY121, PSY122, PSY123, PSY124, PSY221, PHL122, SOC121, SOC122, SOC123, SOC225, BUS122, BUS221, PSC121, ACC130.

Note: Some courses will prepare students for MSCD certification.



A COLLEGE TECH PREP PARTICIPANT

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Computer Science and Engineering Technology

University of Toledo Transfer Option

Upon graduation from Stark State College with a two-year associate degree in computer science and engineering technology, students enrolled in this option have the opportunity to continue their studies for two more years to earn a bachelor's degree in computer science and engineering technology from the University of Toledo. The bachelor's degree is awarded by the

University of Toledo through an educational partnership with Stark State College. Many of the courses taken during the junior and senior years are online courses and are completed over the Internet; the rest are taken from Stark State's course offerings. The entire degree is earned either online or on Stark State's campus!

SUGGESTED COURSE SEQUENCE

| | | Credit Hours |
|---------------------|--|-----------------|
| Semester I | | |
| ECA122 | Computer Applications for Technical Professionals | 3 |
| ECA127 | Programming Logic and Problem Solving | 3 |
| ENG124 | College Composition † | 3 |
| MTH121 | College Algebra and Trigonometry I | 4 |
| PHY121 | Physics I | 4 |
| | | 17 |
| Semester II | | |
| ECA223 | Java Programming | 3 |
| ECA228 | Internet/Intranet Design and Development | 3 |
| EET120 | DC Circuit Analysis | 4 |
| EET131 | PC Upgrading and Maintenance | 3 |
| MTH122 | College Algebra and Trigonometry II | 3 |
| | Arts/Humanities/Social Sciences Elective* | 3 |
| | | 19 |
| Semester III | | |
| ECA128 | Visual Basic Programming | 3 |
| ECA222 | C++ Programming | 3 |
| EET122 | AC Circuit Analysis | 4 |
| ENG221 | Technical Report Writing | 3 |
| MTH221 | Concepts of Calculus | 3 |
| SPH121/SPH122 | Effective Speaking or Inter-group Communications | 3 |
| | | 19 |
| Semester IV | | |
| ECA227 | Assembly Language | 3 |
| ECA230 | Java Web Database Programming | 3 |
| ECA233 | Analyzing Software Requirements and Developing Solutions | 3 |
| EET257 | UNIX/LINUX Operating Environment | 3 |
| EET141 | Introduction to Computer Networking | 3 |
| | Arts/Humanities/Social Sciences Elective* | 3 |
| | | 18 |

73 TOTAL CREDIT HOURS

† Based on SSCT placement score.

* Arts/Humanities/Social Sciences Electives: PSY121, PSY122, PSY123, PSY124, PSY221, PHL122, SOC121, SOC122, SOC123, SOC225, BUS122, BUS221, PSC121, ACC130.



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Computer Science and Engineering Technology

Video Game Design Option

Want to become an expert software developer and have some fun in the process?

Stark State's new video game design option is the latest addition to the computer science and engineering technology major. Don't underestimate the depth of presentation! This option is one of the most demanding in terms of math and computer science requirements. A rigorous regimen and advance mathematics, coupled with object-oriented programming, are carefully integrated to assure the highest level of proficiency in gaming and software engineering.

SUGGESTED COURSE SEQUENCE

| | | Credit Hours |
|---------------------|---|-----------------|
| Semester I | | |
| ECA122 | Computer Applications for Technical Professionals | 3 |
| ECA127 | Programming Logic and Problem Solving | 3 |
| ENG124 | College Composition † | 3 |
| MTH121 | College Algebra and Trigonometry I | 4 |
| PHY121 | Physics I | 4 |
| | | <hr/> |
| | | 17 |
| Semester II | | |
| ECA222 | C++ Programming | 3 |
| ECA223 | Java Programming | 3 |
| IMT122 | Graphic Arts Design | 3 |
| IMT127 | Game Design | 3 |
| MTH122 | College Algebra and Trigonometry II | 3 |
| | Arts/Humanities/Social Sciences Elective* | 3 |
| | | <hr/> |
| | | 18 |
| Semester III | | |
| ENG221 | Technical Report Writing | 3 |
| IMT125 | 3D Graphics Modeling | 3 |
| IMT224 | 2D Game Programming | 3 |
| ECA227 | Assembly Language | 3 |
| MTH221 | Concepts of Calculus | 3 |
| ECA226 | Windows Programming with C# | 3 |
| | | <hr/> |
| | | 18 |
| Semester IV | | |
| ECA224 | Advanced C++ Programming | 3 |
| ECA239 | Advanced Java Programming | 3 |
| ECA240 | Advanced Gaming and Simulation Topics | 3 |
| ECA241 | 3D Game Programming | 3 |
| SPH121/SPH122 | Effective Speaking or Inter-group Communications | 3 |
| | Arts/Humanities/Social Sciences Elective* | 3 |
| | | <hr/> |
| | | 18 |

71 TOTAL CREDIT HOURS

† Based on SSCT placement score.

* Arts/Humanities/Social Sciences Electives: PSY121, PSY122, PSY123, PSY124, PSY221, PHL122, SOC121, SOC122, SOC123, SOC225, BUS122, BUS221, PSC121, ACC130.

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Computer Technology

The computer technology program provides an application-based technology curriculum. The goal of the program is to graduate technology professionals who have skills in technical training and support, basic Web development, database management, and computer upgrading and networking skills.

The computer technology program is designed to provide students with a comprehensive introduction to the topics of principle importance in business

information systems. It aims to improve overall effectiveness and productivity of individuals and work groups. It addresses the creation, distribution, storage, and use of information in all its formats. Computer technology encompasses office automation, end-user computing, information centers, computer-supported work, performance support, and multimedia-based applications.

SUGGESTED COURSE SEQUENCE

| | | Credit Hours |
|---------------------|---|-------------------------|
| Semester I | | |
| ECA122 | Computer Applications for Technical Professionals | 3 |
| ECA132 | Help Desk Concepts | 3 |
| ENG124 | College Composition † | 3 |
| MTH123 | Intermediate Algebra | 3 |
| SPH121/SPH122 | Effective Speaking or Inter-group Communications | 3 |
| | | 15 |
| Semester II | | |
| CAP125 | Advanced Microsoft Applications | 3 |
| CAP134 | Spreadsheet Analysis | 3 |
| ECA228 | Internet/Intranet Design and Development | 3 |
| IMT122 | Graphic Arts Design | 3 |
| EET141 | Introduction to Computer Networking | 3 |
| MTH222 | Statistics | 3 |
| | | 18 |
| Semester III | | |
| ACC121 | Principles of Accounting I | 4 |
| ECA243 | Graphics for Illustration | 3 |
| CAP223 | Microsoft Access Database | 3 |
| EET131 | PC Upgrading and Maintenance | 3 |
| IMT124 | Internet Design Tools | 3 |
| | Arts/Humanities/Social Sciences Elective* | 3 |
| | | 19 |
| Semester IV | | |
| ECA255 | Microsoft Project Tools | 3 |
| | Technical Elective** | 3 |
| ENG221 | Technical Report Writing | 3 |
| IMT126 | Flash Animation | 3 |
| CAP224 | Visual Basic for Applications | 3 |
| BUS121 | Business Administration | 4 |
| | | 19 |

71 TOTAL CREDIT HOURS

† Based on SSCT placement score.

* Arts/Humanities/Social Sciences Electives: PSY121, PSY122, PSY123, PSY124, PSY221, PHL122, SOC121, SOC122, SOC123, SOC225, BUS122, BUS221, PSC121, ACC130.

** Select from ECA131, CAP139 or ECA253.

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E-Commerce Technology

Internet/Web Development

E-commerce technology students focus on the exciting and lucrative field of online Internet design and programming. They learn to develop interactive database-driven Web sites using the latest technology. While everyone else is trying to figure out the new information technology buzzwords, Stark State's e-commerce students will be applying them in the classroom.

SUGGESTED COURSE SEQUENCE

| | | Credit Hours |
|------------------------|---|-------------------------|
| Semester I | | |
| ECA122 | Computer Applications for Technical Professionals | 3 |
| ECA127 | Programming Logic and Problem Solving | 3 |
| ENG124 | College Composition † | 3 |
| ECA253 | Data Modeling and Database Design | 3 |
| MTH121 | College Algebra and Trigonometry I | 4 |
| | | 16 |
| Semester II | | |
| ECA223 | Java Programming | 3 |
| ECA228 | Internet/Intranet Design and Development | 3 |
| MTH222 | Statistics | 3 |
| IMT122 | Graphic Arts Design | 3 |
| SPH121/SPH122 | Effective Speaking or Inter-group Communications | 3 |
| | | 15 |
| Summer Semester | | |
| BUS121 | Business Administration | 4 |
| IMT126 | Flash Animation | 3 |
| ECA229 | Microsoft Server Side Scripting | 3 |
| | | 10 |
| Semester III | | |
| ECA225 | Client Side Scripting | 3 |
| ECA236 | Open Source Server Side Scripting | 3 |
| IMT235 | Flash Web Database Programming | 3 |
| MKT121 | Principles of Marketing | 3 |
| | Arts/Humanities/Social Sciences Elective* | 3 |
| | | 15 |
| Semester IV | | |
| ECA234 | CFML Tools and Design | 3 |
| ECA230 | Java Web Database Programming | 3 |
| IMT124 | Internet Design Tools | 3 |
| ECA247 | Advanced XML and Web Services | 3 |
| MKT232 | Internet Marketing | 2 |
| | | 14 |

70 TOTAL CREDIT HOURS

† Based on SSCT placement score.

* Arts/Humanities/Social Sciences Electives: PSY121, PSY122, PSY123, PSY124, PSY221, PHL122, SOC121, SOC122, SOC123, SOC225, BUS122, BUS221, PSC121, ACC130.

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Interactive Media Technology

The interactive media technology program is an adventure into the creative side of computing.

An associate degree in interactive media technology will prepare students for careers in communication through media. The emphasis of the program is in 3D animation and computer graphics. The skills the student develops can be used to create games, educational material, presentations and more.

SUGGESTED COURSE SEQUENCE

| | | Credit Hours |
|---------------------|---|-----------------|
| Semester I | | |
| ECA122 | Computer Applications for Technical Professionals | 3 |
| IMT121 | Interactive Media | 3 |
| MTH121 | College Algebra and Trigonometry I | 4 |
| IMT122 | Graphic Arts Design | 3 |
| ENG124 | College Composition † | 3 |
| ECA228 | Internet/Intranet Design and Development | 3 |
| | | 19 |
| Semester II | | |
| IMT125 | 3D Graphics Modeling | 3 |
| IMT222 | Audio in Media | 3 |
| PHY121 | Physics I | 4 |
| ECA127 | Programming Logic and Problem Solving | 3 |
| IMT126 | Flash Animation | 3 |
| | Arts/Humanities/Social Sciences Elective* | 3 |
| | | 19 |
| Semester III | | |
| IMT223 | Video Production | 3 |
| IMT227 | 3D Graphics Animation | 3 |
| IMT235 | Flash Web Programming | 3 |
| | Arts/Humanities/Social Sciences Elective* | 3 |
| | | 12 |
| Semester IV | | |
| SPH121/SPH122 | Effective Speaking or Inter-group Communications | 3 |
| IMT124 | Internet Design Tools | 3 |
| ENG227 | Writing for Media | 3 |
| ECA229 | Microsoft Server Side Scripting | 3 |
| IMT228 | 3D Design Practicum | 3 |
| ECA241 | 3D Game Programming | 3 |
| | | 18 |

68 TOTAL CREDIT HOURS

† Based on SSCT placement score.

* Arts/Humanities/Social Sciences Electives: PSY121, PSY122, PSY123, PSY124, PSY221, PHL122, SOC121, SOC122, SOC123, SOC225, BUS122, BUS221, PSC121, ACC130.



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Interactive Media Technology

Commercial Music Production and Broadcasting Option

Webcasting, streaming and music production is the focus of this option. Upon completion of this degree the student is able to work in a variety of environments including corporate audio design, trade show design and music composition-based fields.

SUGGESTED COURSE SEQUENCE

| | | Credit Hours |
|---------------------|---|-------------------------|
| Semester I | | |
| ECA122 | Computer Applications for Technical Professionals | 3 |
| IMT121 | Interactive Media | 3 |
| MTH121 | College Algebra and Trigonometry I | 4 |
| IMT122 | Graphic Arts Design | 3 |
| ECA127 | Programming Logic and Problem Solving | 3 |
| ECA228 | Internet/Intranet Design and Development | 3 |
| | | 19 |
| Semester II | | |
| IMT125 | 3D Graphics Modeling | 3 |
| IMT222 | Audio in Media | 3 |
| PHY121 | Physics I | 4 |
| ENG124 | College Composition † | 3 |
| IMT126 | Flash Animation | 3 |
| | Arts/Humanities/Social Sciences Elective* | 3 |
| | | 19 |
| Semester III | | |
| IMT223 | Video Production | 3 |
| ECA229 | Microsoft Server Side Scripting | 3 |
| IMT229 | Theory and Composition | 3 |
| ECA253 | Data Modeling and Database Design | 3 |
| EET131 | PC Upgrading and Maintenance | 3 |
| | Arts/Humanities/Social Sciences Elective* | 3 |
| | | 18 |
| Semester IV | | |
| SPH121/SPH122 | Effective Speaking or Inter-group Communications | 3 |
| IMT230 | Webcasting | 3 |
| ENG227 | Writing for Media | 3 |
| IMT231 | Sequencing and MIDI Samples | 3 |
| IMT232 | Instrumental Practicum | 3 |
| | | 15 |

71 TOTAL CREDIT HOURS

† Based on SSCT placement score.

* Arts/Humanities/Social Sciences Electives: PSY121, PSY122, PSY123, PSY124, PSY221, PHL122, SOC121, SOC122, SOC123, SOC225, BUS122, BUS221, PSC121, ACC130.



A COLLEGE TECH PREP PARTICIPANT

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Interactive Media Technology

Instructional Design Option

This option is for students wishing to utilize a wide range of tools that aid them in creating multimedia-based applications such as marketing tools, corporate material and other media presentations.

The instructional design and development option is directed toward those individuals who wish to apply technology and related software in a classroom or instructional setting. The outlook for those who under-

stand how to use technology in education is excellent. Schools and other organizations are expanding their use of technology and are employing more professionally-trained workers. Opportunities are also available in the private sector. Typical jobs for graduates in instructional design include: technology coordinator, distance learning specialist, computer-based training developer, online training specialist, staff development specialist and corporate training specialist.

SUGGESTED COURSE SEQUENCE

| | | Credit Hours |
|---------------------|---|-----------------|
| Semester I | | |
| ECA122 | Computer Applications for Technical Professionals | 3 |
| IMT121 | Interactive Media | 3 |
| MTH121 | College Algebra and Trigonometry I | 4 |
| IMT122 | Graphic Arts Design | 3 |
| ECA127 | Programming Logic and Problem Solving | 3 |
| ECA228 | Internet/Intranet Design and Development | 3 |
| | | 19 |
| Semester II | | |
| IMT125 | 3D Graphics Modeling | 3 |
| IMT222 | Audio in Media | 3 |
| PHY121 | Physics I | 4 |
| ENG124 | College Composition † | 3 |
| IMT126 | Flash Animation | 3 |
| | Arts/Humanities/Social Sciences Elective* | 3 |
| | | 19 |
| Semester III | | |
| IMT223 | Video Production | 3 |
| ECA229 | Microsoft Server Side Scripting | 3 |
| IMT235 | Flash Web Programming | 3 |
| IMT123 | CBT Development with Director | 3 |
| ECA243 | Graphics for Illustration | 3 |
| | Arts/Humanities/Social Sciences Elective* | 3 |
| | | 18 |
| Semester IV | | |
| SPH121/SPH122 | Effective Speaking or Inter-group Communications | 3 |
| IMT236 | Designing for Presentations | 3 |
| ENG227 | Writing for Media | 3 |
| IMT124 | Internet Design Tools | 3 |
| ECA242 | Instructional Development with Authorware | 3 |
| | | 15 |

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Interactive Media Technology

Video Production Option

Camera work, digital editing and special effects are the focus of this degree. A partnership with the communication department at The University of Akron allows students to complete an associate degree at Stark State and transfer all credits directly to the communication degree at The University of Akron. Upon completion of the associate degree, students will be able to plan, shoot and edit and are prepared for employment with multimedia firms, creating educational, commercial or industrial videos.

SUGGESTED COURSE SEQUENCE

| | | Credit Hours |
|---------------------|---|-----------------|
| Semester I | | |
| ECA122 | Computer Applications for Technical Professionals | 3 |
| IMT121 | Interactive Media | 3 |
| MTH121 | College Algebra and Trigonometry I | 4 |
| IMT122 | Graphic Arts Design | 3 |
| ECA127 | Programming Logic and Problem Solving | 3 |
| ECA228 | Internet/Intranet Design and Development | 3 |
| | | 19 |
| Semester II | | |
| IMT125 | 3D Graphics Modeling | 3 |
| IMT222 | Audio in Media | 3 |
| PHY121 | Physics I | 4 |
| ENG124 | College Composition † | 3 |
| IMT126 | Flash Animation | 3 |
| | Arts/Humanities/Social Sciences Elective* | 3 |
| | | 19 |
| Semester III | | |
| IMT223 | Video Production | 3 |
| ECA229 | Microsoft Server Side Scripting | 3 |
| IMT227 | 3D Graphics Animation | 3 |
| IMT123 | CBT Development with Director | 3 |
| EET131 | PC Upgrading and Maintenance | 3 |
| | Arts/Humanities/Social Sciences Elective* | 3 |
| | | 18 |
| Semester IV | | |
| SPH121/SPH122 | Effective Speaking or Inter-group Communications | 3 |
| IMT238 | Advanced Video Production | 3 |
| ENG227 | Writing for Media | 3 |
| IMT237 | Compositing | 3 |
| IMT228 | 3D Design Practicum | 3 |
| | | 15 |

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† Based on SSCT placement score.

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A COLLEGE TECH PREP PARTICIPANT

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Information Technologies

Career Enhancement Programs*

Stark State College recognizes that not all students will seek an associate degree. Students might need to develop specific sets of skills to qualify for or improve performance in a given career setting. In response to this need, Stark State has developed "career enhancement" programs which document a student's proficiency in a variety of knowledge areas. The following series of courses are offered to non-degree seeking individuals desiring an opportunity to gain or improve marketable skills.

These courses are offered on a continuing basis at our campus location. We welcome inquiries from companies that may wish to investigate the possibility of offering them on-site at company locations.

Students enrolling in an associate degree program may apply these courses toward the degree if it is in the same area of study. Application for the "career enhancement" program should be made to the appropriate department head or academic dean.

Certificates of Competency

Computer Science and Engineering Technology

| | |
|-------------------------|---|
| Java Programming | Java Programming (ECA223) Java Web Database Programming (ECA230) Advanced Java Programming (ECA239) Data Modeling and Database Design (ECA253) |
| Visual Basic | Visual Basic for Applications (CAP224) Visual Basic Programming (ECA128) Microsoft Access Database (CAP223) Data Modeling and Database Design (ECA253) |
| C++ | C++ Programming (ECA222) Advanced C++ Programming (ECA224) Data Modeling and Database Design (ECA253) |

Interactive Media Technology

| | |
|-----------------------------|---|
| Interactive Media | Graphic Arts Design (IMT122) 3D Graphics Modeling (IMT125) Flash Animation (IMT126) Audio in Media (IMT222) Video Production (IMT223) Writing for Media (ENG227) |
| Instructional Design | Graphic Arts Design (IMT122) Flash Animation (IMT126) Video Production (IMT223) Instructional Development with Authorware (ECA242) CBT Development with Director (IMT123) Designing for Presentations (IMT236) |

Database Administration Technology

| | |
|---|---|
| Database Administrator Oracle | Introduction to Oracle: SQL (CAP139) Oracle PL/SQL Programming Language (CAP141) Oracle Architecture and Administration (CAP142) Oracle Performance and Tuning (CAP249) Oracle Backup and Recovery (CAP250) |
| Microsoft SQL Server Administrator | Microsoft SQL Server Administration (EET242) Microsoft Access Database (CAP223) Microsoft SQL Server: T-SQL (CAP255) Designing and Implementing OLAP Solutions (CAP256) |

E-Commerce Technology

| | |
|---------------------------|--|
| Webmaster | Internet/Intranet Design and Development (ECA228) Client Side Scripting (ECA225) Internet Design Tools (IMT124) Flash Animation (IMT126) |
| Advanced Webmaster | Microsoft Server Side Scripting (ECA229) Open Source Server Side Scripting (ECA236) CFML Tools and Design (ECA234) Advanced XML and Web Services (ECA247) |

(Continued on page 144)

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Information Technologies

Career Enhancement Programs* (continued from page 143)

Certificates of Competency

Computer Network Administration and Security Technology

| | |
|--|--|
| Microsoft Windows 2003 MCSE Preparation | PC Upgrading and Maintenance (EET131) Introduction to Computer Networking (EET141) MS Windows XP and 2003 Server (ECA131) Microsoft Windows Server 2003 Network Infrastructure (ECA244) Designing Security for a Windows 2003 Network (ECA245) Administering and Implementing Directory Services and Exchange Server (ECA246) |
|--|--|

Computer Network Administration and Security Technology

| | |
|--|--|
| Cisco Certified Network Associate Preparation | PC Upgrading and Maintenance (EET131) Introduction to Computer Networking (EET141) Microsoft Windows Server 2003 Network Infrastructure (ECA244) CCNA Phase I and II (ECA249) CCNA Phase III and IV (ECA250) Data Encryption and Firewall Technology (EET258) |
| UNIX/LINUX Administration | Computer Applications for Technical Professionals (ECA122) UNIX/LINUX Operating Environment (EET257) UNIX/LINUX System Administration (EET250) UNIX/LINUX Network Administration (EET251) UNIX/LINUX Shell Scripting (ECA254) |

*These programs offer professional development for those already employed in the field and may also serve as a starting point for those considering the pursuit of a full associate degree program. Existing knowledge or skill base is assumed for certain courses. Absence of same may require prerequisite coursework. Applicants must secure department head or academic dean approval before completing the registration process. Non-degree seeking students may not be eligible for financial aid.

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