INFORMATION TECHNOLOGY
CAREER PROGRAMS

CENTRAL LAKES COLLEGE is a
Cisco Networking Academy
CompTIA Authorized Academy
Microsoft IT Academy

Degree Programs Overview

- Through the RITA Grant, CLC is investing $3 million in IT program enhancements and technology, which provides you cutting-edge training.

- IT instructors have many years of experience in their fields and continue to stay current on industry trends.

- Enhanced IT curriculum and partnerships provide you better career opportunities and skills to build on as you start your career.

Mobile Application Development
AAS Degree
Graduates of this program will gain the skills to move from traditional software development, to Web applications, and into the rapidly-growing field of dedicated mobile application development.

Computer Network Administration
AAS Degree
This program covers an overview of networking technologies graduates can expect to work with in the field, and delivers curriculum using current industry software, including operating systems and other applications.

Computer Information Technology
AAS Degree
IT Specialists are in high demand. Students learn troubleshooting and computer repair, basic networking, operating systems, supporting common end user applications, as well as highly regarded soft skills.

Computer Network Administration - Cisco
AAS Degree
Cisco network administrators install, configure, operate, and troubleshoot medium-size routed and switched networks. This program helps students prepare for the globally recognized Cisco CCENT and CCNA certifications.

Computer Network Administration - Cyber
AAS Degree
Cyber Security network administrators install, configure, test and support an organization's network infrastructure, as well as plan and implement the organization's security policy. Cyber Security specialists are in high demand.

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More Info:
clcmn.edu

RITA

INFORMATION TECHNOLOGY CAREER PROGRAMS

RITA

The Rural Information Technology Alliance (RITA) is a grant funded consortium of four colleges working to train qualified IT workers to meet the growing demand for IT professionals in rural areas. As a result of the grant, every student in an IT program at Central Lakes College (CLC) is provided with one-on-one support from an Education and Employment Advisor from the time of enrollment, to employment in the IT field. Additionally, CLC has expanded and enhanced IT program offerings, curriculum and technology. Partnerships enabled by the grant provide additional educational and career opportunities for students.

RitaConsortium.org

Employment Outlook

Computer Network Administration

National projections by the US Department of Labor (DOL) predict there will be 79,400 job openings in this field between 2014 and 2024.

Computer Information Technology

Computer support specialists are needed in nearly every career field. The DOL projects a 12% increase in employment in this field between 2014 and 2024, which is faster than the average projected growth rate of 7% for all career fields.

Computer Network Administration - Cisco

According to national DOL data, the field of Network Administration is growing at an above average rate and has annual salaries that are above average.

Computer Network Administration - Cyber

The field of network and information security impacts nearly every person and every business. Growth in this field is much faster than average. The DOL projects 18% growth in this field between 2014 and 2024.

Mobile Application Development

The market and use of mobile applications has grown at an exponential rate. Demand has continued to rise as businesses adopt mobile strategies. The DOL projects 17% growth in this field between 2014 and 2024.

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Info & questions contact:
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RITA

Computer Network Administration
CyberSecurity
A.A.S. Degree

The projected job growth in cybersecurity is 18% between 2014 and 2024.
- U.S. Department of Labor

By 2019, there will be a 2 million worker global shortage of cybersecurity professionals.
- UK House of Lords Digital Skills Committee

"If any college student asked me what career would most assure thirty years of steady, well-paying employment, I would respond, *cybersecurity*."
- Alec Ross, U.S. State Department advisor

Cybersecurity is a rapidly growing concern. One billion records of personally identifiable information were stolen in 2014 (IBM and the Ponemon Institute). The average cost of a data breach is estimated to be $150 million by 2020 (Juniper Research).

As a cybersecurity network administrator, you will install, configure, test, and support an organization's network infrastructure as well as plan and implement the organization's security policies. Prepare today for a good-paying, important, and fulfilling career, as you learn to:

- investigate cybersecurity risks, and employ real-world solutions;
- gain hands-on experience using the latest security tools; and
- learn to recognize threats, and identify strategies for stopping them.

For more information contact:
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www.clcmn.edu/cyber

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COMPUTER NETWORK ADMINISTRATION – CYBERSECURITY A.A.S. DEGREE
Program Course Requirements

First Year – Fall Semester
COMP 1109 Introduction to Operating Systems (3 cr)
COMP 1122 IT Essentials (3 cr)
COMP 1123 Introduction to Networks (CCNA – I) (3 cr)
General Education (6 cr)
Total 15 Credits

First Year – Spring Semester
COMP 1124* Routing and Switching Essentials (CCNA – II) (3 cr)
COMP 1253* Client Operating System Administration (4 cr)
COMP 2111* Security Essentials (4 cr)
COMP 2150* Windows Server Administration I (5 cr)
Total 16 Credits

Second Year – Fall Semester
COMP 2115* Advanced OS – Command Line & PowerShell (4 cr)
COMP 2130* Scaling Networks (CCNA – III) (3 cr)
COMP 2154* Advanced Network Defense (3 cr)
General Education (5 cr)
Total 15 Credits

Second Year – Spring Semester
COMP 2116* IT Project Management (3 cr)
COMP 2155* Network Intrusion (3 cr)
COMP 2156* Security Capstone (3 cr)
COMP Elective (1 cr)
General Education (4 cr)
Total 14 Credits

GRADUATION REQUIREMENT – 60 CREDITS
Denotes Prerequisite or Co-requisite

RITA RURAL INFORMATION TECHNOLOGY ALLIANCE

Computer Network Administration
Cisco
A.A.S. Degree

CISCO
Networking Academy

"Employment in this field is projected to grow 28%, from 2010 to 2020—faster than the average for all occupations, and one of the fastest-growing IT jobs."

- "The 20 Best IT Jobs for 2013 and Beyond,"
http://www.thebestschools.org/blog/2012/10/15/20-best-it-jobs-2013/

Cisco network administrators install, configure, test, secure and support an organization's network infrastructure. They may also plan, coordinate, and direct the computer-related activities of an organization, making sure all parts of a computer network work to meet the organization's goals. Network Administrators can also provide day-to-day information technology support, and direct the work of other computer specialists such as analysts, programmers, and technicians.

Central Lakes College is an authorized Cisco Networking Academy. This degree program prepares students for the globally recognized Cisco CCENT and CCNA certifications.

For more information contact:
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www.clcmn.edu/programs-majors/computer-network-administration-cisco

COMPUTER NETWORK ADMINISTRATION – CISCO A.A.S. DEGREE
Program Course Requirements

First Year – Fall Semester
COMP 1109 Introduction to Operating Systems (3 cr)
COMP 1122 IT Essentials (3 cr)
COMP 1123 Introduction to Networks (CCNA-I) (3 cr)
General Education (6 cr)
Total 15 Credits

Spring Semester
COMP 1124* Routing and Switching Essentials (CCNA II) (3 cr)
COMP 1253* Client Operating Systems Administration (4 cr)
COMP 2150* Windows Server Administration I (5 cr)
General Education (3 cr)
Total 15 Credits

Second Year – Fall Semester
COMP 2130* Scaling Networks (3 cr)
COMP 2131* Connecting Networks (3 cr)
COMP 2115* Advanced OS – Command Line and PowerShell (4 cr)
General Education (6 cr)
Total 16 Credits

Spring Semester
COMP 2116* IT Project Management (3 cr)
COMP 2132* Implementing Cisco IOS Network Security (3 cr)
COMP 2133* Fundamentals of Voice Over IP (3 cr)
COMP 2170* Linux Systems (4 cr)
COMP Course Elective (1 cr)
Total 14 Credits

GRADUATION REQUIREMENT – 60 CREDITS
*Denotes Prerequisites or Co-requisites

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MOBILE APPLICATION DEVELOPMENT

CHANGE YOUR WORLD.
www.clcmn.edu/mobileappdev

Create both Android and iOS apps

ANDROID **iOS**

Take courses in person at CLC, or online via live web conference!

Learn to develop applications using in-demand programming languages: C#, JavaScript, Java, CSS, HTML5, SQL, & Swift.

According to CNN Money, Mobile Application Developer is the **"best job in America,"** with an estimated 10-year job growth of 19%.

http://money.cnn.com/gallery/pf/2017/01/05/best-jobs-2017/

Develop additional skills in the areas of: Database Management, Security, Application Testing, Cloud Computing, & Virtualization.

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MOBILE APPLICATION DEVELOPMENT A.A.S.

FALL SEMESTER – 1st Year

APPD	1110	Programming in C#, 3 cr.
APPD	1111	Problem Solving with Java, 3 cr.
APPD	1115	Database Design Fundamentals, 3 cr.
APPD	2122	iOS Development Fundamentals, 3 cr.
		General Education, 3 cr.

SPRING SEMESTER – 1st Year

APPD	1113	Programming in HTML5/CSS with JavaScript, 3 cr.
APPD	1120	Android Application Development Fundamentals 3 cr.
APPD	1125	Database Management Systems, 3 cr.
APPD	2132	Cross-Platform Android/iOS/Windows Development
		General Education, 3 cr.

FALL SEMESTER – 2nd Year

APPD	2111*	Advanced Problem Solving with Java, 3 cr.
APPD	2114*	Advanced Programming in C#, 3 cr.
APPD	2116*	Advanced HTML5/CSS with JavaScript, 3 cr.
APPD	2120*	Advanced Android Development, 3 cr.
		General Education, 3 cr.

SPRING SEMESTER – 2nd Year

APPD	2124*	Security in Android Software Development, 3 cr.
APPD	2126*	Security in Application Development Using HTML5/CSS and JavaScript, 3 cr.
APPD	2128*	Security in Application Development Using C#, 3 cr.
		General Education, 6 cr.

Graduation Requirement, 60 credits

*Denotes Prerequisite

Be part of the fight against cyber crime. Our students learn how to write and test secure applications.
www.clcmn.edu/mobileappdev

"Security measures must be enhanced to ensure apps are secured everywhere. The vast majority of attacks today target the application level . . . It's time for organizations to come to terms with a new reality: Security needs to be more focused at the app level." - "The Present and Future of Application Protection," F5 Networks, Inc., 2016