FOUR RIVERS CAREER CENTER

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IT 0974 Information Technology
(IT Essentials & Network Essentials)
3 Units of Credit w/ .25 Units of Embedded English

School Year: 2023 – 2024

Instructor: Curt Beers
Office: 1305A
Office Hours: 8 – 8:25 AM; 2:20 – 3:10 PM; other by appointment
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Course Description

During the first semester of this course students will uncover all the standards required to earn TestOut's PC Pro and CompTIA's A+ Certifications, with an emphasis on computer hardware, software, and operating systems preparing students for a career as an industry certified computer technician.

The second semester of this course, students will uncover all the standards required to earn CompTIA's Network+ and TestOut Network Pro Certifications and will prepare students to become an industry certified network technician.

The CompTIA A+ and TestOut PC Pro exams will certify that a successful candidate verifies necessary skills to work as an IT support professional and has the knowledge and skills required to install, repair, configure, secure, and manage computer hardware, operating systems, and software in home or corporate environments. These are the most basic and foundational skills required of all IT professionals. Additionally, communication, listening and analysis skills are essentials for interacting with customers.

The CompTIA Network+ and TestOut Network Pro exams will certify that a successful candidate has the knowledge and skills required to troubleshoot, configure, and manage common network wireless and wired devices, establish basic network design and connectivity, understand and maintain network documentation, identify network limitations and weaknesses, and implement network security, standards, and protocols. The candidate will have a basic understanding of emerging technologies including unified communications, mobile, cloud, and virtualization technologies.

Course Prerequisites

N/A

Required Textbook & Course Materials

Cisco Networking Academy Program – IT Essentials Course (Sem. 1)
TestOut LabSim – PC Pro (Sem. 1)
Cisco Networking Academy Programs – Cisco Certified Support Technician (CCST)
Networking Pathway (Sem. 2)
TestOut LabSim – Network Pro (Sem. 2)
Cyber.org – Neworking (Sem. 2)

Students will need for class:
64GB (min) USB Flash Drive
Headphones or Earbuds (wired or Bluetooth enabled)
Single Subject College Ruled Notebook
Class Fee of $50 – Includes SkillsUSA Membership and Polo dress shirt. Fees can be paid online https://washington.revtrak.net/ (Be sure to include Student Name and "IT Class Fee" at Payment.

Technology

PC's, laptops, and various other technologies will be used/introduced. Students may bring their own devices at their own risk and responsibility. ==School provided devices may not be able to access all classroom resources due to administrative security configurations or device capabilities. Adequate class time is provided for assignments if students prioritize their time.==

Competencies and Objectives

FRCC's Mission

In partnership with our communities, Four Rivers Career Center provides a quality education with real life experiences and opportunities to achieve a higher standard of living for a diverse student population using authentic hands-on learning modeled by knowledgeable and caring instructors.

Four Rivers Common Learning Objectives:

1. increased student attendance
2. increased academic attainment in communication arts and mathematics
3. increased vocational and technical skill attainment
4. increased communication with all sending school guidance departments, building-level administration, and district-level administration

Objectives:

● Students will discover computer hardware, operating system software, troubleshooting, maintenance, and repair. As part of the learning experience, students will build a computer, diagnose system errors and faults, and make computer repairs. Students will prepare to test for the TestOut PC Pro Certification and CompTIA A+ Certification.

● Students will have developed an awareness of the world of work in the Information Technology industry, explore career options in the associated fields, and relate personal skills, aptitudes and abilities to future career decisions.

● Upon successful completion of the program, students will demonstrate mastery of the foundation skills and competencies essential for success in the rapidly changing computer industries.

Classroom Conduct and Behavior

Students are expected to adhere to the policies of the School District of Washington as laid out in the Four Rivers Career Center Student Handbook. More information may be found online at **http://www.frcc.washington.k12.mo.us**

Career Resources

Need help? Mrs. Iesha Maloney and Mrs. Lorna Griffen are here to help students. If you are struggling academically or have other issues, please see them in room 2216 (across from building trades and graphics).

Class Format

Part I – English Language Arts (ELA) %20

The ELA grade will be based on Essays, Internet Assignments, Forum Questions and Presentations. The average of these may be used for total ELA grade.

Part II – Labs %35

There will be Labs assigned through LabSim simulation software as well as actual hands-on lab exercises from Cisco's Network Academy using classroom computer equipment.

Part III – Tests %35

Module exams will include multiple choice, short answer questions. Cisco Module tests will be summative. Checkpoint exams will be cumulative representing information from all Modules discussed at that time.

Part IV – Professionalism/Leadership %10

Your leadership skills grade breakdown is as follows:

- Interpersonal Skills
- How safe you work
- Participation, Etiquette, and Courtesy
- Maintenance and care of your tools, equipment and area
- Completion of daily job duties
- Maintain a code of professional ethics

Your professionalism will be graded using the Performance Evaluation Form once a Semester and Daily Participation. Students should remember that they are a representative of Four Rivers Career Center and their sending school and should act appropriately. A student must have high marks on their Evaluation form to be admitted into the 2nd year program as an Intern.

Attendance

Good attendance is one of the keys to students' success.   The staff will ensure the opportunity for students to make up for lost class time. Activities could be, but are not limited to, intensified study time, Saturday school, before or after school learning labs, mentoring, tutoring, service learning, program related outside learning opportunities, and other projects as deemed related.

1.   **A parent or guardian should call, email or send a note to Four Rivers (in addition to notifying your home high school) on the day of absence or prior to the absence and provide a reason for the student missing school.** Students will be excused for personal illness, serious illness in the family, death in the family, and appointments that cannot be made outside of school

hours. Other absences will be recorded as an unexcused absence. A doctor's excuse is needed to validate absences of three or more consecutive days.

a.	**Four Rivers Attendance Contact Information:**
**Sabrina Light	Phone: 636-231-2100 Ext 2915**
Email: sabrina.light@sdowmo.org

2.	Students may not leave campus without permission. Students must sign out at the office, if they leave campus before the end of the regular school session.

3.	School sponsored or school sanctioned activities are exempt from and will not count toward the total absences allowed per semester.

4.	If a student is truant, consequences will comply with Board regulation JG-R.

5.	Students are to make up work according to the policies of the School District of Washington.

6.	After **four (4) absences** per semester:	Instructor will contact a parent or guardian regarding absences.

After **six (6) absences** per semester: Instructor will contact a parent or guardian. A notification letter will be sent from our office to a parent or guardian.

After **ten (10) absences** per semester:	Instructor will contact a parent or guardian. A notification letter will be sent from our office to a parent or guardian.

Students may lose credit after their twelfth (12th) absence.

In order to be eligible for a Carnegie Unit of high school credit, a student must be in attendance for at least 72 complete class periods.
Poor attendance will be taken into consideration and could prevent a student from returning to the second year of a program.

7.	Tardies: Three (3) tardies will result in a student referral to the office by the instructor. Four (4) or more tardies may result in detention, Saturday School or other disciplinary action.

8.	Appeals Process – A student has the right to appeal the assignment of "no credit" under Board Policy JFH.

9.	Qualification to participate in internships, agency rotations (Health Occupations), and related opportunities outside of Four Rivers Career Centers' campus is partially based upon student attendance history.

Covid Information
Four Rivers Career Center will follow all guidelines as established by the Board of Education of the School District of Washington.

Sending School Calendars:
All sending students are expected to attend Four Rivers according to the Career Center's school calendar. All absences by sending schools are arranged in advance with administrative and instructional staff in order that the education and training are not adversely affected.

Emergency Closing of School:
Weather conditions may cause one or more of the sending high schools to be closed. In the event your home high school is closed due to inclement weather, those students are excused. In the event that the School District of Washington is closed, Four Rivers Career Center is closed
East Central College students enrolled in Auto Technology, Building Construction, Machine Tool, and Welding will not attend these classes when the School District of Washington is closed. East Central students attending any other ECC class that meets at Four Rivers Career Center must check with the college regarding class cancellation.

Conduct
The Student Code of Conduct is designated to develop an appreciation of order, foster student responsibility and self-control, teach respect for proper authority, and to ensure the orderly operation of District schools. No code can be expected to list each and every offense which may result in the use of disciplinary action. However, it is the purpose of this code to list certain offenses which, if committed by a student, will result in the imposition of a certain disciplinary action. Disciplinary actions may include ISS (In-School Suspension) or OSS (Out-Of-School Suspension) In addition to the consequences specified below, school officials will notify law enforcement as well as document violations in the students' discipline file pursuant to law and Board policy.

Teachers shall have the authority to make and enforce necessary rules for the internal governance in the classroom, subject to review by the building director. Conferences with teachers, directors and parents should be effectively employed to bring about acceptable classroom behavior.

Further information about student conduct can be found in the student handbook at:
http://www.frcc.washington.k12.mo.us

Academic Honesty and Plagiarism Policy
You are expected to conduct yourself honestly in all academic endeavors.

Academic honesty includes the following:
- Documenting all proprietary information that is received from outside sources, including books, articles, web sites, lectures, interviews, television, radio, etc.
- Putting quotation marks around the words that were written or spoken by someone other than oneself.
- Applying this standard to all assignments (papers, take home exams, presentations, etc.).

Plagiarism:

To present someone else's work or ideas as one's own is plagiarism. A student commits plagiarism by

- copying, word for word, someone else's writing without putting that passage in quotation marks and identifying the source.
- taking someone else's writing, changing some of the words, and not identifying the source;
- taking someone else's ideas or organization of ideas, putting them into his/her own words and not identifying the source;
- having someone else change the student's writing—a tutor, friend, or relative, for instance—and creating the impression that this is the student's own work; or
- purchasing or downloading papers or passages from the Web.

An instance of plagiarism may result in a grade of "0" for the assignment and all related assignments (in the case of an essay, all drafts and prewriting would also receive a zero).

Method of Student Evaluation

Re-grades

Upon receiving a graded item back from the instructor (excluding finals, tests, or computer generated grades), a student has the opportunity to turn that assignment back in for a higher grade, after correcting any mistakes. For all corrections, the student must give a detailed written explanation why their initial answer was wrong and their new one correct. When turning in work for a re-grade, make sure to attach the original to it. Students have the right and are strongly encouraged to challenge any grade they feel was scored in error.

Make-Up Work

Assignments are posted online using the Cisco Network Academy website for students to access; course materials, assignments and to submit assignments. In addition to the Cisco Network Academy, TestOut LabSim assignments are also online. Because of this availability all assignments are due on the due dates given, regardless of absence due to sickness or inclement weather. The only exception is for tests. Excused absences will be required to make-up missed test upon return of class unless other arrangements have been made with the instructor. Unexcused absences will be treated as late work.

Late Work

Work will lose 10% for each day it is late up to three days. Assignments will be accepted up to five days late and given a score of a 50% full credit. Any assignments after five days late will receive no credit (NC).

Final Exam

A written and Hands-On final exam will be given at the conclusion of each semester consisting of 10% of the course grade.

Semester 1st half = 45%

Semester 2nd half = 45%

Semester Final Exam = 10%

Industry Recognized Certification (IRC)

Students are personally responsible for any testing fees if they choose to take the A+ and Network+ exams.

The CompTIA A+ Certification consists of 2 tests; each is approximately $220.00 and CompTIA Network+ Certification is a single test approximately $320. Exams are proctored through Pearson VUE testing services. FRCC is an authorized partner with CompTIA, which allows us to purchase vouchers at approximately 50% off.

Tests may be retaken at the discounted price.

The CompTIA certifications are not a prerequisite for the Information Technology II class.

Earning the CompTIA certifications will enable the student an opportunity to participate in an internship or Apprenticeships during the Information Technology II class.

Completion of the CompTIA certifications is equivalent to each 500 hours of hands-on experience in the lab or field.

Additional certifications will also be given near the end of the second semester, these certifications include:

• TestOut PC Pro and TestOut Network Pro (no fee)
• Cisco IT Essentials and Networking Essentials (no fee) students will receive certificate of completion, digital badges and may receive a letter of merit upon successful completion of the course.

Additional certifications are offered as they are relevant to the course and can be used to enhance the students resume when seeking employment.

A student's grade will be determined according to the following breakdown and scale:

English Language Arts:	20%
Labs:	35%
Tests:	35%
Professionalism:	10%

A 90-100%   B 80-89%   C 70-79%   D 60-69%   F 0-59%

Scale:

Grades	Performance Description
A=90-100%	Indicates that the student consistently demonstrates a thorough in-depth knowledge of concepts and skills. Performance is characterized by self-motivation, the ability to apply skills with consistent accuracy and independence, and a high level of quality.
B=80-89%	Indicates that the student consistently demonstrates thorough understanding of concepts and skills.
C=70-79%	Indicates that the student is progressing toward consistent and independent understanding of concepts and skills.
D=60-69%	Indicates that the student is beginning to progress toward the grade level concepts and skills with additional time and support.
F=50-59%	Indicates that the student is not yet demonstrating progress toward the grade level concepts and skills.
F=49%	No attempt made, missing work

Course Breakdown

IT Essentials	Readings	Due Date
Introduction to Personal Computer Hardware	Module 1	Aug 25, 2023
PC Assembly	Module 2	Aug 1, 2023
Advanced Computer Hardware	Module 3	Sep 8, 2023
Preventive Maintenance and Troubleshooting	Module 4	Sep 15, 2023
Networking Concepts	Module 5	Sep 21, 2023
Applied Networking	Module 6	Sep 29, 2023
Laptops and Other Mobile Devices	Module 7	Oct 6, 2023
Printers	Module 8	Oct 13, 2023
Virtualization and Cloud Computing	Module 9	Oct 19, 2023
Testing		Oct 25, 2023
Windows Installation	Module 10	Nov 3, 2023
Windows Configuration	Module 11	Nov 15, 2023
Mobile, Linux, and OSX Operating Systems	Module 12	Nov 21, 2023
Security	Module 13	Dec 1, 2023
The IT Professional	Module 14	Dec 8, 2023
Final Exam	Final Exam	Dec 15, 2023
TestOut PC Pro Certification	IRC Exam	Dec 22, 2023
CompTIA Exam	Exam	TBD
Networking Essentials	**Readings**	**Due Date**
Communication in a Connected World	Module 1	Jan 5, 2024
Network Components, Types, and Connections	Module 2	Jan 9, 2024
Wireless and Mobile Networks	Module 3	Jan 11, 2024
Build a Home Network	Module 4	Jan 16, 2024

Communication Principles	Module 5	Jan 18, 2024
Network Media	Module 6	Jan 22, 2024
The Access Layer	Module 7	Jan 24, 2024
The Internet Protocol	Module 8	Jan 26, 2024
IPv4 and Network Segmentation	Module 9	Jan 30, 2024
IPv6 Addressing Formats and Rules	Module 10	Feb 1, 2024
Dynamic Addressing with DHCP	Module 11	Feb 5, 2024
Gateways to Other Networks	Module 12	Feb 7, 2024
The ARP Process	Module 13	Feb 9, 2024
Routing Between Networks	Module 14	Feb 13, 2024
TCP and UDP	Module 15	Feb 15, 2024
Application Layer Services	Module 16	Feb 21, 2024
Network Testing Utilities	Module 17	Feb 23, 2024
Network Design	Module 18	Feb 27, 2024
Cloud and Virtualization	Module 19	Feb 29, 2024
Number Systems	Module 20	Mar 4, 2024
Ethernet Switching	Module 21	Mar 6, 2024
Network Layer	Module 22	Mar 11, 2024
IPv4 Address Structure	Module 23	Mar 13, 2024
Address Resolution	Module 24	Mar 15, 2024
IP Addressing Services	Module 25	Mar 19, 2024
Transport Layer	Module 26	Mar 21, 2024
The Cisco IOS Command Line	Module 27	Apr 2, 2024
Build a Small Cisco Network	Module 28	Apr 4, 2024
ICMP	Module 29	Apr 8, 2024

Physical Layer	Module 30	Apr 10, 2024
Data Link Layer	Module 31	Apr 12, 2024
Routing at the Network Layer	Module 32	Apr 16, 2024
IPv6 Addressing	Module 33	Apr 18, 2024
IPv6 Neighbor Discovery	Module 34	Apr 23, 2024
Cisco Switches and Routers	Module 35	Apr 24, 2024
Troubleshoot Common Network Problems	Module 36	Apr 26, 2024
Network Support	Module 37	Apr 30, 2024
Cybersecurity Threats, Vulnerabilities, and Attacks	Module 38	May 2, 2024
Network Security	Module 39	May 6, 2024
Final Exam	Final Exam	May 10, 2024
TestOut Network Pro Certification	IRC Exam	May 17, 2024
CompTIA Exam	Exam	TBD

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Four Rivers Career Center

Contract

IT 0974 Information Technology I

By signing this document, I am stating that I have read and understand the Information Technology Course Syllabus and agree to the terms and agreements set by the Instructor.

As a parent or guardian I consent to my student accessing and using the Cisco Networking Academy, WebexTeams and TestOut online course materials and education tools.

By signing your email address, you will automatically be added to my mailing lists for important announcements. Please print the email address clearly!

Student Signature -   _____

Student Email Address -   _____

Parent Signature -   _____

Parent Email Address -   _____