

Department of Engineering, Computer Programming, and Technology | Division of Network Engineering Technology. Valencia College West Campus.

CET 2854C Wireless Networks

Course Syllabus



Andrew Eisler

05/04/2017

Course Description

Prerequisites: [CET 2486C](http://catalog.valenciacollege.edu/search/?P=CET%202486C) and CET 2178C. This introductory course focuses on the design, planning, implementation, operation, and troubleshooting of wireless networks. It covers a comprehensive overview of technologies, security, and design best practices with particular emphasis on hands-on skills in wireless networks. (Special Fee: $57.00).



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| **Instructor** | Andrew Eisler, B.A., M.S., Ed.S. |
| **Title** | Professor, Network Engineering Technologies |
| **Student Interaction****Hours**  |

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| Monday (Online) 8:30 am to 10:30 am (BlackBoard, 321-480-3448; Tuesday (Online) 8:30 am to 9:30 am (BlackBoard, 321-480-3448; Wednesday (Building 11 room 312) 7:30 am to 9:30 am and 12:30 to 3:30; Thursday (Online) 8:30 am to 9:30 am (BlackBoard, 321-480-3448; Friday (Online) 8:30 am to 9:30 am (BlackBoard, 321-480-3448. |

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| **E-mail** | **BlackBoard** or aeisler@valenciacollege.edu   (Please use BlackBoard) |
| **Location** | West Campus Building 11, room 264 |
| **Times** | 9:30 am – 12:30 pm |
| **Start Date** | 05/10/2017 (Wednesday) |
| **Course Credits**  | 4.0 |
| **Contact Me** | (321) 480-3448 (cell phone) / BlackBoard email / (407) 582-1039 (office)  |
| **Course CRN** | 31954 |

**A syllabus is a roadmap for success in a particular course and is a contract between the student and the instructor.** By participating in this course, the student agrees to, and accepts the terms and conditions of this contract. It is student’s responsibility to carefully read this syllabus, and to adhere to all college policies and course procedures within. The following information provides an overview of the course and class practices.


# Major Competencies (what you will learn to do)

1. List WLAN devices and describe their basic functions
2. Discuss IEEE 802.11 Physical Layer, Media Access Control, and Networking Layer Standards
3. Describe RF loss and gain, and how it can be measured
4. Interconnect networking devices to build a wireless LAN
5. Design, implement and troubleshoot an ad hoc wireless network
6. Design, implement and troubleshoot a Basic Service Set and an Extended Service Set wireless networks
7. Conduct a wireless site surveying analysis
8. Analyze, and configure different wireless LAN security standards


# Required Text

### CWNA Certified Wireless Network Administrator Official Study Guide 4th Edition by David D. Coleman and David A. Westcott. Sybex (Wiley Publishing), 2014.

**ISBN: 978-1-118-89370-8**.



**Web Site**

Supplementary information for the course is available at:

<https://learn.valenciacollege.edu/>

The BlackBoard Web site contains class notes, PowerPoint slides, class announcements, the course syllabus, test dates, and other information for the course.

**Email**

All students are required to use their **BlackBoard** email account. If you have any questions about the course or need assistance, please contact me by e-mail or phone at any time. You may **not** submit in-class lab assignments after the due date (see the Course ContentBlackBoard). Again, **Email submissions will not be accepted.**

**Grading and Evaluation Criteria**

**Grading**

* The final course grade is based on percentages assigned to the quizzes, labs, assignments, and tests throughout the course.
	+ A 89.5 to 100 %
	+ B 79.5 to 89.4 %
	+ C 69.5 to 79.4 %
	+ D 59.5 to 69.4 %
	+ F Below 59.4 %

**Points are available as follows:**

* + Test 1: 100 points (20 percent)
	+ Test 2: 100 points (20 percent)

**Tests will count for 40 percent of the grade (20 percent each test).**

**Labs, Assignments, and Quiz Points**

* There will be about 12 labs assigned throughout the semester**. Labs and assignments will account for 40 percent of the grade.**
* There will be about 7 quizzes (from the text’s different sections) given throughout the course. **Quizzes will count for 20 percent of the grade.**

**Test Policies:**

* All tests are in administered in the classroom.
* Make-up tests are possible if tests are missed, but format and content may vary from test to test. Medical (or other) documentation is required before a makeup exam can be arranged.
* The final exam may be comprehensive.
* Make up tests will not be given for the final exam.

• Exam dates can be found in the Syllabus, the BlackBoard Content Area, and on the BlackBoard Course Calendar.

• The Final Exam is mandatory for all students or a grade of “F” will be awarded.

**Course Protocols**

* **Email:** email through BlackBoard is the best way to contact me. You may **text** me as well (321) 480-3448. Please check your email often for any important information about the course.
* **Electronic Devices**: Laptops and other mobile computing devices must be turned off during lectures and tests. Exception: electronic devices may be used for note taking purposes only. Cell phones must be turned off before coming to class and absolutely no phone calls during testing.
* **Missed Lectures**: Students are responsible for obtaining information about assignments and material covered or provided during missed lectures from other students in the course.
* **Late Assignments**: Assignments must be turned in person on the assigned day for full credit. There will be a 25% penalty for projects turned in one day late within the due date and time. There will be a 30% penalty for projects turned in two days within the due date and time. No assignments will be accepted after two days after the Due Date.
* **Academic Integrity**: Plagiarism and cheating of any kind on an examination, homework, project, or any other assignment will not be tolerated. It may result in an “F’ for that assignment (and can, depending on the severity of the case, lead to an “F” for the entire course).  The violation may be subject to appropriate referral to the Office of Student Conduct for further action.
* More than **three unexcused** absences could result in grade F or Withdrawal from class.
* **Failing to take the final exam will result in grade F**.
* **It is the student’s responsibility to withdraw from the course**. Any withdrawal after the withdraw deadline could result in F.
* **No make-up labs, quizzes, assignments, homework, or exams are permitted** unless prior arrangement with the instructor has been made.
* You **must satisfactorily complete all course requirements** in order to receive a passing grade including: Laboratory Assignments, Exams, Quizzes, and Projects.
* **All assignments and assessments are to be completed individually**. Cheating is prohibited: An incident of academic dishonesty would lead to withdrawing the student from the course with grade letter “F” and may also result in recommendation for expulsion from the program.
* In order to provide you with adequate support, **contacting the instructor via cell phone** for this course is a good option.
* **Keep all email communications within the BlackBoard email facility** unless your email is about communicating an emergency and/or about a situation of great urgency.

**Important Dates**

Please check the school’s calendar at:

<http://valenciacollege.edu/calendar/>

**Helpful Media**

For this class, you may find it useful to save your work on a flash (USB) drive because Valencia College PCs (if you use on-campus labs) may be formatted at night to repair any accidental corrupt files. You may also use the cloud (SkyDrive) for storing your work.



**Course Requirements:**

Basic computer navigation skills and access to a computer/Internet.

Quality Expectations, Late Work, Missed Deadlines:

* All students in this course are future professionals and candidates for an Associates’ degree. You might be the best technologist on the planet, but all I know about you is the quality of the work you produce in our class. Your work is a direct reflection of you as a professional.
* I understand that occasionally our real lives overtake our school life so there is leeway for late assignments. Assignments must be turned in on the assigned day for full credit. There will be a 15% penalty for projects turned in one day late within the due date and time. There will be a 20% penalty for projects turned in two days within the due date and time. No assignments will be accepted beyond two days after the due date.
* Failure to upload an assignment correctly is the same as late.
* All tests must be taken during the open window timeline. **Once the exam window closes no make-up exams**.
* Make up exceptions:
	+ If BlackBoard goes down or there’s a similar technical glitch, then I'll adjust the due dates.
	+ If you have an emergency, health issue, extenuating circumstance, jury duty, military duty, contact me. I will need documentation from you before I allow any make-up.
* There is no extra credit anticipated in this course.
* Exams, including a final examination, are online and open-book. The purpose of this course is to prepare you for reading, understanding, and implementing computer concepts in the domain of computer applications.
* Our class Contents section on BlackBoard will help you keep on track.


# Electronic Class Work

All class work is electronically submitted through BlackBoard. The syllabus and course Content area will map out each homework, quiz, exam, and reading assignment that is required based on due dates. If you do not understand please ask questions.


# Attendance Policy

You will be held to the required hours of attendance. It is your responsibility to withdraw; I will not do that for you. You may **withdraw by 07/07/2017**for a grade of W. Please be safe in the lab. No drinks or food are permitted near the computers. ***The college recognizes the correlation between attendance and both student retention and achievement***. Any class session or activity missed, regardless of cause, reduces the opportunity of learning and may adversely affect a student's achievement in the course. Class attendance is required beginning with the first class meeting, and students are expected to attend all class sessions for which they are registered. It is the responsibility of the student to arrange all make-up work missed because of legitimate class absences and to notify the instructor when an absence will occur.

The instructor determines the effect of absences on grades. However, students who are receiving financial aid or veterans' benefits, which are reported, as never attending a course, will be dropped from the class and benefits adjusted or rescinded. In order to obtain credit for a course, a student must be in attendance at least 85% of the contact hours listed for a particular course. The instructor may withdraw any student from the course if they miss more than 15% of the scheduled class sessions and activities. Students must be enrolled before they can attend class.

**Instructor-Specific Attendance Policy**

Instructors are required to monitor their attendance and report students who are not attending class during the designated reporting periods - normally on a monthly basis - each term.

**Note**: Veterans should refer to the college catalog for more information about attendance.


# Your academic progress in required and that requires you to attend each meeting day where lack of progress and or absences could result in an impact to your grade. This includes not receiving a passing grade or loss of a letter grade regardless of your assignment grades. You should not miss more than 4 graded assignments. You should not miss more than 3 days.


# Academic Honesty and Plagiarism

* Collaboration and discussion is encouraged in all course aspects other than actually completing the assigned work (exams, homework, projects, etc.). Indeed, collaboration often leads to increased understanding of the material being covered. If you have questions about an assignment, I encourage you to speak up and ask questions about it.
* Plagiarism is a form of fraud and will not be tolerated. You are expected to do your own work. Copying text or images from any source and claiming it as your own is considered plagiarism. Submitting copied text as your entire answer on a homework or project, even if you cite the source, is also a form of dishonesty. I want to read ***your*** words, see your work, not someone else's.
* Any form of academic dishonesty will be appropriately addressed. Valencia College subscribes to the plagiarism detection resource Turnitin.com. This website provides online access to software designed to search the internet and compare submitted material to online content and provide the results of that comparison to the user and thus acts as a mechanism to reveal plagiarism. All faculty reserve the right to request that assignments be submitted as electronic files and electronically submit assignments to Turnitin.com. Assignments are compared automatically with a large database of journal articles, web articles, and previously submitted papers. The instructor receives a report showing exactly how a student's paper was plagiarized. For more information, go to [http://www.turnitin.com](%20http%3A//www.turnitin.com%20) and http:// [www.ugs.usf.edu/catalogs/0304/adap.htm](http://www.ugs.usf.edu/catalogs/0304/adap.htm) [.](http://www.ugs.usf.edu/catalogs/0304/adadap.htm#plagiarism)
* The complete Valencia College student code of conduct can be found on the following site:  [http://catalog.valenciacollege.edu/academicpoliciesprocedures/studentcodeofconduct/](%20http%3A//www.easternflorida.edu/student-life/student-handbook.cfm%20.)

**Office for Students with Disabilities**

Students with documented disabilities that desire to receive services including special testing conditions, or who need specific accommodations, should register with the Office for Students With Disabilities (OSD) in the Student Services Building (SSB), Room 102). Please call the West Campus OSD office at (407) 582-1523. They will take care of you! There are no disadvantages in registering, and everything is kept confidential. It does not get written on your transcript or diploma that services were ever received. Services may not be received without registering. Additionally, services and accommodations are not retroactive.

**Course Schedule**

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| **Date** | **Topics & Reading** | **Assignment Due** |
| Week 1 | Introduction to the courseChapter 1 Overview of Wireless Standards, Organizations, and FundamentalsChapter 2 Radio Frequency Fundamentals | **Quiz 1****Class Café’ Post** |
| Week 2 | Chapter 3 Radio Frequency Components, Measurements, and MathematicsChapter 4 Radio Frequency Signal and Antenna Concepts | **Quiz 2** |
| Week 3 | Chapter 5 IEEE 802.11 StandardsChapter 6 Wireless Networks and Spread Spectrum Technologies |  |
| Week 4 | Chapter 7 Wireless LAN TopologiesChapter 8 802.11 Medium Access | **Quiz 3** |
| Week 5 | Chapter 9 802.11 MAC ArchitectureChapter 10 WLAN Architecture | **Quiz 4** |
| Week 6 | **Test 1** |  |
| Week 7 | Chapter 11 WLAN Deployment and Vertical MarketsChapter 12 WLAN Troubleshooting and Design | **Quiz 5** |
| Week 8 | Chapter 13 802.11 Network Security ArchitectureChapter 14 Wireless Attacks, Intrusion Monitoring, and Policy |  |
| Week 9 | Chapter 15 Radio Frequency Site Survey FundamentalsChapter 16 Site Survey Systems and Devices | **Quiz 6** |
| Week 10 | Chapter 17 Power over Ethernet (PoE)Chapter 18 802.11n |  |
| Week 11 | Chapter 19 Very High Throughput (VHT) and 802.11acChapter 20 Bring Your Own Device (BYOD) | **Quiz 7** |
| Week 12 | **Test 2** |  |

**12 – Jan (M)**

**2 – Mar (M)**

**9 – Mar (M)**

**16 – Mar (M)**

**23 – Mar (M)**

**30 – Mar (M)**

**6 – April (M)**

**13 – April (M)**

**Disclaimer**

The syllabus is subject to change at any time and in any manner. Professor Eisler will announce any changes to the syllabus in class, or by Announcement in BlackBoard.



Andrew Eisler, B.A., M.S., Ed.S.

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