

# Red Hat System Administration III

## CIS240RH (31013)

Dennis Kibbe

January 18, 2023

### **Welcome to the class!**

Welcome to this Red Hat Academy course that will continue your preparation to manage a Red Hat Enterprise Linux (RHEL) system. RHEL is the dominate Linux distribution in business today with nearly all of the Fortune 500 companies using Red Hat Enterprise Linux. System administrators who know Red Hat are in high demand. This course along with the CIS126RH Red Hat System Administration I course which you have successfully completed will help prepare you to pass the Red Hat Certified System Administrator (RHCSA) exam. Successfully completing both these courses and passing the RHCSA exam demonstrates that you have mastered the basic administration skills needed to manage Red Hat Enterprise Linux servers and workstations.

This class is delivered in a Hybrid format both in-person and using Webex. Webex is easy to use either in a web browser or with a native app for your operating system (yes, even Linux).

### **Course Information**

**Location:** BA1E

**Dates:** 01/17/2023 - 03/10/2023

**Days:** Tu

**Time:** 7:00 PM - 9:15 PM

### **Instructional Contact Hours (Seat Time)**

This is a three (3) credit-hour course. Plan to spend at least three hours on course content or seat time (direct instruction) and six hours on homework weekly. Accelerated courses will require additional time per week.

## Course Competencies

You can find the course competencies at the Center for Curriculum & Transfer Articulation.

## Important Withdrawal Dates

- Withdraw with refund no later than January 23, 2023.
- Withdraw without instructor's permission no later than February 9, 2023. (no refund)

## District Refund Policy

<https://district.maricopa.edu/regulations/admin-regs/section-2/2-2#10>

## Time Required

The Arizona Board of Regents has established as a general guideline that this course has outside-class preparation devoted to reading, taking chapter notes, completing assignments, computer work, preparation for activities, tests, quizzes, etc. Therefore, this class takes approximately 10 hours per week for a new computer user. Studies show that the best way to learn a new subject is to take it in bite-sized chunks. Each chapter in this course has non-graded guided exercises and a graded lab at the end of each chapter. Take the time to do both and to understand the concepts and skills presented in each chapter and you will do well. Getting behind and "cramming" will not work in this course.

## Required Textbook

This course is taught using the official Red Hat curriculum and virtualized Red Hat Enterprise Linux systems that are similar to what you will use on the Red Hat certification exam. Course material is available online and is provided by Red Hat free of charge.

## Third-Party Learning Tools

### Red Hat Academy Learning Portal

Red Hat provides the curriculum as well as a virtual lab environment for this course on the Red Hat Academy Learning Portal. This is provided at no charge to you.

## Webex Video Conferencing

I use Webex to hold Live Online classes and the class lectures are recorded so you can review them later. Look for a link in the welcome email to the class in Webex. If you are new to video conferencing here is a short video on how to use Webex.

## About Your Instructor



I have been teaching the Linux Operating System since 2008 at Mesa Community College and have been working with Linux for over two decades. In 2009 I was a contributing author to *The Command Line* for the GNU Press and have served as a subject matter expert for other publishers. I have been recognized by Red Hat as an outstanding Red Hat Academy instructor. Two of my courses received Mesa Community College's Gold Star for instructional excellence. I hold numerous industry certifications as well as blockchain Certificates of Completion from the MIT Sloan School of Management and the University of Buffalo. Also, I am an AWS Accredited Educator and a Quality Matters Peer Reviewer.

## How I Teach This Course

This course uses a lecture/lab format. A typical class starts with a short lecture and/or demonstration followed by ample time for you to complete the graded quiz and lab at the end of each chapter. During this lab time I am available to answer questions and help you over any rough spots. The lectures and demonstrations are recorded so you can return to the material later for review.

## How to Contact Me

**Instructor:** Dennis Kibbe

**Email:** dennis.kibbe@mesacc.edu

**Office Location:** BA 40 - **Room:** BA025

**Office Hours:** My office hours are posted on my Contact page. I'm available

in person or by Webex.

**Phone:** (480) 461-7246

## Communication Policy

Please use the Canvas Inbox or your official student email address when contacting me. I will usually answer within 48 hours or less.

## Discounted Red Hat Exam Vouchers

Students who successfully complete CIS126RH and CIS238RH can receive a discounted voucher for the Red Hat Certified System Administrator (RHCSA) certification exam. Students who complete CIS240RH and already have the RHCSA certification can receive a voucher for the Red Hat Certified Engineer (RHCE) exam. Certification exams can be taken here on the MCC campus at our Testing Service or online.

You have access to the Red Hat course material for up to 3 months after you complete the course. I suggest you schedule your certification exam within that time frame.

## Recording Faculty Lectures

Maricopa Community College District has a policy regarding recording faculty lectures. <https://district.maricopa.edu/regulations/admin-regs/section-3/3-4>

## Course Outline

### Week 1 (17 January)

- **Module 0:** Welcome and Course Overview
- **Chapter 1:** Introducing Ansible

### Week 2 (24 January)

- **Chapter 2:** Implementing an Ansible Playbook
- **Chapter 3:** Managing Variables and Facts

### Week 3 (31 January)

- **Chapter 4:** Implementing Task Control

**Week 4 (7 February)**

- **Chapter 5:** Deploying Files to Managed Hosts

**Week 5 (14 February)**

- **Chapter 6:** Managing Complex Plays and Playbooks

**Week 6 (21 February)**

- **Chapter 7:** Simplifying Playbooks with Roles
- **Chapter 8:** Troubleshooting Ansible

**Week 7 (28 February)**

- **Chapter 9:** Automating Linux Administration Tasks

**Week 8 (7 March)**

- **Chapter 10:** Comprehensive Review: Linux Automation with Ansible

## Grading Standards and Practices

### Letter Grades

Your final letter grade will be determined by the point value of work completed.

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

### How I Grade Lab Assignments

You receive 5 points for each **SUCCESS**. In this example the total points are 30. For any **FAIL** the output will tell you why it failed and you can usually redo just that part then re-run the grading script.

### Late Assignments

In this class we cover a lot of material in the short eight weeks we have together. It's important that you set aside time each week to read the textbook and work on the labs. Studies show that short study sessions spread out over several days are more effective and less stressful than cramming at the last minute. Follow

```
[student@workstation ~]$ lab perms-review grade

Grading the lab:

· Verifying permissions on /home/techdocs: ..... PASS
· Verifying directory: /home/techdocs..... PASS
· Verifying that tech1 can edit /home/techdocs: ..... PASS
· Verifying that databasel cannot edit /home/techdocs: ..... PASS
· Verifying umask: ..... PASS

Overall lab grade..... PASS

[student@workstation ~]$
```

Figure 1: Sample grading script

the tips in the Study LESS, Study SMART video on how to improve your study habits.

All assignments have a due date. You should turn assignments in by the due date. However I do accept late assignments without lose of points up to a point. If you miss a due date you can expect a reminder from me to complete the missing assignment. *If you fail to turn in two consecutive lab by the due date you are in danger of being dropped from the class.*

## Attendance Policy

Active participation and engagement is important in the learning process. The knowledge and skills to be gained in this course are dependent on attending and/or participating in class.

**In-Person/Live Online:** Therefore, attendance and participation are required to be successful. Students who must be absent because of an emergency or illness should make every effort to speak with the instructor about it beforehand, if possible, or after the next class.

**Hybrid:** Therefore, attendance and active participation are essential for a successful academic experience. Students should attend all scheduled class meetings, commit to time outside of class for other required assignments, and notify the instructor of planned absences; missed assignments translate to absences.

**Online On Your Own Time:** Therefore, engagement in course activities and submitting assignments provides instructors the opportunity to provide feedback that guides learning. Attendance will be measured by consistent assignment submissions. Students who cannot complete assignments in Canvas by scheduled due dates should reach out to the instructor. Missed assignments translate to absences and missing two due dates in a row may result in withdrawal from the course.

## Excused Absences

MCC's policies excuse absences due to college sanctioned events, death of an immediate family member, jury duty, subpoenas, short-term military service, or religious holidays. Signed absence verification forms or accommodation forms are required prior to absence.

<https://district.maricopa.edu/regulations/admin-regs/section-2/2-3#2>

## Withdrawal Policy

If you stop attending class after the 45th day of the semester, I may award a grade of W, Y, or F depending on your status in the class up until the day you stopped attending. Please discuss any desires to withdraw from the class with me so together we can decide on the best course of action. For more information see Administrative Regulation 2.3.6 and Appendix S-7.

## Academic Support

### Online Tutoring by Brainfuse

All MCC students have access to 10 (ten) hours of free online tutoring by Brainfuse in multiple sessions throughout the semester.

<https://www.mesacc.edu/students/tutoring/brainfuse>

## Virtual Student Services

All of Mesa's team members are diligently working remotely and committed in providing our students the same services that were provided in person, via chat, phone, or e-mail during regular business hours. In order to protect the safety of our community our offices are closed to visitors at this time. You can find more information here.

## Maricopa MyInfo

*Make it Happen* at the Maricopa Community Colleges with the MyInfo app for Android and MyInfo app for iOS. Access your student information, find your schedule, books, room locations, grades, view financial aid information and account balances.

## Learning Enhancement Center

Student success is important at MCC, and we encourage students to use all available resources. In addition to meeting with their instructor, students are

encouraged to seek FREE tutoring and other on campus support services to reinforce their understanding of course concepts and improve performance in their course(s).

- **Live Help** – Receive instant support for various subjects.
- **Writing Lab** – Have written assignments reviewed by a tutor.
- **Offline Questions** – Send a tutor an academic question.
- And More!

There are nine on-campus locations, seven at the Southern and Dobson campus, two at the Red Mountain campus, and a virtual option for accessing MCC Tutoring Services. For more information: <https://www.mesacc.edu/students/tutoring>

## Writing Center

The Writing Center provides one-on-one appointments with English faculty to help students during any phase of the writing process: brainstorming, pre-writing, researching, drafting, and revising. The Writing Center is located on the 1st floor of the MCC Library. However, for our Fall 2020 semester, our highest priority during the COVID-19 crisis is the health, safety, and well-being of all students, faculty, and staff; thus, our services can be accessed online at <https://www.mesacc.edu/students/tutoring/tutoring-online>

## Classroom Accommodations for Students with Disabilities

In accordance with the Americans with Disabilities Act (ADA), the Maricopa County Community College District (MCCCD) and its associated colleges are committed to providing equitable access to learning opportunities to students with documented disabilities (e.g. mental health, attentional, learning, chronic health, sensory, or physical). Each class/term/semester that a student needs academic adjustments/accommodations, the qualified student is required to work with the Disability Resources and Services Office (DRS) at their individual college(s). College DRS offices may only offer accommodations/academic adjustments for their own college. Contact with the DRS should be made as soon as possible to ensure academic needs are met in a reasonable time. New and returning students must request accommodations each semester through DRS Connect online services. To learn more about this online service process, please contact your local DRS office.

If you have not yet established services through DRS, but have a temporary health condition or permanent disability that requires accommodations, you are welcome to contact DRS by using the information listed on the following webpage: <https://district.maricopa.edu/consumer-information/>

**disability-resources/contacts.** The DRS office offers resources and coordinates reasonable accommodations for students with disabilities and/or temporary health conditions qualifying for accommodations/academic adjustments. Reasonable accommodations are established through an interactive process between you, your faculty, and DRS; and only those academic adjustments/reasonable accommodations granted by the DRS are recognized by the college and MCCC. It is the policy and practice of the MCCC to create inclusive and accessible learning environments consistent with federal and state law.

### **Eligibility for Accommodations and Required Documentation**

The policy is found on this webpage: <https://district.maricopa.edu/regulations/admin-regs/section-2/2-8>

Please request your accommodations through the MCC Disabilities Resources and Services Office at:

- Southern and Dobson (480) 461-7447
- Red Mountain (480) 654-7771
- Email: [drsfrontdesk@mesacc.edu](mailto:drsfrontdesk@mesacc.edu).

### **Information for Students of Faith**

Mesa Community College fosters an environment of religious inclusion where students of faith will be welcomed and supported. If you have religious practices and needs (as protected by Title IV of the Civil Rights Act) and would like to discuss possible accommodations, please review the Religious Accommodation Procedure and contact your instructor.

### **Early Alert (CARE REPORT)**

Mesa Community College is committed to providing a personal education for each of our students, and the Care Team is a key part of this vision. When parents, faculty, or staff members are concerned about the physical, emotional, academic or personal health of a college student, the Care Team can assess the situation, offer support, and provide referrals to the breadth of resources on-campus. <https://www.mesacc.edu/employees/student-affairs/care-team>

### **Covid Reporting**

Members of the Maricopa County Community College District (MCCC) community must notify Risk Management if they are diagnosed with COVID-19 or if they believe they have been exposed to COVID-19. This includes students who are enrolled in either in-person, hybrid (in-person and online combination) and/or online classes at Mesa Community College.

Your personally identifiable information, including name, address, and medical conditions will remain confidential and will not be shared with instructors, other students, or staff but your information may be shared with local health authorities as permitted under the ADA. For more information and/or to submit a COVID report, visit: <https://together.maricopa.edu/health-safety/covid-19-reporting>.

## Counseling

The Counseling Department at Mesa Community College provides a variety of counseling services to assist students in addressing their personal, academic, career development, prevention, and intervention challenges. Services are offered free of charge to students. Counseling faculty support and empower students in the process of setting and attaining their academic, career, and personal goals. To schedule an appointment to meet with a counselor call:

- **Southern and Dobson** (480) 461-7588
- **Red Mountain** (480) 654-7720

<https://www.mesacc.edu/departments/counseling>

## Canvas - Learning Management System

MCC and other Maricopa Colleges use Canvas, an online learning management system (LMS). Whether your class is face-to-face, hybrid, or entirely online, course materials should be accessed by students in Canvas.

You can access the Canvas LMS at <https://learn.maricopa.edu/> and learn more about how to use Canvas at <https://www.mesacc.edu/online/learn-about-canvas>.

## Student Resource Referral Guide

If you need support with academic or basic needs, such as tutoring and transportation issues, there are resources available. MCC has compiled a list of them, which can be found in the Student Resource Referral Guide at <https://www.mesacc.edu/get-help>.

## Student Email Account

All students are provided with an institutional email account (MEID@maricopa.edu). Students should use this account for all school business as it assures a student's identity and privacy. Students should communicate with instructors through this email account or through the Canvas messaging Inbox.

## Addressing Incidents of Title IX Sexual Harassment

In accordance with Title IX of the Education Amendments of 1972, the MCCC CD prohibits unlawful sexual harassment against any participant in its education programs or activities. Sexual harassment includes quid pro quo (this for that) harassment, hostile environment, sexual assault, dating/domestic violence, and stalking. This prohibition against sexual harassment - including sexual violence - applies to students, MCCC CD employees, and visitors to campus.

The policy of the MCCC CD is to provide an educational, employment, and business environment free of sexual violence, unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct or communications constituting sexual harassment as prohibited by state and federal law. Incidents of Sexual Misconduct should be reported to the college Title IX Coordinator, as outlined in policy. MCCC CD will provide on its Title IX and Preventing Sexual Harassment webpage a link to all Title IX Coordinators at the MCC CD. Reports may be filed anonymously at: <https://district.maricopa.edu/consumer-information/reporting>.

## Office of Civil Rights

Pregnant Student? Student of Faith? Please discuss possible accommodations with your instructor in advance of those needs. MCC strives to foster an environment where students will be welcomed and supported.

## Institutional Learning Outcomes

MCC has identified learning goals integrated throughout the student experience: Communication, Critical Thinking, Cultural and Global Engagement, and Civic Engagement. Taken cumulatively, these goals are designed to provide an educational experience that reflects the college mission which includes academic and co-curricular programs. This course assesses at least one of these student learning goals and provides students, instructors, and the college with meaningful data on our effectiveness. Ideally, students progress toward these goals throughout their journey at the college. The course-level assessment of the learning goal associated with this course is a snapshot of students' progress toward the learning goal.

## Academic Integrity and Conduct

Learning requires honesty, responsibility, and professional behavior. It is college policy to respond to academic misconduct and dishonesty whether it was committed intentionally or not.

## Academic Misconduct Policy

<https://district.maricopa.edu/regulations/admin-regs/section-2/2-3#>

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## Code of Conduct

<https://district.maricopa.edu/regulations/admin-regs/section-2/2-5#2>

## Tuition Charges and Refund

Students who officially withdraw from credit classes during fall, spring, or summer semesters within the withdrawal deadlines listed below will receive a 100% refund for tuition, class and registration processing fees. Deadlines that fall on a weekend or a college holiday will advance to the next college workday except for classes fewer than 10 calendar days in length or as specified by the college. Calendar days include weekdays and weekends. Refer to individual colleges for withdrawal and refund processes.

*Never attending is not an allowable refund exemption or an excuse of the debt incurred through registration.*

Length of Class	Official Withdrawal Deadlines for 100% Refund
1–9 calendar days	Prior to the class start date
10–19 calendar days	1 calendar day including the class start date
20–29 calendar days	2 calendar day including the class start date
30–39 calendar days	3 calendar day including the class start date
40–49 calendar days	4 calendar day including the class start date
50–59 calendar days	5 calendar day including the class start date
60–69 calendar days	6 calendar day including the class start date
70 plus calendar days	7 calendar day including the class start date

*Course fees and registration processing fees will be refunded only if the student qualifies for a 100% refund. Debts owed to any MCCCDC college must be satisfied before any refunds are paid to the student. Refunds for students receiving federal financial assistance are subject to federal guidelines. Requests for exceptions to the refund policy must be filed within one year from the semester in which the course was taken.*

## Honors Achievement Award

Learn and Earn! Do you have a 3.25 GPA? The Honors Achievement Award (\$244 to \$500 per semester) is open to students who have completed 12 college-level credits within the Maricopa Colleges, have a minimum cumulative GPA of 3.25 and are currently enrolled in at least 6 graded credits. To be awarded funds, you must maintain a 3.25 GPA, complete an honors course (or honors contract in a regular course) with at least a “C” grade and participate in one co-curricular activity during the semester. Any students who qualify for this award should contact the Honors Office at 461-7079, Kirk Center 35S, or ask me

about it! Learn more and apply online at <https://www.mesacc.edu/honors/honors-achievement-award-scholarship>.

## **F-1 Student**

I am so glad that you are in my class! You bring diversity and a world perspective to the classroom and that helps me to fulfill one of MCC's student outcomes — Cultural and Global Engagement. Please know that you must adhere to the attendance policy that is set for this class and is listed in this syllabus. If you are withdrawn by me from the class for non-attendance, I will not place you back into the class. If you earn a W or Y for non-attendance and this brings you below the required 12 credits that you need to maintain your F-1 status in the USA, I will not change your grade to an F. You are given the grade that you earn. If you fall out of status, you can go through a process called F-1 Reinstatement with the International Education Office (IE) located in Building 36N. IE regularly sends messages to your MCC email regarding immigration matters. Be sure to check it regularly! They also check attendance reports for all F-1 students on a weekly basis. You are here in the USA to be a student on your F-1 full time study visa and MCC will help you to maintain that status.

## **Your Rights and Responsibilities as a Student**

It is the student's responsibility to understand the policies listed in this syllabus as these are the guidelines that the instructor will follow for grading, attendance, etc. It is also every student's responsibility to read and understand the college policies included in the student handbook as they may apply in the case of an incomplete grade or withdrawal. In addition to this syllabus, all students should be aware of the district Administrative Regulations that articulate student rights and responsibilities.

### **0.0.1 MCC Student Handbook**

<http://globaldatebooksonline.com/flipbooks/mes/https://www.mesacc.edu/student-life/services-campus-resources>

### **0.0.2 MCC College Catalog**

<https://www.mesacc.edu/catalog>

## **0.1 MCCCDC Administrative Regulations**

<https://district.maricopa.edu/regulations/admin-regs/section-2/2-3>

## **Changes in the Syllabus or Course Policies**

Syllabus policies and course schedule are subject to change to accommodate the needs of the course, by agreement between instructor and all students, or as

needed by administration. Students will be notified of any changes in schedule, requirements or policies. Students are responsible for knowing and complying with syllabus information and all college catalog and student handbook policies. Continued enrollment is acceptance of this responsibility.

### **College-Wide Online Students Course Survey**

Near the end of this course, students will receive an invitation to complete a course survey. Constructive feedback plays an important role in shaping quality education at MCC. All responses are completely confidential, and student names are not stored with answers in any way. Instructors will not see survey results until after final grades are submitted. Student participation is greatly appreciated.



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