Course Description
This course is designed to provide students with an understanding of the activities and responsibilities of an administrator of an enterprise computer system and/or computer network. It focuses on the installation, configuration, and maintenance of system software, the management of users and resources and the deployment of network services. Students will investigate topics through research, discussion, and hands on practice.
Prerequisite: CSIS 349 – Network and Data Communications (3 Credit )

Course Ethical Foundation
This course requires students to build and demonstrate working projects. The design and implementation will follow the ethical guidelines of the Association for Computing Machinery (ACM). Students should contact the instructor with specific ethical questions.

Text and References

Textbooks:
Learn Kubernetes & Docker - .NET Core, Java, Node.JS, PHP or Python—Be Ready to Create and Run Your Container-ized and Orchestrated Application Next
Week
Author: Arnaud Weil
ISBN:9781604278408
Status:Required
Note: Available to ACM student members for free. This membership is necessary for the class.

A guide to Kubernetes for SREs and sysadmins
Author: Cherry
Note: This is an open source book available on D2L Bright Space and the instructor’s web sites.

Orchestration with Kubernetes
Author: Kenlon
Note: This is an open source book available on D2L Bright Space and the instructor's web sites.

Students will need an ACM student membership to complete all the assignments. Only the very basic membership is necessary.

Several assignments require students to have full administration access to a computer.

Please contact your instructor with your questions.

Student Contributions
Each student will spend at least 2 hours per Week preparing for class. Attendance is critical in this class. Students will come to class prepared to discuss the assigned reading or topic. Students will manage their time to complete the class requirements.

Did I miss anything important in the class I missed? The answer is yes. The student is responsible for contacting a classmate for the details.

Course Evaluation
Article Reports
Students will choose a current article dealing with network servers or closely related topics. The article must be
publish in a professional magazine within *two months of the article report due date*. Contact your instructor with questions about appropriate articles.

Article reports are worth a total of 100 points.

<table>
<thead>
<tr>
<th>Rubric</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Article Report is posted in the correct Discussion Group.</td>
<td>5</td>
</tr>
<tr>
<td>The student discussion group posting title is the article title.</td>
<td>5</td>
</tr>
<tr>
<td>The student discussion group posting does not include any files.</td>
<td>5</td>
</tr>
<tr>
<td>The student discussion group posting includes the URL to the original article.</td>
<td>5</td>
</tr>
<tr>
<td>The student discussion group posting includes the article publish date. The date must not be more than two months prior to the due date.</td>
<td>5</td>
</tr>
<tr>
<td>The student discussion group posting includes the author’s name.</td>
<td>5</td>
</tr>
<tr>
<td>The student discussion group posting includes a summary of at least five sentences and no more than ten sentences.</td>
<td>25</td>
</tr>
<tr>
<td>The student discussion group posting includes an impact/relevance statement of at least two sentences and no more than five sentences.</td>
<td>25</td>
</tr>
<tr>
<td>The student presents a posted article report during the assigned class or provides at least a two sentence reaction to three posted article reports.</td>
<td>10</td>
</tr>
<tr>
<td>The student discussion group contains no spelling or grammar errors as defined by the instructor’s word processor and grammar checker.</td>
<td>10</td>
</tr>
</tbody>
</table>

*Labs*

Each lab is worth 100 points. Students may modify incomplete lab sections until the date specified in the calendar. All labs must be completed by the final due date for that group of labs. Students upload completed lab assignments to the correct D2L BRIGHTSPACE Assignments area.

*Quizzes*

Students will take 10 quizzes given on the D2L BRIGHTSPACE site. Each quiz deals with a specific chapter(s) in the assigned text. The Weekly quiz will be available at 1:00 am on Sunday of the quiz Week and will close at 10:00 pm on Saturday of the quiz Week. Students will have a maximum of one hour to complete each Weekly quiz. Students may use the text and other references to complete the quiz.

*Scale*

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

The midterm grade calculation for this class is the following.

Your midterm grade includes Labs 1 through 4 and Quizzes 1 through 4 and Article Report 01..
The final class calculation for this class is the following.

Your final grade includes Labs 1 through 10 and Quizzes 1 through 10 (dropping your lowest quiz grade) and three Article Reports.

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Max Percent</th>
<th>Max Points</th>
<th>Min Percent</th>
<th>Min Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>100%</td>
<td>2700</td>
<td>98%</td>
<td>2646</td>
</tr>
<tr>
<td>A</td>
<td>98%</td>
<td>2645.73</td>
<td>94%</td>
<td>2538</td>
</tr>
<tr>
<td>A-</td>
<td>94%</td>
<td>2537.73</td>
<td>90%</td>
<td>2430</td>
</tr>
<tr>
<td>B+</td>
<td>90%</td>
<td>2429.73</td>
<td>88%</td>
<td>2376</td>
</tr>
<tr>
<td>B</td>
<td>88%</td>
<td>2375.73</td>
<td>84%</td>
<td>2268</td>
</tr>
<tr>
<td>B-</td>
<td>84%</td>
<td>2267.73</td>
<td>80%</td>
<td>2160</td>
</tr>
<tr>
<td>C+</td>
<td>80%</td>
<td>2159.73</td>
<td>78%</td>
<td>2106</td>
</tr>
<tr>
<td>C</td>
<td>78%</td>
<td>2105.73</td>
<td>74%</td>
<td>1998</td>
</tr>
<tr>
<td>C-</td>
<td>74%</td>
<td>1997.73</td>
<td>70%</td>
<td>1890</td>
</tr>
<tr>
<td>D+</td>
<td>70%</td>
<td>1889.73</td>
<td>68%</td>
<td>1836</td>
</tr>
<tr>
<td>D</td>
<td>68%</td>
<td>1835.73</td>
<td>64%</td>
<td>1728</td>
</tr>
<tr>
<td>D-</td>
<td>64%</td>
<td>1727.73</td>
<td>60%</td>
<td>1620</td>
</tr>
<tr>
<td>F</td>
<td>60%</td>
<td>1619.73</td>
<td>0%</td>
<td>0</td>
</tr>
</tbody>
</table>

The instructor reserves the right to modify grades for extraordinary reasons.

The grade incomplete is very difficult for students. Students that need this option must discuss an incomplete with the instructor two Weeks before the class final.

**Classroom Management**

This class prepares students for professional work. It is important students learn and practice the norms expected of a working professional in Information Technology. It is important for students avoid inappropriate or offensive images or speech.

The class instructor is responsible for the class environment. This means anything that distracts members of the class from learning is a concern. In the event of a distraction, a meeting is set up with the class instructor or college administrator. The result of this meeting must be a written plan to deal with the distractions. The affected parties must approve the plan within 72 hours. Failure to create or follow the plan may result in expulsion.

Stealing is against the law. There are many forms of stealing. Plagiarism is simply stealing someone else's work. In some cases, working in groups could be stealing or cheating. Failure to give proper credit or doing required individual work with unauthorized resources results at least a 100% reduction of points in the assignment to entire class failure. Students may help each other. One measure of cheating or not, is both students able to complete the assignment without the other? Students are encouraged to contact the instructor with questions.

Department policy requires student to use email address provided by MSUM. Students must arrange to configure a system to use and at least Weekly check for class email. Additional department policies are at http://brazil.minnesota.edu.
Industry practice and Minnesota State policy and procedures do not allow sharing of logons/logins. Each student will be the only person using the assigned logon/login. Contact your instructor with any questions or concerns.

The instructor does record the class if he remembers. The class recordings are available through a link on D2L Bright Space. The instructor grants permission for recording for the student's educational use only. Once the school term is complete, students must effectively destroy the recordings. The recording may not be distributed. Contact your instructor with any questions.

**Special Accommodations**

(From the Disability Resource Center):
Minnesota State University Moorhead is committed to providing equitable access to learning opportunities for all students. The Disability Resource Center (DRC) is the campus resource that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations.

- If you have, or think you may have, a disability (e.g. mental health, attentional, learning, chronic health, sensory or physical) please contact the DRC at (218) 477-4318 (V) or (800)627.3529 (MRS/TTY) to schedule an appointment for an intake.

- Additional information is available on the DRC website:
  - http://www.mnstate.edu/disability/

- If you are registered with the DRC and have a current Accommodation Letter, please schedule an appointment to visit with me to discuss implementation of your accommodations.

Additional note regarding special accommodations: The instructor encourages all disabled students, even those with only minor disabilities that enable them to get by“ without special accommodations, to discuss their situation with the Disability Resource Center.

**Accessibility Statement**

Minnesota State University Moorhead (MSUM) is committed to providing equitable access to learning opportunities for all students and strives to make courses inclusive and accessible in accordance with sections 504 and 508 of the 1973 Rehabilitation Act and the Americans with Disabilities Act (ADA). The University will make reasonable accommodations for students with documented disabilities. Accessibility Resources (AR) is available to facilitate a range of academic support services and accommodations for students with disabilities. If you have a disability, you can request assistance by contacting AR at 218-477-2167 (voice), 218-477-2420 (fax) or accessibility@mnstate.edu (email). Once eligibility has been determined, students register with AR every semester to activate their approved accommodations. Although a student may request an accommodation at any time, it is best to initiate the application process at least four Weeks before a student wishes to receive an accommodation. Students may begin the accommodation process by submitting a Request for Accommodations form online at https://www.mnstate.edu/student-life/student-services/accessibility/requestaccommodations/form/ or by contacting Accessibility Resources. The Director of Accessibility Resources, Chuck Eade, serves as MSUM’s ADA Coordinator for students. He can be reached at Charles.Eade@mnstate.edu. Additional information is available on the AR website: http://www.mnstate.edu/accessibility

**Sexual Violence Prevention Statement:**
Acts of sexual violence are intolerable. MSUM expects all members of the campus community to act in a manner that does not infringe on the rights of others. We are committed to eliminating all acts of sexual violence.

MSUM faculty and staff are concerned about the well-being and development of our students. We are obligated to share information with the MSUM Title IX Coordinator in certain situations to help ensure that the students’ safety and welfare is being addressed, consistent with the requirements of the law. These disclosures include but are not limited to reports of sexual assault, relationship violence, and stalking.

If you have experienced or know someone who has experienced sexual violence, services and resources are available. You may also choose to file a report. For further information, contact Kara Gravley-Stack, Dean of Students/Title IX Coordinator, kara.gravleystack@mnstate.edu, 218.477.2391 or Troy Schmidt, Assistant Dean of Students/Deputy Title IX Coordinator; troy.schmidt@mnstate.edu, 218.477.2174; both located in Flora Frick 153. Additional information is available at: www.mnstate.edu/titleix

**Anti-bias Statement:**
Minnesota State University Moorhead has an enduring commitment to enhancing Minnesota’s quality of life by developing and fostering understanding and appreciation of a free and diverse society and providing equal opportunity for all its students and employees. Incidents of hate and bias are inconsistent with the mission and values of MSUM.
MSUM acknowledges that it occupies the ancestral land of the Anishinaabe (Ojibwe), Dakota (Sisseton, Wahpeton) and Yanktonai Dakota First Nations. We will strive to build toward better relationship between our university and the indigenous people still present with us.

A bias incident is an act of bigotry, harassment, or intimidation that is motivated in whole or in part by bias based on an individual's or group's actual or perceived race, color, creed, religion, national origin, sex, gender, age, marital status, disability, public assistance status, veteran status, sexual orientation, or familial status. If you are a student who has experienced or witnessed a hate or bias incident, we want to address the incident and provide you with resources. Contact the Campus Diversity Officer, Jered Pigeon at jered.pigeon@mnstate.edu, 218.477.2047, 114 CMU or the Dean of Students, Kara Gravley-Stack at kara.gravleystack@mnstate.edu, 218.477.4222, 153 Flora Frick Hall. Additional information is available at: https://www.mnstate.edu/oscar/

This document is the plan of action for the class.

Course Schedule

**Week01**
8/21/2023;Monday
First Day of Classes.
8/22/2023;Tuesday
Introduction

**Week02**
8/27/2023;Sunday
Quiz 01 opens at 1:00 am over weil-Chapters 1, 2, and 3
8/29/2023;Tuesday
Lab01
9/2/2023;Saturday
Quiz 01 closes at 10:00 pm over weil-Chapters 1, 2, and 3

**Week03**
9/3/2023;Sunday
Quiz 02 opens at 1:00 am over weil-Chapters 4 and 5 & kenlon Chapter 2
9/4/2023;Monday
Labor Day - no classes.
9/5/2023;Tuesday
Lab02
9/9/2023;Saturday
Lab 01 due at 10:00 pm
Quiz 02 closes at 10:00 pm over weil-Chapters 4 and 5 & kenlon Chapter 2

**Week04**
9/10/2023;Sunday
Quiz 03 opens at 1:00 am over weil-Chapter 6
9/12/2023;Tuesday
Lab03
9/16/2023;Saturday
Quiz03 closes at 10:00 pm over weil-Chapter 6

**Week05**
9/17/2023;Sunday
Quiz 04 opens at 1:00 am over weil-Chapters 7 and 8
9/19/2023;Tuesday
Week 04
9/23/2023; Saturday
Quiz 04 closes at 10:00 pm over weil-Chapters 7 and 8

Week 06
9/26/2023; Tuesday
Article Report 01
9/30/2023; Saturday
Labs 02, 03, and 04 due at 10:00 pm
Article Report 01 non class presenting responses due at 10:00 pm

Week 07
10/1/2023; Sunday
Quiz 05 opens at 1:00 am over weil-Chapters 10, 11, and 12 cherry Chapters 3, 4, and 5
10/3/2023; Tuesday
Lab 05
10/7/2023; Saturday
Quiz 05 closes at 10:00 pm over weil-Chapters 10, 11, and 12 cherry Chapters 3, 4, and 5

Week 08
10/8/2023; Sunday
Quiz 06 opens at 1:00 am over kenlon Chapters 3 and 4 & cherry Chapters 1 and 2
10/10/2023; Tuesday
Lab 06
10/14/2023; Saturday
Quiz 06 closes at 10:00 pm over kenlon Chapters 3 and 4 & cherry Chapters 1 and 2

Week 09
10/17/2023; Tuesday
Lab 07
10/19/2023; Thursday
MSCTC Fall Break - no classes.
10/20/2023; Friday
MSCTC Fall Break - no classes.

Week 10
10/22/2023; Sunday
Quiz 07 opens at 1:00 am over weil Chapters 13 and 14
10/24/2023; Tuesday
Lab Work
10/28/2023; Saturday
Quiz 07 closes at 10:00 pm over weil Chapters 13 and 14

Week 11
10/29/2023; Sunday
Quiz 08 opens at 1:00 am over weil Chapters 15, 16, and 17
10/31/2023; Tuesday
Lab 08
11/4/2023; Saturday
Quiz 08 closes at 10:00 pm over weil Chapters 15, 16, and 17

Week 12
11/7/2023; Tuesday
Article Report 02
11/10/2023; Friday
Veterans Day - no classes.

11/11/2023; Saturday
  Labs 05, 06, and 07 due at 10:00 pm
  Article Report 02 non class presenting responses due at 10:00 pm

Week 13
11/12/2023; Sunday
  Quiz 09 opens at 1:00 am over kenlon Chapters 5, 6, and 7
11/14/2023; Tuesday
  Lab 08
11/18/2023; Saturday
  Quiz 09 closes at 10:00 pm over kenlon Chapters 5, 6, and 7

Week 14
11/20/2023; Monday
  Lab 09
11/23/2023; Thursday
  Thanksgiving Holiday - no classes.
11/24/2023; Friday
  Thanksgiving Holiday - no classes.

Week 15
11/26/2023; Sunday
  Quiz 10 opens at 1:00 am over kenlon Chapters 8 and 9 & cherry Chapter 11
11/28/2023; Tuesday
  Lab 10
12/2/2023; Saturday
  Quiz 10 closes at 10:00 pm over kenlon Chapters 8 and 9 & cherry Chapter 11

Week 16
12/5/2023; Tuesday
  Article Report 03
12/9/2023; Saturday
  Labs 08, 09, and 10 due at 10:00 pm
  Article Report 03 non class presenting responses due at 10:00 pm

Week 17
12/11/2023; Monday
  MSCTC-Finals.
12/12/2023; Tuesday
  MSCTC-Finals.
12/13/2023; Wednesday
  MSCTC-Finals
  Final Due at 10:00 pm
12/14/2023; Thursday
  Grading Day

Developed: August 14, 2022
Revised: August 19, 2023