Course Title: Intro to Ethernet Networks
Semester Course Prefix and Number: ECM 1252
Old Quarter Course Prefix and Number: 
Submitted By: SRN
Approval Date: 11/12/19

Number of Credits: 3
Number of Lecture Credits: 1
Number of Lab Credits: 2
Number of Lab Hours: 4
Class Size: 24
Number of Studio/Demonstration/Internship Credits:

Semester(s) Offered: Fall
Negotiated by AASC on: (11/12/19)

Course Purpose Code:
0 – Developmental Courses
1 – Non-transferable
2 – Technical course related to career programs
3 – College course which has the primary goal of applying certain concepts (e.g. vocal ensemble)
4 – Other college course not considered a part of MNTC (e.g. computer science, health, physical education)
5 – Course which is intended to fulfill the Minnesota Transfer Curriculum (MNTC) requirements or intended for transfer.
6 – Continuing Education/Customized Training specialized credit course (not occurring in 0-5)

Catalog Description:
This course is designed to provide a foundational knowledge of the first three layers of the seven layer OSI Model. A particular focus will be the hardware and addressing requirements in an Ethernet network, and how this communication protocol applies to industrial control systems.

Prerequisites and/or recommended entry skills/knowledge:
Course Prerequisite(s): None
Reading Prerequisite:
Composition Prerequisite:
Mathematics Prerequisite:

Career Programs and Transfer Majors Accessing this Course:
Electrical Controls and Maintenance Diploma and Electrical Controls and Maintenance AAS

Minnesota Transfer Curriculum Goal(s) partially met by this course if applicable:
(Notes: No more than two goals may be met by any one course. AASC review and the Chief Academic Officer’s approval are required.)
0. None
1. Communications
2. Critical Thinking
3. Natural Sciences
4. Mathematical/Logical Reasoning
5. History and the Social and Behavioral Sciences
6. The Humanities and Fine Arts
7. Human Diversity
8. Global Perspectives
9. Ethical and Civic Responsibility
10. People and the Environment

Learning Outcomes: (including any relevant competencies listed in the Minnesota Transfer Curriculum)
Upon completion of this course, the student will be able to:

1.) Understand and adhere to lab safety protocols
2.) Work cooperatively with others
3.) Apply critical thinking skills
4.) Identify the function of the seven layers of the OSI Model
5.) Identify the various hardware components defined in Layer 1 of the OSI Model
6.) Successfully terminate and test a Cat6E patch cord
7.) Configure and implement a simple 4 port network using a Layer 2 Switch
8.) Define the purpose and application of a MAC Address
9.) Define the purpose of IP Addresses, Subnet Masks and Default Gateways
10.) Troubleshoot Layer 1 connectivity problems
11.) Troubleshoot Layer 2 IP Address conflicts
12.) Manage time in an efficient manner
13.) Develop the attendance and productivity skills required in the workforce

**Student Assessment Methods May Include:**

Lab and Homework Assignments, Quizzes and Written Tests

**Use of Instructional Technology May Include:** (includes software, interactive video and other instructional technologies):

PowerPoint, PC Based Exercises and Sourcing of Online Information.

**Additional Special Information:** (special fees, directives on hazardous materials, etc.)

**Transfer Information:** (Please list colleges/majors that accept this course in transfer.)

Bemidji State University’s Applied Engineering BS degree and Technology Management BS degree.

**Affiliated Mesabi Range College Courses and Programs:**

**Approvals:**

<table>
<thead>
<tr>
<th>Body</th>
<th>Representative Signatures</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Association</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic Affairs Standards Committee</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chief Academic Officer</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Distribution:** Original – Instructional Services

**Copies:** Transfer Specialist, Originating Faculty Member, Records

**Revised:** February 2019