

Auburn School District #408 Framework: Advanced Electronics Technology (3-4)

Course: Computer Installation and Repair Technology/Technician

Total Framework Hours: 180 Hours

CIP Code: 470104

Type: Preparatory

Career Cluster: Information Technology

Date Last Modified: Friday, April 15, 2016

Resources and Standard used in Framework Development:

Standards used for this framework are from the OSPI Model Framework for 470104 Computer Installation and Repair Technology/Technician

Unit 1 SAFETY

Hours: 5

Performance Assessment(s):

Textbook assignment
Safety assignment
Safety Exam

Leadership Alignment:

SkillsUSA Electronics Technology
Professional Development Program (PDP)
Reason Effectively
2.A.1 Use various types of reasoning (inductive, deductive, etc.) as appropriate to the situation
Make Judgments and Decisions
2.C.1 Effectively analyze and evaluate evidence, arguments, claims and beliefs

Standards and Competencies

Standard: General and Computer Safety
Standard WR 2: Personal Success
Standard WR 5: Health and Safety
International Society of Certificited Electronics Technicians (ISCET) 7
7.4. Safety

Aligned to Washington State Standards

Arts

Communication - Speaking and Listening

Health and Fitness

Language

Mathematics

Reading

CC: Reading for Literacy in Science and Technical Subjects

Science

Social Studies

Writing

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (9-10)

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (11-12)

21st Century Skills

LEARNING AND INNOVATION

Creativity and Innovation

- Think Creatively
- Work Creatively with Others
- Implement Innovations

Creative Thinking and Problem Solving

- Reason Effectively
- Use Systems Thinking
- Make Judgements and Decisions
- Solve Problems

Communication and Collaboration

- Communicate Clearly
- Collaborate with Others

INFORMATION, MEDIA AND TECHNOLOGY SKILLS

Information Literacy

- Access and Evaluate Information
- Use and Manage Information

Media Literacy

- Analyze Media
- Create Media Products

Information, Communications, and Technology (ICT Literacy)

- Apply Technology Effectively

LIFE AND CAREER SKILLS

Flexibility and Adaptability

- Adapt to Change
- Be Flexible

Initiative and Self-Direction

- Manage Goals and Time
- Work Independently
- Be Self-Directed Learners

Social and Cross-Cultural

- Interact Effectively with Others
- Work Effectively in Diverse Teams

Productivity and Accountability

- Manage Projects
- Produce Results

Leadership and Responsibility

- Guide and Lead Others
- Be Responsible to Others

Performance Assessment(s):

Textbook assignment
Direct Current assignment
Circuit Challenge activity
Direct assessment

Leadership Alignment:

SkillsUSA Electronics Technology
Professional Development Program (PDP)
Solve Problems
2.D.1 Solve different kinds of non-familiar problems in both conventional and innovative ways
10.B.1.h Be accountable for results

Standards and Competencies

Standard: General and Computer Safety
Standard WR 2: Personal Success
Standard WR 5: Health and Safety
International Society of Certified Electronics Technicians (ISCET) 1-3
International Society of Certified Electronics Technicians (ISCET) 4-6
International Society of Certified Electronics Technicians (ISCET) 7
7.4. Safety

Aligned to Washington State Standards**Arts****Communication - Speaking and Listening****Health and Fitness****Language****Mathematics****Reading**

CC: Reading for Literacy in Science and Technical Subjects

CC: Reading Informational Text

Science

Social Studies

Writing

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (9-10)

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (11-12)

21st Century Skills

LEARNING AND INNOVATION

Creativity and Innovation

- Think Creatively
- Work Creatively with Others
- Implement Innovations

Creative Thinking and Problem Solving

- Reason Effectively
- Use Systems Thinking
- Make Judgements and Decisions
- Solve Problems

Communication and Collaboration

- Communicate Clearly
- Collaborate with Others

INFORMATION, MEDIA AND TECHNOLOGY SKILLS

Information Literacy

- Access and Evaluate Information
- Use and Manage Information

Media Literacy

- Analyze Media
- Create Media Products

Information, Communications, and Technology (ICT Literacy)

- Apply Technology Effectively

LIFE AND CAREER SKILLS

Flexibility and Adaptability

- Adapt to Change
- Be Flexible

Initiative and Self-Direction

- Manage Goals and Time
- Work Independently
- Be Self-Directed Learners

Social and Cross-Cultural

- Interact Effectively with Others
- Work Effectively in Diverse Teams

Productivity and Accountability

- Manage Projects
- Produce Results

Leadership and Responsibility

- Guide and Lead Others
- Be Responsible to Others

Unit 3 INTRODUCTION TO SURFACE MOUNT TECHNOLOGY**Hours: 10****Performance Assessment(s):**

Textbook assignment
Introduction to Surface Mount Technology assignment
Introduction to Surface Mount Technology assessment

Leadership Alignment:

SkillsUSA Electronics Technology
Professional Development Program (PDP)
Analyze Media
5.A.1 Understand both how and why media messages are constructed, and for what purposes
Adapt to Change
7.A.1 Adapt to varied roles, jobs responsibilities, schedules and contexts

Standards and Competencies

Standard: General and Computer Safety
Standard WR 2: Personal Success
Standard WR 4: Problem Solving
Standard WR 5: Health and Safety
International Society of Certificited Electronics Technicians (ISCET) 7
7.1. Solder
7.2. Soldering Equipment
7.3. Desoldering Equipment
7.4. Safety

Aligned to Washington State Standards**Arts****Communication - Speaking and Listening****Health and Fitness****Language****Mathematics****Reading**

CC: Reading for Literacy in Science and Technical Subjects

CC: Reading Informational Text

Science

Social Studies

Writing

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (11-12)

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (9-10)

21st Century Skills

LEARNING AND INNOVATION

Creativity and Innovation

- Think Creatively
- Work Creatively with Others
- Implement Innovations

Creative Thinking and Problem Solving

- Reason Effectively
- Use Systems Thinking
- Make Judgements and Decisions
- Solve Problems

Communication and Collaboration

- Communicate Clearly
- Collaborate with Others

INFORMATION, MEDIA AND TECHNOLOGY SKILLS

Information Literacy

- Access and Evaluate Information
- Use and Manage Information

Media Literacy

- Analyze Media
- Create Media Products

Information, Communications, and Technology (ICT Literacy)

- Apply Technology Effectively

LIFE AND CAREER SKILLS

Flexibility and Adaptability

- Adapt to Change
- Be Flexible

Initiative and Self-Direction

- Manage Goals and Time
- Work Independently
- Be Self-Directed Learners

Social and Cross-Cultural

- Interact Effectively with Others
- Work Effectively in Diverse Teams

Productivity and Accountability

- Manage Projects
- Produce Results

Leadership and Responsibility

- Guide and Lead Others
- Be Responsible to Others

Unit 4 INTRODUCTION TO ALTERNATING CURRENT (AC)**Hours: 10****Performance Assessment(s):**

Textbook assignment
Introduction to Alternating Current assignment
Circuit Challenge activity
Introduction to Alternating Current assessment

Leadership Alignment:

SkillsUSA Electronics Technology
Professional Development Program (PDP)
8.A.2 Balance tactical (short-term) and strategic (long-term) goals
Use and Manage Information
4.B.1 Use information accurately and creatively for the issue or problem at hand

Standards and Competencies

Standard: Electronics - Units, Notations, Properties and Quantities
Standard WR 2: Personal Success
Standard WR 4: Problem Solving
International Society of Certificated Electronics Technicians (ISCET ESA2)
Alternating Current and Voltage
AC and Ohm's Law

Aligned to Washington State Standards**Arts****Communication - Speaking and Listening****Health and Fitness****Language****Mathematics**

CC: Number and Quantity (N)

CC: Algebra (A)

CC: Mathematical Practices (MP)

Reading

CC: Reading Informational Text

CC: Reading for Literacy in Science and Technical Subjects

Science

Physical Science

Social Studies

Writing

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (9-10)

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (11-12)

21st Century Skills

LEARNING AND INNOVATION

Creativity and Innovation

- Think Creatively
- Work Creatively with Others
- Implement Innovations

Creative Thinking and Problem Solving

- Reason Effectively
- Use Systems Thinking
- Make Judgements and Decisions
- Solve Problems

Communication and Collaboration

- Communicate Clearly
- Collaborate with Others

INFORMATION, MEDIA AND TECHNOLOGY SKILLS

Information Literacy

- Access and Evaluate Information
- Use and Manage Information

Media Literacy

- Analyze Media
- Create Media Products

Information, Communications, and Technology (ICT Literacy)

- Apply Technology Effectively

LIFE AND CAREER SKILLS

Flexibility and Adaptability

- Adapt to Change
- Be Flexible

Initiative and Self-Direction

- Manage Goals and Time
- Work Independently
- Be Self-Directed Learners

Social and Cross-Cultural

- Interact Effectively with Others
- Work Effectively in Diverse Teams

Productivity and Accountability

- Manage Projects
- Produce Results

Leadership and Responsibility

- Guide and Lead Others
- Be Responsible to Others

Unit 5 CAPACITANCE**Hours: 15****Performance Assessment(s):**

Textbook assignment
Circuit Challenge activity
Assessment

Leadership Alignment:

SkillsUSA Electronics Technology
Professional Development Program (PDP)
Be Flexible
7.B.1 Incorporate feedback effectively

Standards and Competencies

Standard WR 2: Personal Success
Standard WR 4: Problem Solving
International Society of Certified Electronics Technicians (ISCET ESA2)
Capacitors
Capacitors and AC
RC Circuits

Aligned to Washington State Standards**Arts****Communication - Speaking and Listening****Health and Fitness****Language****Mathematics**

CC: Mathematical Practices (MP)

CC: Algebra (A)

CC: Number and Quantity (N)

Reading

CC: Reading Informational Text

CC: Reading for Literacy in Science and Technical Subjects

Science

Physical Science

Social Studies

Writing

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (9-10)

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (11-12)

21st Century Skills

LEARNING AND INNOVATION

Creativity and Innovation

- Think Creatively
- Work Creatively with Others
- Implement Innovations

Creative Thinking and Problem Solving

- Reason Effectively
- Use Systems Thinking
- Make Judgements and Decisions
- Solve Problems

Communication and Collaboration

- Communicate Clearly
- Collaborate with Others

INFORMATION, MEDIA AND TECHNOLOGY SKILLS

Information Literacy

- Access and Evaluate Information
- Use and Manage Information

Media Literacy

- Analyze Media
- Create Media Products

Information, Communications, and Technology (ICT Literacy)

- Apply Technology Effectively

LIFE AND CAREER SKILLS

Flexibility and Adaptability

- Adapt to Change
- Be Flexible

Initiative and Self-Direction

- Manage Goals and Time
- Work Independently
- Be Self-Directed Learners

Social and Cross-Cultural

- Interact Effectively with Others
- Work Effectively in Diverse Teams

Productivity and Accountability

- Manage Projects
- Produce Results

Leadership and Responsibility

- Guide and Lead Others
- Be Responsible to Others

Unit 6 INDUCTANCE**Hours: 10****Performance Assessment(s):**

Textbook assignment
Circuit Challenge activity
Assessment

Leadership Alignment:

SkillsUSA Electronics Technology
Professional Development Program (PDP)
10.B.1.f Collaborate and cooperate effectively with teams
Use and Manage Information
4.B.1 Use information accurately and creatively for the issue or problem at hand

Standards and Competencies

Standard WR 2: Personal Success
Standard WR 4: Problem Solving
International Society of Certified Electronics Technicians (ISCET ESA2)
Inductors
Inductors and AC
Magnetism and Electromagnetism
Magnetic Devices
RL Circuits

Aligned to Washington State Standards**Arts****Communication - Speaking and Listening****Health and Fitness****Language****Mathematics**

CC: Mathematical Practices (MP)

CC: Algebra (A)

CC: Number and Quantity (N)

Reading

CC: Reading for Literacy in Science and Technical Subjects

CC: Reading Informational Text

Science

Physical Science

Social Studies

Writing

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (9-10)

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (11-12)

21st Century Skills

LEARNING AND INNOVATION

Creativity and Innovation

- Think Creatively
- Work Creatively with Others
- Implement Innovations

Creative Thinking and Problem Solving

- Reason Effectively
- Use Systems Thinking
- Make Judgements and Decisions
- Solve Problems

Communication and Collaboration

- Communicate Clearly
- Collaborate with Others

INFORMATION, MEDIA AND TECHNOLOGY SKILLS

Information Literacy

- Access and Evaluate Information
- Use and Manage Information

Media Literacy

- Analyze Media
- Create Media Products

Information, Communications, and Technology (ICT Literacy)

- Apply Technology Effectively

LIFE AND CAREER SKILLS

Flexibility and Adaptability

- Adapt to Change
- Be Flexible

Initiative and Self-Direction

- Manage Goals and Time
- Work Independently
- Be Self-Directed Learners

Social and Cross-Cultural

- Interact Effectively with Others
- Work Effectively in Diverse Teams

Productivity and Accountability

- Manage Projects
- Produce Results

Leadership and Responsibility

- Guide and Lead Others
- Be Responsible to Others

Unit 7 RLC AND RESONANCE CIRCUITS**Hours: 15****Performance Assessment(s):**

Textbook assignment
Circuit Challenge activity
Assessment

Leadership Alignment:

SkillsUSA Electronics Technology
Professional Development Program (PDP)
Reason Effectively
2.A.1 Use various types of reasoning (inductive, deductive, etc.) as appropriate to the situation
10.B.1.c Multi-task

Standards and Competencies

Standard WR 2: Personal Success
Standard WR 4: Problem Solving
International Society of Certified Electronics Technicians (ISCET ESA2)
RLC Circuits
Resonance

Aligned to Washington State Standards**Arts****Communication - Speaking and Listening****Health and Fitness****Language****Mathematics**

CC: Mathematical Practices (MP)

CC: Number and Quantity (N)

CC: Algebra (A)

Reading

CC: Reading for Literacy in Science and Technical Subjects

CC: Reading Informational Text

Science

Physical Science

Social Studies

Writing

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (9-10)

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (11-12)

21st Century Skills

LEARNING AND INNOVATION

Creativity and Innovation

- Think Creatively
- Work Creatively with Others
- Implement Innovations

Creative Thinking and Problem Solving

- Reason Effectively
- Use Systems Thinking
- Make Judgements and Decisions
- Solve Problems

Communication and Collaboration

- Communicate Clearly
- Collaborate with Others

INFORMATION, MEDIA AND TECHNOLOGY SKILLS

Information Literacy

- Access and Evaluate Information
- Use and Manage Information

Media Literacy

- Analyze Media
- Create Media Products

Information, Communications, and Technology (ICT Literacy)

- Apply Technology Effectively

LIFE AND CAREER SKILLS

Flexibility and Adaptability

- Adapt to Change
- Be Flexible

Initiative and Self-Direction

- Manage Goals and Time
- Work Independently
- Be Self-Directed Learners

Social and Cross-Cultural

- Interact Effectively with Others
- Work Effectively in Diverse Teams

Productivity and Accountability

- Manage Projects
- Produce Results

Leadership and Responsibility

- Guide and Lead Others
- Be Responsible to Others

Unit 8 TRANSFORMERS**Hours: 10****Performance Assessment(s):**

Textbook assignment
Circuit Challenge activity
Assessment

Leadership Alignment:

SkillsUSA Electronics Technology
Professional Development Program (PDP)
Communicate Clearly
3.A.1 Articulate thoughts and ideas effectively using oral, written and nonverbal communication skills in a variety of forms and contexts

Standards and Competencies

Standard WR 2: Personal Success
Standard WR 4: Problem Solving
International Society of Certified Electronics Technicians (ISCET ESA2)
Transformers
International Society of Certified Electronics Technicians (ISCET ESA3)
Power Supplies

Aligned to Washington State Standards**Arts****Communication - Speaking and Listening****Health and Fitness****Language****Mathematics**

CC: Mathematical Practices (MP)

CC: Algebra (A)

CC: Number and Quantity (N)

Reading

CC: Reading for Literacy in Science and Technical Subjects

CC: Reading Informational Text

Science

Physical Science

Social Studies

Writing

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (9-10)

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (11-12)

21st Century Skills

LEARNING AND INNOVATION

Creativity and Innovation

- Think Creatively
- Work Creatively with Others
- Implement Innovations

Creative Thinking and Problem Solving

- Reason Effectively
- Use Systems Thinking
- Make Judgements and Decisions
- Solve Problems

Communication and Collaboration

- Communicate Clearly
- Collaborate with Others

INFORMATION, MEDIA AND TECHNOLOGY SKILLS

Information Literacy

- Access and Evaluate Information
- Use and Manage Information

Media Literacy

- Analyze Media
- Create Media Products

Information, Communications, and Technology (ICT Literacy)

- Apply Technology Effectively

LIFE AND CAREER SKILLS

Flexibility and Adaptability

- Adapt to Change
- Be Flexible

Initiative and Self-Direction

- Manage Goals and Time
- Work Independently
- Be Self-Directed Learners

Social and Cross-Cultural

- Interact Effectively with Others
- Work Effectively in Diverse Teams

Productivity and Accountability

- Manage Projects
- Produce Results

Leadership and Responsibility

- Guide and Lead Others
- Be Responsible to Others

Performance Assessment(s):

Textbook assignment
Circuit Challenge activity
Assessment

Leadership Alignment:

SkillsUSA Electronics Technology
Professional Development Program (PDP)
Collaborate with Others
3.B.1 Demonstrate ability to work effectively and respectfully with diverse teams

Standards and Competencies

Standard WR 2: Personal Success
Standard WR 4: Problem Solving
International Society of Certified Electronics Technicians (ISCET ESA3)
Semiconductors
Special Diodes
Bipolar Junction Transistors
Bipolar Transistor Amplifiers
Field Effect Transistors
Operational Amplifiers and Oscillators
Power Supplies

Aligned to Washington State Standards**Arts****Communication - Speaking and Listening****Health and Fitness****Language****Mathematics**

CC: Mathematical Practices (MP)

CC: Number and Quantity (N)

Reading

CC: Reading for Literacy in Science and Technical Subjects

CC: Reading Informational Text

Science

Physical Science

Social Studies

Writing

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (9-10)

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (11-12)

21st Century Skills

LEARNING AND INNOVATION

Creativity and Innovation

- Think Creatively
- Work Creatively with Others
- Implement Innovations

Creative Thinking and Problem Solving

- Reason Effectively
- Use Systems Thinking
- Make Judgements and Decisions
- Solve Problems

Communication and Collaboration

- Communicate Clearly
- Collaborate with Others

INFORMATION, MEDIA AND TECHNOLOGY SKILLS

Information Literacy

- Access and Evaluate Information
- Use and Manage Information

Media Literacy

- Analyze Media
- Create Media Products

Information, Communications, and Technology (ICT Literacy)

- Apply Technology Effectively

LIFE AND CAREER SKILLS

Flexibility and Adaptability

- Adapt to Change
- Be Flexible

Initiative and Self-Direction

- Manage Goals and Time
- Work Independently
- Be Self-Directed Learners

Social and Cross-Cultural

- Interact Effectively with Others
- Work Effectively in Diverse Teams

Productivity and Accountability

- Manage Projects
- Produce Results

Leadership and Responsibility

- Guide and Lead Others
- Be Responsible to Others

Unit 10 INTRODUCTION TO DIGITAL**Hours: 10****Performance Assessment(s):**

Textbook assignment
Circuit Challenge activity
Assessment

Leadership Alignment:

SkillsUSA Electronics Technology
Professional Development Program (PDP)
Reason Effectively
2.A.1 Use various types of reasoning (inductive, deductive, etc.) as appropriate to the situation
7.A.2 Work effectively in a climate of ambiguity and changing priorities

Standards and Competencies

Standard WR 2: Personal Success
Standard WR 4: Problem Solving
International Society of Certificated Electronics Technicians (ISCET ESA4)
Digital Concepts and Number Systems

Aligned to Washington State Standards**Arts****Communication - Speaking and Listening****Health and Fitness****Language****Mathematics**

CC: Number and Quantity (N)

CC: Mathematical Practices (MP)

Reading

CC: Reading Informational Text

CC: Reading for Literacy in Science and Technical Subjects

Science**Social Studies****Writing**

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (9-10)

21st Century Skills

LEARNING AND INNOVATION

Creativity and Innovation

- Think Creatively
- Work Creatively with Others
- Implement Innovations

Creative Thinking and Problem Solving

- Reason Effectively
- Use Systems Thinking
- Make Judgements and Decisions
- Solve Problems

Communication and Collaboration

- Communicate Clearly
- Collaborate with Others

INFORMATION, MEDIA AND TECHNOLOGY SKILLS

Information Literacy

- Access and Evaluate Information
- Use and Manage Information

Media Literacy

- Analyze Media
- Create Media Products

Information, Communications, and Technology (ICT Literacy)

- Apply Technology Effectively

LIFE AND CAREER SKILLS

Flexibility and Adaptability

- Adapt to Change
- Be Flexible

Initiative and Self-Direction

- Manage Goals and Time
- Work Independently
- Be Self-Directed Learners

Social and Cross-Cultural

- Interact Effectively with Others
- Work Effectively in Diverse Teams

Productivity and Accountability

- Manage Projects
- Produce Results

Leadership and Responsibility

- Guide and Lead Others
- Be Responsible to Others

Unit 11 DIGITAL LOGIC GATES**Hours: 10****Performance Assessment(s):**

Textbook assignment
Circuit Challenge activity
Assessment

Leadership Alignment:

SkillsUSA Electronics Technology
Professional Development Program (PDP)
2.D.2 Identify and ask significant questions that clarify various points of view and lead to better solutions

Standards and Competencies

Standard WR 2: Personal Success
Standard WR 4: Problem Solving
International Society of Certified Electronics Technicians (ISCET ESA4)
Logic Gates and Boolean Algebra

Aligned to Washington State Standards**Arts****Communication - Speaking and Listening****Health and Fitness****Language****Mathematics**

CC: Number and Quantity (N)

CC: Mathematical Practices (MP)

Reading

CC: Reading Informational Text

CC: Reading for Literacy in Science and Technical Subjects

Science**Social Studies****Writing**

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (9-10)

21st Century Skills

LEARNING AND INNOVATION

Creativity and Innovation

- Think Creatively
- Work Creatively with Others
- Implement Innovations

Creative Thinking and Problem Solving

- Reason Effectively
- Use Systems Thinking
- Make Judgements and Decisions
- Solve Problems

Communication and Collaboration

- Communicate Clearly
- Collaborate with Others

INFORMATION, MEDIA AND TECHNOLOGY SKILLS

Information Literacy

- Access and Evaluate Information
- Use and Manage Information

Media Literacy

- Analyze Media
- Create Media Products

Information, Communications, and Technology (ICT Literacy)

- Apply Technology Effectively

LIFE AND CAREER SKILLS

Flexibility and Adaptability

- Adapt to Change
- Be Flexible

Initiative and Self-Direction

- Manage Goals and Time
- Work Independently
- Be Self-Directed Learners

Social and Cross-Cultural

- Interact Effectively with Others
- Work Effectively in Diverse Teams

Productivity and Accountability

- Manage Projects
- Produce Results

Leadership and Responsibility

- Guide and Lead Others
- Be Responsible to Others

Unit 12 SEQUENTIAL AND COMBINATIONAL LOGIC**Hours: 10****Performance Assessment(s):**

Textbook assignment
Circuit Challenge activity
Assessment

Leadership Alignment:

SkillsUSA Electronics Technology
Professional Development Program (PDP)
3.A.2 Listen effectively to decipher meaning, including knowledge, values, attitudes and intentions
8.C.2 Demonstrate initiative to advance skill levels towards a professional level

Standards and Competencies

Standard WR 2: Personal Success
Standard WR 4: Problem Solving
International Society of Certified Electronics Technicians (ISCET ESA4)
Logic Gates and Boolean Algebra
Clocked Logic

Aligned to Washington State Standards**Arts****Communication - Speaking and Listening****Health and Fitness****Language****Mathematics**

CC: Mathematical Practices (MP)

Reading

CC: Reading Informational Text

CC: Reading for Literacy in Science and Technical Subjects

Science**Social Studies****Writing**

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (9-10)

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (11-12)

21st Century Skills

LEARNING AND INNOVATION

Creativity and Innovation

- Think Creatively
- Work Creatively with Others
- Implement Innovations

Creative Thinking and Problem Solving

- Reason Effectively
- Use Systems Thinking
- Make Judgements and Decisions
- Solve Problems

Communication and Collaboration

- Communicate Clearly
- Collaborate with Others

INFORMATION, MEDIA AND TECHNOLOGY SKILLS

Information Literacy

- Access and Evaluate Information
- Use and Manage Information

Media Literacy

- Analyze Media
- Create Media Products

Information, Communications, and Technology (ICT Literacy)

- Apply Technology Effectively

LIFE AND CAREER SKILLS

Flexibility and Adaptability

- Adapt to Change
- Be Flexible

Initiative and Self-Direction

- Manage Goals and Time
- Work Independently
- Be Self-Directed Learners

Social and Cross-Cultural

- Interact Effectively with Others
- Work Effectively in Diverse Teams

Productivity and Accountability

- Manage Projects
- Produce Results

Leadership and Responsibility

- Guide and Lead Others
- Be Responsible to Others

Unit 13 INTRODUCTION TO MICROCONTROLLERS**Hours: 10****Performance Assessment(s):**

Textbook assignment
Circuit Challenge activity
Assessment

Leadership Alignment:

SkillsUSA Electronics Technology
Professional Development Program (PDP)
2.C.4 Interpret information and draw conclusions based on the best analysis
11.A.2 Leverage strengths of others to accomplish a common goal

Standards and Competencies

Standard WR 2: Personal Success
Standard WR 4: Problem Solving
International Society of Certificated Electronics Technicians (ISCET ESA4)
Computers and the Data Bus

Aligned to Washington State Standards**Arts****Communication - Speaking and Listening****Health and Fitness****Language****Mathematics****Reading**

CC: Reading Informational Text

CC: Reading for Literacy in Science and Technical Subjects

Science**Social Studies****Writing**

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (9-10)

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (11-12)

21st Century Skills

LEARNING AND INNOVATION

Creativity and Innovation

- Think Creatively
- Work Creatively with Others
- Implement Innovations

Creative Thinking and Problem Solving

- Reason Effectively
- Use Systems Thinking
- Make Judgements and Decisions
- Solve Problems

Communication and Collaboration

- Communicate Clearly
- Collaborate with Others

INFORMATION, MEDIA AND TECHNOLOGY SKILLS

Information Literacy

- Access and Evaluate Information
- Use and Manage Information

Media Literacy

- Analyze Media
- Create Media Products

Information, Communications, and Technology (ICT Literacy)

- Apply Technology Effectively

LIFE AND CAREER SKILLS

Flexibility and Adaptability

- Adapt to Change
- Be Flexible

Initiative and Self-Direction

- Manage Goals and Time
- Work Independently
- Be Self-Directed Learners

Social and Cross-Cultural

- Interact Effectively with Others
- Work Effectively in Diverse Teams

Productivity and Accountability

- Manage Projects
- Produce Results

Leadership and Responsibility

- Guide and Lead Others
- Be Responsible to Others

Unit 14 LEADERSHIP**Hours: 10****Performance Assessment(s):**

SkillsUSA Professional Development Program Activities
In Class Leadership Opportunities
Professional Behaviour Assessment

Leadership Alignment:

SkillsUSA Electronics Technology
Professional Development Program (PDP)
Be Responsible to Others
11.B.1 Act responsibly with the interests of the larger community in mind

Standards and Competencies

Standard WR 2: Personal Success
Standard WR 4: Problem Solving
Standard WR 6: Teamwork and Cooperation

Aligned to Washington State Standards**Arts****Communication - Speaking and Listening****Health and Fitness****Language****Mathematics****Reading**

CC: Reading Informational Text

Science**Social Studies****Writing**

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (9-10)

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (11-12)

21st Century Skills

LEARNING AND INNOVATION

Creativity and Innovation

- Think Creatively
- Work Creatively with Others
- Implement Innovations

Creative Thinking and Problem Solving

- Reason Effectively
- Use Systems Thinking
- Make Judgements and Decisions
- Solve Problems

Communication and Collaboration

- Communicate Clearly
- Collaborate with Others

INFORMATION, MEDIA AND TECHNOLOGY SKILLS

Information Literacy

- Access and Evaluate Information
- Use and Manage Information

Media Literacy

- Analyze Media
- Create Media Products

Information, Communications, and Technology (ICT Literacy)

- Apply Technology Effectively

LIFE AND CAREER SKILLS

Flexibility and Adaptability

- Adapt to Change
- Be Flexible

Initiative and Self-Direction

- Manage Goals and Time
- Work Independently
- Be Self-Directed Learners

Social and Cross-Cultural

- Interact Effectively with Others
- Work Effectively in Diverse Teams

Productivity and Accountability

- Manage Projects
- Produce Results

Leadership and Responsibility

- Guide and Lead Others
- Be Responsible to Others

Unit 15 PROJECTS**Hours: 15****Performance Assessment(s):**

Soldering Projects and Kits

Leadership Alignment:

SkillsUSA Electronics Technology

Professional Development Program (PDP)

Produce Results

10.B.1 Demonstrate additional attributes associated with producing high quality products

10.B.1.b Manage time and projects effectively

Standards and Competencies

Standard: General and Computer Safety

Standard: Electronics - Units, Notations, Properties and Quantities

Standard WR 2: Personal Success

Standard WR 4: Problem Solving

International Society of Certified Electronics Technicians (ISCET ESA1) 7

7.1. Solder

7.2. Soldering Equipment

7.3. Desoldering Equipment

7.4. Safety

Aligned to Washington State Standards**Arts****Communication - Speaking and Listening****Health and Fitness****Language****Mathematics****Reading**CC: Reading for Literacy in Science and Technical SubjectsCC: Reading Informational Text

Science

Social Studies

Writing

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (11-12)

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (9-10)

21st Century Skills

LEARNING AND INNOVATION

Creativity and Innovation

- Think Creatively
- Work Creatively with Others
- Implement Innovations

Creative Thinking and Problem Solving

- Reason Effectively
- Use Systems Thinking
- Make Judgements and Decisions
- Solve Problems

Communication and Collaboration

- Communicate Clearly
- Collaborate with Others

INFORMATION, MEDIA AND TECHNOLOGY SKILLS

Information Literacy

- Access and Evaluate Information
- Use and Manage Information

Media Literacy

- Analyze Media
- Create Media Products

Information, Communications, and Technology (ICT Literacy)

- Apply Technology Effectively

LIFE AND CAREER SKILLS

Flexibility and Adaptability

- Adapt to Change
- Be Flexible

Initiative and Self-Direction

- Manage Goals and Time
- Work Independently
- Be Self-Directed Learners

Social and Cross-Cultural

- Interact Effectively with Others
- Work Effectively in Diverse Teams

Productivity and Accountability

- Manage Projects
- Produce Results

Leadership and Responsibility

- Guide and Lead Others
- Be Responsible to Others

Performance Assessment(s):

Final Assessment

Leadership Alignment:

SkillsUSA Electronics Technology
Professional Development Program (PDP)
10.A.2 Prioritize, plan and manage work to achieve the intended result

Standards and Competencies

Standard: General and Computer Safety
Standard: Electronics - Units, Notations, Properties and Quantities
Standard WR 2: Personal Success
Standard WR 4: Problem Solving
Standard WR 5: Health and Safety
International Society of Certified Electronics Technicians (ISCET ESA1) 1-3
International Society of Certified Electronics Technicians (ISCET ESA1) 4-6
International Society of Certified Electronics Technicians (ISCET ESA2)
International Society of Certified Electronics Technicians (ISCET ESA3)
International Society of Certified Electronics Technicians (ISCET ESA4)
International Society of Certified Electronics Technicians (ISCET ESA1) 7

Aligned to Washington State Standards**Arts****Communication - Speaking and Listening****Health and Fitness****Language****Mathematics**CC: Number and Quantity (N)CC: Algebra (A)CC: Mathematical Practices (MP)**Reading**CC: Reading Informational TextCC: Reading for Literacy in Science and Technical Subjects

Science

Physical Science

Social Studies

Writing

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (9-10)

CC: Writing for Literacy in History/Social Studies, Science, and Technical Subjects (11-12)

21st Century Skills

LEARNING AND INNOVATION	INFORMATION, MEDIA AND TECHNOLOGY SKILLS	LIFE AND CAREER SKILLS
<p>Creativity and Innovation</p> <ul style="list-style-type: none"> <input type="checkbox"/> Think Creatively <input type="checkbox"/> Work Creatively with Others <input type="checkbox"/> Implement Innovations <p>Creative Thinking and Problem Solving</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Reason Effectively <input type="checkbox"/> Use Systems Thinking <input checked="" type="checkbox"/> Make Judgements and Decisions <input checked="" type="checkbox"/> Solve Problems <p>Communication and Collaboration</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Communicate Clearly <input checked="" type="checkbox"/> Collaborate with Others 	<p>Information Literacy</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Access and Evaluate Information <input checked="" type="checkbox"/> Use and Manage Information <p>Media Literacy</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Analyze Media <input type="checkbox"/> Create Media Products <p>Information, Communications, and Technology (ICT Literacy)</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Apply Technology Effectively 	<p>Flexibility and Adaptability</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Adapt to Change <input checked="" type="checkbox"/> Be Flexible <p>Initiative and Self-Direction</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Manage Goals and Time <input checked="" type="checkbox"/> Work Independently <input checked="" type="checkbox"/> Be Self-Directed Learners <p>Social and Cross-Cultural</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Interact Effectively with Others <input checked="" type="checkbox"/> Work Effectively in Diverse Teams <p>Productivity and Accountability</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Manage Projects <input checked="" type="checkbox"/> Produce Results <p>Leadership and Responsibility</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Guide and Lead Others <input checked="" type="checkbox"/> Be Responsible to Others