

**ERIE COUNTY TECHNICAL SCHOOL
PROPOSED AGENDA ITEM**

DATE: June 25, 2015

SUBJECT: Curriculum

CATEGORY: **Operations:** X **Policy:** **Information:** **Personnel:**

INITIATED BY: Jan Kennerknecht

DESCRIPTION: At the spring Occupational Advisory Committee meeting, the course of study for Computer Networking was discussed. Mr. Miller presented a proposed 2015-2016 course sequence chart and asked the OAC members for feedback. The OAC members endorsed the new plan, noting that lab improvements are going in the right direction, where students have a solid understanding of basic computer repair and basic networking elements, customer service skills and industry certifications. A new textbook would replace the 2005 version currently used.

Proposed Computer Networking Planned Courses

Content Area	Course Title	Course Code	Course Hours
00	General Skills		
	Workplace Safety Awareness	CMN201	15
	Math for Computer Networking	CMN202	15
	Customer Service Skills	CMN203	15
	OSHA General Industry Training	CMN301	15
	Industry Certification Preparation	CMN302	15
	Leadership	PFS109	7.5
	Leadership	PFS110	7.5
	Business Management Principles	PFS409	7.5
	Business Management Principles	PFS410	7.5
10	Hardware		
	Overview of PC Components	CMN211	45
	Motherboards, CPUs, and Memory	CMN212	45

	Storage Devices and I/O Systems	CMN213	30
	Laptops, Handhelds, and Printers	CMN214	30
20	Operating Systems		
	Overview of Operating Systems	CMN221	45
	Advanced Operating Systems with Introduction to Virtualization	CMN222	30
	Microsoft Network Operating Systems	CMN321	30
	Other Network Operating Systems	CMN322	30
30	Fundamentals of Networking		
	Networking Fundamentals	CMN231	30
	Networking Models and Protocols	CMN232	15
	Wired Network Media	CMN233	45
	Wireless Network Media	CMN234	30
	TCP/IP Essentials	CMN235	45
40	Local Area Network Components		
	Client and Server Integration	CMN341	15
	Name Resolution Techniques	CMN342	30
	File and Print Services	CMN343	30
	Backup and Recovery Techniques	CMN344	30
50	Wide Area Network Components		
	Switching and Routing	CMN351	30
	Computer and Network Security	CMN352	45
	Web Server and Services	CMN353	30
	Remote Access Communications	CMN354	30
60	Troubleshooting Tools		
	Computer Troubleshooting	CMN261	15
	Networking Troubleshooting	CMN262	30
70	Network Analysis and Documentation		
	Network and PC Integration	CMN371	45

	Network Performance Monitoring	CMN372	30
	Network Documentation Techniques	CMN373	30
80	Network Design and Implementation		
	Network Planning, Designing, and Implementing	CMN381	45

Proposed Course Sequence

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
LEVEL I	CMN201 15 Workplace Safety Awareness	CMN212 45 Motherboards, CPUs, and Memory	CMN222 30 Advanced Operating Systems and Virtualization Basics	CMN234 30 Wireless Network Media
	CMN203 15 Customer Service Skills	CMN213 30 Storage Devices and I/O Systems	CMN231 30 Networking Fundamentals	CMN202 15 Math for Computer Networking
	CMN211 45 Overview of PC Components	CMN214 30 Laptops, Handhelds, and Printers	CMN232 15 Networking Models and Protocols	CMN235 45 TCP/IP Essentials
	CMN221 45 Overview of Operating Systems	CMN261 15 Computer Troubleshooting	CMN233 45 Wired Network Media	CMN262 30 Networking Troubleshooting
	PFS109 7.5 Leadership	PFS110 7.5 Leadership		
	TOTAL: 127.5	TOTAL: 127.5	TOTAL: 120.0	TOTAL: 120.0
	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
LEVEL II	CMN301 15 OSHA General Industry Training	CMN341 15 Client and Server Integration	CMN353 30 Web Server and Services	CMN372 30 Network Performance Monitoring
	CMN371 45 Network and PC Integration	CMN351 30 Switching and Routing	CMN343 30 File and Print Services	CMN373 30 Network Documentation Techniques
	CMN321 30 Microsoft Network Operating Systems	CMN342 30 Name Resolution Techniques	CMN344 30 Backup and Recovery Techniques	CMN381 45 Network Planning, Designing, and Implementing
	CMN322 30 Other Network Operating Systems	CMN352 45 Computer and Network Security	CMN354 30 Remote Access Communications	CMN302 15 Industry Certification Preparation
	PFS409 7.5 Business Management Principles	PFS410 7.5 Business Management Principles		
	TOTAL: 127.5	TOTAL: 127.5	TOTAL: 120.0	TOTAL: 120.0

Course syllabi and an updated course sequence chart will be implemented upon approval.

RECOMMENDATION: Motion to approve the listed new courses for delivery beginning 2015-2016.

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INITIATED BY: Jan Kennerknecht

DESCRIPTION: Mr. Jaeger has developed a 2015-2016 course sequence chart that will allow him to not only meet the PA Program of Study requirements for his new CIP #46.0399 (Electrical and Power Transmission Installers) but will also allow him to “toggle” instruction for the PM sessions. PM Level II and III curriculum would be taught in alternating years, allowing the instructor to address the entire PM class as a group. Many of our programs operate in this way, increasing the time that can be spent on more focused instruction.

Proposed Electrical Engineering Course Sequence

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
LEVEL I	EET111 30 Electrical Theory I	EET102 15 Construction Math II	EET123 30 Fixtures and Lighting	EET114 30 National Electrical Code, Intermediate
	EET103 15 Hand and Power Tools	EET104 30 Electrical Symbols and Blueprints I	EET115 30 Electrical Test Equipment	EET121 45 Introduction to Conduit Bending
	EET112 30 Electrical Safety	EET122 15 Raceways, Boxes and Fittings	EET133 45 Residential Wiring III	EET125 45 Raceway Installations
	EET131 30 Residential Wiring I	EET132 30 Residential Wiring II	EET124 15 Anchors and Supports	
	EET101 15 Construction Math I	EET113 30 National Electrical Code, Basic		
	PFS109 7.5 Leadership	PFS110 7.5 Leadership		
	TOTAL: 127.5	TOTAL: 127.5	TOTAL: 120	TOTAL: 120

LEVEL II	1st Quarter EET221 45 Conduit Bending, Basic EET241 30 Commercial Wiring I EET251 30 Motor Controls, Basic EET207 15 Electrical Calculations Math Prep PFS209 7.5 Business Principles TOTAL: 127.5	2nd Quarter EET252 30 Motor Controls, Intermediate EET208 45 Electrical Calculations I EET212 30 National Electrical Code, Advanced EET213 15 Green Technology PFS211 7.5 Business Principles TOTAL: 127.5	3rd Quarter EET222 45 Conduit Bending, Intermediate EET242 30 Commercial Wiring II EET224 30 Conductor Installations, Terminations and Splices EET214 15 Jobsite Safety TOTAL: 120	4th Quarter EET209 30 Electrical Calculations II EET253 30 Motor Controls, Advanced EET243 30 Commercial Wiring III EET223 30 Conduit Bending, Advanced TOTAL: 120
LEVEL III	1st Quarter EET361 30 Programmable Logic Controls I EET341 15 Low Voltage Systems Communications I EET313 30 Robotics EET371 30 Introductory Hydraulics and Pneumatics PFS209 7.5 Business Principles EET308 15 Electrical Systems Math TOTAL: 127.5	2nd Quarter EET314 30 International Building Code EET206 30 Electrical Symbols and Blueprints II EET315 30 Electrical Applications I EET343 30 Wired Devices EET309 7.5 Total Quality Principles TOTAL: 127.5	3rd Quarter EET362 30 Programmable Logic Controls II EET321 30 Special Purpose Outlets EET342 30 Low Voltage Systems Communications II EET311 30 Electrical Services I TOTAL: 120	4th Quarter EET372 30 Intermediate Hydraulics and Pneumatics EET316 45 Electrical Applications II EET312 45 Electrical Services II TOTAL: 120

Electrical Engineering Technology Planned Courses (Changes)

Content Area	Course Title	Course Number	Course Hours
00	Fundamentals of Electrical Engineering		
	NCCER Safety and Blueprint Basics	EET101	45
	NCCER Construction Math I	EET101	15
	Construction Math II	EET102	15
	Hand and Power Tools	EET103	30
	Electrical Symbols and Blueprints I	EET104	30
	Electrical Symbols and Blueprints II	EET206	30

	Rigging	EET105	30
	Leadership	PFS109	7.5
		PFS110	7.5
	Electrical Calculations Math Prep	EET207	15
	Electrical Calculations I	EET208	45
	Electrical Calculations II	EET209	30
	Business Principles	PFS209	7.5
		PFS211	7.5
	Electrical Systems Math	EET308	15
	Total Quality Principles	PFS309	7.5
		PFS310	7.5
10	Electrical Concepts & Theory		
	Electrical Theory I	EET111	30
	Electrical Safety I	EET112	30
	National Electrical Code, Basic	EET113	30
	National Electrical Code, Intermediate	EET114	30
	Electrical Test Equipment	EET115	30
	National Electrical Code, Advanced	EET212	30
	Green Technology	EET213	15
	Jobsite Safety	EET214	15
	Alternating Current I	EET215	30
	Electrical Services I	EET311	30
	Electrical Services II	EET312	45
	Robotics	EET313	30
	International Building Code	EET314	30
	Electrical Applications I	EET315	30
	Electrical Applications II	EET316	45
20	Electrical Tools, Hardware & Devices		
	Introduction to Conduit Bending	EET121	45
	Raceways, Boxes and Fittings	EET122	15
	Fixtures and Lighting	EET123	30
	Anchors and Supports	EET124	15
	Raceway Installations	EET125	45
	Conduit Bending, Basic	EET221	45

	Conduit Bending, Intermediate	EET222	45
	Conduit Bending, Advanced	EET223	30
	Conductor Installations, Terminations and Splices	EET224	30
	Special Purpose Outlets	EET321	30
30	Residential Applications		
	Residential Wiring I	EET131	30
	Residential Wiring II	EET132	30
	Residential Wiring III	EET133	45
40	Commercial Applications		
	Commercial Wiring I	EET241	30
	Commercial Wiring II	EET242	30
	Commercial Wiring III	EET243	30
	Low Voltage Systems Communications I	EET341	15
	Low Voltage Systems Communications II	EET342	30
	Wired Devices	EET343	30
40	Lab Applications		
	Lab Applications I, II, III, IV (4 sections)	EET141, EET142, EET143, EET144	30-45
	Lab Applications, Intermediate I, II, III, IV (4 sections)	EET241, EET242, EET243, EET244	30-45
	Lab Applications, Advanced I, II, III, IV (4 sections)	EET341, EET342, EET343, EET344	45
50	Motor Controls		
	Motor Controls, Basic	EET251	30
	Motor Controls, Intermediate	EET252	30
	Motor Controls, Advanced	EET253	30
60	Programmable Logic Controllers		
	Programmable Logic Controls I	EET361	30
	Programmable Logic Controls II	EET362	30
	Programmable Logic Controllers, Advanced	EET361	30
70	Fundamentals of Fluid Power		
	Introductory Hydraulics and Pneumatics	EET371	30
	Intermediate Hydraulics and Pneumatics	EET372	30
	Fluid Power Servo Controls	EET373	45
	Fluid Power Sensors	EET374	15
	Fluid Power Troubleshooting, Advanced	EET375	45

	Advanced Hydraulics and Pneumatics	EET376	45
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Course syllabi and an updated course sequence chart will be implemented upon approval.

RECOMMENDATION: Motion to approve the new EET course sequence chart for delivery beginning 2015-2016.