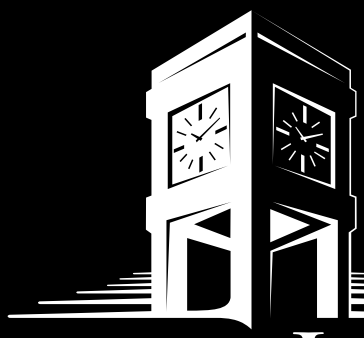

REND LAKE COLLEGE

2018-2019 CATALOG ADDENDUM

CURRICULUM WITHDRAWN, EFFECTIVE 3/1/2018

ARCHITECTURE ~ GREEN FACILITIES MANAGEMENT

Occupational Certificate

APPLIED SCIENCE & TECHNOLOGY DIVISION

The Green Facilities Management certificate will provide students with the skills and knowledge to plan and manage green facilities. They will be able to retrofit existing facilities to make them green and energy efficient. ► **Total = 16 Hours**

First Semester		**Cr. Hrs.**
☐ GFM 1201	Planning & Development of Green Facilities	4
☐ GFM 1202	Building Automation & Control Systems	4
☐ GFM 1203	Energy Modeling of Buildings	4
☐ GFM 1204	Green Landscape & Grounds Management	4
		16

CURRICULUM WITHDRAWN, EFFECTIVE 3/1/2018

ARCHITECTURE ~ SUSTAINABLE DESIGN / GREEN BUILDING

Occupational Certificate

APPLIED SCIENCE & TECHNOLOGY DIVISION

The Sustainable Design certificate will provide students with the fundamental concepts of sustainable design and green building practices. They will understand how global environmental issues are causing an evolution in the way buildings are designed and built. ► **Total = 14 Hours**

First Semester		**Cr. Hrs.**
☐ SDGB 1201	Foundations of Sustainable Building Design	3
☐ SDGB 1202	BIM & Sustainable Design	4
☐ SDGB 1203	Sustainable Landscape Design	3
☐ SDGB 1204	Sustainable Design & Construction Project	4
		14

COSMETOLOGY

Associate in Applied Science Degree

COMMUNITY & CORPORATE EDUCATION DIVISION

The Cosmetology Associate in Applied Science Degree program meets the standards of the Illinois Department of Financial and Professional Regulations. This program is designed to prepare individuals for positions in the Cosmetology field. Typical graduates work as hairdressers / hairstylists in chain or independent salons. The curriculum emphasizes practical, hands-on experience with the latest styles, trends and techniques. The program prepares students to take the Illinois Cosmetologist licensure exam. All COSM courses must be completed with a grade of "C" or better. The program is approved by the Illinois Department of Professional Regulation.

Students will be expected to attend class five days per week for up to eight hours per day. Some Saturday clinical work is to be expected. ► **Total = 65 Hours**

First Semester		**Cr. Hrs.**
☐ COSM 1201	Barber / Cosmetology Theory I	3
☐ COSM 1202	Barber / Cosmetology Clinic I	7
☐ COSM 1226	Barber / Cosmetology Theory I-A	3
☐ COSM 1227	Barber / Cosmetology Clinic I-A	7
		20
Second Semester		
☐ COSM 1203	Cosmetology Theory II	5
☐ COSM 1204	Cosmetology Clinic II	7
☐ COSM 1228	Cosmetology Theory II-A	3
☐ COSM 1229	Cosmetology Clinic II-A	7
		20
Third Semester		
☐ COSM 1205	Barber / Cosmetology Clinic III	8
☐ COSM 1206	Barber / Cosmetology Internship	1
~~☐ COSM 1206~~	~~Cosmetology Theory III~~	~~1~~
☐ **COSM 1230**	**Barber / Cosmetology Theory III**	1
		10
Fourth Semester		
☐ COMM 1101	Principles of Effective Speaking [1]	3
☐ CSCI 1101	Introduction to Computers	3
☐ ENGL 1101	Rhetoric and Composition I [1]	3
☐ MATH 1202	Business Mathematics	
MATH 1107	***or*** Contemporary College Mathematics	3
☐ PSYC 2101	Introduction to Psychology	
PSYC 2106	***or*** Human Relations	3
		15

[1] Prerequisite course(s) may be required based test scores.

COSMETOLOGY

Occupational Certificate

COMMUNITY & CORPORATE EDUCATION DIVISION

A one-year program leading to an Occupational Certificate in Cosmetology. The program is designed to prepare individuals for positions in the Cosmetology field. Typical graduates will work as hair dressers in chain or independent salons or open their own salons. The curriculum emphasizes practical, hands-on experience with the latest styles, trends and techniques.

An extended-length evening program also is available. Students in the day program will be expected to attend class five days per week for up to eight hours per day. Some Saturday clinical work is to be expected. Each semester consists of two courses that are co-requisites and must be taken concurrently.

The program is approved by the Illinois Department of Professional Regulation and prepares students to take the Illinois Cosmetologist licensure exam. ► **Total = 50 Hours**

First Semester		**Cr. Hrs.**
☐ COSM 1201	Barber / Cosmetology Theory I	3
☐ COSM 1202	Barber / Cosmetology Clinic I	7
☐ COSM 1226	Barber / Cosmetology Theory I-A	3
☐ COSM 1227	Barber / Cosmetology Clinic I-A	7
		20
Second Semester		
☐ COSM 1203	Cosmetology Theory II	~~5~~ **2**
☐ COSM 1204	Cosmetology Clinic II	~~7~~ **8**
☐ COSM 1228	Cosmetology Theory II-A	~~3~~ **2**
☐ COSM 1229	Cosmetology Clinic II-A	~~7~~ 8
		20
Third Semester		
☐ COSM 1205	Barber / Cosmetology Clinic III	8
☐ COSM 1206	Barber / Cosmetology Internship	1
~~☐ COSM 1206~~	~~Cosmetology Theory III~~	~~1~~
☐ **COSM 1230**	**Barber / Cosmetology Theory III**	1
		10

COSMETOLOGY – BARBER

Occupational Certificate

COMMUNITY & CORPORATE EDUCATION DIVISION

A one-year program leading to an Occupational Certificate in Barbering. The program is designed to prepare individuals for positions in the Barber field. Typical graduates will work as barbers in chain or independent shops or open their own. The curriculum emphasizes practical, hands-on experience with the latest styles, trends and techniques. The program is approved by the Illinois Department of Professional Regulation and prepares students to take the Illinois Barber licensure exam.

Students in the day program will be expected to attend class five days per week for up to eight hours per day. Some Saturday clinical work is to be expected. Each semester consists of two courses that are co-requisites and must be taken concurrently. **► Total = 50 Hours**

First Semester		**Cr. Hrs.**
☐ COSM 1201	Barber / Cosmetology Theory I	3
☐ COSM 1202	Barber / Cosmetology Clinic I	7
☐ COSM 1226	Barber / Cosmetology Theory I-A	3
☐ COSM 1227	Barber / Cosmetology Clinic I-A	7
		20
~~**Second Semester**~~		
~~☐ COSM 1203~~	~~Barber Theory II~~	~~5~~
~~☐ COSM 1204~~	~~Barber Clinic II~~	~~7~~
~~☐ COSM 1228~~	~~Barber Theory II-A~~	~~3~~
~~☐ COSM 1229~~	~~Barber Clinic II-A~~	~~7~~
		~~20~~
Second Semester		
☐ **COSM 1207**	**Barber Theory II**	**2**
☐ **COSM 1208**	**Barber Clinic II**	**8**
☐ **COSM 1231**	**Barber Theory II-A**	**2**
☐ **COSM 1232**	**Barber Clinic II-A**	**8**
		20
Third Semester		
☐ COSM 1205	Barber / Cosmetology Clinic III	8
☐ COSM 1206	Barber / Cosmetology Internship	1
~~☐ COSM 1206~~	~~Cosmetology Theory III~~	~~1~~
☐ **COSM 1230**	**Barber / Cosmetology Theory III**	**1**
		10

COSMETOLOGY – BARBER

Associate in Applied Science Degree

COMMUNITY & CORPORATE EDUCATION DIVISION

The Barber Associate in Applied Science Degree program meets the standards of the Illinois Department of Financial and Professional Regulations. This program is designed to prepare individuals for positions in the Barber field. Typical graduates will work as barbers in chain or independent shops or open their own. The curriculum emphasizes practical, hands-on experience with the latest styles, trends and techniques. The program is approved by the Illinois Department of Professional Regulation and prepares students to take the Illinois Barber licensure exam.

Students will be expected to attend class five days per week for up to eight hours per day. Some Saturday clinical work is to be expected. **► Total = 65 Hours**

First Semester		**Cr. Hrs.**
☐ COSM 1201	Barber / Cosmetology Theory I	3
☐ COSM 1202	Barber / Cosmetology Clinic I	7
☐ COSM 1226	Barber / Cosmetology Theory I-A	3
☐ COSM 1227	Barber / Cosmetology Clinic I-A	7
		20
~~**Second Semester**~~		
~~☐ COSM 1203~~	~~Barber Theory II~~	~~5~~
~~☐ COSM 1204~~	~~Barber Clinic II~~	~~7~~
~~☐ COSM 1228~~	~~Barber Theory II-A~~	~~3~~
~~☐ COSM 1229~~	~~Barber Clinic II-A~~	~~7~~
		~~20~~
Second Semester		
☐ **COSM 1207**	**Barber Theory II**	**2**
☐ **COSM 1208**	**Barber Clinic II**	**8**
☐ **COSM 1231**	**Barber Theory II-A**	**2**
☐ **COSM 1232**	**Barber Clinic II-A**	**8**
		20
Third Semester		
☐ COSM 1205	Barber / Cosmetology Clinic III	8
☐ COSM 1206	Barber / Cosmetology Internship	1
~~☐ COSM 1206~~	~~Cosmetology Theory III~~	~~1~~
☐ **COSM 1230**	**Barber / Cosmetology Theory III**	**1**
		10
Fourth Semester		
☐ COMM 1101	Principles of Effective Speaking [1]	3
☐ CSCI 1101	Introduction to Computers	3
☐ ENGL 1101	Rhetoric and Composition I [1]	3
☐ MATH 1202 MATH 1107	Business Mathematics ***or*** Contemporary College Mathematics	3
☐ PSYC 2101 PSYC 2106	Introduction to Psychology ***or*** Human Relations	3
		15

[1] Prerequisite course(s) may be required based test scores.

CURRICULUM WITHDRAWN, EFFECTIVE 6/1/2018

CRIMINAL JUSTICE – CYBER FORENSICS SPECIALIST

Occupational Certificate

APPLIED SCIENCE & TECHNOLOGY DIVISION

The Cyber Forensics Specialist occupational certificate prepares students to work in the criminal justice field dealing with cyber crime. The curriculum blends the areas of computer technician with criminal investigator. Learners are taught the legal and technical limits of a forensic search of a digital system. State-of-the-art software enables students to retrieve information from personal computers, cell phones and tablets. ► **Total = 24 Hours**

Prerequisites:

CNS 1212 – Hardware & Operating Systems	5
CSCI 1101 – Intro to Computers *	3

** Completed with a "C" or better or permission of the Dean*

First Semester		**Cr. Hrs.**
☐ CRJS 1201	Intro to Criminal Justice	3
☐ CRJS 1202	Criminology	3
☐ CRJS 1207	Computer Forensics I	3
☐ CRJS 2206	Criminal Procedures	3
		12

Second Semester		
☐ CRJS 1205	Cyber Crime & Law	3
☐ CRJS 2209	Criminal Law	3
☐ CRJS 2216	Cyber Crime & Investigation	3
☐ CRJS 2217	Computer Forensics II	3
		12

NOTE COURSE NAME CHANGE

HEAVY EQUIPMENT TECHNOLOGY

Associate in Applied Science Degree

APPLIED SCIENCE & TECHNOLOGY DIVISION

A two-year program leading to an Associate in Applied Science Degree. The program is designed to prepare students for occupations involving the maintenance and repair of heavy duty trucks and equipment. Upon completion of the curriculum, the student should have a thorough knowledge of engine and brake repair, servicing, sales and alignment. Also upon completion, the student has the option to capstone into a participating four-year institution. ► **Total = 72 Hours**

First Semester		**Cr. Hrs.**
☐ AGRI 1208	Diesel Engines	6
☐ CSCI 1101	Intro to Computers	3
☐ DIEL 1208	Diesel Accessories	2
☐ ENGL 1101	Rhetoric and Composition I [1]	3
☐ **HEQT 1201**	**Heavy Equipment Maintenance**	**4**
		18
Second Semester		
☐ AGRI 1204	Physics of Hydraulics	5
☐ AGRI 1221	Intro to Agriculture Occupations	1
☐ COMM 1101	Principles of Effective Speaking	3
☐ DIEL 1205	Heavy Equipment Brakes	3
☐ HEQT 1208	Fundamentals of Machine Electronics	3
☐ HEQT 1211	Engine Fuel Systems	3
		18
Third Semester		
☐ AGRI 1222	Applied Mathematics [1]	
MATH	or Elective – Mathematics [1]	3
☐ AGRI 2201	Transmissions and Power Trains	4
☐ DIEL 1204	Intermediate Diesels	4
☐ HEQT 2203	Machine Systems Electronics	3
☐ PSYC 2101	Introduction to Psychology	
PSYC 2106	or Human Relations	3
		17
Fourth Semester		
☐ AGRI 2204	Advanced Major Overhaul	5
☐ DIEL 1203	Heavy Equipment Alignment	4
☐ HEQT 1209	Heating, Ventilation and A/C	2
☐ HEQT 1210	Supervised Occupational Experience	4
☐ HEQT 2207	Machine Systems Diagnosis & Troubleshooting	4
		19

[1] Prerequisite course(s) may be required based test scores.

[2] See Division Chairperson for list of approved courses.

New Certificate – Effective 8/13/2018

INDUSTRIAL MAINTENANCE MULTI TECH

Occupational Certificate

APPLIED SCIENCE & TECHNOLOGY DIVISION

This program is designed to train students in the Industrial Maintenance and Electronics field who have a complementary AAS or in-depth industry experience. These core technical classes are very valuable to those persons already employed in industry desiring to upgrade their skills. ► **Total 20 hours**

First Semester		**Cr. Hrs.**
☐ CNS 1240	Digital Fundamentals	3
☐ INEL 1291	Basic Electronics for Technicians	5
		8

Second Semester		**Cr. Hrs.**
☐ INEL 1250	Electric Motors & Control Circuits	6
☐ IST 2230	Introduction to PLC's	3
☐ INEL 1265	Solid State Electronics	
IST 2232	***or*** Branded Controllers & Industrial PC's	3
		12

Note change in WCT course prefixes, removal of ORIE 1101 & change in total credit hours – Effective 6/1/2018

IT SYSTEMS SPECIALIST

Associate in Applied Science Degree

APPLIED SCIENCE & TECHNOLOGY DIVISION

The IT Systems Specialist is a two-year program designed to provide students with the necessary information and skills to become a computer network technician. Courses contain a balance of classroom and laboratory activities with modern hardware and up-to-date software. Students who successfully complete this program qualify for a variety of entry-level positions in the computer industry. The program provides a foundation for those who are seeking Cisco, Microsoft Windows, CompTIA Security+ and CompTIA A+ certifications. National competency requirements have been used to develop the curriculum. Students also will develop a working knowledge of wireless communications and Voice over IP courses that have been added to better prepare students for the modern computing job market. These courses may be used as a basis for a four-year degree with capstone programs at senior-level institutions. ► **Total = 67 Hours**

First Semester		**Cr. Hrs.**
☐ CNS 1210	Intro to Networks	5
☐ CNS 1212	Hardware/Operating Systems	5
☐ CSCI 1101	Introduction to Computers	3
☐ ~~ORIE 1101~~	~~Orientation~~	~~1~~
☐	Non-Technical Elective [4]	3
		~~17~~ **16**

Second Semester		
☐ CNS 1221	Network Router Technology	5
☐ CNS 1231	Windows Professional	3
☐ CSCI 1255	Microsoft Access Database	3
☐ MATH 1201	Technical Mathematics [1, 2, 3]	3
☐ ~~WCT 2260~~	~~Wireless LAN/WAN~~	~~4~~
☐ **CNS** 2260	Wireless LAN/WAN	4
		18

Third Semester		
☐ CNS 1232	Windows Server	3
☐ CNS 1234	Linux Networking	3
☐ CNS 2228	Security	4
☐ ENGL 1101	Rhetoric and Composition I [1, 2]	3
☐ OFTC 1234	Communications for Tech Services	3
		16

Fourth Semester		
☐ CNS 1235	Linux Server	4
☐ CNS 2230	Network Implementation	3
☐ CNS 2231	Advanced Security	3
☐ COMM 1101	Principles of Effective Speaking [2]	3
☐ ~~WCT 2200~~	~~Emerging Technologies~~	~~4~~
☐ **CNS** 2200	Emerging Technologies	4
		17

[1] Prerequisite course(s) may be required based on test results.

[2] Recommend taking class prior to First Semester or during Summer Term between Second and Third Semesters.

[3] Recommended: Students transferring to SIUC should take MATH 1108.

[4] Advisory Committee recommends BUSI 1101 - Intro to Business

NOTE: Students must be able to type 25 words per minute.

Note change in WCT course prefix

IT SYSTEMS SPECIALIST

Occupational Certificates

APPLIED SCIENCE & TECHNOLOGY DIVISION

The courses listed in the certificates are included in the IT Systems Specialist degree. Students who successfully complete the degree will also receive all of the certificates. Students must be able to type 25 words per minute for these certificate programs.

COMPUTER NETWORKING

The Computer Networking certificate provides students with the necessary information and skills to network computers on both wired and wireless networks. Course objectives will follow CompTIA Network+ certification guidelines. Courses offer a balance of classroom and laboratory activities. ► **Total = 14 Hours**

First Semester		**Cr. Hrs.**
☐ CNS 1210	Intro to Networks	5

Second Semester		
☐ CNS 1221	Network Router Technology	5
☐ **CNS** 2260	Wireless LAN / WAN	4
☐ ~~WCT 2260~~	~~Wireless LAN / WAN~~	~~4~~
		9

Note course sequence, course credit hour changes

CYBER SECURITY SPECIALIST

The Cyber Security Specialist certificate provides students with the necessary knowledge and skills to detect and mitigate cyber attacks. Students are taught how to understand cyber attack vectors and investigate cyber intrusions, as well as proactive defense methods. Courses offer a balance of classroom and laboratory activities. ► **Total = 16 Hours**

Prerequisites:
CNS 1212 – Hardware / Operating Systems
CNS 1231 – Windows Professional

or consent of instructor.

First Semester		**Cr. Hrs.**
☐ CNS 1232	Windows Server	3
☐ CNS 1234	Linux Networking	3
☐ CNS 2228	Network Security	4
☐ ~~CNS 1207~~	~~Computer Forensics~~	~~3~~
		~~13~~ **10**

Second Semester		
☐ **CNS 1207**	**Computer Forensics**	**3**
☐ CNS 2231	Advanced Security	3
☐ ~~CNS 2217~~	~~Computer Forensics II~~	~~3~~
		6

New Degree – Effective 6/1/2018

IT DATABASE SPECIALIST

Associate in Applied Science Degree

APPLIED SCIENCE & TECHNOLOGY DIVISION

The IT Database Specialist is a two-year program designed to provide students with the necessary information and skills to become an IT technician with emphasis on databases. Courses contain a balance of classroom and laboratory activities with modern hardware and up-to-date software. Students who successfully complete this program qualify for a variety of entry-level positions in the computer industry. The program provides a foundation for those who are seeking Cisco, Microsoft, and ComptiaTIA certifications. National competency requirements have been used to develop the curriculum. The knowledge gained from these courses may enable students who are pursuing a four-year degree to capstone into programs at senior-level institutions.

► **Total 66 hours**

First Semester		**Cr. Hrs.**
☐ CNS 1210	Intro to Networks	5
☐ CNS 1212	Hardware / Operating Systems	5
☐ CSCI 1102	Intro to Computers w/Business Applications	3
☐	Elective - General Education	3
		16

Second Semester		**Cr. Hrs.**
☐ CNS 1221	Network Router Technology	5
☐ CNS 1231	Windows Professional	3
☐ CNS 2260	Wireless LAN/WAN	4
☐ CSCI 1255	Microsoft Access Database	3
☐ MATH 1201	Technical Mathematics	3
		18

Third Semester		**Cr. Hrs.**
☐ CNS 1232	Windows Server	3
☐ CNS 1234	Linux Networking	5
☐ CNS 1257	SQL Server Database Design	3
☐ ENGL 1101	Rhetoric and Composition I	3
☐ OFTC 1234	Communication for Tech Services	3
		15

Fourth Semester		**Cr. Hrs.**
☐ CNS 1235	Linux Server	4
☐ CNS 2200	Emerging Technologies	4
☐ CNS 2230	Network Implementation	3
☐ COMM 1101	Principles of Effective Speaking	3
☐ CSCI 1280	Advanced Database Systems	3
		17

New Degree – Effective 6/1/2018

IT SECURITY SPECIALIST

Associate in Applied Science Degree

APPLIED SCIENCE & TECHNOLOGY DIVISION

The IT Security Specialist is a two-year program designed to provide students with the necessary information and skills to become an IT technician with emphasis on security. Courses contain a balance of classroom and laboratory activities with modern hardware and up-to-date software. Students who successfully complete this program qualify for a variety of entry-level positions in the computer industry. The program provides a foundation for those who are seeking Cisco, Microsoft, and ComptiaTIA certifications. National competency requriements have been used to develop the curriculum. The knowledge gained from these courses may enable students who are pursuing a four-year degree to capstone into programs at senior-level institutions.

► **Total 67 hours**

First Semester		**Cr. Hrs.**
☐ CNS 1210	Intro to Networks	5
☐ CNS 1212	Hardware / Operating Systems	5
☐ CSCI 1102	Intro to Computers w/Business Applications	3
☐	Elective - General Education	3
		16

Second Semester		**Cr. Hrs.**
☐ CNS 1207	Computer Forensics	3
☐ CNS 1221	Network Router Technology	5
☐ CNS 1231	Wireless Professional	3
☐ CNS 2260	Wireless LAN/WAN	4
☐ MATH 1201	Technical Mathematics	3
		18

Third Semester		**Cr. Hrs.**
☐ CNS 1232	Windows Server	3
☐ CNS 1234	Linux Networking	3
☐ CNS 2228	Security	4
☐ ENGL 1101	Rhetoric and Composition I	3
☐ OFTC 1234	Communications in Tech Service	3
		16

Fourth Semester		**Cr. Hrs.**
☐ CNS 1235	Linux Server	4
☐ CNS 2200	Emerging Technologies	4
☐ CNS 2230	Network Implementation	3
☐ CNS 2231	Advanced Security	3
☐ COMM 1101	Principles of Effective Speaking	3
		17

MANUFACTURING TECHNOLOGY

Associate in Applied Science Degree

APPLIED SCIENCE & TECHNOLOGY DIVISION

The Manufacturing Technology program is designed to prepare graduates for supervisory or technical positions in manufacturing. Curriculum requirements are broad-based to enable graduates to obtain employment in a wide variety of manufacturing areas, such as the Manufacturing Skill Standards Council (MSSC) industry-recognized credentialing system which covers the four critical production functions common to all sectors of manufacturing. The technician will develop a fundamental knowledge of materials, manufacturing process, quality processes, and computer, electrical, mechanical and machine control systems related to manufacturing disciplines. ► **Total = 64 Hours**

First Semester		**Cr. Hrs.**
☐ ~~BUSI 1202~~	~~Work Ethics~~	~~1~~
☐ ENGL 1101	Rhetoric & Composition I [1]	3
☐ MACH 1201	Machine Technology I	4
☐ **MATH 1201**	**Technical Math** [1]	**3**
☐ ~~MFG 1201~~	~~Intro to Materials~~	~~3~~
☐ MFG 1207	Safety	3
☐ MFG 1208	Manufacturing Processes & Production	3
		~~17~~ **16**

Second Semester		
☐ **INEL 1291**	**Basic Electronics for Technicians**	**5**
☐ **IST 2230**	**Introduction to PLCs**	**3**
☐ MACH 1202	Machine Technology II	4
☐ ~~MFG 1205~~	~~Manufacturing Processes~~	~~3~~
☐ MFG 1209	Maintenance Awareness	3
☐ MFG 1210	Quality Practices & Measurement	3
☐ ~~WELD 1270~~	~~Introduction to Welding Processes~~	~~4~~
		18

Third Semester		
☐ CSCI 1101	Introduction to Computers	3
☐ ~~INEL 1291~~	~~Basic Electronics for Technicians~~	~~5~~
☐ IST 2231	Advanced PLCs	3
☐ ~~MFG 1220~~	~~Production & Inventory Control~~	~~3~~
☐ MFG 1230	Blueprint Reading	3
☐ **WELD 1270**	**Introduction to Welding Processes**	**4**
		13

Fourth Semester		
☐ COMM 1101	Principles of Effective Speaking	3
☐ **FLPR 1262**	**Fluid Power Fundamentals**	**5**
☐ **INEL 1250**	**Electric Motors & Control Circuits**	**6**
☐ ~~IST 2230~~	~~Introduction to PLCs~~	~~3~~
☐ ~~MFG 1230~~	~~Blueprint Reading~~	~~3~~
☐	~~Technical Elective~~	~~4~~
☐ **PSYC 2106**	**Human Relations**	**3**
		~~13~~ **17**

Technical Electives		
☐ ~~INEL 1250~~	~~Electric Motors & Control Circuits~~	~~6~~
☐ IST 1230	Intro to Robotics	3
☐ ~~IST 2231~~	~~Advanced PLCs~~	~~3~~
☐ MACH 1203	Machine Technology III	3
☐ MACH 1205	Special Problems in Machining	3
☐ MFG 1200	Manufacturing Employment Skills	3
☐ WELD 1272	Structural Shielded Metal Arc Welding	4
☐ WELD 1282	GMAW / GTAW Welding	4

[1] Prerequisite course(s) may be required based test scores.

MANUFACTURING TECHNOLOGY

Occupational Certificate

APPLIED SCIENCE & TECHNOLOGY DIVISION

The Manufacturing Technology program is designed to prepare graduates for supervisory or technical positions in manufacturing. Curriculum requirements are broad-based to enable graduates to obtain employment in a wide variety of manufacturing areas, such as the Manufacturing Skill Standards Council (MSSC) industry-recognized credentialing system which covers the four critical production functions common to all sectors of manufacturing The technician will develop a fundamental knowledge of materials, manufacturing process, quality processes, and computer, electrical, mechanical and machine control systems related to manufacturing disciplines. ► **Total = 32 Hours**

First Semester		**Cr. Hrs.**
☐ ~~BUSI 1202~~	~~Work Ethics~~	~~1~~
☐ MACH 1201	Machine Technology I	4
☐ ~~MFG 1201~~	~~Intro to Materials~~	~~3~~
☐ MFG 1207	Safety	3
☐ MFG 1208	Manufacturing Processes & Production	3
☐ **MFG 1230**	**Blueprint Reading**	**3**
☐ **WELD 1270**	**Introduction to Welding Processes**	**4**
		~~14~~ **17**

Second Semester		
☐ **BUSI 1200**	**Job Strategy**	**1**
☐ **BUSI 1202**	**Work Ethics**	**1**
☐ **IST 2230**	**Introduction to PLCs**	**3**
☐ MACH 1202	Machine Technology II	4
☐ ~~MFG 1205~~	~~Manufacturing Processes~~	~~3~~
☐ MFG 1209	Maintenance Awareness	3
☐ MFG 1210	Quality Practices & Measurement	3
☐ ~~WELD 1270~~	~~Introduction to Welding Processes~~	~~4~~
		~~17~~ **15**

Change in sequence, total credit hours, effective 3/1/2018

MINING TECHNOLOGY – MINE OPERATIONS

Occupational Certificate

APPLIED SCIENCE & TECHNOLOGY DIVISION

► Total = 17 Hours

	First Semester		Cr. Hrs.
☐	MIN 1210	Intro to Mining	3
☐	MIN 1220	Mine Atmosphere & Strata Control	3
☐	MIN 1221	Machine Operations	2
☐	ELEC 1260	MSHA Electrical Qualification [1] ***or***	6
	INEL 1291	Basic Electronics for Technicians	5
☐	WELD 1270	Intro to Welding Processes	4
			17-18

[1] Requires one year electrical experience in mine or equivalent.

OLD → NEW

MINING TECHNOLOGY – MINE OPERATIONS

Occupational Certificate

APPLIED SCIENCE & TECHNOLOGY DIVISION

► Total = 16.5 Hours

	First Semester		Cr. Hrs.
☐	INEL 1291	Basic Electronics for Technicians	5
☐	MIN 1210	Intro to Mining	2.5
☐	MIN 1220	Mine Atmosphere & Strata Control	3
☐	MIN 1221	Machine Operations	2
☐	WELD 1270	Intro to Welding Processes	4
			16.5

Programs Withdrawn – Effective 6/1/2018

~~OIL & NATURAL GAS TECHNICIAN~~

~~*Occupational Certificate*~~

~~APPLIED SCIENCE & TECHNOLOGY DIVISION~~

~~The Advanced Oil and Natural Gas Technician option can be stacked on the Oil and Natural Gas Technician certificate for the student wishing only to complete several industry-focused courses. The certificate option provides the student with the knowledge and skills required for employment in the petroleum and natural gas industries but may not want to pursue a degree.~~ **~~► Total = 23 Hours~~**

	~~First Semester~~		~~Cr. Hrs.~~
~~☐~~	~~GEOL 1101~~	~~Physical Geology~~	~~3~~
~~☐~~	~~INEL 1291~~	~~Basic Electronics for Technicians~~	~~5~~
~~☐~~	~~SURV 1205~~	~~Intro to Mapping and Geographic Info. Systems~~	~~3~~
			~~11~~

	~~Second Semester~~		
~~☐~~	~~IST 2230~~	~~Intro to PLCs~~	~~3~~
~~☐~~	~~ONGT 1204~~	~~Oil and Gas Production Equipment~~	~~2~~
~~☐~~	~~ONGT 2201~~	~~Petroleum Refining~~	~~4~~
~~☐~~	~~ONGT 2202~~	~~Oil and Gas Well Mapping and Logging~~	~~3~~
			~~12~~

~~OIL & NATURAL GAS TECHNICIAN~~

~~*Associate in Applied Science Degree*~~

~~APPLIED SCIENCE & TECHNOLOGY DIVISION~~

~~The Oil and Natural Gas Technician program is designed to provide the student with the knowledge and skills required for employment in the petroleum and natural gas industries. The program gives the students a broad range of skills which are essential for technician who want to work in the petroleum and natural gas service, production, transportation and refining industries.~~ **~~► Total = 65 Hours~~**

	~~First Semester~~		~~Cr. Hrs.~~
~~☐~~	~~CSCI 1101~~	~~Intro to Computers~~	~~3~~
~~☐~~	~~DIEL 1202~~	~~Basic Diesel Fuel Systems~~	~~2~~
~~☐~~	~~INEL 1291~~	~~Basic Electronics for Technicians~~	~~5~~
~~☐~~	~~MATH 1201~~	~~Technical Mathematics (or higher)~~	~~3~~
~~☐~~	~~ONGT 1200~~	~~Intro to the Petroleum Industry~~	~~1~~
~~☐~~	~~ONGT 1201~~	~~Oil and Gas Production I~~	~~3~~
			~~17~~

	~~Second Semester~~		
~~☐~~	~~DIEL 1208~~	~~Diesel Accessories~~	~~2~~
~~☐~~	~~FLPR 1262~~	~~Fluid Power Fundamentals~~	~~5~~
~~☐~~	~~GEOL 1101~~	~~Physical Geology~~	~~3~~
~~☐~~	~~ONGT 1202~~	~~Artificial Lift Systems~~	~~3~~
~~☐~~	~~ONGT 1203~~	~~Oil and Gas Production II~~	~~3~~
~~☐~~	~~ONGT 1204~~	~~Oil and Gas Production Equipment~~	~~2~~
			~~18~~

	~~Third Semester~~		
~~☐~~	~~ENGL 1101~~	~~Rhetoric and Composition I~~[~~†~~]	~~3~~
~~☐~~	~~IST 2230~~	~~Intro to PLCs~~	~~3~~
~~☐~~	~~ONGT 2203~~	~~Safety - SafeLands / OSHA~~	~~2~~
~~☐~~	~~SURV 1205~~	~~Intro to Mapping and Geographic Info. Systems~~	~~3~~
~~☐~~	~~WELD 1270~~	~~Intro to Welding Processes~~	~~4~~
			~~15~~

	~~Fourth Semester~~		
~~☐~~	~~COMM 1101~~	~~Principles of Effective Speaking~~	~~3~~
~~☐~~	~~INEL 2201~~	~~Process Control~~	~~2~~
~~☐~~	~~ONGT 2201~~	~~Petroleum Refining~~	~~4~~
~~☐~~	~~ONGT 2202~~	~~Oil and Gas Well Mapping and Logging~~	~~3~~
~~☐~~	~~ONGT 2210~~	~~Supervised Occupational Experience~~	~~3~~
			~~15~~

~~[†] Prerequisite course(s) may be required based test scores.~~

CHANGE IN SEQUENCE, TOTAL CREDIT HOURS, EFFECTIVE 3/1/2018

VETERINARY ASSISTANT

Occupational Certificate

ALLIED HEALTH DIVISION

The Veterinary Assistant certificate program prepares students with the knowledge and skills needed for a career working with animals in a variety of settings such as veterinary clinics, boarding kennels, grooming salons, pet shops and animal shelters. ► **Total 17 hours**

Fall Semester		**Cr. Hrs.**
☐ OFTC 1234	Communication in Technical Services	3
☐ VET 1210	Small Animal Nursing I	3
☐ VET 1214	Animal Grooming	3
~~☐ VET 1215~~	~~Veterinary Practice Management~~	~~2~~
~~☐ VET 1218~~	~~Animal Facilities Management~~	~~3~~
☐ **VET 1215**	**Animal Facilities Management**	**3**
☐ **VET 1218**	**Veterinary Practice Management**	**2**
☐ VET 2231	Veterinary Technology Internship I	3
		17

Prerequisite corrected

ALH 1201 – Anatomy & Physiology Fundamentals (3)

Prerequisite: If reading review course is required, the student must complete PREP 1404 or be concurrently enrolled in ENGL 1411.

This course is designed for students entering entry-level health professional programs. Students will study the structure and function of human anatomy, including the neuroendocrine, integumentary, musculoskeletal, digestive, urinary, reproductive and circulatory systems. Lecture 3 hours.

Change in course number, effective 3/1/2018

ARCH ~~1101~~ 1211 – Introduction to Architectural Theory / History (3)

An introductory course to the profession of architecture through an examination of recurrent themes in the history of architecture, with emphasis upon the problems and achievements in the art of designing the built environment. Lecture 3 hours.

Change in course number, effective 3/1/2018

ARCH ~~1102~~ 1212 – Architectural Construction Systems (3)

An introductory course to building materials and their use in construction, with emphasis on their properties, selection criteria and methods of graphic representation. Examination of the architect's role in construction and selection of construction systems: foundation and enclosure systems; interior and exterior finishes; floor, ceiling, partition and roofing systems, and wood, masonry, steel and concrete structural systems. Lecture 3 hours.

Change in course title, effective 5/1/2018

ARCH 1202 – Architectural Materials and Methods II ~~(5)~~

Prerequisite: ARCH 1209 or consent of instructor.

Through the use of architectural drafting, this course provides the student with the knowledge of current materials and methods of construction, their physical nature, adaptability and limitations as they pertain to masonry, reinforced concrete and steel. Lecture 3 hours. Lab 4 hours.

Prerequisite corrected

CMA 1201 – Administrative Aspects (4)

Prerequisite: Admission to the Medical Assistant program

This course provides an introduction to the administrative skills needed for a medical office. Students learn how to maintain medical records (both paper and electronic), manage appointments and perform routine office duties. This course focuses on the financial aspects of the medical office, including accounts payable and accounts receivable. Students examine billing and collection procedures. Lecture 3 hours. Lab 2 hours.

Prerequisite corrected

CMA 1202 – Patient Care I (3)

Prerequisite: Admission to the Medical Assistant program

This course includes the skills necessary for an entry-level medical assistant. Aseptic practice of the medical office will be defined and basic patient interaction such as interviewing, obtaining and recording vital signs, assisting with basic physical exams and testing will be studied. Lecture 2.5 hours. Lab 1 hour.

Prerequisite corrected

CMA 1203 – Billing & Coding (3)

Prerequisite: Admission to the Medical Assistant program

This course introduces the student to the medical insurance system and related billing and coding. Students learn how to complete and submit electronic and paper insurance claim forms, perform referrals and apply the correct procedure and diagnostic codes. This course is specific to the needs of medical assisting. Lecture 3 hours.

Prerequisite corrected

CMA 1204 – Professionalism & Safety (3)

Prerequisite: Admission to the Medical Assistant program

This course reviews the role and function of the medical assistant and provides health care professionals with an orientation for their possible future roles in disaster response and the importance of staying within the scope of practice of the profession. This course focuses on the basic concept of the professional practice of medicine and the scope of practice of the medical assistant. Students discuss the personal and professional characteristics and legal and ethical standards for medical assistants, explore professional and personal therapeutic communication, and address time management and goal setting. Students will be prepared to meet the expectations of their employers, to volunteer effectively and to be competent and safe responders. Lecture 3 hours.

Prerequisite corrected

CMA 1205 – Lab Diagnostics (4)

Prerequisite: Admission to the Medical Assistant program and ALH 1201 and HECO 1202.

The role and function of the professional in the clinical laboratory is introduced. Topics include safety in the laboratory, CLIA government regulations and quality assurance, and microscope procedures and concepts. Students perform procedures in the different departments of the laboratory, including specimen collection and performance of CLIA 88 low and moderate complexity testing. Students demonstrate competency in the wide variety of specimen techniques used to collect, process and test specimens. Lecture 3 hours. Lab 2 hours.

Prerequisite corrected

CMA 1206 – Patient Care II (3)

Prerequisite: Admission to the Medical Assistant program and CMA 1202

This course focuses on expanding the knowledge and skills in Patient Care I. More complex and independent procedures performed by the medical assistant will be explored. This course addresses surgical procedures, physical therapy, principles of radiology, emergency procedures and pulmonary function testing, and includes the performance of an electrocardiogram. Lecture 2 hours. Lab 2 hours.

Prerequisite corrected

CMA 1207 – Practicum (4)

Prerequisites: Admission to the Medical Assistant program and CMA 1201, 1202, 1203, 1204, 1205 and 1206; ALH 1200, 1201 and 1202; and HECO 1202.

This course provides the opportunity to apply clinical, laboratory and administrative skills in a supervised, non-remunerated externship in a medical facility. Emphasis is placed on enhancing competence in clinical and administrative skills necessary for comprehensive patient care and strengthening professional communications and interactions. Upon completion, students should be able to function as entry-level health care professionals. Lab 12.5 hours.

Change in prefix, effective 6/1/2018

~~CRJS~~ CNS 1207 – Computer Forensics (3)

Prerequisites: CSCI 1101 with a grade of "C" or better or permission of the Dean; CNS 1212 with a grade of "C" or better or concurrent enrollment; successful completion of a criminal background check is required

This course will develop basic computer forensics skills necessary to uncover digital evidence in an organized and reportable manner. The course will provide a comparative study of information technology, evidence analysis, chain of custody and data retrieval. Students will have hands-on laboratory experience using computer forensic tools, evidence preservation techniques and documentation. Lecture 2 hours. Lab 2 hours.

Credit hour corrected

CNS 2200 – Emerging Technologies (4)

Prerequisites: CNS 1221 or consent of instructor

This course investigates Voice Over IP (VoIP) technology and emerging technologies. Standards, similarities and differences between traditional telephone networks and IP telephony, call set-up, equipment selection and installation will be covered. Students will have the opportunity to work on functional VoIP equipment and virtual machines. The course will offer a balance of lecture and lab experiments. Lecture 3 hours. Lab 2 hours.

Prerequisite corrected

ECE 1209 – Curriculum Lab (3)

Prerequisites: ECE 1206 and ECE 1210 (may be concurrent with consent of instructor) and 2.5 GPA. In addition, the student must pass a background check as required for DCFS.

This course provides an opportunity for the student to engage in practical experiences working with children. Students work in a laboratory setting where they plan and implement learning experiences with young children and provide care for the children. Lecture 1 hour. Lab 4 hours.

Prerequisite corrected

ECE 2209 – Practicum (4)

Prerequisites: Completion of 21 hours in Early Childhood Education, completion of ECE 1209 and 2.5 GPA. In addition, the student must pass a background check as required for DCFS.

This course provides an opportunity for the student to engage in practical experiences working with children. Students work in a supervised laboratory

setting where they plan and implement activities with children and provide quality care for the children. Lecture 1 hour. Lab 6 hours.

Currently existing class, added to catalog

EDUC 1107 – Diversity in Education (3)

This course explores the intersections between education, democracy and diversity in American schooling. It introduces students to key philosophical, sociological and political questions in education and asks students to critically examine the role of education in a diverse and pluralistic democracy. Students will examine the relationship between democracy and education, including how educational institutions and practices might be structured democratically. Students will develop an awareness of race, ethnicity, class, gender and other lines of difference, and explore how schooling might be structured in ways that build equity and justice. Lecture 3 hours.

Course description corrected

EMT 1601 – EMT Refresher (1.5)

Prerequisite: EMT licensure

This course is designed to review the principles and procedures for updating the EMT in current medical standards through study of current trends and issues. This course is based on the National Highway Traffic Safety Administration National Standard Curriculum. Lecture 1.5 hours. (Repeatable 3 times)

Course description corrected

EMT 1605 – Paramedic Refresher (2)

This course is designed to supply information required for the EMT Paramedics to maintain licensure. The course will incorporate lecture and demonstration/return demonstration of critical procedures. The course is based on the National Highway Traffic Safety Administration National Standard Curriculum. Lecture 1.5 hours. Lab 1 hour. (Repeatable 3 times)

Course description corrected

EMTP 1262 – Paramedic Services II (12)

Prerequisite: EMTP 1260, current Illinois EMT licensure / Corequisite: EMTP 1272

This course is designed to build upon the skills acquired during previous courses. Information provided deals with medical emergencies and special populations, including obstetrical and pediatric emergencies. Students will obtain experience in ECG interpretation, defibrillator use and medication administration. Lecture 9 hours. Lab 6 hours.

Prerequisite corrected

EMTP 1263 – Paramedic Services III (12)

Prerequisite: EMTP 1260. EMTP 1262, current Illinois EMT licensure, and CPR training / Corequisite: EMTP 1273

This course is designed to build upon the skills acquired during previous EMT courses. Information provided deals with physical examinations in the field, burns, shock and spinal, thoracic and abdominal trauma. Skills include making advanced life support ambulance runs. Lecture 9 hours. Lab 6 hours.

Prerequisite corrected

EMTP 1264 – Paramedic Services IV (6)

Prerequisite: EMTP 1260, EMTP 1262, EMTP 1263, and CPR training / Corequisite: EMTP 1274

This course is designed to build upon the skills acquired during the previous EMT courses. Information provided deals with emergencies involving the neurological, endocrine, gastroenterological, renal or hematopoietic systems, as well as clients with psychiatric and substance abuse disorders. Skills include defibrillation and performing phlebotomy. Lecture 5 hours. Lab 2 hours.

Prerequisite corrected

EMTP 1273 – Paramedic Clinical II (3)

Prerequisite: EMTP 1260, EMTP 1262, EMTP 1272 / Corequisite: EMTP 1263

This course is designed to meet the standards set by the state for clinical experience in intermediate life support ambulance runs. The student will integrate principles and skills learned in the classroom with hands-on experience in the field. The learning experience will be supervised by the employer with site visits by the college coordinator. Lab 11 hours.

Prerequisite corrected

EMTP 1274 – Paramedic Clinical III (3)

Prerequisite: EMTP 1260, EMTP 1262, EMTP 1263, EMTP 1273 / Corequisite: EMTP 1264

This course is designed to meet the standards set by the state for clinical experience in advanced life support ambulance runs. The student will integrate principles and skills learned in the classroom with hands-on experience in the field. The learning experience will be supervised by the employer with site visits by the college coordinator. Lab 11 hours.

Course name corrected

HEQT 1201 – Heavy Equipment Maintenance (4)

This course is designed to provide students with a study of the components and system operations related to heavy equipment technology. Included is a survey of the chassis, engine, brakes, transmissions, rear and front drives, transfer case drives, etc. Emphasis will be placed upon general maintenance and troubleshooting of heavy equipment. Lecture 1 hour. Lab 6 hours.

Change in credit hours, course description effective 7/1/2018

MFG 1200 – Manufacturing Employment Skills (5)

Manufacturing Employment Skills is designed to familiarize students with the processes, technology and systems of the manufacturing industry. Students will be expected to demonstrate necessary workplace skills required to be reliable, informed, dependable, safe, productive employee in industry. Topics include safety in the workplace, work ethics, work environment, manufacturing processes and equipment. Successful completion of this course, along with student assessment, may be used as an employee screening tool. Lecture 3 hours. Lab 4 hours (variable credit).

Change in credit hours, effective 3/1/2018

MIN 1210 – Introduction to Mining (3 2.5)

Students are introduced to mining as it exists in the world today. Emphasis is placed on creating a true and relatively complete picture of the mining industry with special concentration on the basics of practical mining from the viewpoint of health and safety. Lecture 3 hours.

Change in credit hours, effective 3/1/2018

MIN 1675 – Surface Mine Certification (.5-4)

This course is designed to be offered to only qualified individuals for the purpose of training him or her on the mandated requirements set forth by the State of Illinois. Up to 4 credit hours and 4 lab hours.

New course, effective 7/1/2018

UAS 1600 – sUAS / Test Prep / Flight (.5-2)

This course will examine current FAA guidelines on the flight of a sUAS in the National Airspace. This will include all applicable federal and state laws. This course will include a test preparation portion to ensure students have the knowledge to pass the required FAA Knowledge Exam with a sUAS rating. It also will include basic flight applications on a professional sUAS. Lecture 0.5-1 hour. Lab 0.5-2 hours.

New course, effective 3/1/2018

VET 1218 – Veterinary Practice Management (2)

Office practices used in a veterinar hospital, including OSHA regulation, invoices, inventory, estimate preparation, record keeping, legal issues, grief management and customer relations. Lecture 2 hours.

Change in prefix, effective 6/1/2018

~~WCT~~ CNS 2200 – Emerging Technologies (4)

Prerequisites: CNS 1221 or consent of instructor

This course investigates Voice Over IP (VoIP) technology and emerging technologies. Standards, similarities and differences between traditional telephone networks and IP telephony, call set-up, equipment selection and installation will be covered. Students will have the opportunity to work on functional VoIP equipment and virtual machines. The course will offer a balance of lecture and lab experiments. Lecture 3 hours. Lab 4 hours.

Change in prefix, effective 6/1/2018

~~WCT~~ CNS 2260 – Wireless LAN / WAN (4)

Prerequisite: CNS 1221 or consent of instructor

This course investigates wireless networking technology. Planning, designing, installing and configuring wireless networks will be covered. Coverage of IEEE 802.11b/a/g/n implementation, security and troubleshooting also will be addressed. The course will offer a balance of lecture and lab experiments. Lecture 3 hours. Lab 2 hours.

WITHDRAWN CLASSES

ADULT BASIC EDUCATION (ABE)

Courses are designed to develop reading, writing, speaking, math and other basic skills within an integrated curriculum that includes job skills such as teamwork, communication and locating information. The skills content is comparable to that taught in the first- through eighth-grades; however, the emphasis is on relevant and meaningful engaged learning opportunities and applications for adult learners. Credit is nontransferable and does not count toward any degree or certificate from Rend Lake College. Enrollment information and a complete listing of courses may be obtained from the Adult Education and Literacy Department. Lecture 1-16.5 hours.

AGRI 1100 – Biofuels (3)

The student is introduced to the general theory, production and uses of methane, ethanol and biodiesel. The laboratory experience will acquaint the student with nomenclature, production technique and quality control. Lecture 2 hours. Lab 2 hours.

AGRI 1224 – Intro to Ag Education (3)

This course is an introduction to the philosophies of education, career, and technical education. Lecture 3 hours. IAI ~ AG 911

AGRI 1225 – Intro to Ag Mechanization (3)

An introduction to agricultural power and machinery (engines, power transmissions including hydraulics, tillage machinery, calibrations, and harvesting equipment), agricultural electrification and applications (circuits, motors, and materials handling and processing), agricultural structures (sketches and drawing, loads, construction materials and layout design), and soil and water conservation (surveying, mapping, drainage and conservation structures). Lecture 3 hours. IAI ~ AG 906

AGRI 1282 – Feeds and Feeding (3)

This course is designed to expose the student to general nutrition concepts in animals. Emphasis is placed on ration formulation and the various feed ingredients used in economically balancing diets for various ages and classes of livestock. Topics discussed include energy, protein and vitamin and mineral nutrition. Lecture 3 hours.

ARCH 1201 – Architectural Materials and Methods I (5)

Through the use of architectural drafting, this course provides the student with a knowledge of current materials and methods of construction, their physical nature, adaptability and limitations. Lecture 3 hours. Lab 4 hours.

ARCH 1206 – Architecture Independent Study (4)

Course designed for students desiring a specialized study not available in regular course offerings. Projects must be planned jointly by the student and instructor. The maximum credit allowed is four semester hours. Lab 8 hours.

ARCH 1601 – Computer Applications ~ Architecture (1)

This course covers new computer software applications in architecture and related fields. Lecture 1 hour.

AUTO 1249 – Automotive Maintenance (5)

This course is a study of the operating systems of the modern automobile, preventive maintenance and troubleshooting procedures. Lecture 2 hours. Lab 6 hours.

AUTO 1604 – Small Gasoline Engines (1.5)

A course to develop a basic understanding of two- and four-cycle gasoline engines. Lecture 1 hour. Lab 1 hour.

AUTO 1608 – Auto Mechanics Review (3)

This course is designed for the professional automotive mechanic. It provides a review of eight major areas of automotive mechanics and should provide an excellent review for anyone planning to take the test for certification by the National Institute for Automotive Service Excellence. Lecture 3 hours.

AUTO 1609 – Small Engine Repair (2)

This course is for individuals wanting an understanding of the maintenance and service of two- and four-cycle small engines. Lecture 1 hour. Lab 2 hours.

BANK 1601 – Principles of Banking (3)

A comprehensive introduction to the diversified services offered by the banking industry. Topics include documents and language, deposit and teller functions, check processing, bookkeeping, loans and investments, accounting and profitability, regulation, personnel and bank services. Lecture 3 hours.

BANK 1603 – Law and Banking: Principles (3)

The course provides an overview of the legal aspects of banking and an understanding of how the legal system directly affects banks. Topics covered include the court system, consumer protection, negotiable instruments, secured transactions, partnerships and corporations, sales, commercial paper and bank transactions. Lecture 3 hours.

BANK 1606 – Money and Banking (3)

The course presents basic economic principles as they relate to banking. Areas examined include money and economic activity, financial intermediaries, money creation, the payments mechanism, the business of banking, Federal Reserve System, fiscal and monetary policy, monetary theory, policy goals and international banking. Lecture 3 hours.

BANK 1611 – Consumer Lending (3)

Prerequisite: BANK 1601

The course provides an overview of the consumer credit operation. Topics covered include credit risks, consumer credit policy, loan application, loan documentation, loan closings, servicing and collection of loans, consumer compliance and portfolio management. Lecture 3 hours.

BANK 1613 – Commercial Lending (3)

Prerequisite: BANK 1601

The course examines the role of the commercial lending function within the banking industry. Areas examined include the role of commercial banking in the U.S. economy; the analytical aspects of commercial lending to include the customer, products, pricing, support, documentation and analysis; funding risks, and the management of the commercial lending function. Lecture 3 hours.

CMTE 1205 – Construction Blueprints (3)

This course enables the student to have a working knowledge of blueprints used on construction sites. Contents include types of prints, interpretation of prints showing floor plans, footings, foundations, site plans, elevations and framing. Math review of fractions, decimals and metrics is included. Lecture 3 hours.

CNS 1213 – Computer Technologies (3)

This course will address the various system components of computers, utilizing Windows tools and utilities to view configuration information and manage computers, and the basics of networking computers. The course will offer a balance of lecture and virtual lab experiments. Lecture 2 hours. Lab 2 hours.

CNS 1218 – Networking Basics (2.5)

This course familiarizes students with computer networking systems. Students will develop the skills necessary to build small networks. The course also helps prepare students for the Cisco CCENT (Cisco Certified Entry Networking Technician) certification exam. Activities will offer a balance between classroom and laboratory work. Lecture 2 hours. Lab 1 hour.

CNS 1219 – Routers and Routing Basics (2.5)

Prerequisite: CNS 1218

This course develops those skills necessary to design, build, and maintain medium-size networks. The course also helps prepare students for the Cisco CCENT (Cisco Certified Entry Networking Technician) certification exam. Activities will offer a balance between classroom and laboratory work. Lecture 2 hours. Lab 1 hour.

CNS 1224 – Operating Systems (4)

This course will address nomenclature, internal and external commands, batch file construction, installation, and configuration for MS-DOS and Microsoft Windows. Emphasis will be placed on the current version of Microsoft's Operating System. This course will also introduce students to these operating systems with special emphasis on Windows installation, setup, modification, and optimization. Lecture 3 hours. Lab 2 hours.

CNS 1620 – Computer Networking Basics (.5)

This course will cover the basics of networking a Small Office / Home Office (SOHO). Topics include basic components of a network, types of networking hardware and designing a small network. Lecture .5 hour.

CNS 2221 – Intro to Communications (3)

Focusing on all aspects of telecommunications, this course provides a comprehensive overview of how information, including voice and data, travels throughout the world. A high-level overview of telecommunications, the technical aspects of the field, and applications in telecommunications will demonstrate the practical uses of telecommunications. Lecture 3 hours.

CNS 2224 – LAN Switching (4)

Prerequisite: CNS 1221

This course develops those advanced skills necessary to design, build and maintain small to medium-sized networks. The course will follow elements of the Cisco Certified Network Professional program. Activities will offer a balance between classroom and laboratory work. Lecture 3 hours. Lab 2 hours.

CRJS 1601 – Security Officer Training (3)

This course is designed to train security officers for positions in business and industry. Topics covered include conduct and ethics, crime prevention, law enforcement, criminal investigation, weapons and defensive tactics, routine services, hazardous duty and emergency services and interpersonal relations. Lecture 3 hours.

CRJS 2207 – Criminalistics (4)

The increasing application of scientific principles to difficult court cases has given rise to the general field of forensic science, or science applied to law. That particular area of forensic science which describes the services normally provided by crime laboratories is known as criminalistics. This course introduces the students to the various ways that a crime lab examines evidence in criminal cases. Lecture 3 hours. Lab 2 hours.

CRJS 2213 – Current Issues in Corrections (3)

This course offers incisive, expanded discussions on emerging issues and trends in contemporary American corrections. Problem areas which have attracted attention include: jail/prison overcrowding; violent prison gangs; correctional worker/inmate stress; capital punishment; AIDS/infectious diseases; suicide; jail/prison disorder and riots; recidivism; prisoner rights; privatization; treatment versus punishment, and the impact of technology. Debate format with scenario and role-play exercises. Lecture 3 hours.

CRJS 2215 – Firearms and Tactics for Corrections (2)

A study designed to acquaint students with the various firearms and tactics available to correctional personnel. Basic training skills will be taught when using a handgun, shotgun and rifle. The general and specific safety rules for handling firearms will be emphasized. The course will include in-depth analysis of the current legal guideline for the proper use of force when dealing with a dangerous and potentially dangerous adversary. Lecture 2 hours.

CRJS 2217 – Computer Forensics II (3)

Prerequisite: CRJS 1207; successful completion of a criminal background check is required

This course will develop the knowledge and skills necessary to use tools to recover forensic information from Internet artifacts and mobile devices. The course will provide students with scenarios, logical acquisition, and analysis of forensic data. Students will have hands-on laboratory experience using advanced computer forensic tools, evidence preservation techniques and documentation. Lecture 2 hours. Lab 2 hours.

CRJS 2222 – Crisis Management (3)

This course is an introduction to interpersonal skills and methods of handling a variety of security situations in a correctional facility. Emphasis will be placed on the analysis of problems, research that suggests probable solutions and the correct choice among a variety of alternative strategies. Crisis intervention techniques and stress management techniques also are included. Lecture 3 hours.

CSCI 1267 – Introduction to Game Programming (3)

Prerequisite: CSCI 1260 or consent of instructor

This course gives an introduction to the graphics and animation aspects of computer games. Initial focus is on graphics and animation techniques in standard Windows-based applications. Secondary focus covers the two standards of the gaming industry, DirectX and OpenGL. Lecture 2 hours. Lab 2 hours.

CSCI 1270 – Computerized Accounting (3)

This course is an introduction to software used for accounting information systems. Use of general ledger accounting software on the microcomputer, development of a computerized accounting information system and development of supporting software applications. Lecture 3 hours.

CSCI 1273 – Visual Presentation Software (2)

This course is designed to teach the student how to create visual presentations with various techniques. The course will focus on electronic slide presentation and desktop publishing software. The student will learn the commands necessary to create attractive and effective visual presentations. Lecture 1 hour. Lab 2 hours.

CSCI 1608 – Beginning Computers / Windows (.5-4)

Students will learn the basic fundamentals of computer operating systems using Windows. Lecture .5-4 hours. (Repeatable 3 times)

CSCI 1609 – Intermediate Computers / Windows (.5-4)

Prerequisite: Beginning Computers / Windows Introduction or equivalent experience

Students will broaden their knowledge of computer operating systems using Windows. Lecture .5-4 hours. (Repeatable 3 times)

CSCI 1613 – Intermediate Microsoft Word (.5-4)

Prerequisite: CSCI 1612 or equivalent experience

Students will broaden their knowledge of word processing. Lecture .5-4 hours. (Repeatable 3 times)

CSCI 1614 – Advanced Microsoft Word (.5-4)

Prerequisite: CSCI 1613 or equivalent experience

Students will broaden their knowledge of word processing. Lecture .5-4 hours. (Repeatable 3 times)

CSCI 1615 – Microsoft Word Macros (.5)

Prerequisite: Equivalent experience or coursework

Students will broaden their knowledge of word processing macros. Lecture .5 hour. (Repeatable 3 times)

CSCI 1618 – Advanced Microsoft Excel (.5-4)

Prerequisite: CSCI 1617 or equivalent experience

Students will broaden their knowledge of spreadsheets. Lecture .5-4 hours. (Repeatable 3 times)

CSCI 1619 – Microsoft Excel Macros (.5)

Prerequisite: Equivalent experience or coursework

Students will broaden their knowledge of spreadsheet macros. Lecture .5 hour. (Repeatable 3 times)

CSCI 1620 – Beginning Microsoft PowerPoint (.5-4)

Students will learn the fundamentals of presentation graphics software. Lecture .5-4 hours. (Repeatable 3 times)

CSCI 1623 – Intro to Computer Keyboarding (1)

This course offers basic instruction on the computer keyboard. Students needing to operate a computer keyboard achieve basic skills which will allow them to input information into a computer using the proper keyboarding techniques. Lecture 1 hour. (Repeatable 3 times)

CSCI 1624 – Computer Basics: Getting Started (.5-4)

Students will learn the basics of operating a computer using Microsoft Windows and Microsoft Word. Lecture .5-4 hours. (Repeatable 3 times)

CSCI 1625 – Beginning Microsoft Access (.5-4)

Students will learn the basic operations of databases. Lecture .5-4 hours. (Repeatable 3 times)

CSCI 1626 – Intermediate Microsoft Access (.5-4)

Prerequisite: CSCI 1625 or equivalent experience

Students will broaden their knowledge of databases. Lecture .5-4 hours. (Repeatable 3 times)

CSCI 1627 – Advanced Microsoft Access (.5-4)

Prerequisite: CSCI 1626 or equivalent experience

Students will broaden their knowledge of databases. Lecture .5-4 hours. (Repeatable 3 times)

CSCI 1630 – Beginning Microsoft Outlook (.5-4)

Students will learn the fundamentals of information and time management programs. Lecture .5-4 hours. (Repeatable 3 times)

CSCI 1631 – Intermediate Microsoft Outlook (.5-4)

Prerequisite: CSCI 1630 or equivalent experience

Students will broaden their knowledge of information and time management programs. Lecture .5-4 hours. (Repeatable 3 times)

CSCI 1632 – Teaching Online with Blackboard (.5)

This course is designed to expand the knowledge of instructors with regards to teaching online, blended, or Blackboard-enhanced courses. Blackboard is a course management system used by Rend Lake College to offer online courses and improve face-to-face courses with electronic content. Topics include distribution of materials via the Web, organizational and layout techniques, receiving and

grading assignments electronically, administering online tests, using the Blackboard grade book, and how to create a productive online class. Lab 1 hour.

CSCI 1634 – Computer Basics: Internet & Email (.5-4)

Students will learn the basics of utilizing the Internet and email. Lecture .5-4 hours. (Repeatable 3 times)

CSCI 1657 – Visual Basic Introduction (1)

Students will learn fundamentals of programming Windows applications utilizing Visual Basic. Lecture 1 hour.

CSCI 1658 – Visual Basic Intermediate (1)

Students will learn techniques involved in creating multiple forms, dialog boxes, coding events, and debugging. Lecture 1 hour.

CSCI 1659 – Computer Programming Fundamentals (.5-4)

This course is designed to meet the needs of student groups that have different backgrounds in programming. The level of detail that is covered in the class will be adjusted to meet the needs of the student group. Beginning student groups will cover the basic concepts that are required of a computer programmer. More advanced student groups will cover a greater amount of material and more sophisticated programming concepts. The programming language that will be utilized will be dependent upon the needs of the student group. Students will be allowed to participate in more advanced sections of the course for a total of three times. Lecture .5-4 hours. (Repeatable 3 times)

CSCI 1665 – Beginning Microsoft Publisher (.5-4)

Students will learn the fundamentals of desktop publishing. Lecture .5-4 hours. (Repeatable 3 times)

CSCI 1666 – Beginning Web Page Design (.5-4)

Students will learn to create and edit web pages. Lecture .5-4 hours. (Repeatable 3 times)

CSCI 1667 – Intermediate Web Page Design (.5-4)

Prerequisite: CSCI 1666 or equivalent experience

Students will broaden their knowledge of creating and managing a visually pleasing and easy-to-navigate Web site. Lecture .5-4 hours. (Repeatable 3 times)

CSCI 1668 – Intermediate Microsoft Publisher (.5-4)

Prerequisite: Beginning Microsoft Publisher or equivalent experience

Students will broaden their knowledge of the fundamentals of desktop publishing. Lecture .5-4 (Repeatable 3 times)

CSCI 1686 – HTML Introduction (.5)

Prerequisites: Introduction to Windows and Introduction to the Internet. Students should be able to manage multiple windows, copy and paste material from one document to another, and be familiar with the Windows interface.

Students will be introduced to the basics of creating web pages using HTML. Lecture .5 hours.

CSCI 1687 – HTML Intermediate (.5)

Students will be introduced to additional features of the HTML language. Lecture .5 hours.

CSCI 1688 – Programming Concepts (.5)

Students will learn fundamentals of programming to write simple programs through study of common programming structures and languages. Lecture .5 hours.

CSCI 1693 – Beginning Internet (.5-4)

Prerequisite: Beginning Computers/Windows or equivalent experience

Students will learn the fundamentals of using the Internet. Lecture .5-4 hours. (Repeatable 3 times)

CSCI 1695 – Beginning Photoshop (.5-4)

Students will learn the basics of image manipulation and enhancement; creating/transforming layers; working with colors and color settings; common tools and shortcuts; and modifying photographs. Lecture .5-4 hours. (Repeatable 3 times)

CSCI 1697 – Scanner & Digital Cameras (.5)

Students will be introduced to scanner technology including the basics of hardware and software functions. Lecture .5 hour.

CSCI 2103 – COBOL Programming I (3)

Prerequisite: CSCI 1104 or consent of the instructor

The student will solve business-oriented problems using the COBOL programming language. Content will include basic input/output procedures, arithmetic operations, editing output, basic logic operations and control break processing. Lecture 3 hours.

CSCI 2105 – COBOL Programming II (3)

Prerequisite: CSCI 2103

In a continuation of CSCI 2103, COBOL will be studied in greater depth and the use of both sequential and direct magnetic files will be emphasized. Indexed sequential and direct files will be created and used. Specialized techniques will be examined through an extensive project simulating actual business applications. Lecture 3 hours.

CSCI 2109 – Assembly Language Programming (3)

Prerequisite: CSCI 2104

This course is an introduction to computer organization using assembly language. Macros, interrupts, various addressing techniques, the assembly process and machine instructions will be covered. Binary and hexadecimal systems are studied to gain an understanding of internal data representation. Lecture 3 hours.

CSCI 2205 – Basic Computer Maintenance & Support (3)

Prerequisites: CSCI 1101

This course will prepare students to serve in the capacity of office support specialist. Topics include the installation of microcomputers and peripheral equipment, loading software, testing systems and diagnosing problems, making minor equipment repairs and assisting users in troubleshooting and reporting problems. Lecture 2 hours. Lab 2 hours.

CSCI 2207 – Networking (3)

Survey course in network management that provides the foundation of the theory and design of Local Area Networks (LANs), including hands-on experience using a current network operating system. Topics include network topologies, standards and protocols and LANs as nodes in larger networks, directory structures, system security, installing software, creating users and user groups, working with files, system utilities and services, printing, menus and login scripts. Students must be knowledgeable of computer systems and computer terminology. Lecture 3 hours.

CSCI 2211 – Basics of Electronic Commerce (3)

This course is an introduction to the economic foundations of electronic commerce, an exploration of technologies and infrastructures necessary to support electronic commerce and business strategies and basic web page design considerations to effectively implement electronic commerce. Lecture 3 hours.

ELEC 1230 – Fundamentals of Direct Current Electricity (3)

This course acquaints the student with direct current electrical theory. It covers symbols and has students hook up circuits from schematic diagrams. Students learn to use various electrical testing instruments while testing circuits. Lecture 2 hours. Lab 2 hours.

ELEC 1231 – Electrical Blueprint Reading (2)

Prerequisite: ELEC 1230

This course includes a study of conventional and solid-state components and symbols. Emphasis is on analysis of fundamental industrial wiring diagrams and schematics. Lecture 2 hours.

ELEC 1236 – Electrical Law for Surface and Underground Coal Mining (2.5)

This course provides approved instruction that will allow the student to attain a satisfactory grade on each of the four written MSHA examinations on Federal Laws for underground and/or surface coal mine electricians. Lecture 2.5 hours.

ELEC 1240 – Basic Electricity for Manufacturing (3)

This course prepares individuals to apply electrical principles and technical skills in support of manufacturing using automated systems. Includes system safety, transducers, input elements, output devices, AC / DC motors, solenoids, actuators, control theory, measurements and controllers. Lecture 2 hours. Lab 2 hours.

ELEC 1260 – Electrical Qualification Course (Surface and Underground) (6)

Course provides electrical instruction approved by the Mine Safety and Health Administration leading to qualification as an underground or surface coal mine electrician. Lecture 5 hours. Lab 2 hours.

ELEC 1601 – Basic Electricity (1)

This course is for the student desiring an introduction to the basics of electrical current transmission, electrical branch circuit wiring methods and grounding. It emphasizes application of basic electrical principles to residential installations. It is not intended to train installers or electricians. Lecture 1 hour.

ELEC 1602 – Intermediate Electricity (1)

This course will be a review and continuation of ELEC 1601. It will review Ohm's Law, electrical terms and the electrical code. This course will emphasize service entrance installation, load requirements of different buildings, electric motors and controls for the motors. Lecture .5 hour. Lab 1 hour.

ELEC 1621 – Electrical Qualification Retraining ~ Surface (.5)

Prerequisite: Student must hold current MSHA electrical card (surface)

This course is approved and required by the Mine Safety and Health Administration (MSHA) for annual electrical qualification retraining (surface). Lecture .5 hour.

ELEC 1630 – Surface Electrical Qualification (1)

Prerequisite: Qualification for underground electrician

This course is a training plan for qualified underground electricians, enabling them to receive their surface electrical qualification. Lecture 1 hour.

ELEC 1650 – Introduction to the National Electric Code (.5)

This course gives students a basic idea of NEC construction and content. The course will cover the more common sections of the Code dealing with general requirements, wiring and protection, wiring methods and materials and equipment for general use. Lecture .5 hour.

ELEC 2236 – Fundamentals of A.C. Electricity (3)

Prerequisite: ELEC 1230

This course is the study of alternating current theory, components and circuits. Alternating current and direct current motors and electrical wiring will be covered in a general way. Lecture 2 hours. Lab 2 hours.

ELEC 2690 – Conventional and Solid State Equipment (.5)

This course provides information on the identification and solving of special problems in electrical systems of the coal mining industry. Special emphasis will be placed on conventional and solid state equipment. Lecture .5 hour.

EMT 1602 – Health Care Trends (1.5)

This course deals with issues related to the health care system, trends for the future, current developments in programs and research, ethical and legal considerations and responsibilities of the health care team. Lecture 1.5 hours. (Repeatable 3 times)

EMT 1607 – A & P for EMS Professionals (1)

This course is designed for the continuing education of emergency medical professionals to review and upgrade knowledge as well as skills related to anatomy and physiology in the pre-hospital environment. Lecture 1 hour.

EMT 1608 – Preparatory Needs for Patient Care (1)

This course is designed for the continuing education of emergency medical professionals to review and upgrade knowledge as well as skills related to preparatory needs for patient care. Lecture 1 hour.

EMT 1609 – Pathophysiology for EMS Professionals (1)

This course is designed for the continuing education of emergency medical professionals to review and upgrade knowledge as well as skills related to pathophysiology in pre-hospital care. Lecture 1 hour.

English As a Second Language (ESL)

Beginning, intermediate and advanced instruction in the reading, writing and speaking of English and in the American governmental legislative system for persons whose native language is not English. Credit is nontransferable and does not count toward any Rend Lake College degree or certificate. Enrollment and course schedule information is available from the Adult Education and Literacy Department. Lecture 1-9 hours.

FLPR 1240 – Fluid Power for Manufacturing (3)

A hydraulic and pneumatic course designed for workers, supervisors and managers in manufacturing industries. This course will acquaint the student with fluid power theory, components, circuitry and control systems used in manufacturing. Preventive maintenance, troubleshooting procedures and safety practices are emphasized. Lecture 2 hours. Lab 2 hours.

GFM 1201 – Planning & Development of Green Facilities (4)

Using the life cycle of materials and energy to understand how facilities are managed and operated through green techniques from new construction, retrofitting existing structures, and surrounding sites. Lecture 2 hours. Lab 4 hours.

GFM 1202 – Building Automation & Control Systems (4)

The course will provide the student a broad introduction to the specific issues involved with Building Automation Systems (BAS). You will explore the processes which occur at every level in the air conditioning industry, including digital controls, energy conservation control strategies and system maintenance. Lecture 2 hours. Lab 4 hours.

GFM 1203 – Energy Modeling of Buildings (4)

Methods used to evaluate, choose, use, calibrate, analyze and interpret the results of energy modeling software when applied to building and systems energy performance and economics competence to model new and existing buildings and systems with their full range of physics, environmental issues and orientation. Lecture 2 hours. Lab 4 hours.

GMF 1204 – Green Landscape & Grounds Management (4)

Methods to save energy, lower water consumption and maximize available resources in developing eco-friendly and aesthetically pleasing environments. Techniques in managing both products and their grounds care department use. Lecture 2 hours. Lab 4 hours.

HACR 1210 – Federal Clean Air Act – Section 608 (1)

The purpose of this course is to prepare the student for the Federal Clean Air Act – Section 608 examination. This examination is required for all persons who maintain, service, repair or dispose of equipment containing regulated refrigerants. Lecture 1 hour.

HACR 1607 – Section 608 Certification (.5)

This course is an eight-hour class to prepare students for the mandatory certification under Section 608 of the Federal Clean Air Act. The material is designed to prepare the student for the test on Section A; General Knowledge, Type I, Type II, Type III and Universal certification. A general knowledge of refrigeration is required before attempting this course. Lecture .5 hour.

HEQT 1204 – Introduction to the Service Industry (2)

This course is designed to provide students with a solid background in the various skills needed for success in heavy equipment technology industry. This course provides instruction and laboratory experience in shop safety, shop operation and how to obtain service information. Lecture 1 hour. Lab 2 hours.

HEQT 1205 – Basic Internal Combustion (4)

The principles of compression ignited internal combustion engines are taught and variations in design are discussed. Heavy equipment engines are used for laboratory disassembly and assembly. Lecture 1 hour. Lab 6 hours.

HEQT 1206 – Diesel Engine I (4)

This course introduces the procedure for complete diesel engine rebuild. It also includes a discussion of combustion chamber types, major components and component disassembly inspection, and repair. Lecture 1 hour. Lab 6 hours.

HEQT 1207 – Fundamentals of Hydraulics (3)

This course is a practical study of the basic principles and components of hydraulic circuits and the application of these principles to heavy equipment competencies in the areas of servicing and maintaining hydraulic equipment. Laboratory practices include disassembly and reassembly of components and tracing circuits. Lecture 2 hours. Lab 2 hours.

HEQT 2201 – Diesel Engine Performance (4)

Prerequisites: HEQT 1206 and HEQT 1211 or consent of Dean.

A course to provide a thorough understanding of the necessary diagnostic skills required for troubleshooting heavy equipment engines and fuel systems. Emphasis will be placed upon knowledge and skills necessary to assure product reliability and performance. This course is a continuation of HEQT 1206 Diesel Engine I and HEQT 1211 Engine Fuel Systems and will build upon the fundamentals learned in these courses. Lecture 1 hour. Lab 6 hours.

HEQT 2202 – Machine Systems - Hydraulics (3)

Prerequisites: HEQT 1207 and HEQT 1208 or consent of Dean.

This course is designed for inspecting, testing, servicing and diagnosing heavy equipment basic hydraulic systems. This course is a continuation of HEQT 1207 Fundamentals of Hydraulics and HEQT 1208 Fundamentals of Machine Electronics. Lecture 1 hour. Lab 4 hours.

HEQT 2206 – Machine Specific Systems (4)

This course is designed to develop knowledge and skills used to test and adjust specific heavy equipment machine systems. Lecture 1 hour. Lab 6 hours.

HEQT 2210 – Supervised Occupational Experience (4)

Prerequisites: Approval from Dean and minimum 2.0 GPA

This course is offered in the summer for eight weeks following the third semester of the program. The student will be placed with a heavy equipment business for full-time job placement. The learning experiences will be supervised by both the college coordinator and the employer. The student trainee will receive vocational counseling and individual assistance. Special attention will be given to career planning, on-the-job problems and current business practices. Lab 20 hours.

INEL 1231 – AC / DC Electronics (5)

This course is an introduction to basic AC and DC electronics, including relationships of voltage, current, resistance and power to components and circuits. Measuring and troubleshooting principles with AC/DC instruments will be applied. Lecture 3 hours. Lab 4 hours.

INEL 1241 – Digital Electronics (5)

This course provides instruction and experience with binary and hexadecimal number systems, binary codes and numerous digital gates and circuits, such as flip-flops, counters, shift registers, decoders, multiplexers and other digital circuitry. In addition, the course provides circuit design techniques and digital applications. Lecture 3 hours. Lab 4 hours.

INEL 1290 – Electricity / Electronics Troubleshooting (3)

This course exposes the student to basic DC/AC theory, circuits, electrical math, and components. Hands-on and troubleshooting are stressed. Lecture 2 hours. Lab 2 hours.

INEL 1601 – D.C. Electronics (1)

This course is designed to introduce students to the basic concepts of Direct Current Electronics, components, circuits, theories and laws. Lecture 1 hour.

INEL 1602 – A.C. Electronics (1)

This course is designed to introduce students to the basic concepts of Alternating Current Electronics, components, circuits, theories and laws. Lecture 1 hour.

INEL 1603 – Introduction to Digital Electronics (1)

An introduction to the world of digital electronics, with an emphasis on basic fundamentals of the subject. Lecture 1 hour.

INEL 1604 – A/C Fundamentals (3)

This course is designed for those interested in exploring Alternating Current applications to electronics. Components and circuits will be covered. A/C motors and motor characteristics also will be covered. Lecture 2 hours. Lab 2 hours.

INEL 1605 – D/C Fundamentals (3)

This course is designed for those interested in exploring Direct Current Electricity applications to electronics. D/C theory will be covered and students will learn to use various electrical testing instruments. Lecture 2 hours. Lab 2 hours.

INEL 1621 – Introduction to Electronics (2)

This course introduces semiconductors, printed circuit boards, components, amplifiers, power supplies, operation amplifiers, oscillators, logic circuits and troubleshooting methods. Lecture 1 hour. Lab 2 hours.

INEL 1622 – Microprocessor Interfacing and Application (4)

This course reviews the 6800 microprocessor and investigates interfacing methods. Digital-to-analog and analog-to-digital converters are studied. Various sensors, transducers, stepper motors and phase-locked loops experiments will be conducted. Lecture 3 hours. Lab 2 hours.

INS 1620 – Insurance and Licensure Review (.5)

This course provides the analysis and solution of problems encountered in automobile travel and transportation. License renewal requirements and procedures, dynamics of traffic, compensation of reaction time, specific traffic laws in the State of Illinois and the changes of driving calisthenics with an aging society will be presented. Automobile insurance issues regarding safety analysis and planning will be the emphasis. Lecture .5 hour. (Repeatable 2 times)

IST 1200 – Introduction to Industrial Technology (3)

This course covers the principal power systems used in industry. Applied physics in the context of principles such as force in mechanical systems, fluid systems, electrical systems and thermal systems will be covered. Lecture 2 hours. Lab 2 hours.

IST 1601 – Industrial Fire Control (.5)

Designed to prepare employees of local industrial firms in awareness of fire potential and techniques and procedures in handling fire emergencies as they might occur at the work site. Lecture .5 hour.

IST 1605 – Special Topics on Precision Products (4)

Hands-on experience with selected electronic components and devices found in industry, including switching gears, motors and microprocessors. Lecture 2 hours. Lab 4 hours.

IST 1610 – Robotics and Automation (2)

This course provides a picture of computer-integrated manufacturing found in industry today. The hardware and software of the course is reviewed and an audiovisual introduction to Robotics and Automation is included. The course introduces the computer as well as basic robotic terminology and includes a basic training robot. Robotic concepts of degrees of freedom, work envelops, axis of motion and coordinate systems are discussed. Accessories with the basic training robot allow for practical exercises that demonstrate these concepts. Lecture 2 hours.

IST 1620 – Electronic Devices (2)

Prerequisite: IST 1610

This course discusses basic concepts of electronics with related mathematics and physics. The concept of electric current and basic calculation of current, voltage, resistance, power and impedance are shown, and it introduces the ideas and symbols of basic logic gates. Hands-on exercises include simulation of logic gates as well as setting up and testing for specific inputs and outputs. Lecture 2 hours.

IST 1630 – Industrial Robotics (2)

Prerequisite: IST 1620

This course introduces the Industrial Training Robot (a robot similar to those used in industry today) and a computer-controlled interface unit. It enables experimentation with sensors and other input sources in conjunction with the interface unit. It also describes drive systems and the computer control of those systems. The hands-on exercises use various devices, including proximity sensors, photoelectric sensors and actuators, and it teaches the setting of inputs and outputs with the computer. Other exercises include using the computer to control stepper motors and pneumatic cylinders, driving and programming the robot, editing a program and programming the robot to carry out a sub-routine. Point-to-point programming and speed and repeatability also are discussed. Analog and digital signals and their conversion systems are presented. Lecture 2 hours.

IST 1640 – Robotic Applications (2)

Prerequisite: IST 1630

This course is an accumulation of all the information learned in the other 1600-level Industrial Service Technology courses. This course discusses information technology within the manufacturing industry. Information on safe robot usage, factory layout, material flow and robot reliability also are discussed. Hands-on experience consists of combining the interfacing control editor and its associated output devices with the Industrial Training Robot on an industrial simulator. Lecture 2 hours.

IST 1650 – HAZ/MAT: Hazardous Materials Technology (.5-4)

An introduction to Hazardous Waste Operations and Emergency Response (HAZWOPER) Training for the Hazardous Materials Technician. Content includes an introduction to and characteristics of hazardous materials, risk assessment, the basics of toxicology, exposure limits and emergency response organization. Chemical, physical and biological hazards will be discussed along with the basics. Both general and fire safety, air monitoring, spill control,

decontamination and equipment use in handling emergencies associated with hazardous materials will be covered. In-plant emergency response personnel, firefighters and others with emergency response responsibilities should benefit. Lecture .5-4 hours.

IST 1660 – HAZ/MAT: General Site Worker (2.5)

This course addresses hazardous waste operations and emergency response health and safety training for general site workers. It includes an introduction to HAZWOPER, industrial hygiene and toxicology, hazardous evaluations, radiation exposure, protective equipment and respiration. Air monitoring, instrumentation, site control, decontamination and hazards in confined spaces also will be covered. It is intended for those working at uncontrolled hazardous waste sites. Lecture 2.5 hours.

IST 1665 – Hazardous Materials: Annual Review (.5)

An annual refresher course for workers who need to maintain certification to work with potentially hazardous materials at work on sites where the hazard may exist. Topics covered will include regulatory review and changes, site safety, respiratory protection, confined spaces, chemical protective clothing and a review of basic standard operating procedures. Lecture .5 hour.

IST 1670 – Industrial Safety (1.5)

This course offers an in-depth look at methods and ideas to prevent personal injury and property damage in a variety of workplaces. Lecture 1.5 hours.

IST 1672 – Light Equipment Operation (.5)

This course is designed to instruct students from a variety of industrial settings on methods and ideas to prevent personal injury or property damage when operating light industrial equipment. This course is suitable for both initial and refresher training. Lecture .5 hour.

IST 1675 – Statistical Process Control (1)

This course is designed to familiarize industrial workers and supervisors with Statistical Process Control concepts of quality control. Lecture 1 hour.

IST 2264 – Advanced Blueprint Reading (1-3)

This course is a continuation of ELEC 1231 which includes advanced blueprint reading relative to industrial equipment and systems. Lecture 1-3 hours (variable credit).

MFG 1206 – Introduction to Manufacturing (3)

This course will focus on an introduction to manufacturing, with emphasis on product design, applications and the human factor. A majority of the course will be presented in a hands-on format using several manufacturing processes, including molding, foundry processes and milling. Lecture 2 hours. Lab 2 hours.

MFG 1211 – Industrial Metrology (3)

This course gives individuals an introduction to the methods and equipment used in industrial measurement and inspection. Includes destructive and nondestructive testing, optical devices, vernier calipers, micrometers, lasers, measuring techniques and standards. Lecture 2 hours. Lab 2 hours.

MFG 1225 – Introduction to Computerized Control (3)

This course studies the use of computer controls which directly affect the manufacturing process. Computerized controls which track, monitor or govern the product and inventory, preventive maintenance, statistical process and machine operation will be covered. Lecture 2 hours. Lab 2 hours.

OFTC 1205 – Building Keyboarding Speed & Accuracy III (1)

Prerequisite: OFTC 1204 with "C" or better

This course is designed for students to improve keystroking speed and accuracy through timed copy analysis, goal-setting and corrective drill practice using skillbuilding software. Students should type a minimum of 65 words per minute for five minutes, with five or fewer errors, by the end of the semester. Lab 2 hours.

OFTC 1610 – Data Entry Training (1)

Prerequisite: Consent of instructor

The course is designed to teach the student the basics about data entry procedures. The student will learn data entry skills as well as upgrade existing keyboarding and proofreading skills. The importance of good work ethic skills will also be covered. Lecture .5 hour. Lab 1 hour.

OFTC 1211 – Speed Writing (2)

This course is designed for students who wish to develop note-taking skills for personal or business use. This system utilizes the alphabet in conjunction with normal writing styles. Lecture .1 hour. Lab 2 hours.

OFTC 1284 – Medical Insurance Processing (3)

Prerequisite: OFTC 1280 with "C" or better

The course is designed to teach students how to process medical insurance forms by abstracting information from patients' records. Emphasis is placed on ICD-9-CM and CPT-4 coding. Lecture 3 hours.

OFTC 1285 – Coding (5)

Prerequisite: OFTC 1280

An introduction to concepts of ICD-9-CM and CPT, the medical classification systems used in the United States for the collection of information regarding disease and injury. Lecture 5 hours.

OFTC 2292 – Cooperative Experience II (3)

Prerequisite: OFTC 2291 with a "C" or better and consent of the instructor

This course is a continuation of OFTC 2291. Lab 15 hours.

ONGT 1200 – Introduction to the Petroleum Industry (1)

This course provides an overview of the oil and gas industry, focusing on the procedure for extracting oil and gas from the underground source. Students will be introduced to basic oil and gas field concepts and will explore the multitude of career options available in this ever-changing and growing industry. Lecture 1 hour.

ONGT 1201 – Oil and Gas Production I (3)

Prerequisite: ONGT 1200

This course consists of the study of the principles of drilling methods and drilling systems, including drilling fluids, bit programs, casting and cementing, well control and drilling data analysis. Student will explore many issues related to conventional well development and specialty applications, including horizontal drilling. Emphasis will be placed on the applications of new technology. Lecture 2 hours. Lab 2 hours.

ONGT 1202 – Artificial Lift Systems (3)

Prerequisite: ONGT 1201

This course is designed to provide an introduction to the different methods associated with petroleum production, natural flow and artificial lift. The student also will develop skills and competency in lease layouts and specific recovery methods, such as water flooding, chemical flooding, thermal processes and CO2 injections. Lecture 2 hours. Lab 2 hours.

ONGT 1203 – Oil and Gas Production II (3)

Prerequisites: ONGT 1200 & 1201

This course is a continuation of ONGT 1201 – Oil and Gas Production I. It will familiarize the students with the duties of an oil and gas technician. Topics covered include: natural gas treatment; dehydration and compression systems and equipment; auxiliary systems and equipment; artificial lift and enhanced recovery techniques; pumping and transportation systems; well completion; and safety, health and environmental consideration relative to the field of oil and gas production. Lecture 2 hours. Lab 2 hours.

ONGT 1204 – Oil and Gas Production Equipment (2)

Prerequisite: ONGT 1201 or concurrent enrollment

This course reviews the fundamentals and operating considerations of process equipment and processes, including valves, piping, vessels, positive displacement and centrifugal pumps, reciprocating and centrifugal compressors, steam turbines, motors, heat transfer equipment, cooling towers, boilers, furnaces and process flow diagrams. This course develops theory as well as mechanics of plant equipment. Lecture 2 hours.

ONGT 2201 – Petroleum Refining (4)

This course studies the origin, exploration and physical properties of petroleum. Review of the production process along with stabilization and storage of petroleum are discussed. The explanation of physical refining processes like thermal and catalytic conversions, starting with distillation; catalytic cracking, alkylation, reformation and isomerization are described in a very comprehensive way. Treating processes, as well as other auxiliary operations of particular importance for the process of petroleum refining, are reviewed. Laboratory activities mainly concentrate on petroleum products testing. Lecture 3 hours. Lab 2 hours.

ONGT 2202 – Oil and Gas Well Mapping and Logging (3)

Prerequisites: GEOL 1101 and SURV 1205

This course is designed to provide an in-depth exploration of the geological processes which create oil and gas resources in sedimentary rocks. Specific techniques used in the oil and gas industry for locating and extracting oil and gas reserves will be studied, as well as the environmental impacts caused by

their development. An understanding of the limited nature of fossil fuels will be encouraged. Lecture 2 hours. Lab 2 hours.

ONGT 2203 – SafeLand USA Training (2)

This course is a study of ideas and methods for preventing personal injury and property damage specific to the oil and gas industry and provides instructions in safety, ethics and responsibilities for entry-level personnel. Lecture 2 hours.

ONGT 2210 – Supervised Occupational Experience (3)

Prerequisites: Approval of Dean and minimum 2.0 GPA

This is eight weeks of employment experience working in the petroleum and natural gas industry. The student will be employed in a business. The college coordinator and the employer will supervise the learning. The student will use his or her education to demonstrate knowledge in the subject area. The student will receive technical counseling and individual assistance through this transition. Lab 6 hours.

PREP 1801 – The Federal and Illinois Constitution (.5)

This course is designed to prepare students for the Federal and Illinois Constitution Test as required by Illinois state law in order to receive the GED certificate. Lecture .5 hour.

QUAL 1201 – Procurement Quality Control (3)

This course presents a systematic and complete description of the basic principles involved in vendor-vendee relationships and provides guidelines which can aid in the control of quality at the buyer-seller interface. Lecture 3 hours.

QUAL 1202 – Industry Standards & Radiation Protection (4)

An overview of standards and regulations procurement personnel must deal with on a daily basis to insure quality of the products and services they purchase for their industry. Lecture 4 hours.

QUAL 1203 – Introduction to Quality Control (3)

This course gives individuals an introduction to the methods for establishing and maintaining industrial quality control. Includes the procurement process, statistical methods, histograms, Pareto diagrams, control charts, acceptance sampling, process capability, reliability and in-process inspection principles. Lecture 3 hours.

QUAL 1601 – Quality Control Statistical Methods (.5)

Organization and methods for establishing and maintaining industrial quality control. Includes statistical methods, cost analysis and control techniques, and final and in-process inspection principles and techniques. Lecture .5 hour.

SDGB 1201 – Foundations of Sustainable Building Design (3)

The purpose of these course is to provide the student with an understanding of why sustainable design of buildings is so important for our future and how it can have a global impact. It will prepare those who would like to lead more sustainable lives and be stewards of the earth. This course also will assist in the preparation for those planning to take the Leadership in Energy and Environmental Design (LEED) exam. Lecture 3 hours.

SDGB 1202 – BIM & Sustainable Design (4)

Building information modeling merged with sustainable design allows for complex processes, formerly too labor-intensive and expensive, to be performed. Complete collection of techniques merging data to design via digital application. Lecture 2 hours. Lab 4 hours.

SDGB 1203 – Sustainable Landscape Design (3)

Obtain understanding in sustainable techniques, methods and elements working in unison to create a landscape which is responsive to the environment, regenerative and actively contributes to a health community. Lecture 2 hours. Lab 2 hours.

SDGB 1204 – Sustainable Design & Construction Project (4)

Techniques and application of sustainable elements (passive and active) through design projects / requirements and construction (built environment) phase. Informative design decisions based upon analysis, research and sustainable knowledge applied to physical testing and construction. Lecture 2 hours. Lab 4 hours.

SURV 1205 – Introduction to Mapping and Geographic Information Systems (3)

This is an introductory course that will explore the art and science of map making focusing on Geographic Information Systems (GIS). This course will examine the history and uses of maps as well as how computer software and hardware currently play a vital role in their development. Global Positioning Systems, remote sensing and aerial photogrammetry will be discussed, as well as how they relate to GIS with application into the fields of natural resource management, city planning, scientific research and business applications. Lecture 2 hours. Lab 2 hours.

SURV 1601– Foundations and Application of Geographic Information Systems (1)

By alternating lecture and hands-on assignments , students will learn and apply the basics of GIS, including geographic principles, ethics and accountability in map making, cartographic design, databases and computer information systems. Class activities will involve small independent mapping projects as well as creating and compiling data to make a final map project. Lab 2 hours.

SURV 2201 – Engineering Surveying (4)

Upon completion of this course, the student will be able to provide line and grade construction layout using tape, level and transit. Lecture 2 hours. Lab 4 hours.

SURV 2210 – GIS / GPS Concepts and Applications (3)

This course is designed to introduce Geographic Information Systems (GIS) and Global Positioning Systems (GPS) in the form of classroom curriculum and hands-on training. Topics include basic GIS concepts, basic GPS concepts, mapping data input and analysis. Lecture 2 hours. Lab 2 hours.

THM 1201 – Introduction to Therapeutic Massage (2)

Prerequisite: Acceptance into program

This course is designed to serve as an introduction to basic principles and techniques of therapeutic massage. Students will learn basic Swedish massage techniques and how to apply them to the back, arms and legs. Identification of the major muscle groups and bony landmarks, indications and contraindications to massage and professional ethics will be addressed. Lecture 1 hour. Lab 2 hours.

THM 1202 – Therapeutic Massage Techniques I (3)

Prerequisite: THM 1201

This course is designed to serve as the initial training in therapeutic massage. Students will learn about medical terminology, self-care techniques and history of massage, as well as the benefits of massage. Swedish massage techniques and variations will be taught and developed into a sequence for a full-body massage. Pathologies, pressure sensitivity, draping techniques and communication skills also will be covered. Lecture 1.5 hours. Lab 3 hours.

THM 1203 – Human Body for Massage Therapy I (3)

Prerequisite: Acceptance into program

This course is an investigation into the study of the structure and functional relationships, homeostasis of body systems. The course incorporates the systems approach and integration of the systems into one functioning unit – the human body. Laboratory procedures, basic chemistry, the cell and development are incorporated into the course. Lecture 2 hours. Lab 2 hours.

THM 1204 – Pathology for Therapeutic Massage (3)

This course is designed to provide the student of therapeutic massage the knowledge of disease processes that affect the human body as it relates to therapeutic massage. It will provide general information on anatomy and physiology, assessment techniques, general and specific disease manifestations, indications and contra-indications to therapeutic massage. Lecture 3 hours.

THM 1208 – Business Practices and Ethics (3)

Prerequisite: Acceptance into program

This course is designed to explore the various aspects of developing and maintaining a successful therapeutic massage practice. Topics to be covered include how to establish a bookkeeping system, maintain client records, marketing, developing a business plan, the client/therapist relationship and ethical issues. Lecture 3 hours.

THM 1209 – Responding to Client Emergencies (1)

This course is designed to prepare practitioners to respond appropriately to the client in an emergency situation. It includes training in cardiopulmonary resuscitation, first aid and communication skills. Lecture 1 hour.

THM 1210 – Human Body for Massage Therapy II (3)

Prerequisite: THM 1203

This course is an in-depth study of bones and muscles, which is a continuation of THM 1203. Specific bones, prominent surface landmarks, surface muscles and joint structures, as they pertain to therapeutic massage, are included. Study also will include origins, insertions and actions of muscles. Lecture 2 hours. Lab 2 hours.

THM 1211 – Therapeutic Massage Techniques II (4)

Prerequisite: THM 1202

This course is designed to provide the student with the skills of deep connective tissue massage techniques and incorporate them into a massage session to meet the client's needs. Joint mobilization, various forms of stretching and chair massage will be included. Lecture 2 hours. Lab 4 hours.

THM 1212 – Therapeutic Massage Clinical I (4)

Prerequisite: THM 1201, THM 1202 and THM 1203

This course is designed to provide the student with the opportunity to apply principles, techniques and procedures practiced in Therapeutic Massage Techniques. Under the direction of the clinical supervisor, students will be expected to demonstrate proper ethics, client/therapist communication skills, proper draping technique, adequate sanitary precautions, perform full-body massage based on client needs and properly document the session in the client's record. Student will be expected to massage three clients consecutively. Lecture 2 hours. Lab 4 hours.

THM 1222 – Therapeutic Massage Clinical II (1)

Prerequisite: THM 1201, THM 1202 and THM 1203

This course is designed to provide the student with the opportunity to apply principles, techniques and procedures practiced in Therapeutic Massage Techniques. Under the direction of the clinical supervisor, students will be expected to demonstrate proper ethics, client/therapist communication skills, proper draping techniques, adequate sanitary precautions, perform full-body massage based on client needs and properly document the session in the client's record. Students will be expected to massage three clients consecutively while demonstrating professional behavior. Lab 2 hours.

THM 1223 – National Certification Exam Review (2)

This course is designed to provide a comprehensive review of material covered by the Therapeutic Massage and Bodywork Certification Examination, including anatomy, physiology, kinesiology, clinical pathology, theory of massage and bodywork, professional standards, ethics and business practices. Lecture 2 hours.

THM 1601 – Special Topics in Therapeutic Massage (1)

Prerequisite: THM licensure

This course is a study of topics in the therapeutic massage field. The exact content will vary from semester to semester depending on the subject studied. The course may be repeated three times depending on the subject studied. Lecture 1 hour.

WELD 1601 – Welding (2)

This course is designed to acquaint the beginning student with the selection, installation and maintenance of oxyacetylene and electric welding equipment, as well as the safety precautions which should be observed when welding. Beginning welding provides the instruction and practice necessary to develop the specific skills required for welding. Lecture 1 hour. Lab 2 hours.

WELD 1602 – Advanced Welding (2)

This course is a continuation of WELD 1601. It is designed to develop additional skills necessary for the fabrication of metal products. It also provides training necessary for the welding of special metals and metal alloys. Lecture 1 hour. Lab 2 hours.

WELD 1610 – Welding Applications (2)

A course is designed to meet the specific needs of the experienced welder. Instruction is individualized and provided on an open-entry/open-exit basis. Each student will meet with the instructor to design his/her course of instruction, which should center around a special project, welding technique or preparation for an employer-required weld test. No student will be admitted prior to meeting with, and being granted approval by, the instructor. Lecture .5 hour. Lab 3 hours.