

EDU 120**Child, Family, and Community**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs credit

This course examines how the structure, values, and resources of family and community affect children. It explores the relationships between the child, family, community, and educators including parent education and involvement, lifestyles, child abuse, and current family life issues. (*same as ECED 120*)

EDU 130**Guidance and Classroom Management**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs credit

This course examines guidance practices and classroom management techniques with the aim of analyzing and modifying classroom behavior. The relationships between observation and effective interaction, classroom arrangement and teaching techniques is explored so students have the chance to apply child development theory to practical situations. (*same as ECED 130*)

EDU 205**Language Arts for Children**

Prerequisite: Placement into ENG 099 or higher

3 lectures per week: 3 hrs credit

This course deals with techniques and methods of encouraging the development of language in the young child. Methods for stimulating speech, discussion, and increasing vocabulary are included. (*same as ECED 205*)

EDU 213**Multicultural Education**

Prerequisite: Placement into ENG 099 or higher

3 lab hrs per week: 3 hrs credit

Multicultural education examines social factors that affect education decision-making and student achievement in United States schools. It addresses the need for intercultural competence, culturally informed instructional strategies, promotion of social justice, and reduction of racism in order to create democratic classrooms. (*same as ECED 213*)

EDU 221**Clinical Experience**

Prerequisite: Consent of program coordinator

5 lab hrs: 1 hr credit

This course provides documented clinical experiences involving observation of the interaction between children and practitioners according to specified guidelines, within the appropriate subject matter and age category. Clinical sites are arranged in a variety of educational settings, including those with diverse student populations. Student work is planned, guided, and evaluated by a mentor or supervisor.

Electrician**ELECT 100****Electric Wiring I**

Prerequisite: None

2 lectures per week: 2 hrs credit

This course is a beginning course in residential wiring and assumes no previous electrical background. The course is designed to help develop an understanding of the electrical principles involved as well as the physical wiring practices.

ELECT 101**Fundamentals of Electricity I**

Prerequisite: None

2 lectures per week: 2 hrs credit

This is an introductory course in direct current electricity. Students analyze series, parallel, and combination circuits using Kirchoff's current and voltage laws, electrical measuring instruments, and measurement techniques. Students verify basic principles of electricity in the laboratory.

ELECT 102**Fundamentals of Electricity II**

Prerequisite: ELECT 101; AMATH 101 or equivalent recommended

2 lectures per week: 2 hrs credit

This course is a more in-depth look at the fundamentals of electricity. Fundamental electric laws and relationships are studied. Electrical calculations and measurements are emphasized. Series, parallel, and combination circuits are analyzed.

ELECT 103**Alternating Current**

Prerequisite: ELECT 101; AMATH 101 or equivalent recommended

2 lectures per week: 2 hrs credit

This is a fundamental course in alternating current theory and analysis. Students analyze circuits that include series and parallel configuration of resistance, inductance, and capacitance. The analysis includes vector operations, complex impedance, phase angles, single- and three-phase representations, Delta circuits, and Wye circuits.

ELECT 105**Power, Transformers, Polyphase Circuits**

Prerequisite: ELECT 101 or equivalent

2 lectures per week: 2 hrs credit

This course includes the study of the principles of transformer operation including on load conditions, efficiency, and testing. Polyphase principles are studied including calculation techniques, measurement, and power relationships.

ELECT 106

DC Motors and Generators

Prerequisite: ELECT 101

2 lectures per week: 2 hrs credit

This course is a study of DC generators and motors. Topics covered include the construction, basic principles, speed-voltage characteristics, and regulation of DC generators. Also covered are basic principles, speed-torque characteristics, types of field excitation, and starting procedures of motors.

ELECT 107

AC Motors and Generators

Prerequisite: ELECT 103 or ELECT 104

2 lectures per week: 2 hrs credit

This course is a study of AC generators and motors. The topics covered include the construction, basic principles, speed-voltage characteristics, and regulation of AC generators. Also covered are basic principles, speed-torque characteristics, types of field excitation, and starting procedures of motors. Single- and poly-phase generators, motors, and switching equipment are covered.

ELECT 108

Electrical Control for Machines I

Prerequisite: ELECT 101 or equivalent

2 lectures per week: 2 hrs credit

This is a course in industrial controls which are frequently used in industry to control motors. Single- and three-phase systems are covered. Industry standards and codes are presented throughout for promoting an understanding of safety and preventive maintenance. Practical experiences include wiring relays, motor starters, and controlling these with different control devices and sensors.

ELECT 109

Electrical Control For Machines II

Prerequisite: ELECT 101 or equivalent

2 lectures per week: 2 hrs credit

This course is a continuation of ELECT 108. Industry controls which are frequently used in industry to control motors are analyzed. Single- and three-phase systems are covered. Industry standards and codes are presented throughout for promoting an understanding of safety and preventive maintenance. Practical experiences include wiring motor starters, control transformers reversing and motor sequencing, and controlling these with various control devices and sensors.

ELECT 110

DC Crane Control

Prerequisite: ELECT 101 or equivalent

2 lectures per week: 2 hrs credit

This course is designed to train and aid in the maintenance of overhead cranes powered by direct current motors. Servicing and troubleshooting techniques are taught by referring to the electrical diagrams provided by crane control manufacturers.

ELECT 111

Electronic Principles I

Prerequisite: AMATH 101 or equivalent recommended

2 lectures per week: 2 hrs credit

This is a course in electronic devices covering the principles of how electronic devices work and how they are connected into basic electronic circuits. The content includes introductory analysis of device parameters and circuit application.

ELECT 112

Electronic Principles II

Prerequisite: ELECT 111

2 lectures per week: 2 hrs credit

This is a course in electronic devices covering the bipolar and field effect basic theory, transistor biasing, and amplification. The SCR is also studied. The course includes an introduction to digital logic.

ELECT 113

Blueprint Reading for Electricians

Prerequisite: None

2 lectures per week: 2 hrs credit

This course provides students with a background in reading and interpreting blueprints and wiring diagrams pertaining to single-family dwellings, commercial locations, industrial locations, special and hazardous locations. Students are exposed to the National Electrical code and the use of electrical tables.

ELECT 114

National Electrical Code

Prerequisite: None

2 lectures per week: 2 hrs credit

This course is a review of the National Electrical Code, and the areas to which it is most frequently applied are covered in detail. Topics covered include: maximum current for each wire size, overcurrent protection, wiring methods and materials, motor controllers, transformers, switchboards, and emergency systems.

ELECT 120

Electrical Safety

Prerequisite: None

2 lectures per week: 2 hrs credit

This course covers the basic electrical dangers and safety precautions that should be observed when working with electricity or electrical circuits. Safety procedures are emphasized along with the purpose of fuses, circuit breakers, disconnect boxes, insulation, and grounding.

ELECT 141**Conduit Bending - Thinwall**

Prerequisite: None

2 lectures per week: 2 hrs credit

This course teaches how to calculate and bend one-inch and 3/4-inch EMT conduit for electrical use.

ELECT 142**Conduit Bending and Threading**

Prerequisite: None

2 lectures per week: 2 hrs credit

This course teaches how to calculate and bend and thread rigid conduit and how to thread thickwall conduit for electrical use.

ELECT 150**Preventive Maintenance - Electrical**

Prerequisite: None

2 lectures per week: 2 hrs credit

This course in methods of preventive maintenance of electrical equipment includes insulation testing and evaluation, electronic testing, AC generator and motor checking, overcurrent protection, and system distribution problems.

ELECT 160**Electrical Wiring II**

Prerequisite: ELECT 100

2 lectures per week: 2 hrs credit

This is a continuation of Electric Wiring I. It focuses on the technical skills required to perform electrical installations, including calculating conductor sizes and voltage drops, determining circuit requirements, sizing service, and grounding procedures.

ELECT 201**Digital Fundamentals I**

Prerequisite: ELECT 111

2 lectures per week: 2 hrs credit

This course in digital systems is an introduction to number systems and codes, logic gate representation, and combinatorial logic circuits.

ELECT 202**Digital Fundamentals II**

Prerequisite: ELECT 201 or equivalent recommended

2 lectures per week: 2 hrs credit

This course in digital systems is a continuation of ELECT 201 advancing into the study of counters, registers, integrated circuit logic, logic families, interfacing, and memory devices.

ELECT 203**Industrial Electronics I**

Prerequisite: ELECT 101, 112

2 lectures per week: 2 hrs credit

This course is a study of the underlying concepts and operation of electronic devices, circuits, and systems used in industrial control. Concepts instead of design topics are emphasized.

ELECT 204**Industrial Electronics II**

Prerequisite: ELECT 101, 203

2 lectures per week: 2 hrs credit

This course is a continuation of the study of underlying concepts and operation of electronic devices, circuits, and systems used in industrial control. Concepts instead of design topics are emphasized.

ELECT 206**Instrumentation Fundamentals I**

Prerequisite: ELECT 101

2 lectures per week: 2 hrs credit

This course is a study of electronic instrumentation with applications to the control of the industrial processes. Topics covered include an introduction to process control, transducers, controller principles, and control elements.

ELECT 207**Instrumentation Fundamentals II**

Prerequisite: ELECT 206

2 lectures per week: 2 hrs credit

This course is a continuation of ELECT 206 and covers instrumentation applications to the process control.

ELECT 208**Programmable Logic Controllers I**

Prerequisite: None

2 lectures per week: 2 hrs credit

This is a course that studies programmable controller operations as used in industry. This course is based on the principle that the technician must understand programmable controller terminology as well as relationships of the input/output, processor section, programmable devices, memory, and interfacing sections of the programmable controller. The use of ladder diagrams and programming techniques are explained along with the programmable controller versatility to control integrated processes.

ELECT 209

Programmable Logic Controllers II

Prerequisite: ELECT 208 or equivalent

2 lectures per week: 2 hrs credit

This course is a continuation of Programmable Logic Controllers I. Students continue to learn more programming techniques as well as manipulation of data, such as data comparison, connection of peripheral devices, and controller logic and hardware troubleshooting. Certain brand-name programmable controllers are identified and used. Practical wiring, troubleshooting, and programming of a particular model programmable controller are emphasized.

ELECT 230

Alternative Small Energy Systems

Prerequisite: ELECT 105 and ELECT 106

2 lectures per week: 2 hrs credit

This course introduces nontraditional small electrical energy systems and develops an understanding of various alternative energy generation methods, principles and role of the technician.

ELECT 290

Special Topics in Electricity

Prerequisite: Consent of program coordinator

3 lectures per week: 3 hrs credit (variable credit offered; may be repeated for credit 3 times with different topics)

Topics pertaining to current and emerging technology in electricity are covered. Content and format of this course is variable and may be initiated by company training needs, updates in technology in the electrical field, and the need to adhere to rules such as the revisions that occur in the National Electrical Code. Subject matter is indicated in the class schedule.

ELECT 298

Electrical Seminar

Prerequisite: Completion of 24 credits of ELECT courses and the consent of program coordinator

1 lecture per week: 1 hr credit

This seminar is taken in conjunction with ELECT 299-Internship. The content of the seminar relates to the internship work which is correlated with students' fields of study.

ELECT 299

Electrical Internship

Prerequisite: Completion of 24 credits of ELECT courses and the consent of program coordinator

10 lab hrs per week: 2 hrs credit

Student interns are assigned to an approved training site. This is scheduled by joint agreement of the student, the site supervisor, and the program coordinator. Students must also register for ELECT 298 - Electrical Seminar.

Emergency Medical Services

(including First Responder)

EMS 101

Emergency Medical Technician

Prerequisite: 18 years of age and COMPASS reading score of 78 or better or placement in ENG 101. Immunizations, CPR certification.

Obtain information packet from Prairie State College Nursing department prior to start of course. Must enroll in person

6 lectures, 2 lab hrs per week: 7 hrs credit

Care, handling, and extrication of the critically ill and injured is taught. Emphasis is on the development of student skills in recognition of symptoms of illnesses and injuries, and proper emergency care and procedures. Subjects covered include the human body, cardiac arrest, resuscitation, fractures, injuries, childbirth, lifting and moving patients, and extrication from automobiles.

EMS 200

Paramedicine I

Prerequisite: BIOL 221, 222 with C or better; concurrent enrollment in EMS 205, 210, and 215; consent of instructor

12 lectures per week: 12 hrs credit

This course introduces the field of paramedicine. Students study the roles and responsibilities of the pre-hospital care provider, medical/legal issues, ethics, principles of pathophysiology, pharmacology, medication administration, airways management and ventilation, patient assessment, trauma, and gynecological and obstetrical emergencies. Skill acquisition is integrated into the course of study.

EMS 205

Paramedicine: Field Practicum I

Prerequisite: Concurrent enrollment in EMS 200, 210, and 215

8 lab hrs per week: 2 hrs credit

This course allows students opportunities to perform or observe assessments and procedures learned in the classroom in a pre-hospital setting under the supervision of a licensed paramedic. Students focus on trauma, acute/chronic illness, and life threatening emergencies of various etiologies. They function as team members while riding with the assigned ALS unit.

EMS 210

Paramedicine: Hospital Practicum

Prerequisite: Concurrent enrollment in EMS 200, 205, and 215

8 lab hrs per week: 2 hrs credit

This course allows students opportunities to perform or observe assessments and procedures learned in the classroom in various departments within a hospital setting. Students focus on trauma, acute/chronic illness, and obstetrics. They function as team members in the respective hospital units. Upon successful completion of the required activities and skill sets, students are able to advance to the Paramedicine II course and the final program practicums.