

**SS240 East Asian History (3)**

Prerequisite: ESL 089

A survey of the history of China, Korea, Vietnam and Japan from prehistory to the present.

**SS 280 Directed Study: Selected Topics (3)**Prerequisite: EN 120b, SS 101, SS 200,  
SS 205, SS 212, SS 220

A mentored research practicum for Micronesian studies majors that culminates in a major paper demonstrating ability in public policy research, analysis and writing.

**SS/ED 285 Family Life/Sexuality Education (3)**

Introduces teachers to the concept of family life and sexuality education and examines essential topics and teaching techniques in the subject area.

**SS/ED 333 Historical Geography (3)**

Prerequisite: EN120a, EN120b, EN110, SS120, SS150

An intensive and integrated study of physical and regional geography and the most important aspects of global human history.

**SS/ED 343 Social Science Concepts (3)**Prerequisite: EN120a, EN120b, EN110,  
SS130, SS150

An intensive and integrated study of the core social science concepts from the fields of anthropology, sociology, political science and economics.

**VOCATIONAL EDUCATION****VAE 103 Blueprint Sketching and Interpretation (3)**

This course is designed to introduce the student to the basic principals of blueprint drawing and interpretation. The intent of the course is to teach the student to read specifications and marginal information in production blueprints while enhancing their ability to define size, shape, and dimensional information in their own construction drawings.

**VAE 138 Building Codes, Specification and Construction Management (3)**

This course is designed to introduce the student to the basic concept of building codes, acceptable load bearing qualities of available materials, job bidding procedures, and the necessary sequential process required in successful constructional management as an independent businessman.

**VAE 150 Introduction to Computer Aided Design and Drafting (3)**

Prerequisite: VAE 103

This course introduces the student to the use of a computer as a drafting and design tool to produce line drawings. The course is hands-on and covers topics including equipment components, terminology, the storage and retrieval of drawings. ( I do not have this outline)

**VBM 101 Building Maintenance I (4)**

Prerequisite: VSP 153a

Provides the students with the opportunity to correctly use a range of Hand &amp; Power Tools more commonly used by building maintenance personnel. This course will also provide the student with knowledge and hands-on experience in Blueprint Reading, Surface Preparation and Finishing and Trim work.

**VBM 102 Building Maintenance II (4)**

Prerequisite: VSP 153a

This course is designed to provide the students with the basic skills necessary to properly install individual electrical circuits in a building and will cover the use of essential hand and power tools. This course is also designed to provide the students with the basic knowledge required for properly using a meter for testing faulty devices and troubleshoot electrical circuit.

**VBM 103 Building Maintenance III (4)**

Prerequisite: VSP 153a, VBM 102

Provides the students with practical opportunities to service and maintain plumbing and drainage systems using a variety of hand and power tools. This course will also provide the student with knowledge and hands-on experience in general servicing and maintenance of air-conditioning units.

**VBM 104 Building Maintenance IV (4)**

Prerequisite: VSP 153a

This course is designed to provide students with skills in the use and care of appropriate equipment for grounds maintenance. Weed control and proper lawn care, decorative plantings, pruning techniques and some amount of landscaping activities form the main focus of this course.

**VCE 195 Construction Procedures (1.5)**

Prerequisites: MS 104, ESL050/SS100

This course introduces the student to the selection of appropriate materials, and the assembly of those materials to erect a structure. The course covers building projects from ground breaking through the laying down of foundations and the accepted construction procedures for wooden, masonry, concrete and steel structures.

**VCF 104 Introduction to Cabinet making/Furniture making (3)**

Prerequisite: MS 104, ESL 050/SS100 or concurrently

This introductory course is designed to familiarize students with the terminology, materials, and hand tools used in the manufacturing industry in both domestic and commercial cabinet/furniture making.

**VCF 106 Plan Reading and Documentation (1.5)**

Prerequisite: VCF 104 or concurrently

This course is designed to teach the students to read and interpret from blue print drawings the cabinet/furniture information required to construct as designed. It will also teach the students the basic principles of sketching and drawing full size set outs, using a range of drawing equipment.

**VCF 110 Domestic Construction (3)**

Prerequisites: VCF 104, VSP 153a

This course is designed to teach the students the basic construction of domestic cabinets and furniture that would be used in domestic situations (private homes), and to teach the students a method of producing a one of piece of furniture, as requested by the client.

**VCF 114 Commercial Construction (3)**

Prerequisite: VCF104, VSP 153a

This course is designed to teach the students basic construction when producing more than one cabinet or piece of furniture (multiple items). It will demonstrate the use of setting up machinery, making patterns and jigs used to produce mass production type items.

**VCF 120 Workshop Administration (2)**

Prerequisite: VCF104

This course is designed to teach the students the daily activities involved in a cabinet making workshop, e.g., estimation and costing, ordering materials, organizing and prioritizing work to be carried out as well as the best methods of maximizing the use of materials and reducing waste.

**VCF 124 Safety and Maintenance of Power Tools, and Static Machines and Equipment – basic (4)**

Prerequisites: VCF104, VSP 153a

This course is designed to teach the students the correct and safe methods of both power tool use and static machines when making cabinets and furniture. It will also teach the students general care, service and maintenance of both power tools and static machines.

**VCF 132 Surface Preparation and Finishing Techniques (3)**

Prerequisites: VCF104, VSP 153a

This course is designed to teach the students various ways to prepare surfaces ready for applying finishing materials. It will also introduce finishing products that are available and the application of these products to furniture to protect and enrich their finish.

**VCT 152 Fundamentals of Plumbing (3)**

Prerequisite: MS 104

This is the beginning course in plumbing. The main systems and components are surveyed, and the basic skills and tools are introduced.

**VCT 153 Introduction to Carpentry (3)**

This introductory course is designed to familiarize students with the use, care, safe operations and maintenance of hand and power tools; to develop their skills in the use, care, and safe handling of supplies and materials; and to provide them with occupational information about carpentry.

**VCT 154 Introduction to Masonry (3)**

Prerequisite: VSP 153a

This course provides students with knowledge and experience in the preparation of the various types of mortar and concrete and the handling and placement of masonry units. Instructions will also include the care and safe use of masonry hand tools and power equipments.

**VCT 162 Advanced Plumbing (3)**

Prerequisite: VCT 152

This course develops and advances the student's knowledge and understanding of the techniques, methods, and applications in cold and hot water supplies, and drainage systems.

**VCT 163 Concrete Form Construction (3)**

Prerequisite: VCT 153

This course is designed to teach the student construction terms, materials and methods in concrete form construction for residential and commercial buildings. The course also introduces the use, care and maintenance of leveling and sighting instruments.

**VCT 164 Concrete and Brick Masonry (3)**

Prerequisite: VCT 154

This course familiarizes the student with uses, kinds, shapes, and sizes of concrete blocks; and use, kinds, characteristics, types of bonding materials, and laying of bricks.

**VCT 172 Plumbing Installation and Design (3)**

Prerequisite: VCT 152

This course provides the student with the application of methods and theory in installation and design of residential and commercial plumbing systems of cold water supply, hot water supply and drainage systems.

**VCT 173 Rough Framing and Exterior Finishing (3) Prerequisite: VCT 153**

This course concentrates on basic structure construction. It is designed to provide carpentry students with the skills and knowledge necessary to frame floors, walls, wall panels, roofs and ceilings as well as the application of exterior finishing materials.

**VCT 174 Columns, Beams, Walls and Partitions Construction (3)**

Prerequisite: VCT 153

This course prepares the student in the construction techniques and practices of concrete beams, columns, walls and partition construction; types, kinds, planning, design and purpose.

**VCT 182 Uniform Plumbing Code (3)**

Prerequisite: VCT 152

The course provides the student with knowledge and understanding of the laws and ordinances governing the installation of residential and commercial plumbing systems.

**VCT 183 Finishing and Trim Work (3)**

Prerequisite: VCT 153

This course is designed to teach the student about various methods and materials necessary to finish the interior of a residential or commercial building. The course covers the installation of wall and ceiling panels, installation of window and doors, construction of cabinets and closets, application of trim and moldings and installation of finishing hardware.

**VCT 193 Cabinet Making and Millwork (4)**

Prerequisite: VCT 153

This course teaches the carpentry student millwork methods and the skills necessary to fabricate and install either custom or factory built cabinets.

**VCT 210 Steele frame (3)**

Prerequisite: VSP 153

This course is designed to provide students with a basic understanding of steel framed buildings and construction methods for application in Micronesia. This course of study will apply to a range of single occupancy residential dwellings and associated buildings.

**VCT 211 Basic Stair Construction (3)**

Prerequisite: VSP 153a, VCT 153

This course is designed to give the students the necessary skills to be able to set out, construct and install a straight flighted external/internal timber/steel stair. This course provides the underpinning knowledge of materials used in the construction and joinery industries and contributes towards the acquisition of the needed competencies in advanced stair construction

**VCT 215 Building Technology (3)**

Prerequisite: VCE 195

A study of construction organization, building codes, foundations, construction materials, methods and techniques of cast-in-place reinforced concrete, precast and prestressed concrete, steel and masonry construction, wood and plastics, thermal, moisture, and termite protection and building equipment.

**VEE 100 Soldering and Mechanical Termination Techniques (1.5)**

Prerequisite: Admission and VSP 121 or concurrently

Students will learn how to produce solder connections and identify and rectify inferior solder joints. Students will select and prepare the correct soldering tools. In addition the student will master PC component insertion/extraction techniques, basic connector termination techniques and wire wrapping.

**VEE 103 Electronic Fundamentals I (3)**

Prerequisite: Admission and VSP 121 or concurrently

This course introduces the student to the theory of electricity and magnetism, basic components such as resistors, switches, fuses and circuit breakers, and the relationship of voltage, current, resistance and power and their measurements in basic electrical circuits. Basic direct current circuits are analyzed using Ohm's Law, Kirchoff's Laws and various network theorems.

**VEE 104 Electronic Fundamentals II (4)**

Prerequisite: VEE 103

This course covers the introduction and examination of the principles, applications and measurement of alternating current. Students will compare different types of alternating current circuits. The course emphasizes filtering basics, reactance, resonance, RC, RL, RLC, relays, transformers, phase angles and power factors. Students will apply formulas to analyze AC circuits.

**VEE 110 Discrete Devices I (3)**

Prerequisite: VEE 104 or concurrently

This course will introduce students to the construction and operation of various configurations of single stage amplifiers and diode circuits. It will also provide the students with an introduction to basic single-phase power supplies.

**VEE 125 Electronic Circuits (4)**

Prerequisite: VEE 110

This course allows students to investigate small and large signal amplifiers. Topics includes amplifier coupling, BJT amplifier gain, FET amplifiers, negative and positive feedback, frequency response and classes of operation.

**VEE 135 Digital Electronics I (3)**

Prerequisite: VEE 110

This course provides the student with the basic concepts of logic gates and digital circuits. Topics include digital switches, combinational and sequential logic gates, number systems, Boolean algebra, Karnaugh Maps, 555 Timers, flip-flops and logic design techniques.

**VEE 222 Discrete Devices II (3)**

Prerequisite: VEE 110

This course covers the construction and operation of various discrete thyristor power control devices such as Diacs, Triacs, SCRs, PUTs and UJT's and their circuit configurations.

**VEE 223 PC Hardware & Software (4)**

Prerequisite: VEE 135

This course uses **Cisco Networking Academy Program HP IT Essential I: PC Hardware & Software** program. It provides IT fundamentals, an in-depth exposure to PC hardware/software, suggested best practice in PC maintenance, diagnostics, and repair. Emphasis is on PC assembly, installation of operating systems (Windows 98, NT, 2000, XP), system configurations, and troubleshooting techniques used on PC maintenance and repair. In addition, students will be introduced to the fundamentals of microprocessor, its basic architecture, and its physical/logical configuration of memory.

**VEE 224 Video Systems & Product Servicing (4)**

Prerequisite: VEE 135

This course is designed to provide students with the knowledge and experience in the principles of operating, diagramming, circuit tracing, mechanical assembly and disassembly, maintenance and troubleshooting procedures of television, VCR, CD, DVD and other related electronic products.

**VEE 225 Business Machine Servicing (4)**

Prerequisite: VEE 135

This course covers the principles of operation and servicing of business machines. It includes the manufacturers' procedures in servicing, systematic procedures in diagnosing faults, repairing of business machines, reassembling and testing repaired business machines according to industry standards.

**VEE 230 Radio Communications (3)**

Prerequisite: VEE 125

This course provides the student with general communication theory of AM and FM receivers and transmitters.

**VEE 235 Digital Electronics II (3)**

Prerequisite: VEE 135

This course further explores digital circuits and concepts including registry circuits, counters, adders, decoders, shift registers and digital to analog converters.

**VEE 240 Signal Processing (3)**

Prerequisite: VEE 235 or concurrently

Describes the basic elements of a communication system and identifies various signal processing techniques. Further investigates AM and FM circuits and their operation. In addition Single Side Band, various modulation methods, frequency shift keying and multiplexing are studied.

**VEE 250 Cooperative Education Program (2)**

Prerequisite: Instructors Permission

This co-operative education and work experience will provide the student with supervised on-the-job training that will test the application of classroom learning in a "real life" skill demonstration. The individual students training plan will relate to the student's educational objectives.

**VEE 266 Rotating Machinery (3)**

Prerequisite: VEM 104 or VEE104

This course introduces the student to rotating machinery. Series, shunt and compound DC motors, AC motors and generators, stepper motors and three-phase power are analyzed.

**VEM 102 Electrical Electronic/Drawing and Sketching (1.5)**

Prerequisite: MS 104, ESL 050 or concurrently

This course is designed to provide the students with basic skills and knowledge to read and interpret electrical/electronics blueprints. Students will also learn the basic principles of sketching and scale drawing using a variety of drawing equipment.

**VEM 103 Basic Electricity I (4)**

Prerequisites: VSP 121 or concurrently

Students will learn the basic fundamentals of electricity in order to develop an understanding of electricity and the electrical industry through calculation and basic theory.

**VEM 104 Basic Electricity II (5)**

Prerequisite: VEM 103

This course introduces students to the basic fundamentals of an alternating current circuit. Develop an understanding of the fundamental components that affect the alternating current circuit. Gain an understanding of the basic operation of motors and transformers.

**VEM 105 Basic Electricity for AC (3)**

Prerequisite: Admission and VSP 121

This course introduces the student to the theory of electricity and basic components used in the electrical industry and the relationship of voltage, current, resistance and power. This course will also enable the students to perform basic measurements by using an electrical measuring device and analyzing electrical circuits using Ohm's Law. Students will compare different types of electrical circuits. The course emphasizes electrical components of refrigeration and air conditioning system. This course also includes the theoretical aspects of rewiring domestic refrigeration and air conditioning systems.

**VEM 110 Workshop Fabrication/Hand and Power Tool Skills (3)**

Prerequisite: Admission and VSP 121 or concurrently

This course introduces basic hand tools and basic power tools uses in electrical work,

construction and maintenance. Proper use and care of these tools is stressed. Valuable safety information for each type of tool is discussed. After this course, the student will be able to perform specific tasks using hand and power tools and fabricate small projects from simple drawings.

### **VEM 111 Electrical Wiring I (3)**

Prerequisites: VSP 121, VEM 102, VEM 110 (or VEM 101 for Aircon/Refrigeration Apprentices). This course is designed to introduce to the students the basic concepts of residential wiring and provide a solid background of electrical principles required for wiring. The students will develop the knowledge of various voltages in a branch circuit and as well as identifying various types of branch circuits used in a dwelling. The students will gain an understanding for special circuits and how they are used in a dwelling. Students will also become familiarized with the information and specification to perform functional and safe wiring practices.

### **VEM 112 Electrical Wiring II (3)**

Prerequisites: VEM 111 or concurrently & VSP121 & VEM110  
This course is designed to increase the student's awareness of safe workplace practices. The course is designed to introduce the basic wiring methods used in the electrical industry. The students will develop skills in basic circuitry, identification of cable types and terminology used in the industry. Apply techniques as required by the National Electrical code with respect to safe wiring practices.

### **VEM 113 Refrigeration I (3)**

Prerequisite: VSP121 or Concurrently  
This course introduces the students the refrigeration principles as applied to domestic, commercial and industrial refrigeration systems. It also includes refrigeration processes, vapor compression refrigeration cycle, mechanical components, functions, refrigerants and their properties, equipment selection and recovery/recycling of refrigerants.

### **VEM 114 Refrigeration II (3)**

Prerequisite: VEM 113  
This course primarily covers operation principles, installation, preventive maintenance and repair of split type air conditioning systems.

### **VEM 212 National Electrical Code (3)**

Prerequisites: MS 104, ESL 050/SS100 or concurrently  
This course is designed to introduce students to the National Electrical Code. The students will develop the skills in using the code to find specific articles related to the correct methods of installing wiring and equipment. The course aims at developing work practices that comply with the National Electrical Code.

### **VEM 240 Industrial Wiring (3)**

Prerequisites: VEM 104 and VEE 266  
This course is designed to introduce to the students basic wiring methods used for various types of motors in the electrical industry. The students will study proper wiring techniques, selection of components and correct measurements in installing motor circuitry.

### **VSM 101 Introduction Small Engine Repair (4)**

Prerequisite: Admission  
This introductory course covers safety in the workshop, small engine components, basic combustion, mechanical starters, two and four-cycle principles and operation; tools and tools usage; basic bench fitting skills.

### **VSM 102 Fuel, Lubrication, Carburetor, and Ignition (4)**

Prerequisite: VSM 101 or concurrently  
This course covers fuel system operation; basic electricity; battery; electric starter motors; alternator system and flywheel magneto ignition.

**VSM 103 Engine Dismantling, Inspection, and Assembly (4)**

Prerequisite: VSM 102 or Concurrently

This course provides theory and practice of engine performance and repair; abnormal combustion; valve job; four-cycle ring job; two-cycle overhaul of small engines.

**VSM 104 Starters, Engine Maintenance, and Troubleshooting (4)**

Prerequisite VSM 103 or Concurrently

This course is designed to provide the student knowledge and skills in engine disassembly and reassembly; engine specifications and tolerances; diagnosing major engine failure.

**VSP 121 Industrial Safety Electrical/Electronic (1.5)**

This course is designed to introduce the students to safe working practices in the Electrical and Electronic Industries. The emphasis is on the safety measures that must be taken in the Industry, particularly when working with activated equipment. The course will make the students aware of the dangers and increase their awareness on the prevention of industrial accidents.

**VSP 153a Industrial Safety (1.5)**

This course is designed to make the trainees aware of basic safety practices and encourage them to develop safe personal working habits. The aim is the prevention of accidents that result in personal injuries, damage to facilities and/or equipment. Reference is made to various legislation relevant to safety practices.

**VSP 153b Industrial Safety (1.5)**

This course will focus on the need for trainees to have sound knowledge about chemical, biological and physical hazards and how to avoid injury. It is designed to ensure that the trainee is aware of his/her obligation in the workplace that includes correct reporting procedures and the proper use of safety equipment.

**VTE 260 Microwave (3)**

Prerequisite: VEE 240

This course introduces the student to Microwaves and Microwave systems. The student will analyze Microwave Transmitters, Receivers, Waveguide Theory, Antennas, Cavity Resonators and Tube Microwave devices and semiconductor microwave devices.

**VTE 261 (4) Fiber optics Installation**

Prerequisite Course(s): VEE 103 and VEE 104 or VEM 103 and VEM 104

This course is designed to teach students how to safely and properly splice, terminate, and test fiber optics cables. Students will be using the latest technology to troubleshoot and repair fiber optics cables. Coursework will include the use of mechanical and fusion splicing, termination techniques on various types of fiber optic end connectors, the use of the Optical Time Domain Reflectometer (OTDR) to troubleshoot fiber optics cables, and the use of light source & power meter.

**VTE 265 Fiber Optics (3)**

Prerequisite: VEE 240

This course explores the development of fiber optic technology, explains the theory of light propagation and discusses the advantages and limitations of fiber optic technology. In addition fiber optic components, signal transmission, connections and fiber optic system trouble shooting will also be studied.

**VTE 270 Telecommunication Systems (3)**

Prerequisite: VEE 230

Students will be familiarized with the various types of telecommunication systems used in the industry. These include the basic elements in a telecom system, transmission medium types, common switching operations, types of broadcast systems, spread spectrum modulation, computer network (wired and wireless), and the operating principles of satellite systems.



**VTE 280 Telephone Systems (3)**

Prerequisite: VEE 240

Students will demonstrate an understanding of the basic operation of a telephone system. In addition, students will correctly perform troubleshooting skills on two common types of telephone sets, and demonstrate the use of fiber

**VTE 281 Cellular Phone Repair (3)**

Prerequisite: VEE 135

This subject deals with the principles of operation and servicing of cellular phones. It includes the manufacturers' procedures in servicing, systematic procedures in diagnosing faults, repairing of cellular phones, reassembling and testing repaired cellular phones according to industry standards.

**VTM 101 Introduction to Motor Vehicle Mechanics (4)**

Prerequisite: By admission

This is a semester length course designed to introduce students to motor vehicle mechanics. It includes safe working habits and ethics in the automotive repair industry, safe manual handling and mechanical lifting, the use of shop equipment and tools, measuring and identifying fastener types, sealant, adhesives, and basics operating principle of engine operation. This course will also develop skills in bench fitting which is generally required for successful repair and maintenance of motor vehicle.

**VTM 102 Fuel, Cooling, & Standard Power Train Systems (4)**

Prerequisite Course(s): VTM 101 Before or concurrently.

This course introduces students to the design, function and operation of automotive fuel systems, engine cooling and standard power train systems. Students will have a basic understanding about the function and operation of carbureted fuel system, basic fuel injection, fuel pumps, fuel line, air and water-cooled engines, basic operating principles of clutches, standard transmissions, drive lines, and rear axles. They will be introduced to the basic repair and maintenance of the above-mentioned systems. Use of services manuals and publications will also be covered in the course.

**VTM 103 Ignition, Electrical, and Transmission systems (4)**

Prerequisite Course(s): VTM 102 or concurrently

This course deals with automotive ignition, electrical and transmission systems. It covers the conventional ignition system from the early model and progresses through to the electronic ignition. The electrical system covers operational theory, testing, magnetism, diagnosis, and repair of batteries, charging and starting systems, and electrical accessories. The transmission system takes into more detail about the principles involved in the operation and maintenance of automatic transmission and transaxles. The subjects combine in this course gives more emphasis to the basic theory and operation of the ignition system for the student to establish a fundamental understanding most especially to the electronic ignition system that made a dramatic advancement and still continue to develop its fast changing technology through the years.

**VTM 104 Brakes, Steering, Suspension, and Wheel Alignment (4)**

Prerequisite Course(s): VTM 103 Concurrently

This course covers operation and repair of drum/disc type brake systems. Topics include brake theory, concepts related to design, diagnosis and repair of power assist systems, manual and anti-lock brake systems. It also deals with theory and operation of automotives suspension and steering systems including wheel problem diagnosis, components repair, and alignment procedures. The subjects contained in this course were carefully selected to establish a firm understanding of the relationship of these systems for the students to obtain an understating of how each system affects the operation of the other when making diagnosis of faults that may occur.

**VTM 150 Cooperation Education (6)**

Prerequisite Course(s): VTM 104

This is a semester long course designed to introduce students to all facets of motor vehicle repair and maintenance setting through internship. The course will place the student in the work place to experience working in a real life scenario. Students will be expected to seek internships and fulfill 180 hours of On-The-Job-Training (OJT) before the semester ends. Application of knowledge acquired from lecture and lab instruction to gain relevant practical on-the-job experience to repair vehicle in an actual automotive service facility. The apprentice will be supervised by an experienced service individual within the sponsoring business who will work with the automotive program coordinator in evaluating student progress, performance and grading. Internship is required to complete certificate program requirements.

**VWE 105 Fundamentals of Oxyacetylene Welding and Cutting (3)**

Prerequisite: VSP 121 or VSP 153a

This course is designed for those students who have little or no oxyacetylene welding training. Units of study involve safety; equipment operation and the manipulative skills required to complete flat, vertical, horizontal and overhead brazing and welds. In addition, the cutting and shaping of structural and plate steel are taught.

**VWE 110 Fundamentals Arc Welding (3)**

Prerequisite: VSP 121 or VSP 153a

This is an introduction course for students who have little or no training in welding. Studies include basic welding equipment, safe operating practices and personal protection. Practical exercises using, mild steel to complete basic flat and horizontal welds will be mandatory.

**VWE 115 General Welding (4)**

Prerequisite: VSP 121 or VSP 153a or Concurrently

This is an introductory course to welding. This course is designed to introduce students to two types of welding, Oxyacetylene Welding & Cutting and Arc Welding. Coursework includes safety, theory, and practical exercises.