

## Course & Curriculum Committee Meeting Minutes

April 12, 2024 at 1:00 p.m.

TTC 4370-4380

*Present:* P. Egan, J. Brady, S. Hubbell, K. Naatjes, S. Postula, C. Pruis, E. Martin, J. Schmidt, S. Myers, M. Dunneback, B. Reynolds, H. Parmelee, N. Bergen, A. Nord, M. Raines, G. Fredericks

*Absent:* A. Moore

- 1) Call to Order – 1:09pm
- 2) Meeting Minutes from March 8, 2024 – Delayed until May Meeting
- 3) Business Matters
  - a) EDMT – Engineering Design Manufacturing Technology  
MOTION to approve, SECONDED and CARRIED without additional comments.
    - i) New Courses (Effective: 202520)
      - (1) EDMT 115: Intro to Precision Measurement, 3-2-3  
(Lecture/Discussion – Standard Lab)  
**Course Description:** This is a comprehensive course on precision measurement. General topics include measurements as a language, communicating measurement, accuracy, precision, and reliability. The course instructs the student in the utilization of basic hand-held measuring instruments and tape and rule, slide caliper, gage, angle, micrometer, and dial gage measurement.
      - (2) EDMT 150: Dimensional Metrology, 3-2-3  
(Lecture/Discussion – Standard Lab)  
**Course Description:** This is a comprehensive course on dimensional metrology, the science of precision measurement. General topics include measurements as a language, communicating measurement, accuracy, precision, and reliability. More specific topics of calibration, tolerancing, basic statistics, and sampling are covered. The course instructs the student in the utilization of basic hand-held measuring instruments, height stand and surface plate measuring, gage blocks, and dial and digital indicators. Moving on to more sophisticated measuring instruments, the student is instructed in the operation of optical comparators, Faro arms, and Vision inspection machines. The student will also learn to use the associated computers and software that support the operation of these inspection machines.
      - (3) EDMT 250, Fundamentals of CMM, 3-2-3  
(Lecture/Discussion – Standard Lab)  
**Course Description:** This course is an introduction to the fundamental concepts of Coordinate Measuring Machines (CMM). General topics include how CMM measurements integrate into precision manufacturing environments. More specific topics of calibration, tolerancing, basic statistics, and sampling are covered. The course instructs the student in the utilization of basic CMM which

includes best practices for probe calibration and part fixturing. The student is instructed in the operation of both vision and tactile type coordinate measurement machines. The student will also learn to use the associated computers and software that support the operation of these inspection machines.

MOTION to approve, SECONDED and CARRIED without additional comments to endorse the new course offering.

ii) New Programs (Effective: 202520)

(1) QCT.CERT: Quality Control Technician CERT

**Program Description:** Specialization in metrology technology (precision measurement) is designed to meet the precision measurement needs of industry by preparing graduates through both theoretical and hands-on laboratory work to successfully enter the work force. Metrology is used throughout the world in such areas as telecommunications, manufacturing, electrical power, aerospace, transportation, medicine, pharmaceuticals, food production, packaging, construction, national defense, atmospheric research, and environmental protection. The metrology technology program at KVCC emphasizes dimensional metrology for the local manufacturing industry.

After discussion of title change MOTION to Approve, SECONDED and CARRIED to endorse the new program offering.

(2) QI.COA: Quality Inspection COA

**Program Description:** This program introduces the student to three key concepts within the quality function: the metrology system, measuring and gauging, and geometric dimensioning and tolerancing (GD&T). Dual pathways make this program appropriate for both production or design professionals. Program credits also apply to additional machine tool, design, or engineering technology certificate or degree programs at KVCC.

After discussion of title change MOTION to Approve, SECONDED and CARRIED to endorse the new program offering.

b) WELD – Welding Technology

J. Schmidt and E. Martin presented feedback from the advisory committee the need to develop new courses that focus on entry level mechanics to establish basic skills in the trade developing core competencies and then moving forward with advanced programs.

i) New Courses (Effective: 202520)

MOTION made to handle the new courses as a bundle. MOTION to approve, SECONDED and CARRIED

(1) WELD 151: Basic GMAW/FCAW Welding, 4-2-6

(Lecture/Discussion – Standard Lab)

**Course Description:** This course is designed to develop the introductory job skills required for welding using the MIG (GMAW) and Flux Cored (FCAW)

welding processes. It will include classroom and lab skill training in these welding processes to produce all position fillet welds. Students will receive skills in electrode selection and identification, shielding gases, types of metal transfer, material identification, methods of machine set-up, and basic process troubleshooting.

**Prerequisite:** Writing, Reading, and Math -- minimum benchmarks are required

- (2) WELD 152: Basic GTAW Welding, 4-2-6  
(Lecture/Discussion – Standard Lab)

**Course Description:** This course is designed to develop the basic job skills required for a welder using the Gas Tungsten Arc Welding (GTAW) process. It will include skill training in this welding process to produce all position fillet welds on a variety of metals including steel. Students will receive classroom and hands-on training in selection of filler metals, equipment selection and set-up, metals identification, welding procedures, thermal cutting, AWS testing procedures, machine troubleshooting, and TIG welding terminology.

**Prerequisite:** Writing, Reading, and Math -- minimum benchmarks are required

- (3) WELD 153: Basic SMAW Welding, 3-1-6  
(Lecture/Discussion – Standard Lab)

**Course Description:** This course is designed to develop the basic job skills required for a welder using the shielded metal arc welding (SMAW) process. It will include skill training to produce all position fillet welds on mild steel. Students will receive classroom and hands-on training in selection of filler metals, equipment, selection and set-up, metals identification, welding procedures, thermal cutting, AWS testing procedures, machine troubleshooting, and SMAW welding terminology.

**Prerequisite:** Writing, Reading, and Math -- minimum benchmarks are required

- (4) WELD 154: Welding Prints & Symbols, 3-3-0 (Lecture/Discussion)

**Course Description:** This course is welding symbol interpretation and blueprint reading. This course will include how to read and interpret the American Welding Society's standard welding symbol information used to communicate how the different families of fillet, spot, slot, seam, and groove welds are placed on an engineering drawing or blueprint. This course will provide the skill required to interpret the current American Welding Society weld symbol and supplemental information placed on a blueprint or engineering drawing used for fabrication by the individual welders. The course will also contain the basic components of blueprint reading including lines, views, part relationships, information blocks, data sheets, material documents, notes and guidelines, welder's math, weld parts, weld quality, and inspection.

**Prerequisite:** WELD 120 and either WELD 151, WELD 152, or WELD 153;  
changed to: WELD 120, WELD 151, WELD 152, or WELD 153

- (5) WELD 201: Advanced GMAW/FCAW Welding, 3-1-6  
(Lecture/Discussion – Standard Lab)

**Course Description:** This course is a continuation of the WELD 151 Basic GMAW/FCAW Welding. Content will focus on groove welding preparation and welding in the flat, horizontal, vertical, and overhead positions to AWS Code welding standards. Also included will be the Pulsed GMAW/FCAW on steel, stainless steel, and aluminum and the advanced short circuit processes specific to root passes RMD, STT, and Power module processes. Welding inspection and troubleshooting will also be covered. An American Welding Society performance certification test will be administered as the capstone activity in this course.

**Prerequisite:** WELD 151 (WELD 182 or WELD 191 in Banner only)

- (6) WELD 202: Advanced GTAW Welding, 3-1-6  
(Lecture/Discussion – Standard Lab)

**Course Description:** This course will include content in the welding of stainless steels and aluminum. Also included will be advanced pulse welding and selection of various appropriate machine wave forms. The focus will be on fillet and groove welding to an AWS code condition, joint preparation and procedures, AWS testing and inspection processes to the aluminum and stainless-steel codes, and a final AWS certification performance test will be administered at the completion of the course.

**Prerequisite:** WELD 152 (WELD 184 or WELD 192 in Banner only)

- (7) WELD 203: Advanced SMAW Welding, 3-1-6  
(Lecture/Discussion – Standard Lab)

**Course Description:** The advanced SMAW course will focus on groove welding to an AWS code standard using 6010 and 7018 electrodes in the flat, horizontal, vertical, and overhead positions. Groove preparation, fit up, and measurement will be covered. Oxy-fueled cutting and plasma arc cutting for joint preparation is included. Inspection and testing requirements to an AWS standard will be taught. Final welder performance testing to an AWS code will be the capstone activity.

**Prerequisite:** WELD 153 (WELD 186 or WELD 192 in Banner only)

- (8) WELD 204: Automated Welding, 3-1-6  
(Lecture/Discussion – Standard Lab)

**Course Description:** This course covers the application of the MIG (GMAW) and TIG (GTAW) welding processes using automated linear and rotational equipment. Skill training includes fixturing, positioning, and assembly of various forms of automated equipment. Also included are topics in weld cost analysis, CNC plasma cutting, weld size analysis, and automation safety considerations. The use of robotics is also covered.

**Prerequisite:** WELD 201 and 202 (WELD 182 and WELD 184 or WELD 191 and WELD 192 in Banner only)

S. Hubbell and A. Marsh-Peek brought forward concerns about the sequencing of the courses and the timing of implementation to communicate out to the students who may have to repeat entry/basic courses. P. Eagan inquired if the new courses and programs could be moved forward and to hold off on the implementation of the Inactivated courses. M. Dunneback also supported the postponement of the effective date of the Inactivated courses and to offer Independent Studies for those sections.

MOTION made and SECONDED with suggested changes to WELD 154 and WELD 201, WELD 202, and WELD 203 to endorse the new course offering.

ii) New Programs (Effective: 202520)

(1) FCAW.COA: GMAW/FCAW Welding COA

**Program Description:** The GMAW/FCAW certificate of achievement focuses on Gas Metal Arc Welding (GMAW) and Flux-Cored Arc Welding (FCAW) welding processes, as well as Oxy-Fuel and Plasma cutting. Acceptable levels of weld quality and testing related to these distinct welding processes are emphasized. This certificate of achievement prepares the learner for entry level employment, job enhancement or advancement, and may also transfer into the welding technologies certificate, occupational/technical studies associate of applied science, or a bachelor's degree program. Coursework offered in the GMAW/FCAW certificate of achievement can also provide the skill necessary to successfully complete welding certification testing required by many welding companies.

MOTION to approve, SECONDED and CARRIED without additional comments to endorse the new program offering.

(2) GTAW.COA: GTAW Welding COA

**Program Description:** The GTAW certificate of achievement focuses on Gas Tungsten Arc Welding (GTAW) processes. Acceptable levels of weld quality and testing related to this welding process is emphasized. This certificate of achievement prepares the learner for entry level employment, job enhancement or advancement, and may also transfer into the welding technologies certificate, occupational/technical studies associate of applied science, or a bachelor's degree program. Coursework offered in the GTAW certificate of achievement can also provide the skill set necessary to successfully complete welder certification testing required by many welding companies.

MOTION to approve, SECONDED and CARRIED without additional comments to endorse the new program offering.

(3) SMAW.COA: SMAW Welding COA

**Program Description:** The SMAW certificate of achievement focuses on Shielded Metal Arc Welding (SMAW) processes. Acceptable levels of weld quality and testing related to these distinct welding and thermal cutting processes are emphasized. This certificate of achievement prepares the learner for entry level employment, job enhancement or advancement, and may also transfer into the welding technologies certificate, occupational/technical studies associate of

applied science, or a bachelor's degree program. Coursework offered in the SMAW certificate of achievement can also provide the skill sets necessary to successfully complete welder certification testing required by many welding companies.

MOTION to approve, SECONDED and CARRIED without additional comments to endorse the new program offering.

iii) Program Changes (Effective: 202520)

(1) WT.CERT: Welding Technologies CERT

**Program Description:** The certificate level courses in the welding technologies program guide the student through a series of process skills using manual and automated welding. The program develops basic and advanced skills using various welding processes. The types of welding process training include GMAW (MIG), GTAW (TIG), SMAW (ARC), and FCAW and OXY-FUEL and PLASMA cutting. Materials welded include mild steel, aluminum, and stainless steel. Courses offered prepare the student for entry level and advanced level employment, job enhancement, and may also transfer to a bachelor's degree program. Courses offered can also provide the skill set necessary to successfully complete welder certification testing required by many welding companies. MOTION to approve with amendment of optional courses, SECONDED and CARRIED to endorse the program changes.

iv) Program Inactivations (Effective: 202520)

(1) WCV.COA: Welding CV Processes COA

MOTION to Inactivate, SECONDED and CARRIED

(2) WCC.COA: Welding CC Processes COA

MOTION to Inactivate, SECONDED and CARRIED

2) Information Items

a) Honors Courses (Effective: 202510)

i) BIO 130H: Honors Micro&InfectiousDisease

**Course Description** This is an honors microbiology course that introduces students to the principles of microbiology with an emphasis on health career applications. The class provides introductory biochemistry and eukaryotic cell biology necessary to understand the human microbiome in health and disease as well as the foundations of medical microbiology. Lecture and discussion sessions present the principles of microbiological morphology, physiology, reproduction, and pathology. Laboratory exercises develop themes in chemistry, enzyme activity, and standard microbiology lab skills in the identification, culture, control, and assay of microorganisms.

ii) CHM 115H: Honors Hlth Careers Chemistry

**Course Description** This intense one-semester course combines the basics of general chemistry, organic chemistry, and biochemistry with an emphasis on concepts directly related to health fields. Foundational chemistry concepts such as

bonding, reaction energy, gas laws, solutions, and pH are covered. Organic functional groups, structure, and intermolecular forces are studied. Biochemical molecules and basic metabolism reactions are examined. Emphasis is placed upon structure-function relationships. Laboratory work is a valued integral component. This course is designed for health career students and non-science majors.

- 3) Other
- 4) Next Meeting: May 9, 2024 at 1:00pm in TBD
- 5) Adjournment – 2:47pm