

## M

### MANAGEMENT

#### **MGT 118 Principles of Supervision (3)**

*3 hours lecture per week*

MGT 118 covers supervisory concepts applying business terminology and practices of today's first line managers. The relationship of the five functions of management (planning, organizing, staffing, influencing/leading and controlling) and the role of the supervisor in the business organization to reach department/company objectives will be analyzed in detail.

Upon successful completion of MGT 118, the student should be able to:

- Create a management plan that integrates the concepts and principles of planning, organizing, influencing/leading, staffing and controlling.
- Describe the types of skills and characteristics necessary to perform the job of a supervisor.
- Identify the basic steps in the planning process-with special emphasis on setting objectives.
- Differentiate among organizational policies, procedures, and rules.
- Construct a model of the supervisory planning process.
- Define the resources that must be organized for productivity effectiveness.
- Explain the managerial function of staffing based on recruiting, selection, orientation, and training.
- Describe the basic styles of leadership.

- Explain potential advantages and disadvantages of group decision-making.
- Describe the interpersonal communication process.
- Describe the basic steps in the delegation process.
- Compare formal and informal work groups and their characteristics.
- Discuss performance appraisal and conducting interviews.
- Explain the motivation theories in supervision.
- Create a management plan for the employees based on sample models of a work unit.
- Explain the positive and negative effects of conflict and change on work units.
- Name the three basic steps in the control process.
- Identify tools and techniques most frequently used by supervisors to exercise control.
- Describe the relationship of management and unions/collective bargaining.
- Describe protected groups, affirmative action and sexual harassment.
- Discuss the impact of Equal Employment Opportunity (EEO).

#### **MGT 122 Organizational Behavior (3)**

*3 hours lecture per week*

MGT 122 covers key concepts and issues underlying the modern practice of interpersonal relations from the supervisor's perspective. Major topic areas are self-awareness, communication, interpersonal relationships, values, attitudes, working with others, working with supervisors, customer service, and self-improvement. This course will enable students to develop the ability to handle human relations constructively, develop a greater comprehension of the causes of interpersonal conflict, and to make intelligent choices when people related problems arise.

Upon successful completion of MGT 122, the student should be able to:

- Demonstrate assertiveness skills.
- Distinguish concepts of communication styles and process.

- Use and create stress reduction strategies based on identifying characteristics of stress.
- Describe development and improvement methods of self-esteem.
- Analyze the dimensions of leadership.
- Describe motivational models.
- Illustrate the importance of organizational team building.
- Explain basic human relation themes such as value formation, individual attitudes and interpersonal relationships.
- Explain conflict management strategies through the use of communication and interpersonal relationships.
- Explain forms of positive reinforcement.
- Identify personality types and the forces influencing human behavior.
- Design and conduct a successful employment interview.
- Evaluate the strengths and weaknesses of interview components, strategies, and instruments.
- Analyze training strategies and process.
- Use the concepts in performance appraisal to demonstrate solutions to performance appraisal problems.
- Describe the relationship between motivation and compensation.
- Design effective strategies for creating a pay plan, effective incentive programs and benefit plans.
- Explain the impact of employee safety and Occupational Safety and Health Administration (OSHA) laws.
- Summarize collective bargaining.

### **MGT 124 Human Resource Management (3)**

*3 hours lecture per week*

MGT 124 is an introduction to principles, organizations and techniques of personnel administration, procurement and placement, improvement of performance, management and labor relations, remunerations and security and other services provided to the firm by the personnel section. This course provides the practical and operational knowledge of the responsibilities involved in personnel management within the business profession.

Upon successful completion of MGT 124, the student should be able to:

- Explain the strategic role of human resource management within the management process.
- Describe the changing human resource environment.
- Create a job analysis, job specifications and job descriptions documents.
- Define effective career management practices including ethics and fairness.
- Identify the roles in career planning and development.
- Differentiate between personnel recruiting strategies and concepts.

## **MARKETING**

### **MKT 120 Principles of Marketing (3)**

*3 hours lecture per week*

MKT 120 is an introduction to the theories and principles of marketing. Emphasis is on understanding the importance of the 4 P's (Product, Price, Place, and Promotion). Customer Relationship Management, market research, and buyer behaviors are also examined.

Upon successful completion of MKT 120 the student should be able to:

- Write a comprehensive marketing plan.
- Describe the customer-centric marketing concept.
- Identify the functions of marketing.
- Identify the elements of the marketing plan.
- Explain the 4 P's (Product, Price, Place, and Promotion) of marketing.
- Evaluate consumer buying behavior.
- Apply Customer Relationship Management (CRM) principles.
- Apply marketing research techniques.

**MKT 130 Principles of Retailing (3)***3 hours lecture per week*

MKT 130 is an introduction to the concepts and principles of retailing and their roles in the function of marketing. Emphasis is on organization, operation and management of a retail store. Buying, handling and aspects of merchandising management will be presented. Topics such inventory and expense control, personnel, e-commerce, merchandise and sales promotion are also covered.

Upon successful completion of MKT 130, the student should be able to:

- Describe the role of retailing in the free enterprise system.
- Apply principles of store organization and operations.
- Explain the concepts of store location, design, and layout.
- Apply principles of the buying function.
- Describe the techniques of retail promotion.
- Summarize the principles of merchandise and expense control systems.
- Construct a merchandise plan.
- Construct an assortment plan.
- Prepare a buying plan.
- Calculate open-to-buy.

**MKT 135 Principles of Merchandise Management (3)***3 hours lecture per week**Recommended Preparation: BUS 120.*

MKT 135 is an introduction to the principles of buying, handling, and financial aspects of merchandising management. A practical course on merchandise plans, customer demand, merchandise sources, evaluation methods, negotiating, reordering, merchandise forecasting and budgeting, and inventory controls.

Upon successful completion of MKT 135, the student should be able to:

- Apply concepts and principles of effective buying.
- Understand buying for different types of stores.

- Know the different roles of the retail buyer.
- Construct a merchandise plan.
- Construct an assortment plan.
- Understand open-to-buy.
- Know fundamentals of inventory management.
- Know methods of inventory shrinkage control.
- Prepare a buying plan.
- Explain the importance of managing the open-to-buy.
- Describe the buying process.
- Describe buying at the store and local market.
- Describe buying in the market and at the show.
- Summarize the process of follow-up, re-orders, and following trends.
- Identify target consumer for a particular store.
- Explain the importance of positive vendor relationships.
- Identify professional and ethical business practices.
- Demonstrate negotiating skills.
- Outline the buyer's role in visual merchandising, advertising, public relations, sales promotion, and sales support services.
- Identify the components of the merchandise plan.
- Distinguish seasonal planning based on store needs.
- Identify classification of product groups.
- Describe product development.
- Prepare a sales projection.
- Describe the components of open-to-buy.
- Describe planning and controlling of inventory dollars.
- Differentiate between classification and unit control.
- Compute turnover.
- Summarize inventory shrinkage control techniques.

**MKT 150 Customer Relationship Management and Selling (3)***3 hours lecture per week*

MKT 150 is the study of the principles of Customer Relationship Management (CRM) and selling. The study of CRM and sales involves customer acquisition, retention, and growth that lead to referrals and increased revenues. Students will develop an understanding of the sales process, both outside professional selling and inside retail selling.

Upon successful completion of MKT 150, the student should be able to:

- Develop a CRM plan.
- Develop a complete sales presentation.
- Explain the principles of CRM.
- Identify the major characteristics that influence buying behavior.
- Identify the stages of the consumer buying decision process.
- Outline the business buying decision process.
- Describe relationship marketing and its role in business.
- Design customized offers and communications.
- Select strategies for gaining customer loyalty.
- Use online technology to build customer relationships and customer information.
- Summarize the selling process.
- Outline the steps in prospecting and qualifying potential customers.
- Outline the steps in the pre-approach and approach.
- Demonstrate a sales presentation.
- Demonstrate how to overcome sales resistance and objections.

### **MKT 152 Principles of Sales Management (3)**

*3 hours lecture per week*

*Prerequisite(s): Credit or concurrent enrollment in MKT 150.*

*Recommended Preparation: MKT 120.*

MKT 152 focuses on concepts and principles of sales management providing the integration of retail and personal selling, including planning, organizing, developing, and directing the retail sales force. The methodologies and techniques for evaluating sales force performance and the functions of retail sales management are emphasized.

Upon successful completion of MKT 152, the student should be able to:

- Understand the scope and purpose of retail sales management.
- Understand the methodologies used to measure sales force performance.
- Measure markets.
- Forecast sales.

- Compute allocation of resources, including budgets and quotas.
- Know techniques for training, motivating, and compensating sales associates.
- Understand leadership and supervisory techniques used in an effective sales management.

### **MKT 160 Principles of Advertising (3)**

*3 hours lecture per week*

MKT 160 is an introduction to the role of advertising and promotion in selling a product and/or service in today's business environment. Emphasis is on a practical approach to selecting effective advertising media, designing visual elements and writing copy for the product and/or service.

Upon successful completion of MKT 160, the student should be able to:

- Design an advertising campaign.
- Explain the principles of advertising and promotion.
- Distinguish among the different advertising media.
- Evaluate the effectiveness of different advertising media.
- Describe the different promotion strategies.
- Identify the elements of a promotion mix.
- Identify the different product classifications.
- Design visual elements and write effective copy for various advertising media and target market(s).

### **MKT 160L Principles of Advertising Lab (1) (Inactive)**

*2 hours lecture/lab per week*

*Prerequisite(s): Credit or concurrent enrollment in MKT 160.*

*Recommended Preparation: BUS 120; MKT 120.*

MKT 160L is a hands-on course in correct usage of selecting advertising media, appropriate selection of proper merchandise to advertise, writing proper newspaper copy, creativity and production of broadcast media, elements of display, design and arrangement.

Upon successful completion of MKT 160L, the student should be able to:

- Produce and direct a TV commercial as well as a radio commercial.
- Write appropriate copy and do layout for a magazine and newspaper.
- Design a display window with proper lighting.
- Be able to evaluate advertisements and displays.

### **MKT 180 International Marketing (3)**

*3 hours lecture per week*

*Recommended Preparation: BUS 120; MKT 120.*

MKT 180, International Marketing, is the performance of business activities that direct the flow of goods and services to consumers or users in more than one nation. By recognizing the uniqueness of foreign markets, their unfamiliar problems and varied strategies, the student will study marketing in a new setting, a different environment and a different culture.

Upon successful completion of MKT 180, the student should be able to:

- Understand the scope and challenge of international marketing.
- Understand the world marketing environment to include the role of cultural dynamics in foreign markets, business customs, political considerations and legal environment.
- Demonstrate the ability to apply general marketing concepts to the international marketing environment.

### **MKT 185 e-Commerce Marketing (3)**

*3 hours lecture per week*

*Recommended Preparation: MKT 120.*

Conducting business in today's digital age means using the Internet and other forms of digital sales and marketing. MKT 185 provides the foundation for marketing using the Internet. Coursework includes managing e-Commerce through customer service, interfacing with customers by e-mail, understanding the digital mentality and netiquette, fulfilling e-Commerce orders, what not to do online, and thriving in the virtual international marketplace.

Upon successful completion of MKT 185, the student should be able to:

- Understand how to use the Internet for e-Commerce.
- Know the tools that customers use on the Internet.
- Appreciate the importance of netiquette.
- Appreciate the importance of being sensitive to the Internet's global nature.
- Understand security issues involved in e-Commerce.
- Articulate appropriate responses to customer's inquiries about security issues.
- Analyze different business models for e-Commerce.
- Recognize the role of customer service for e-Commerce.
- Compose e-mail letters for various situations of customer service.

### **MKT 230 Global Supply Chain Management (3)**

*3 hours lecture per week*

*Prerequisite(s): A grade of "C" or higher in MKT 120; a grade of "C" or higher in MKT 130.*

*Comment: MKT 230 was formerly EBUS 230.*

MKT 230 focuses on the performance and application of business activities, market channels and relationships of a supply chain system as it directs the flow of goods and services from the manufacturer to consumers. Students learn strategies to effectively compete in a global market through the construction and implementation of such a system.

Upon successful completion of MKT 230, the student should be able to:

- Work effectively in teams to construct and implement a simulated supply chain system model.
- Differentiate the types of intermediaries, functions performed by the channel, and systems that facilitate the flow of products, information and finances along the supply chain (logistics).
- Formulate and implement channel objectives and strategy.
- Compare forms of international business.
- Apply general marketing concepts to the

international marketing environment.

- Explain technologies utilized in e-commerce.
- Use technology to reduce costs and increase efficiency.

### **MKT 250 Advanced Customer Relationship Management (CRM) (3)**

*3 hours lecture per week*

*Prerequisite(s): A grade of "C" or higher in MKT 150.*

MKT 250 uses a personal and/or data-driven approach to retaining customers and creating long-term relationships. Building on concepts learned in MKT 150, students will use sophisticated marketing strategies to identify profitable customer segments. Students conduct customer tracking and market research both online and offline. Students explore privacy and other ethical and legal issues involving consumer data.

Upon successful completion of MKT 250, the student should be able to:

- Work effectively in teams in areas such as brainstorming, negotiation and team work.
- Manage customer relationship projects using market research techniques and applying marketing strategies.
- Demonstrate presentation skills using appropriate business presentation media.
- Perform data queries for data mining, analysis, and customer profiling.
- Identify privacy and legal considerations and demonstrate ethical practices in utilizing consumer data.
- Use data selection criteria to segment and target markets.
- Build customer relationships using internet technologies and customer information
- Identify several metrics used to track and measure customer relationship management.
- Identify Customer Relationship Management (CRM) elements in Supply Chain Management (SCM) integration.
- Exhibit effective analytical skills for problem solving and strategy development in business and marketing.

### **MKT 260 Integrated Marketing Communication (3)**

*3 hours lecture per week*

*Prerequisite(s): A grade of "C" or higher in EBUS 101; a grade of "C" or higher in MKT 120; a grade of "C" or higher in MKT 160; a grade of "C" or higher in ENG 160, ENG 209, or ENG 225.*

*Comment: MKT 260 was formerly EBUS 150.*

MKT 260 is a practice-based application course that teaches students how to analyze, select, and apply marketing communications tools appropriately and effectively to an integrated marketing campaign. Students work in teams on an integrated marketing communications campaign that includes: market segmentation, marketing tool selection, measurement tools, and the development and delivery of targeted marketing communications.

Upon successful completion of MKT 260, the student should be able to:

- Demonstrate presentation capabilities using appropriate business presentation media.
- Explain the role of each integrated marketing communication tool in an integrated plan: advertising, sales promotion, direct marketing, personal selling, public relations.
- Build customer segments using a variety of selection variables.
- Assess the appropriateness of various print, broadcast, and online media for marketing communication efforts.
- Work as a team to develop, manage and deliver a targeted, integrated marketing communication campaign including analyzing, selecting and applying marketing tools appropriately.
- Explain and apply the legal and ethical issues affecting marketing communication campaigns.
- Demonstrate effective communication skills used in the delivery of marketing campaigns.

**MKT 293 Marketing Internship (3)**

*1 hour lecture / 8 hours practicum per week*

*Prerequisite(s): A grade of "C" or higher in MKT 120; a grade of "C" or higher in MKT 130; a grade of "C" or higher in MKT 150; a grade of "C" or higher in MKT 160; a grade of "C" or higher in MKT 180; credit or concurrent enrollment in MKT 230 or consent of the Department Chairperson; credit or concurrent enrollment in MKT 250 or consent of the Department Chairperson; credit or concurrent enrollment in MKT 260 or consent of the Department Chairperson.*

MKT 293 is a capstone work-study course providing opportunities to reinforce skills learned in Marketing courses by applying them in an actual job situation. This course provides students the ability to analyze their work and the business operation in relationship to the principles, concepts and procedures learned in their courses.

Upon successful completion of MKT 293, the student should be able to:

- Integrate the accumulated knowledge and skills from previous course work into a practical comprehensive working knowledge base through work application.
- Develop a bridge between academia and the professional world.
- Attain practical on-the-job experience in an actual occupational situation compatible to the student's major curriculum.
- Communicate effectively and use appropriate social skills within the work environment.
- Gain practical work experience while under the guidance of professionals who will help identify the personal qualities and work skills required of employees in your chosen field.
- Employ to the fullest extent the student's abilities, initiative, and creativity.
- Describe the social and economic responsibilities of those engaged in marketing.
- Build practical work experience while under the guidance of professionals who will help identify the personal qualities and work skills required of employees in your chosen field.
- Perform job duties at a worksite according to industry standards.

- Demonstrate progressive leadership that is competent, assertive, self-reliant and cooperative through the exploration of vocational and avocational opportunities.
- Demonstrate the ethical and professional practices necessary to work in the field.
- Explain the impact of marketing on the economy.
- Identify areas of self-improvement in knowledge, skills, attitude and behavior.

**MATHEMATICS****MATH 24 Elementary Algebra I (3)**

*3 hours lecture per week*

*Prerequisite(s): A grade of "P" in PCM 23, or a placement test recommendation of MATH 24 or higher.*

*Comment: A scientific calculator is required.*

An introduction to basic algebra topics, MATH 24 is the first course in a two semester sequence of Elementary Algebra courses. Instruction includes units on operations with signed numbers, linear equations and inequalities in one variable, the coordinate plane, and linear systems in two variables.

Upon successful completion of MATH 24, the student should be able to:

- Translate word phrases into algebraic expressions.
- Use the order of operations to find the value of algebraic expressions.
- Identify whole numbers, integers, rational numbers, irrational numbers, and real numbers.
- Find the absolute value, additive inverse, and multiplicative inverse of a real number.
- Perform the basic operations (add, subtract, multiply, and divide) with signed rational numbers.
- Identify the following properties: commutative, associative, identity, inverse, distributive.
- Identify terms, like terms, and numerical coefficients in a polynomial.
- Solve linear equations and inequalities in one variable.

- Solve a formula for a specified variable.
- Write and solve ratios and proportions including those from word problems.
- Plot an ordered pair and state the quadrant in which it lies.
- Graph linear equations and inequalities by point plotting, the intercept method, and the slope-intercept method.
- Write the equation of a line given two points or the slope and y-intercept or the slope and a point on the line.
- Solve linear systems of equations or inequalities in two variables by algebraic and graphic methods.
- Use linear systems to solve word problems.
- Identify a given radical as rational, irrational, or not real.
- Evaluate a radical expression
- Simplify a radical expression.
- Add, subtract, multiply, or divide radical expressions.
- Solve equations containing radicals.
- Solve word problems that lead to equations containing radical expressions.
- Solve a quadratic equation with integral coefficients by factoring.
- Solve equations of the form  $(ax+b)^2$ , using the square root property of equations.
- Complete the perfect trinomial square given a partial trinomial.
- Use the quadratic formula to solve quadratic equations.

**MATH 25 Elementary Algebra II (3)**

3 hours lecture per week

*Prerequisite(s):* A grade of "C" or higher in MATH 24 or a placement test recommendation of MATH 25.

*Comment:* A scientific calculator is required.

A continuation of basic algebra topics, MATH 25, is the second course in a two semester sequence of Elementary Algebra courses. Instruction includes units on exponents, polynomials, factoring, rational expressions and equations, radical expressions and equations, and quadratic equations.

Upon successful completion of MATH 25, the student should be able to:

- Identify and use the laws of exponents to simplify expressions with integral exponents.
- Use scientific notation in calculations.
- Add, subtract, multiply, and divide polynomials in one or two variables.
- Factor the greatest common factor from a polynomial expression.
- Factor a polynomial of four terms by grouping.
- Factor general trinomials  $ax^2+bx+c$ , where a, b, and c are integers.
- Recognize and factor the difference of two squares.
- Recognize and factor a perfect square trinomial.
- Write rational expressions in lowest terms.
- Add, subtract, multiply, and divide algebraic fractions.
- Solve equations containing rational expressions
- Solve word problems that lead to equations containing rational expressions including indirect variation.

**MATH 50H Technical Mathematics I/Food Service (3) (Inactive)**

3 hours lecture per week

*Prerequisite(s):* A grade of "P" in PCM 23, or placement test recommendation of MATH 24.

*Comment:* A scientific calculator is required.

MATH 50H will give students the opportunity to develop skills in the basic arithmetic, measurements, addition and subtraction, multiplication and division of positive and negative numbers, fractions, evaluations of formulas, simple equations and applications of these skills in practical situations using food and beverage operation problems.

Upon successful completion of MATH 50H, the student should be able to:

- Apply skills in basic mathematics, measurements, additions, subtractions, multiplication and division of positive and negative numbers to practical food service operation problems.
- Evaluate formulas and simple equations in converting from Metric to English systems of measurements.
- Show an understanding of percent in application to several types of practical situations.
- Solve math problems to production planning and forecasting, standard cost planning, profit planning and cost controls, recipe conversion, and pre-costing, interest calculation and consumer credit, formulas and ratios.

**MATH 81 Foundations of Mathematics (5)***4 hours lecture, 2 hours lecture/lab per week**Prerequisite(s): Qualification for ENG 22; PCM 23, or a placement test recommendation of MATH 24 or MATH 25.**Comment: Student will be asked to purchase or rent a graphing calculator.*

MATH 81 is offered to prepare students for college level mathematics (BUS 100, MATH 100, MATH 100H, MATH 115). Topics covered include numeracy, data analysis, basic algebra, graphing, geometry, and problem solving. Students will be expected to use graphing calculators and computers in an interactive and collaborative learning environment.

Upon successful completion of MATH 81, the student should be able to:

- Extract relevant data and solve real-life problems that involve computations with whole numbers, fractions, decimals, and percents.
- Estimate and determine the magnitude of quantities before formal computation and to compare the estimated and computed values for consistency.
- Convert standard notation to scientific notation, perform calculations using scientific notation.
- Use the order of operations
- Analyze and interpret graphical and tabular data.
- Write ratios and proportions and use them to solve problems.
- Solve direct and inverse variation problems.
- Perform the basic operations on signed numbers.
- Evaluate formulas (including geometric and Pythagorean) from a variety of disciplines, using calculators when appropriate
- Express numerical quantities, including variables, in meaningful units.
- Interpret an algebraic expression in one variable as an explicit sequence of arithmetic operations to be performed on that variable.
- Identify terms, like terms, numerical coefficients.
- Recognize and express verbally, numerically, graphically, and symbolically the patterns displayed by linear data.
- Recognize equivalent linear relationships numerically, algebraically, and graphically and translate from one representation to any of the others.

- Translate word phrases into algebraic expressions and equations.
- Solve linear equations and simple systems of equations.
- Solve a formula for a specified variable.
- Use the laws of exponents.
- Solve equations involving squares and square roots.
- Use the quadratic formula.

**MATH 100 Survey of Mathematics (3) KCC AA/FS***3 hours lecture per week**Prerequisite(s): A grade of "A" in MATH 24 or a grade of "C" or higher in MATH 25 or MATH 81 or tested placement at MATH 100; qualification for ENG 22 or ESOL 94.*

MATH 100 is a survey of important elementary concepts in algebra, logical structure, numeration systems, and probability, designed to acquaint non-specialists with examples of mathematical reasoning, and to develop an appreciation and understanding of their historical development and of the relationship of mathematics to the modern world.

Note: Although MATH 100 fulfills the UHM BA general education core requirements, it is not acceptable as a prerequisite to QM 252, or MATH 135 or higher level mathematics courses.

Upon successful completion of MATH 100, the student should be able to:

- Use basic techniques in symbolic logic to draw deductive conclusions in simple situations.
- Solve some problems in finance (compounded interest, annuity, installment payment, etc.) using hand calculators.
- Understand concepts in permutations and combinations, and their applications.
- Understand basic concepts of probability and statistics.

**MATH 100H Math for Health Sciences (3) KCC AA/FS (Inactive)***2 hours lecture, 2 hours lecture/lab per week**Prerequisite(s): A grade of "A" in MATH 24 or a grade of "C" or higher in MATH 25 or higher level mathematics course, or placement at MATH 100 or higher level mathematics course; qualification for ENG 22 or ESOL 94 or higher level English course. Comment: Fall and Spring semesters only.*

MATH 100H is a survey of concepts in logic, probability, statistics, descriptive geometry, and algebra with emphasis on learning problem-solving, especially problems related to the health sciences

Upon successful completion MATH 100H, the student should be able to:

- Solve applied health science problems using skills learned for ratios, proportions, direct and inverse variation, and units conversion (dimensional analysis).
- Use basic techniques from symbolic logic to draw deductive conclusions.
- Apply logic to evaluate health science situations.
- Use basic concepts of probability to determine probable outcomes.
- Use a scientific calculator to help solve numerical problems.
- Use properties of geometric figures and angles as applied to health science situations.
- Use and interpret exponential and logarithmic functions to illustrate appropriate health science applications.
- Use a scientific calculator to help analyze sets of data.
- Read and draw conclusions from varied types of charts and graphs.
- Report on statistical data about an aspect of health science.

### **MATH 103 Fundamentals of College Algebra (3) KCC AA/FS**

*3 hours lecture per week*

*Prerequisite(s): A grade of "C" or higher in MATH 25 or a KCC Placement Test recommendation of MATH 103.*

MATH 103 is a course in College Algebra. It extends topics introduced in the elementary algebra sequence and prepares students for precalculus. Instruction includes units on algebraic simplification of polynomial, rational, exponential, and radical expressions, as well as solving equations and inequalities involving absolute value, polynomial, rational, exponential, and radical expressions, and the graphing of lines and parabolas. The topic of functions is introduced early in the course and is integrated in the subject matter throughout the course. A scientific calculator is required.

Upon successful completion of MATH 103, the student should be able to:

- Add, subtract, and multiply polynomial expressions.
- Factor polynomial expressions.
- Divide polynomial expressions using synthetic division.
- Determine if a mathematical relation is a function.
- Find the domain of polynomial, rational, and radical functions.
- Simplify, add, subtract, multiply and divide rational expressions.
- Simplify, add, subtract, multiply, and divide exponential expressions with rational exponents, and radical expressions with an index of 3 or higher.
- Solve linear and absolute value equations and inequalities.
- Solve quadratic and rational inequalities.
- Solve quadratic, rational and radical equations.
- Solve a 3 X 3 system of linear equations.
- Solve equations that are quadratic in form.
- Determine the equation of a line (including lines parallel or perpendicular to a given line).
- Graph a parabola, a system of 2 X 2 equations and inequalities, and graph square root and cube root functions.
- Model and solve problems involving systems of linear equations (2 X 2 and 3 X 3), polynomial equations with Rational solutions, and quadratic and rational equations with Real solutions.
- Solve compound inequalities.
- Solve problems involving direct, inverse, and combined variation.

### **MATH 111 Mathematics for Elementary School Teachers I (3)**

*3 hours lecture per week*

*Prerequisite(s): A grade of "A" in MATH 24, a grade of "C" or higher in MATH 25, a grade of "C" or higher in MATH 81, or Placement Test recommendation of MATH 100 or higher; qualification for ENG 100.*

MATH 111 is designed to give prospective elementary education majors the depth of understanding necessary to teach mathematics in the elementary classroom. Topics will include numbers, operations on sets, patterns, functions and algebra.

Emphasis will be on understanding, communication, problem solving, representing mathematical ideas, and reasoning and proof.

Upon successful completion of MATH 111, the student should be able to:

- Explain ways of representing numbers, relationships among numbers, and number systems.
- Perform various operations on sets; union, intersection, etc.
- Identify and describe various types of patterns and functional relationships.
- Use symbolic forms to represent, model, and analyze mathematical situations.
- Solve a variety of problems.
- Communicate mathematical ideas verbally, in writing, and through mathematical representations to various audiences.
- Apply appropriate mathematical reasoning to justify solution paths to various problems.

### **MATH 112 Mathematics for Elementary Teachers II (3) KCC AA/FS**

*3 hours lecture per week*

*Prerequisite(s): A grade of "C" or higher in MATH 111.*

MATH 112 is designed to give prospective elementary education majors the depth of understanding necessary to teach mathematics in the elementary classroom. Topics will include representations of and operations on the natural numbers, integers, rational numbers and real numbers, and properties of those operations. Emphasis will be on communication, connections to other parts of mathematics, problem solving, representations, and reasoning and proof.

Upon successful completion of MATH 112, the student should be able to:

- Demonstrate various representations of Natural numbers and Integers.

- Define the operations on Natural numbers and Integers.
- Identify, describe, and demonstrate the proper use of the properties of operations on Natural numbers and Integers.
- Demonstrate various representations of Rational and Real numbers.
- Define the operations on Rational and Real numbers.
- Identify, describe, and demonstrate the proper use of the properties of operations on Rational and Real numbers.
- Apply appropriate mathematical reasoning to justify solution paths to various problems.
- Solve a variety of problems.
- Communicate mathematical ideas verbally, in writing, and through mathematical representations to various audiences.
- Demonstrate mathematical literacy and fluency.

### **MATH 115 Statistics (3) KCC AA/FS**

*3 hours lecture per week*

*Prerequisite(s): A grade of "C" or higher in MATH 25 or higher, or placement at MATH 100 or higher level mathematics course; qualification for ENG 22 or ESOL 94 or higher level English course.*

MATH 115 covers elementary probability and statistics including standard deviation, calculations and inferences about means and proportions, normal distributions and linear correlation.

Upon successful completion MATH 115, the student should be able to:

- Describe and interpret various descriptive statistics such as mean, median, mode, range, standard deviation and quartiles.
- Draw and interpret various graphs such as frequency histograms, bar graphs, and boxplots.
- Solve problems involving the probability of events.
- Calculate probabilities involving normal random variables and categorical data.
- Determine and interpret (for large samples) confidence interval estimates of population means and proportions.
- Conduct hypothesis tests using z and chi-square about means and proportions of populations.

- For a set of paired data, produce a scatter plot, find the regression line, and find and interpret the correlation coefficient.

**MATH 135 Elementary Functions (3) KCC AA/FS***3 hours lecture per week**Prerequisite(s): A grade of "C" or higher in MATH 103, or a grade of "C" or higher in MATH 27, or qualification for MATH 135 on math placement test.*

MATH 135 focuses on elementary functions and graphs, polynomials, systems of linear equations, absolute values, inequalities, logarithms and exponentials.

Upon successful completion of MATH 135, the student should be able to:

- Apply definitions of functions, inverse functions and composition functions correctly.
- Show familiarity with all principles involving linear functions.
- Find roots, evaluate, sketch, and solve inequalities involving polynomial functions.
- Graph rational functions using the concept of asymptotes.
- Apply definitions and principles of logarithmic and exponential functions correctly.
- Use knowledge and techniques of this course in solving applied problems.

**MATH 140 Trigonometry and Analytic Geometry (3) KCC AA/FS***3 hours lecture per week**Prerequisite(s): A grade of "C" or higher in MATH 135 or qualification for MATH 140 on math placement test.*

MATH 140 covers inverse functions, plane trigonometry, polar coordinates, conic sections and vectors.

Upon successful completion of MATH 140, the student should be able to:

- Solve verbal and non-verbal problems in plane trigonometry.
- Relate functional and geometric properties of conic sections.
- Simplify algebraic expressions involving complex numbers.
- Relate vectors with circular functions.

**MATH 203 Calculus for Business and the Social Sciences (3) KCC AA/FS***3 hours lecture per week**Prerequisite(s): A grade of "C" or higher in MATH 135 or placement recommendation of MATH 140.*

MATH 203 covers the mathematics of finance - annuities, perpetuities, present value, derivatives, integrals, graphical analysis, and mathematical models as applied to business. MATH 203 also covers applications of the derivative to curve sketching and the solutions of optimization problems, and involves the algebra and geometry of linear, quadratic, polynomial, exponential, and logarithmic functions, including functions of more than one variable.

Upon successful completion of MATH 203, the student should be able to:

- Apply the concepts of function, limits, and continuity to business and financial problems.
- Compute the derivatives and integrals of power functions, exponential, logarithmic functions and any combination of these functions.
- Apply the derivative to problems involving slopes, tangent lines, rates of changes, and optimization.
- Apply the concepts of limits and derivatives to graphing.
- Apply the derivative and integral in solving applied problems by using more than one variable.

**MATH 205 Calculus I (4) KCC AA/FS***4 hours lecture per week**Prerequisite(s): A grade of "C" or higher in MATH 140 or equivalent or satisfactory performance on the math placement test.*

MATH 205 focuses on basic concepts, limits and continuity, techniques and applications of differentiation, introduction to integration.

Upon successful completion of MATH 205, the student should be able to:

- Understand and apply the concept of limit.
- Differentiate polynomial functions and sums, products, quotients, roots, and compositions of polynomial functions.
- Use differential calculus to sketch curves and to solve applied problems.

- Integrate functions by approximation and by use of antiderivatives.
- Use integral calculus to determine area and to solve applied problems.

**MATH 206 Calculus II (4) KCC AA/FS**

4 hours lecture per week

Prerequisite(s): A grade of "C" or higher in MATH 205 or equivalent.

MATH 206 is the second course in the calculus sequence, which focuses on techniques of integration and on integrals of specific functions and their applications. Explores infinite series.

Upon successful completion of MATH 206, the student should be able to:

- Differentiate and integrate elementary transcendental functions.
- Integrate functions using special methods.
- Apply L'Hospital's Rule and evaluate improper integrals.
- Determine the convergence of infinite sequences and series and approximate functions with Taylor polynomials.
- Use the techniques developed in this course to solve applied problems.

**MATH 206L Calculus Computer Lab (1)**

3 hours lab per week

Corequisite(s): MATH 206.

MATH 206L is an introduction to mathematics computer software for solving calculus problems, graphing functions, and gaining a better understanding (graphically and numerically) of calculus concepts. No prior knowledge of computers is required.

Upon successful completion of MATH 206L, the student should be able to use symbolic mathematics computer software to find:

- Solutions of equations and systems of equations.
- First and second derivatives.
- Estimates of function zeros using Newton's Method.
- Definite and indefinite integrals.
- Estimates of definite integrals using numerical methods.
- Taylor polynomials and estimate their remainders.

- The convergence or divergence of infinite series and should have insights into the fundamental calculus concepts of:
  - Limit of a function.
  - Derivative of a function.
  - Application of Newton's Method.
  - Definite integral.
  - Numerical methods for estimating the definite integral.
  - Convergence of Taylor polynomials.
  - Solutions of differential equations of the form  $F'(x)=G(x,y)$ .

**MATH 231 Calculus III (4)**

4 lecture hours per week

Prerequisite(s): A grade of "C" or higher in MATH 206.

MATH 231 is the third course in the calculus sequence, which focuses on functions of several variables using a vector oriented approach. The course also studies partial differentiation.

Upon successful completion of MATH 231, the student should:

- Acquire the ability to use differential calculus on functions of several variables of mathematics.
- Be able to differentiate functions of several variables and use the derivative to solve problems.
- Be exposed to and acquire some knowledge of the methods and logic of mathematics.
- Acquire an understanding of what a limit is and of the properties of limits of vector functions.

**MATH 232 Calculus IV (4)**

4 lecture hours per week

Prerequisite(s): A grade of "C" or higher in MATH 231.

MATH 232 is the fourth course in the calculus sequence, which focuses on multiple integrals, line and surface integrals and applications, and an introduction to ordinary differential equations.

Upon successful completion of MATH 232, the student should:

- Acquire the use of multivariable and basic

differential equations calculus as a tool of mathematics.

- Be able to solve problems using multivariable calculus and differential equations.
- Be exposed to and acquire some knowledge of the methods and logic of mathematics.

## MEDICAL ASSISTING

### MEDA 101 Understanding the Ambulatory Care Patient (1)

*1 hour lecture per week*

*Prerequisite(s): Admission to the Medical Assisting Program.*

*Comment: Letter grade only. MEDA 101 may not be taken credit/no credit. MEDA 101 may not be audited. MEDA 101 was formerly a component of MEDA 100.*

MEDA 101 is an introductory course that provides a knowledge base for the medical assistant's interaction with ambulatory care patients. It covers basic principles of psychology and human growth and development.

Upon successful completion of MEDA 101, the student should be able to:

- Discuss the application of basic principles of psychology in dealing with patients of various backgrounds and medical conditions.
- Describe possible ways of dealing with noncompliant patients.
- Discuss stages of human growth and development in relation to medical conditions.
- Explain variations in selected health conditions at different life stages.
- Discuss the role of culture in health and wellness.
- Discuss the role of family and support systems in health care among different cultures.

### MEDA 102 Communication in the Medical Office (1)

*1 hour lecture per week*

*Prerequisite(s): Admission to the Medical Assisting Program.*

*Comment: Letter grade only. MEDA 102 may not be taken credit/no credit. MEDA 102 may not be audited. MEDA 102 was formerly a component of MEDA 100.*

MEDA 102 is an introductory course that focuses on communication in the medical office/ambulatory care setting.

Upon successful completion of MEDA 102, the student should be able to:

- Adapt communications to individual's ability to understand.
- Communicate patient instructions clearly and effectively.
- Use appropriate terminology in communicating with other health care team members.
- Recognize and respond effectively to verbal, nonverbal, and written communications.
- Use professional telephone technique.
- Use electronic technology to receive, organize, prioritize, and transmit information.

### MEDA 103 Math Applications in the Medical Office (1)

*1 hour lecture per week*

*Prerequisite(s): Admission to the Medical Assisting Program.*

*Comment: Letter grade only. MEDA 103 may not be taken credit/no credit. MEDA 103 may not be audited. MEDA 103 was formerly a component of MEDA 100.*

MEDA 103 is an introductory course that focuses on applications of basic mathematical principles in the medical office/ambulatory care setting.

Upon successful completion of MEDA 103, the student should be able to:

- Use applicable mathematical principles to solve problems in the medical office.
- Convert measurements from one system to another.
- Perform drug dosage calculations.

### **MEDA 104 Basic Nutrition for the Medical Assistant (1)**

*1 hour lecture per week*

*Prerequisite(s): Admission to the Medical Assisting Program.*

*Comment: Letter grade only. MEDA 104 may not be audited. MEDA 104 may not be taken credit/no credit. MEDA 104 was formerly a component of MEDA 100.*

MEDA 104 is an introductory course that identifies the relationship of food and nutrition to health. It covers the application of basic nutrition principles to personal well-being and the importance of nutrition in preventing chronic diseases.

Upon successful completion of MEDA 104, the student should be able to:

- Identify nutrients and their functions.
- Utilize the food pyramid and dietary guidelines in planning a healthy diet.
- Explain the relationship between nutrition and chronic diseases.
- Identify deceptive nutrition advertising.

### **MEDA 111 Medical Assisting Science I (3)**

*3 hours lecture per week*

*Prerequisite(s): Admission to the Medical Assisting program.*

*Comment: Letter grade only. MEDA 111 may not be audited. MEDA 111 may not be taken Credit/No Credit.*

MEDA 111 covers basic concepts of human anatomy and physiology as well as medical terminology related to the body as a whole and to each major body system.

Upon satisfactory completion of MEDA 111, the student should be able to:

- Name and locate the parts and state the major functions of the human organ systems: integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, respiratory, digestive, urinary, and reproductive.
- Define medical terms related to the body as whole.
- Define and use word parts to build medical terms.
- Apply knowledge of word parts, analyze and define medical terms associated with the systems of the human body and related diagnostic, surgical, and treatment procedures and disease conditions.
- Recognize and apply terminology pertaining to injuries and disease processes.

### **MEDA 121, Clinical Medical Assisting I (1)**

*1 hour lecture per week*

*Prerequisite(s): Admission into the Medical Assisting Program.*

*Corequisite(s): MEDA 121L*

*Comment: Letter grade only. MEDA 121 may not be audited. MEDA 121 may not be taken credit/no credit. MEDA 121 was formerly a component of MEDA 120.*

MEDA 121 provides principles of basic clinical care skills as an assistant to a physician in an ambulatory care facility setting.

Upon satisfactory completion of MEDA 121, the student should be able to:

- Explain basic ambulatory care concepts and principles in the performance of back office duties.
- Discuss routine patient care/diagnostic procedures to assess the health status of patients.

- Explain the role of the medical assistant in preparation of back office, equipment and supplies to facilitate the smooth flow of patients through the clinic and/or physician's office.
- Discuss the role and responsibilities of the medical assistant in preparing the patient for specific examinations and medical procedures.
- Discuss principles of aseptic technique and infection control.
- Discuss the role of the medical assistant in assisting the physician to carry out specific examinations and procedures.
- Describe procedures for screening and following up on patient test results.
- Employ electronic media to access information about clinical medical assisting principles and methods.

### **MEDA 121L Clinical Medical Assisting Lab I (1)**

*3 hours lab per week*

*Prerequisite(s): Admission into the Medical Assisting Program.*

*Corequisite(s): MEDA 121*

*Comment: Letter grade only. MEDA 121L may not be audited. MEDA 121 may not be taken credit/no credit. MEDA 121L was formerly a component of MEDA 120L.*

MEDAS 121L provides instruction and lab practice in preparing for and performing medical office procedures and diagnostic tests and follow-up care.

Upon satisfactory completion of MEDA 121L, the student should be able to correctly:

- Apply basic ambulatory care concepts and principles with entry-level proficiency in the performance of duties in the back office.
- Demonstrate routine patient care procedures to assist the physician in the examining room.
  - Apply aseptic techniques and infection control in the back office.
  - Demonstrate sterilization/disinfection of instruments and supplies.

- Assemble and record medical data from patients.
- Prepare patients for exams and/or treatments.
- Measure and record vital signs, height and weight.

### **MEDA 122, Clinical Medical Assisting II (1)**

*1 hour lecture per week*

*Prerequisite(s): A grade of "C" or higher in MEDA 121.*

*Corequisite(s): MEDA 122L.*

*Comment: Letter grade only. MEDA 122 may not be audited. MEDA 122 may not be taken credit/no credit. MEDA 122 was formerly a component of MEDA 120.*

MEDA 122 prepares the student to carry out clinical care procedures as an assistant to a physician in an ambulatory care facility setting.

Upon satisfactory completion of MEDA 122, the student should be able to:

- Describe routine patient care/diagnostic procedures to assess the health status of patients including vision testing, hearing testing, electrocardiography.
- Examine the role of the medical assistant in facilitating the smooth flow of patients through the clinic and/or physician's office.
- Discuss the role and responsibilities of the medical assistant in preparing the patient for specific examinations and medical procedures.
- Discuss the role of the medical assistant in assisting the physician to carry out specific examinations and procedures.
- Explain the role of the medical assistant in screening and following up on patient test results.
- Describe quality assurance practices applicable to the medical office.
- Express the importance of radiation

safety principles and practices in preparing patients for imaging and related procedures.

- Use electronic media to access information about clinical medical assisting principles and methods.

### **MEDA 122L Clinical Medical Assisting Lab II (1)**

*3 hours lab per week*

*Prerequisite(s): A grade of "C" or higher in MEDA 121L.*

*Corequisite(s): MEDA 122.*

*Comment: Letter grade only. MEDA 122L may not be audited. MEDA 122L may not be taken credit/no credit. MEDA 122L was formerly a component of MEDA 120L.*

MEDA 122L provides instruction and lab practice in preparing for and performing routine and specialty medical office procedures, diagnostic tests, in-office/ambulatory surgical procedures, and follow-up care.

Upon satisfactory completion of MEDA 122L, the student should be able to correctly:

- Demonstrate back office duties with entry-level proficiency.
- Dramatize routine patient care procedures to assist the physician in the examining room in simulated lab situations.
- Demonstrate screening and follow up procedures related to patient test results in simulated lab situations.
- Demonstrate compliance with quality assurance practices applicable in the medical office.
- Perform hearing and vision screening.
- Perform single-channel or multi-channel electrocardiography.
- Demonstrate instructing patients in follow-up care/procedures in simulated lab situations.

### **MEDA 143 Administrative Medical Assisting I (3)**

*6 hours lecture/lab per week*

*Prerequisite(s): Admission to Medical Assisting*

*program.*

*Comment: Letter grade only. MEDA 143 may not be taken credit/no credit. MEDA 143 may not be audited. MEDA 143 was formerly a component of MEDA 140. Supplies required include a USB data storage device, printer paper, manila folder and optional 3-ring binder. Students should also have a medical dictionary. Approximate cost \$30.*

MEDA 143 presents basic concepts and applications of computers and computer systems in administrative medical assisting practice. The course provides beginning instruction in administrative medical assisting practice and in the front office.

Upon successful completion of MEDA 143, the student should be able to:

- Identify, describe, and use basic computer application programs used in medical assisting.
- Accurately process and communicate information in a medical office using keyboarding, proofreading, and editing skills.
- Perform basic administrative medical assisting functions.
- Schedule, coordinate, and monitor appointments, inpatient admissions and outpatient procedures.
- Input, obtain, and process accurate data for various medical office applications.
- Demonstrate ergonomically correct "touch" keyboarding techniques with a minimum keyboarding rate of 30 gross words a minute with good accuracy.
- Adhere to managed care policies and procedures.
- Apply bookkeeping principles and manage accounts receivable.
- Apply third-party payment guidelines.
- Perform basic procedural and diagnostic coding.
- Ethically handle confidential medical data.

**MEDA 152 Medical Assisting Science II (3)**

3 hours lecture per week

*Prerequisite(s): A grade of "C" or higher in MEDA 111 or instructor consent.*

*Comment: Letter grade only. MEDA 152 may not be audited. MEDA 152 may not be taken Credit/No Credit.*

MEDA 152 covers basic concepts and characteristics of disease processes; etiology, methods of control, and development of selected diseases from each major body system and application of principles to the function of a medical practice. MEDA 152 also includes an overview of the broad scope of pharmacology, and a survey of medications commonly used in the prevention, diagnosis, and treatment of diseases.

Upon satisfactory completion of MEDA 152, the student should be able to:

- Identify and discuss basic concepts, principles, and characteristics of disease processes.
- Recognize and apply terminology pertaining to injuries and disease processes.
- Identify and discuss the etiology of selected diseases from each of the major body systems.
- Identify and discuss methods of external control and treatment of known diseases.
- Apply knowledge of disease processes and conditions to the smoother functioning of a medical office or clinic.
- Interpret abbreviations and symbols accurately as they relate to drug administration.
- Discuss standards and legislation as they related to selected drugs.
- Use appropriate references for obtaining drug information.
- Identify drugs commonly used in the prevention, diagnosis, and treatment of disease
- Discuss current status of pharmaceuticals commonly used in

immunizations for the prevention of specific diseases.

- Identify major drug classifications, and drugs within each classification, commonly used in treatment of specific disease conditions encountered in the medical office.
- Cite specific action, side effects, and responsibilities related to use of all pharmaceuticals discussed in class.

**MEDA 163 Administrative Medical Assisting II (3)**

6 hours lecture/lab per week

*Prerequisite(s): A grade of "C" or higher in MEDA 143.*

*Comment: Letter grade only. MEDA 163 may not be taken credit/no credit. MEDA 163 may not be audited. MEDA 163 was formerly a component of MEDA 140 and MEDA 140L. Supplies required include a USB data storage device, printer paper, manila folder and optional 3-ring binder. Students should also have a medical dictionary. Approximate cost \$30.*

MEDA 163 provides further instruction in administrative medical assisting practice and the application of computers in medical assisting in the front office, administrative practice including transcription of medical reports and documentation, coding, and maintaining patient records and accounts.

Upon successful completion of MEDA 163, the student should be able to:

- Accurately submit claims, obtain reimbursement, and monitor third-party reimbursement.
- Perform procedural and diagnostic coding.
- Manage accounts payable and process payroll.
- Proficiently apply computer systems in maintaining patient records and accounts.
- Apply knowledge of medical terminology and transcription skills in processing medical data.

- Document and maintain accounting and banking records.
- Develop and maintain fee schedules.
- Manage renewals of business and professional insurance policies.
- Manage personnel benefits and maintain records.
- Perform marketing, financial, and strategic planning
- Transcribe reports dealing with terminology, disease conditions, and procedures related to various body systems and medical specialties.
- Apply spreadsheet and database management programs in a medical office administrative setting.
- Proofread and edit medical documents.

### **MEDA 175 Administration of Medications (1)**

*4 hours lecture/lab per week for eight weeks*

*Prerequisite(s): A grade of "C" or higher in MEDA 152 or program director consent.*

*Comment: Letter grade only. MEDA 175 may not be audited. MEDA 175 may not be taken credit/no credit. MEDA 175 was formerly PHRM 115.*

MEDA 175 provides instruction in the application of basic concepts required for medication administration: choice of equipment, proper technique, hazards and complications, patient care; performance of intramuscular, subcutaneous, and intradermal injections; preparation and administration of oral medications; immunizations.

Upon successful completion of MEDA 175, the student should be able to:

- Apply the basic concepts required for medication administration.
- Solve conversion problems within and among the following systems: household, metric, and apothecary.
- Interpret abbreviations and symbols accurately as they relate to drug administration.
- Discuss legislation relating to drug administration.
- Calculate pharmaceutical equations correctly.

- Apply the specific rules of safe drug administration.
- Prepare and administer oral, ophthalmic, otic, nasal, and parenteral preparations in simulated lab situations.

### **MEDA 201 Medical Law and Ethics (2)**

*2 hours lecture per week*

*Prerequisite(s): A grade of "C" in MEDA 121; a grade of "C" in MEDA 143.*

*Comment: Letter grade only. MEDA 201 may not be taken credit/no credit. MEDA 201 may not be audited.*

MEDA 201 focuses on legal and ethical responsibilities in patient care and management: laws pertaining to medical practice and medical assistants, application of medical ethics in performance of duties.

Upon satisfactory completion of MEDA 201, the student should be able to:

- Correlate laws that affect medical practice and the practice of Medical Assistants.
- Discuss basic concepts of medical ethics in relationships with physicians, patients and co-workers as applied to the performance of duties as a Medical Assistant.
- Use electronic media to gain knowledge of basic concepts of laws and medical ethics in the practice of Medical Assistants.

### **MEDA 210 Medical Assisting Critique (1)**

*15 hours lecture total*

*Prerequisite(s): A grade of "C" or higher in MEDA 122; a grade of "C" or higher in MEDA 122L; a grade of "C" or higher in MEDA 152; a grade of "C" or higher in MEDA 163; a grade of "C" or higher in MEDA 175; a grade of "C" or higher in MEDA 201; and a grade of "C" or higher MLT 100; and consent of instructor.*

*Corequisite(s): MEDA 215.*

*Comment: Letter grade only. MEDA 210 may not be audited. MEDA 210 may not be taken credit/no credit.*

MEDA 210 provides an analytical approach to the correlation of theory and learned skills to practical experience in the delivery of quality patient care in the ambulatory healthcare setting.

Upon satisfactory completion of MEDA 210, the student should be able to:

- Discuss knowledgeably the responsibilities of the Medical Assistant as a health care team member in the delivery of quality patient care.
- Describe standards of performance of entry-level skills and proficiency in all aspects of a beginning professional medical assistant.
- Correlate basic ambulatory patient care concepts and principles to analyze, synthesize, and evaluate patient situations in the externship experience.
- Describe potential ethical and legal ramifications of both medical and economic aspects of patient management.
- Discuss applicable laws, safety standards, record maintenance, quality patient care and education in regard to patient situations in the externship experience.
- Effectively use electronic media to apply knowledge about medical assisting principles, practices, and methods.
- Identify problem areas in clinical practice, discuss possible ways to solve them, and select the best one using problem-solving methods, effective communication skills, and active participation in class.
- Perform satisfactorily in objective testing of in-depth knowledge of illness/wellness, medical care objectives and/or philosophies and the role of the Medical Assistant in procedures for diagnosis, examination, and treatment of the ambulatory patient.
- Select and complete individual projects; seek out and pursue avenues for professional development.
- Compile a procedure manual as a guide and reference for a medical office.
- Review and prepare for certification as a Professional Medical Assistant.

### **MEDA 215 Externship (5)**

*225 total hours clinical experience*

*Prerequisite(s): A grade of "C" or higher in MEDA 122; a grade of "C" or higher in MEDA 122L; a grade of "C" or higher in MEDA 152; a grade of "C" or higher in MEDA 163; a grade of "C" or higher in MEDA 175; a grade of "C" or higher in MEDA 201; a grade of "C" or higher in MLT 100; and consent of instructor.*

*Corequisite(s): MEDA 210.*

*Comment: Letter grade only. MEDA 215 may not be audited. MEDA 215 may not be taken credit/no credit. Students are expected to provide their own uniforms, shoes, and stethoscope and to provide for their own transportation to and from clinical site.*

MEDA 215 provides clinical experience for the development of professional characteristics as a practicing Medical Assistant.

Upon completion of MEDA 215, the student should be able to:

- Function as a clinical professional and demonstrate professional characteristics expected of a beginning practicing Medical Assistant.
- Apply basic ambulatory patient care concepts and principles with entry level proficiency in the performance of his/her duties in the administrative and clinical areas.
- Perform routine patient care procedures to assist the physician in examination and treatment rooms.
- Perform simple laboratory diagnostic tests to assist the physician in the health appraisal of patients.
- Prepare the back office, equipment and supplies to facilitate the smooth flow of patients through the clinic and/or physician's office.
- Perform routine front office procedures to assist the physician in the care (health appraisal) of patients.
- Prepare the front office, equipment and supplies to facilitate the smooth functioning of this area.

- Apply the working knowledge by which the law affects a medical practice and himself/herself specifically as a Medical Assistant.
- Apply the basic concepts of medical ethics and economics in relationships with the physician, patients and co-workers in the performance of identified duties as a Medical Assistant.

### **MEDA 220 Advanced Clinical Medical Assisting (2)**

*4 hours lecture/lab per week*

*Prerequisite(s): MEDA 120; MEDA 120L; MEDA 125; BIOL 130.*

*Corequisite(s): MEDA 220L; MEDA 225.*

MEDA 220 focuses on advanced clinical care procedure skills as an assistant to a physician in an ambulatory care facility.

Upon successful completion of MEDA 220, the student should be able to:

- Assist the physician in the appraisal of the health status of patients with prescribed medical office diagnostic tests and follow-up care.
- Correctly and efficiently perform electrocardiography.
- Coordinate patient treatment with modalities.
- Coordinate diagnostic radiographic procedures.

### **MEDA 271 Coding for the Physician's Office (5)**

*5 hours lecture per week*

*Prerequisite(s): Completion of Certificate of Achievement in Medical Assisting, or consent of program director.*

*Comment: Letter grade only. MEDA 271 may not be audited. MEDA 271 may not be taken credit/no credit.*

MEDA 271 provides detailed instruction in the application of an internationally accepted set of codes for the specific description of any medical procedure to treat a condition or injury to substantiate claims for reimbursement from third-party payers.

Upon satisfactory completion of MEDA 271, the student should be able to:

- correctly use Volumes I and II of the ICD-9-CM text
- discuss the format of the ICD-10 text and reasons for the new format.
- discuss the CPT-4 format, including section numbers and sequences, terminology and format.
- correctly use the CPT-4 index.
- discuss the three levels of HCPCS coding conventions and search for various HCPCS codes.
- use coding conventions for identifying and selecting the appropriate evaluation and management service.
- define key components and determine patient status.
- implement correctly the variety of evaluation and management documentation guidelines.
- schedule and perform a chart audit.
- discuss frequency, prospective versus retrospective, and sampling.
- describe the global surgical package concept and coding conventions.
- discuss started, separate, and add-on procedure codes
- describe in detail CPT modifiers.
- apply a set of coding rules for surgery across all anatomical subsections of surgery codes.
- discuss procedures and techniques specific to the integument.
- describe procedure and coding guidelines for procedures and techniques specific to the musculoskeletal system.
- discuss procedure and coding explanations pertaining to the respiratory system.
- discuss coding challenges presented by cardiothoracic surgery of the heart, coronary arteries, and great vessels.
- correctly apply coding conventions unique to pacemaker and auto-defibrillator placement.
- describe and apply coding conventions applied to vascular surgery.
- discuss coding conventions applied to diagnostic tests, procedures, and endoscopies pertaining to the digestive system.

- discuss coding for procedures of the kidney, ureter, urinary bladder, and the male genitalia.
- describe coding conventions applied to gynecological procedures and obstetrical care.
- discuss coding procedures and techniques of the skull, meninges and the brain, spine and spinal cord, and the extracranial nerves, peripheral nerves and the autonomic nervous system.
- discuss procedures and coding explanations pertaining to the eye and auditory system.
- discuss the American Society of Anesthesiologists (ASA) relative values, anesthesia guidelines, modifiers, code organization and crosswalk.
- discuss radiological procedures and coding guidelines.
- discuss procedure and coding issues related to pathology and lab tests.
- discuss coding guidelines for consultations, emergency department services, critical care, preventive medicine, and home care.
- identify and select appropriate immunizations, therapeutic and diagnostic infusions, psychiatry, dialysis, gastroenterology codes, cardiovascular codes, physical medicine, and other special services.

### **MEDA 280 Medical Office Management (2)**

*2 hours lecture per week*

*Prerequisite(s): A grade of "C" or higher in MEDA 222 or consent of instructor.*

*Comment: Letter grade only. MEDA 280 may not be audited. MEDA 280 may not be taken credit/no credit.*

MEDA 280 provides instruction in preparing for the roles of office manager and human resources representative of a medical office or ambulatory care facility. It also provides a specialty career pathway open to program graduates, professionalism, continuing education, correlation of theory and practice.

Upon successful completion of MEDA 280, the student should be able to:

- Identify preferred qualities and characteristics of a manager/leader and management styles.
- Discuss benefits of a teamwork approach.
- Describe appropriate evaluation tools for employees.
- Recall and role-play methods of resolving conflict.
- List methods of increasing productivity and efficient time management.
- Discuss and recognize the impact of HIPAA's privacy policy in ambulatory care settings.
- Describe the general concept, tools, purpose and benefit of marketing.
- Define records management, financial management, facility and equipment management, and risk management.
- Identify and select the appropriate qualities in the role of the human resources manager.
- Identify methods of recruiting employees for a medical practice
- Discuss and role-play the interview process.
- Identify items to keep in an employee's personnel record.
- List and define laws related to personnel management.
- Identify and select appropriate responsibilities of the Medical Assistant with advanced skills as a health care team member in the delivery of quality patient care.
- Identify and select appropriate standards of performance of a professional medical assistant with advanced clinical and administrative skills.
- Describe and identify regulatory policies that affect specialized areas of administrative medical assisting.

## MEDICAL LABORATORY TECHNICIAN

### MLT 100 Introduction to the Clinical Laboratory (2) Fall I

4 hours lecture/lab per week

Prerequisite(s): Credit or concurrent enrollment in BIOL 130.

MLT 100 is an introduction to the field of medical technology, with instruction in basic laboratory skills including phlebotomy.

Upon successful completion MLT 100, the student should be able to:

- Demonstrate knowledge of clinical laboratory organizations and the roles of various laboratory personnel within the organization.
- Perform basic laboratory techniques.
- Use basic laboratory instruments and equipment.
- Demonstrate competence in obtaining blood specimens.
- Demonstrate ability to effectively interact with patients, hospitals and laboratory personnel.
- Describe quality control in the clinical laboratory.

### MLT 100B Phlebotomy Practicum (1) Spring I 40 clinical hours

Prerequisite(s): Admission to the MLT program; credit or concurrent enrollment in MLT 100.

MLT 100B is the clinical application of the skills and knowledge learned in MLT 100. Forty hours will be spent in an affiliated clinical laboratory collecting and processing specimens for the laboratory.

Upon successful completion of MLT 100B, the student should be able to:

- Effectively select and utilize vacutainers, syringes and butterflies to obtain venous blood samples.
- Perform a minimum of 50 successful, unaided venipunctures after choosing the appropriate supplies for each sample.
- Perform a minimum of 5 successful, unaided fingersticks after choosing the appropriate supplies for each sample.

- Explain and follow the basic rules and regulations essential for safe and accurate phlebotomy.
- Process specimens accurately, according to the procedures set in the specific clinical laboratory.
- Exhibit appropriate interpersonal skills with patients, coworkers and other health care personnel in person and on the telephone.
- Explain the policies and use the procedures in the clinical laboratory to assure quality in the obtaining of blood specimens.
- Exhibit a professional demeanor while performing phlebotomist duties.

### MLT 107 Clinical Microbiology I (3) Summer

16 hours lecture/lab per week for 6 weeks

Prerequisite(s): Admission to the MLT program; MLT 100 with a grade of "C" or higher or consent of MLT Program Director; MICR 130 with a grade of "C" or higher.

Comment: MLT 107 is a modular course offered 6 weeks in Summer only. MLT 107 may not be audited. MLT 107 may not be taken CR/NC.

MLT 107 will provide the basic laboratory experience in Clinical Microbiology, including slide preparation, gram stain and isolating bacteria in order to identify the organisms.

Upon successful completion of MLT 107, the student should be able to:

- Make smears of bacterial cultures, stain and identify the cellular characteristics of bacteria by color, shape and arrangement.
- Streak a culture plate for isolation of bacteria and describe colonial morphology.
- Explain the collection and proper handling of specimens received in a clinical microbiology lab and list pathogens and non-pathogens found in each specimen.
- Perform laboratory exercises on selected bacterial organisms to define characteristic and biochemical reactions useful in identification of bacteria.
- Identify the bacteria in an unknown specimen with 100% accuracy.
- Utilize the safety precautions necessary in the Clinical Microbiology laboratory.

### MLT 108 Hematology (5) Spring

20 hours lecture/lab per week for 8 weeks

Prerequisite(s): Admission to the MLT program;

*MLT 100 or consent of MLT Program Director.*

*Comment: MLT 108 is a modular course offered the first 8 weeks in the Spring semester only.*

MLT 108 will enable the students to learn the basics of human red and white blood cell structure and function and the theoretical aspects behind the enumeration and identification of the blood cells, as well as the diseases associated with these cells. The basic techniques of red and white blood cell counting and microscopic identification, as well as hemoglobin and hematocrit determinations are included. The student will also learn specialized hematology techniques and instrumentation and coagulation procedures, as well as safety and quality control.

Upon successful completion of MLT 108, the student should be able to:

- List the different types of human blood cells
- Identify the following cells under the microscope:
  - a. Erythrocytes
  - b. Leukocytes
  - c. Thrombocytes
- Describe the theory behind the following laboratory procedures and perform the testing procedures within  $\pm 2$  standard deviations:
  - a. Hemoglobin
  - b. Hematocrit
  - c. Manual cell counting
  - d. Differential count
  - e. Sedimentation rate
- List the normal values for the laboratory tests listed above
- Define and identify the various inclusion bodies found in red and white blood cells and the conditions in which they occur.
- Describe the clinical significance of and differences among the various hemoglobins
- Summarize the facets of hemostasis and their interrelationship
- Discuss the coagulation mechanism, its stages and each factor involved in coagulation
- List and describe coagulation abnormalities and the laboratory results associated with each disorder
- Describe and discuss the fibrinolytic system
- Identify microscopically the cellular picture and describe the following disease states:
  - a. Anemias (macrocytic, normocytic, microcytic, hemolytic)
  - b. Polycythemias
  - c. Pancytopenias
  - d. Leukemias

- e. Lymphomas
  - f. Multiple Myelomas
- Operate and maintain equipment applicable to hematology and coagulation laboratories
  - Perform the following laboratory procedures within  $\pm 2$  standard deviations:
    - a. Prothrombin time
    - b. Activated Partial Thromboplastin time
    - c. Thrombin time
    - d. Fibrinogen titer
  - Perform the following tests with 100% accuracy
    - a. Sickle cell test
    - b. Fibrin split products
    - c. Clot retraction
  - Perform the appropriate quality control procedures for Hematology
  - Utilize the safety precautions necessary in the Hematology laboratory.

### **MLT 112 Clinical Biochemistry I (3) Spring**

*15 hours lecture/lab per week for 6 weeks*

*Prerequisite(s): Credit or concurrent enrollment in CHEM 162/162L; admission to the MLT program or consent of MLT Program Director.*

*Comment: MLT 112 is a modular course offered the last 6 weeks in the Spring semester only. Students will be expected to purchase latex or vinyl gloves for this course.*

MLT 112 introduces principles of clinical biochemistry pertaining to testing for chemical constituents in blood and body fluids. It covers general biochemistry of metabolism, carbohydrates, protein and enzymes. Student will practice techniques for spectrophotometry, glucose, protein, and protein fractionation and enzyme analysis.

Upon successful completion of MLT 112, the student should be able to:

- Integrate knowledge of the theoretical principles of clinical biochemistry in laboratory diagnosis.
- Describe the metabolic pathways basic to the physiology of the human body.
- Describe the collection and handling of all clinical specimens to be processed for clinical chemistry.
- Describe the function, structure, mode of

action, and clinical significance of glucose, protein and protein fractions.

- Describe the theory underlying laboratory procedures for glucose, glycosylated glucose, protein, albumin, and protein fractionation by electrophoresis and chromatography.
- Correlate abnormalities of blood and urine chemistry associated with glucose and protein determinations.
- Explain enzyme kinetics and relate the concept to laboratory testing for enzymes.
- Calculate and prepare percent, normal and molar solutions and dilutions of concentrated solutions.
- Calculate mean and standard deviation and apply basic statistics to quality control in the chemistry laboratory.
- Use the appropriate statistical formula for determining reliability of clinical chemistry assays
- Perform the following manual clinical chemistry determinations on serum, plasma or urine within +/- two standard deviations of the stated value of the sample:
  - a. Glucose
  - b. Total Protein
  - c. Albumin
  - d. Protein Electrophoresis
  - e. Other protein fractionation
- Operate and maintain according to standardized procedures and describe the principle of spectrophotometry.
- Utilize and calibrate serological and volumetric pipettors and micropipettors.
- Prepare written laboratory reports on each procedure performed and each instrument used.
- Perform all tests utilizing appropriate safety measures as stated in safety manuals.
- Organize their work in an orderly manner and maintain the laboratory area in a clean, working condition.

### **MLT 118 Body Fluids (1) Spring**

*15 hours lecture/lab per week (2 weeks)*

*Prerequisite(s): Admission to the MLT program, MLT 100 or consent of MLT Program Director; MLT 108.*

*Comment: MLT 118 is a modular course offered only in the Spring semester, following MLT 108.*

MLT 118 is the study of body fluids, other than blood. The course focuses on basic principles and procedures of the chemical and cellular analysis of various body fluids.

Upon successful completion of MLT 118, the student should be able to:

- Discuss the basic principles underlying routine laboratory procedures in the analysis of various body fluids
- Describe normal and abnormal chemical and cellular constituents of various body fluids
- Perform chemical and macroscopic analysis of urine
- Identify normal and abnormal structures in the microscopic analysis of various body fluids
- Perform laboratory techniques utilizing necessary safety and quality control procedures

### **MLT 204 Immunohematology (2) Fall II**

*4 hours lecture/lab per week*

*Prerequisite(s): MLT 105; MLT 106 or MICR 135; admission to the MLT program or consent of MLT program director.*

*Recommended Preparation: MLT 108.*

MLT 204 will include the principles of Blood Banking, donor-patient testing, and antibody identification in human blood. Inheritance and transfusion problems will be discussed, as well as disease states affected by antigen-antibody reactions on blood cells.

Upon successful completion of MLT 204, the student should be able to:

- Describe the red cell antigens and the characteristics of their corresponding antibodies.
- Discuss the causes of transfusion reactions, hemolytic disease of the newborn and hemolytic anemia.
- Describe the clinical significance of antibody and antiglobulin testing.
- List donor qualifications.
- Accurately determine the ABO and RHh type of blood specimens and identify atypical antibodies.
- Accurately perform crossmatch procedures with donor and patient blood specimens.

**MLT 207 Clinical Microbiology II (3) Fall**

16 hours lecture/lab per week for 6 weeks.

*Prerequisite(s): Admission to the MLT program or consent of MLT Program Director;*

*MLT 107 with a grade of "C" or higher.*

*Comment: MLT 207 is a modular course offered 6 weeks in the Fall semester only. MLT 207 may not be audited. MLT 207 may not be taken CR/NC.*

MLT 207 will include the study of microorganisms and parasites as they relate to human disease. MLT 207 will provide the advanced laboratory experience in Clinical Microbiology, including a continuation of MLT 107 techniques and parasitology and mycology lab techniques.

Upon successful completion of MLT 207, the student should be able to:

- Identify unknown cultures of medically significant bacteria to genus and species level and determine antibiotic susceptibility.
- Describe the technique used to collect, handle, and/or preserve specimens received in the laboratory for parasite examination.
- List and describe methods of concentrating stool specimens for parasites.
- Identify the most commonly found parasites to genus and species upon observation of appropriate material.
- List and describe: methods of preparing fungal smears and culturing fungi; collection and handling of specimens for fungal examination; and media used in the isolation and identification of fungi.
- Utilize the safety precautions necessary in the Clinical Microbiology laboratory.

**MLT 211 Clinical Microscopy (1) Fall II**

2 hours lecture/lab per week

*Prerequisite(s): Permission of MLT program director; MLT 103; MLT 108; MLT 108L.*

MLT 211 will provide the student with additional experience in identifying microscopic elements in blood and body fluids prior to participating in the clinical rotations.

Upon successful completion of MLT 211, the student should be able to:

- Identify the parts of a microscope and perform preventative maintenance and make minor repairs.
- Identify Erythrocytes, Leukocytes,

Thrombocytes, urinary casts, urinary crystals, bacteria, yeast and parasites under the microscope with at least 90 percent accuracy.

- Perform the appropriate quality control and safety procedures for analysis of blood and body fluids.

**MLT 212 Clinical Biochemistry II (4) Fall**

20 hours lecture/lab per week for 6 weeks

*Prerequisite(s): Admission to the MLT program or consent of MLT Program Director, MLT 112*

*Comment: Modular course offered 6 weeks in Fall semester only.*

MLT 212 will cover the principles of clinical biochemistry as it pertains to testing for chemical constituents in blood and body fluids. This advanced level course will include lipid chemistry, acid-base balance, diagnostic enzymes, endocrinology, chemistry of body systems instrumentation and recent advances in clinical chemistry. The student will learn the techniques for analyzing blood and body fluids for diagnosis of various disease states by manual and automated methods.

Upon successful completion of MLT 212, the student should be able to:

- Describe the function, structure, mode of action and clinical significance of each of the following chemical substances:
  - a. Electrolytes
  - b. Blood Gases
  - c. non-protein nitrogen
  - d. Lipids
  - e. Clinically significant enzymes
  - f. Hormones - steroid, protein & peptide
- Describe the theory behind the preceding laboratory procedures and list the normal values associated with each
- Correlate abnormalities of blood and urine chemistry associated with:
  - a. altered acid base balance
  - b. kidney disease
  - c. liver disease
  - d. heart disease
  - e. neurological system disorders
  - f. endocrine and reproductive system disorders
  - g. bone and muscle disease
  - h. neoplasms
- Describe the mode of action, clinical significance and methods for determining therapeutic drugs and drugs of abuse
- List and describe tumor markers found in blood and body fluids

- List the substances measured to determine fetal maturity and the clinical significance of each test.
- Perform the following manual clinical chemistry determinations on serum, plasma or urine within +/- two standard deviations of the stated value of the sample:
  - a. Cholesterol, Triglyceride & HDL
  - b. AST, ALT, ALP, CK, LD , Amylase and lipase
  - c.. salicylate
  - d Electrolytes
  - e. Immunoassay
- Operate and maintain according to standardized procedures and describe the principles of the following instruments:
  - a. Ion selective electrode
  - b. Atac 2000, Pointe 180
  - c. Gilford Stasar
  - d. Ortho Vitros II
  - e. Dade Dimension
- Prepare written laboratory reports on each procedure performed and each instrument used
- Perform all tests utilizing appropriate safety measures as stated in safety manuals
- Organize their work in an orderly manner and maintain the laboratory area in clean, working condition

### **MLT 240 Seminar (1) Spring II**

*Prerequisite(s): MLT 108; MLT 118; MLT 204; MLT 207; MLT 211; MLT 212; and consent of MLT Program Director.*

*Corequisite(s): MLT 242B; MLT 242C; MLT 242D; MLT242E.*

*Comment: Letter grade only. MLT 240 may not be taken for credit/no credit. MLT 240 may not be audited.*

MLT 240 is a seminar in which students discuss clinical experiences and other topics related to clinical laboratory medicine.

Upon successful completion of MLT 240, the student should be able to:

- Think critically about the clinical laboratory as a career choice
- Communicate ideas relevant to laboratory medicine to his/her peers
- Develop skills for lifelong learning

### **MLT 242B Clinical Rotation II – Blood Bank (2) Spring II**

*100 hours total*

*Prerequisite(s): MLT 204 with grade of "C" or higher or consent of MLT Program Director.*

*Corequisite(s): MLT 240.*

*Comment: Letter grade only. MLT 242B may not be taken for credit/no credit. MLT 242B may not be audited. MLT 242B is offered in the Spring semester only.*

MLT 242B is the application of knowledge and skills learned in MLT 204. The work is performed in affiliated clinical laboratories.

Upon successful completion of MLT 242B, the student should be able to:

- Transfer knowledge and skills learned in MLT 204 to the clinical laboratory.
- Interact effectively with patients and laboratory personnel.

### **MLT 242C Clinical Rotation II – Chemistry (5) Spring II**

*240 total hours*

*Prerequisite(s): A grade of "C" or higher in MLT 112; a grade of "C" or higher in MLT 212 or consent of MLT Program Director.*

*Corequisite(s): MLT 240.*

*Comment: Letter grade only. MLT 242C may not be taken for credit/no credit. MLT 242C may not be audited. MLT 242C is offered in the Spring semester only.*

MLT 242C is the application of knowledge and skills learned in MLT 112 and MLT 212. The work is performed in affiliated clinical laboratories.

Upon successful completion of MLT 242C, the student should be able to:

- Transfer knowledge and skills learned in MLT 112 AND MLT 212 to the clinical laboratory.
- Interact effectively with patients and laboratory personnel.

### **MLT 242D Clinical Rotation II–Microbiology (5)**

#### **Spring II**

240 total hours

*Prerequisite(s): A grade of "C" or higher in MLT 107; a grade of "C" or higher in MLT 207 or consent of MLT Program Director.*

*Corequisite(s): MLT 240.*

*Comment: Letter grade only. MLT 242D may not be taken for credit/no credit. MLT 242D may not be audited. MLT 242D is offered in the Spring semester only.*

MLT 242D is the application of knowledge and skills learned in MLT 107 and MLT 207. The work is performed in affiliated clinical laboratories.

Upon successful completion of MLT 242D, the student should be able to:

- Transfer knowledge and skills learned in MLT 107 AND MLT 207 to the clinical laboratory.
- Interact effectively with patients and laboratory personnel.

### **MLT 242E Clinical Rotation II – Hematology (4)**

#### **Spring II**

200 total hours

*Prerequisite(s): A grade of "C" or higher in MLT 108; a grade of "C" or higher in MLT 118; a grade of "C" or higher in MLT 211 or consent of MLT Program Director.*

*Corequisite(s): MLT 240.*

*Comment: Letter grade only. MLT 242E may not be taken for credit/no credit. MLT 242E may not be audited. MLT 242E is offered in the Spring semester only.*

MLT 242E is the application of knowledge and skills learned in MLT 108, MLT 118 and MLT 211. The work is performed in affiliated clinical laboratories

Upon successful completion of MLT 242E, the student should be able to:

- Transfer knowledge and skills learned in MLT 108, MLT 118 and MLT 211 to the clinical laboratory.
- Interact effectively with patients and laboratory personnel

## **METEOROLOGY**

### **MET 101 Introduction to Meteorology (3) KCC AA/DP**

3 hours lecture per week

*Comment: MET 101 may not be audited.*

MET 101 is an introductory course intended for non science majors, prospective science teachers, and prospective science majors. This course will include an overview of basic atmospheric physics, sun-Earth-atmosphere interrelationships, pollution, major weather systems, weather forecasting, and Hawai'i weather.

Upon successful completion of MET 101, the student should be able to:

- Identify the physical processes shaping the weather.
- Apply scientific systems of measurement to describe natural phenomena.
- Use and summarize weather patterns on meteorological charts.
- Evaluate and use computer generated data to explain weather phenomena.
- Critique problems within the framework of the course and communicate this knowledge in oral and written form.

### **MET 101L Introduction to Meteorology Lab (1) KCC AA/DY**

3 hours lab per week

*Prerequisite(s): Credit or concurrent enrollment in MET 101.*

*Comment: MET 101L may not be audited.*

MET 101L is an introductory course intended for non science majors and prospective science teachers.

This course involves exercises with meteorological data and measurement systems with particular focus on the characteristics of Hawaiian winds, temperatures, and rainfall.

Upon successful completion of MET 101L, the student should be able to:

- Describe the components and processes of resulting weather patterns in the atmosphere.
- Interpret the components of weather maps, and forecast weather.
- Apply the scientific method and theories and concepts of meteorology to explain major weather systems.
- Describe and explain weather phenomena typical and atypical to Hawaiian weather.
- Explain critically the relationship between humans and the atmospheric environment.

metabolism and compare it to eucaryotic cell metabolism.

- Understand and describe the basic principles of molecular genetics as they relate to cell division, mutation, genetic engineering, bacterial virulence, and antibiotic resistance.
- Understand and describe the fundamental principles of the host-parasite relationship both in health and disease.
- Describe the components of the human immune system and understand how these components interact in generating an immune response.
- Mathematically express the growth characteristics of bacterial culture.
- Describe the major and the common infectious diseases of humans.
- Understand and apply methods of microbial control that can be used to prevent both the transmission of infectious diseases and the spoilage of foods and textiles.
- Read and understand microbiology articles in nursing journals and the popular press.

## MICROBIOLOGY

### **MICR 130 General Microbiology (3) KCC AA/DB and KCC AS/NS**

*3 hours lecture per week*

*Recommended Preparation: MATH 25; CHEM 100, CHEM*

*151, CHEM 161 or BIOC 241.*

MICR 130 covers the fundamentals of microbiology with an emphasis on microorganisms as they affect people, property and the environment. Broad aspects of biochemistry, genetics, molecular biology, physiology, host-parasite relationships, infectious diseases, immunology, public health, epidemiology, food microbiology, and environmental microbiology will be covered.

Upon successful completion of MICR 130, the student should be able to:

- Describe the organization of life at the cellular and subcellular levels.
- Describe the main characteristics of bacteria including their morphology, growth, reproduction and classification.
- Understand and describe in general terms, the fundamental biochemistry of bacterial

### **MICR 135 Microbiology for the Health Professions (3) KCC AA/DB and KCC AS/NS**

*3 hours lecture per week*

*Prerequisite(s): BIOL 130 or ZOOL 141.*

*Recommended Preparation: CHEM 151 or CHEM 161.*

MICR 135 is an introduction to the study of microorganisms, host parasite relationships, the control and the characterization of disease-causing organisms.

Upon successful completion of MICR 135, the student should be able to:

- Describe morphology, growth and metabolism in bacteria.
- Identify principles of host-parasite relationships.
- Describe principles and methods of control of microorganisms.
- Describe the principles and actions of antibiotics.
- Describe specimen collection and handling.
- Describe the structure and chemistry of immunoglobulins.
- Discuss the mechanisms that protect the body from disease and/or injury.

**MICR 140 General Microbiology Laboratory (2)****KCC AA/DY and KCC AS/NS**

4 hours lecture/lab per week

*Prerequisite(s): Credit or concurrent enrollment in MICR 130 or credit or concurrent enrollment in MICR 135.*

*Recommended Preparation: MATH 25.*

MICR 140 covers the fundamental laboratory aspects of microbiology with a public health and medical emphasis.

Upon successful completion of MICR 140, the student should be able to:

- Use the metric system and scientific notation.
- Use and properly care for the compound microscope, including the oil immersion lens.
- Prepare, examine and accurately interpret various stained slide specimens including gram stained, capsule stained, endospore stained and flagella stained specimens.
- Understand and properly execute the aseptic transfer of bacterial cultures.
- Use sterile pipettes aseptically and accurately.
- Demonstrate the ubiquity of microbes as part of our normal flora and as present in the environment.
- Understand and demonstrate the principles and the techniques which are used to control microorganisms such as antibiotics, food preservatives and the chemical and physical disinfecting and sterilizing agents.
- Enumerate the bacteria in food and water samples and mathematically predict the growth characteristics of these bacteria.
- Understand and demonstrate the effect of different personal hygiene practices on our normal flora and on pathogens.
- Demonstrate and understand the various nutritional requirements and characteristics of medically important bacteria.
- Demonstrate the ability to isolate, in pure culture, and to identify common human commensal bacteria.
- Demonstrate the principles involved in the transmission of pathogenic organisms by the common routes.
- Demonstrate the thinking skills needed to critically observe, measure, evaluate and interpret experimental data and the creativity needed to formulate hypotheses to explain the data.

**MICR 161 Immunology and Protein Chemistry****(2)**

4 hours lecture/lab per week

*Prerequisite(s): Credit or concurrent enrollment in MICR 130, MICR 135 or BIOL 171; credit or concurrent enrollment in MICR 140, MLT 107 or BIOL 171L; credit or concurrent enrollment in CHEM 151 or higher level chemistry course; credit or concurrent enrollment in CHEM 151L or higher level chemistry course.*

MICR 161 lecture/laboratory course covers the fundamental aspects of both immunology and protein chemistry as it is performed in clinical and biotechnology laboratories.

Upon successful completion of MICR 161, the student should be able to:

- Describe the structure and chemistry of proteins, with especial emphasis on the immunoglobulins.
- Describe and explain the principles underlying antigen-antibody reactions.
- Demonstrate proficiency in performing a variety of immunoassays including agglutination, precipitation, ELISA, and fluorescent antibody procedures.
- Explain the principles of electrophoresis and perform polyacrylamide gel electrophoresis and western blotting.
- Explain the principles and perform fundamental protein fractionation, separation and purification techniques such as salt fractionation, size exclusion chromatography and ion exchange chromatography.
- Describe the principles underlying immunization strategies particularly as they relate to the production of monoclonal antibodies.
- Describe the principles involved in developing screening assays for monoclonal antibody production; then, coat plates with candidate antigens and perform the assays.

**MICR 230 Molecular Biology (3) KCC AA/DB***6 hours lecture/lab per week**Prerequisite(s): MICR 130, MICR 135 or BIOL 171; MICR**140, MLT 107 or BIOL 171L; CHEM 151 or higher; CHEM 151L or higher.*

MICR 230 covers the fundamental theoretical and laboratory aspects of molecular biology. The basic principles which govern the structure and function of proteins, nucleic acids and macromolecular complexes will be studied. Students will learn and become proficient at performing the fundamental laboratory procedures of biotechnology.

Upon successful completion of MICR 230, the student should be able to:

- Describe the structure of proteins, nucleic acids and macromolecular complexes.
- Describe the function of nucleic acids, proteins and macromolecules in DNA replication, transcription, translation, mutagenesis and DNA repair.
- Describe the regulation of gene activity in prokaryotes and eukaryotes.
- Describe basic principles and techniques of molecular biology including the use of plasmids and transposons to generate recombinant DNA.
- Prepare, sterilize and dispense the basic types of media used for the cultivation of bacteria.
- Operate all the basic equipment of a molecular biology laboratory, including but not limited to large autoclaves and bench top autoclaves, water distillation apparatus, biological safety cabinets, spectrophotometers and ELISA readers, electrophoresis equipment, centrifuges and microcentrifuges.
- Perform agarose gel electrophoresis.
- Isolate and quantitate chromosomal and plasmid DNA from bacteria.
- Perform and analyze restriction enzyme digestions of DNA.
- Prepare and screen a genomic library.
- Prepare enzyme labeled probes and perform southern blots.
- Perform polymerase chain reactions under a variety of conditions.
- Analyze DNA and amino acid sequence data by searching sequence data bases.

**MICR 240 Cell Biology and Tissue Culture (2)****KCC AA/DY***4 hours lecture/lab per week**Prerequisite(s): MICR 130 or MICR 135 or BIOL 171; MICR 140 or MLT 107 or BIOL 171L; CHEM 151/151L or higher level chemistry course with lab; or instructor's consent.**Comment: MICR 240 is cross-listed as BIOL 275L.*

MICR 240 is a lecture/laboratory course that covers cell biology and the essential principles important to the cultivation and study of cells in tissue culture. Through lectures and laboratory experiments students will acquire a fundamental understanding of the biochemistry and molecular biology of the cell. Students will also acquire competence in tissue culture and experience with modern advances in biotechnology and recombinant DNA technology.

Upon successful completion of MICR 240 the student should be able to:

- Prepare media and buffers needed for the culture of animal, plant and microalgae cells.
- Demonstrate proficiency in the specialized sterilization and quality control procedures used in a tissue culture laboratory.
- Demonstrate proficiency in routine cell culture protocols such as feeding schedules and medium supplements, subcultivation procedures, cell enumeration and viability testing, cryopreservation, and the detection and disposition of contaminated cultures.
- Demonstrate knowledge of the basic principles of protein chemistry by applying these principles in the designing and reporting of experiments utilizing enzymatic reactions, electrophoresis and immunoassays.
- Demonstrate knowledge of the basic principles of DNA structure, function, and chemistry by applying these principles in the designing and reporting of experiments utilizing DNA extraction and purification, electrophoresis, restriction enzyme analysis, DNA amplification, sequencing, and sequence analysis using standard bioinformatics databases and analysis protocols.
- Describe in detail the organization of life at the cellular and subcellular levels.

- Describe the structure and function of biological membranes and demonstrate an understanding of the processes which occur at the cell surface.
- Describe in detailed and specific terms the fundamental catabolic and anabolic metabolic processes that occur at the cellular level.
- Describe and experimentally manipulate the cytoskeleton particularly as it relates to intracellular traffic, cytokinesis and cell motility.
- Describe and experimentally manipulate the basic processes involved in cell signaling and the cell cycle and define the role of these processes in cell differentiation and in cancer.
- Describe the theories explaining the development of eukaryotes and the evolution of multicellular organisms.
- Describe and debate the ethical issues surrounding existing and proposed research and applications using living cells.

## MOBILE INTENSIVE CARE TECHNICIAN

### **MICT 150 Pre-Hospital Assessment and Treatment I (12)**

*8 hours lecture, 4 hours lecture/lab, 6 hours lab per week*

*Prerequisite(s): Acceptance into MICT program; completion of a State of Hawai'i approved Emergency Medical Technician program; State licensure at the EMT level.*

*Comment: Letter grade only. MICT 150 may not be audited. MICT 150 may not be taken credit/no credit. Students are required to have a laptop computer.*

MICT 150 is the theory and laboratory practice of advanced life support knowledge and skills used in the assessment and treatment of adult and pediatric patients with medical and trauma conditions requiring pre-hospital emergency care.

Upon successful completion of MICT 150, the student should be able to:

- Improve knowledge and skills obtained at

the EMT level to refine patient assessment, including taking the patient's history and performing a physical examination to assess illness or degree of injury in a multicultural environment.

- Safely and accurately administer medications.
- Explain and demonstrate the initiation and continuation of advanced life support care under medical control, including recognition of presenting symptoms and initiation of appropriate invasive and non-invasive treatment for surgical, medical, pediatric, obstetric and psychiatric emergencies, and airway and respiratory problems.
- Safely and accurately perform in a non-patient care situation including designated advanced life support measures.

### **MICT 160 Pre-Hospital Assessment and Treatment II (5)**

*8 hours lecture, 6 hours lab per week for 8 weeks*  
*Prerequisite(s): A grade of "C" or higher in MICT 150; acceptance into MICT program; completion of a State of Hawai'i approved Emergency Medical Technician program; State licensure at the EMT level.*

*Comment: Letter grade only. MICT 160 may not be audited. MICT 160 may not be taken credit/no credit.*

MICT 160 is the theory and laboratory practice of advanced life support skills in assessment and treatment of patients with cardiac conditions that require pre-hospital emergency care.

Upon successful completion of MICT 160, the student should be able to:

- Describe detailed anatomy and physiology of the cardiovascular systems.
- Recognize normal and abnormal cardiac rhythms, including life threatening arrhythmias and relate to cardiac output.
- Recognize and interpret normal and abnormal 12-lead EKG's and correlate its clinical relevance.
- Describe specific treatment of arrhythmias

according to approved standing orders for Hawaii's MICTs.

- Perform advanced cardiac life support skills.

### **MICT 200 Advanced Pre-Hospital Assessment and Treatment (5)**

*6 hours lecture, 4.5 hours lab per week for 10 weeks*  
*Prerequisite(s): A grade of "C" or higher in MICT 160; acceptance into MICT program; completion of a State of Hawai'i approved Emergency Medical Technician program; State licensure at the EMT level.*

*Comment: Letter grade only. MICT 200 may not be audited. MICT 200 may not be taken credit/no credit. ACLS, PALS, AMLS and PHTLS WRITTEN must be passed at 84% in order to complete MICT 200.*

MICT 200 is the theory and laboratory practice of additional advanced medical, trauma, cardiac life support in the pre-hospital emergency environment.

Upon successful completion of MICT 200, the student should be able to:

- Complete the Pediatric Advanced Life Support and the Advanced Cardiac Life Support-Provider courses according to standards set by the American Heart Association.
- Complete the Advanced Medical Life Support and Pre-Hospital Trauma Life Support-Provider courses according to standards set by the National Association of Emergency Medical Technicians.
- Recognize signs and symptoms, and perform medical management of various types of burns and chemical, biological, nuclear, radiological and environmental emergencies in the pre-hospital environment.
- Perform, in the non-patient care situation, all skills required for functioning as a Mobile Intensive Care Technician (MICT).

### **MICT 201 Pre-hospital Assessment and Treatment Clinical Experience (4)**

*18 hours clinical experience per week for 10 weeks*  
*Prerequisite(s): A grade of "C" or higher in MICT 200; acceptance into MICT Program; completion of a State of Hawai'i approved Emergency Medical Technician program; State licensure at the EMT level.*

*Comment: Mandatory credit/no credit grading. MICT 201 may not be audited. MICT 201 may not be taken for a letter grade. A student must earn a PASS on all evaluations by clinical preceptors in order to pass the course.*

MICT 201 provides an opportunity for participation in basic and advanced life support skills for patients in selected clinical facilities, includes major hospitals and ambulances. Each student is assigned one on one with a preceptor.

Upon successful completion of MICT 201, the student should be able to:

- Safely and accurately perform basic and advanced life support procedures, under direct supervision in a hospital or ambulance setting.
- Correlate the clinical and theoretical aspects of selected patient situations through a series of case reports.

### **MICT 202 Pre-Hospital Assessment and Treatment Internship I (4)**

*1 hour lecture, 39 hours ambulance internship per week for 4 weeks*

*Prerequisite(s): A grade of "C" or higher in MICT 200; a grade of "C" or higher in MICT 201; acceptance into MICT Program; completion of a State of Hawai'i approved Emergency Medical Technician program; State licensure at the EMT level.*

*Comment: Mandatory credit/no credit grading. MICT 202 may not be audited. MICT 202 may not be taken for a letter grade.*

MICT 202 provides the initial experience as a MICT intern on an advanced life support emergency ambulance. MICT 202 includes rotation one of the

required five rotations. Each student is assigned one on one with a preceptor.

Upon successful completion of MICT 202, the student should be able to:

- Safely and accurately perform in the emergency situation, at an introductory level, all advanced life support procedures as listed in the Board of Medical Examiners Rules for Emergency Ambulance Personnel.
- Exercise personal judgment in case of interruption in medical direction caused by communication failure or in cases of immediate life threatening conditions; provide such emergency care as has been specifically authorized by approved standing orders.

### **MICT 250 Pre-Hospital Assessment and Treatment Internship II (14)**

*1 hour lecture, 39 hours ambulance experience per week*

*Prerequisite(s): A grade of "C" or higher in MICT 202; acceptance into MICT Program; completion of a State of Hawai'i approved Emergency Medical Technician program; State licensure at the EMT level.*

*Comment: Mandatory credit/no credit grading. MICT 250 may not be audited. MICT 250 may not be taken for a letter grade.*

MICT 250 is an internship experience on selected advanced life support ambulances. Each student is assigned one on one with a preceptor and monitored by an instructor.

Upon successful completion of MICT 250, the student should be able to:

- Safely and accurately perform in the emergency situation, at an introductory level, all advanced life support procedures as listed in the Board of Medical Examiners Rules for Emergency Ambulance Personnel.
- Exercise personal judgment in case of interruption in medical direction caused by communication failure or in cases of

immediate life threatening conditions; provide such emergency care as has been specifically authorized by approved standing orders.

## **MUSIC**

### **MUS 104 Stage Band (2) KCC AA/DA**

*4 hours lecture/lab per week*

*Prerequisite(s): Audition and consent of the instructor.*

*Recommended Preparation: 2-3 years playing experience on a preferred instrument.*

*Comment: Students must supply their own instrument.*

MUS 104 is a performance-oriented class that involves full and sectional rehearsals leading to performances of stage band standards covering various styles from jazz to Broadway. These performances will be scheduled during the course of the semester as well as at the end of the semester.

Upon successful completion of MUS 104, the student should be able to:

- Identify and define characteristics of the repertoire presented.
- Perform basic instrumental technique on their instruments as a soloist and as an ensemble player.
- Give examples of aural and performing skills with regards to one's musicianship.
- Perform with musical and stylistic accuracy on their instrument in a jazz ensemble.

### **MUS 106 Introduction to Music Literature (3)**

**KCC AA/DH and KCC AS/AH**

*3 hours lecture per week*

MUS 106 is an introductory course to western music literature with the emphasis on developing listening skills. Through listening and classroom critiques and analysis, all types of music are surveyed from Gregorian Chant through contemporary genres. Attendance at 3 varying concerts is required.

Upon successful completion of MUS 106, the student should be able to:

- Identify masterpieces of classical music repertoire.
- Distinguish the salient compositional characteristics between several stylistic periods in music/art history including representative composers from each period which help place unfamiliar repertoire into familiar periods.
- Contrast/compare music of any type (i.e., classical, ethnic, popular, seasonal) for texture, rhythm, form, melodic contour, harmonic orientation and time of composition.
- Contrast/compare the live performances seen during the semester.
- Define the elements that make up classical performance tradition and etiquette.

**MUS 107 Music in World Cultures (3) KCC AA/FGC and KCC AS/AH**  
*3 hours lecture per week*

MUS 107 is an introduction to the field of ethnomusicology in which historical, religious, social, and political aspects of a society are studied in relationship to its music traditions and culture. In addition to these aspects, the musical elements of each culture are analyzed for the types of instruments, form/structure, context, activities, and music aesthetics.

Upon successful completion of MUS 107, the student should be able to:

- Demonstrate a broader understanding of the role of music in different cultures.
- Describe the distinctive aural features and music aesthetics of a music culture.
- Describe the historical, religious, social and political aspects of a society that contribute to the development of a music culture.
- Describe and the validity of other music traditions.
- Contrast/compare the one's own music within the broader context of other music traditions.

**MUS 108 Fundamentals of Western Music (3) KCC AA/DA and KCC AS/AH**  
*3 hours lecture per week*

MUS 108 Fundamentals of Western Music is a course that will enable students to learn how to read

and write music. Notational principles will be learned as a mode of communication. The roles of the composer, performer, and listener will be explored.

Upon successful completion of MUS 108, the student should be able to:

- Identify and write the basic components of Western music notation: major, minor, and chromatic scales, key signatures, intervals, chords and chord symbols, and chord progressions using primary chords I, IV, and V7.
- Notate and read basic melodic and rhythmic patterns in both simple and compound meters.
- Give examples of possible basic harmonization for simple melodies.
- Define the roles of composer, performer, and listener.
- Identify aurally those melodic intervals studied in class.
- Compose a short song in lead-sheet format, and perform it for the class.

**MUS 114 College Chorus (2) KCC AA/DA**  
*4 hours lecture/lab per week*

*Comment: MUS 114 is repeatable for a maximum of six credits.*

MUS 114 is a performance-oriented course for all students interested in singing in a large ensemble. The selected repertoire is drawn from a range of classical, popular (jazz, musical theatre), and Polynesian/ethnic choral literature. Rehearsal and performing practices as well as basic music reading are included in the course of study. An extra-curricular concert is scheduled at the end of the semester. Previous choral experience is not required.

Upon successful completion of MUS 114, the student should be able to:

- Identify the origin and musical elements of the repertoire presented.
- Give examples of basic vocal technique through solo and ensemble vocal performances.
- Identify and solve problems of performance in a variety of physical settings.
- Identify and list the attributes of performance etiquette.
- Identify the importance of ensemble singing in terms of musicianship and performance practice.

**MUS 121B Voice Class I (2) KCC AA/DA***1 hour lecture, 2 hours lecture/lab per week**Prerequisite(s): Ability to carry a tune on pitch.*

MUS 121B is the first of a three-semester sequence in learning solo singing skills. Concepts and skills introduced in the class include proper breath control and support, developing and discovering vocal production and potential, basic musicianship, song interpretation, and the basic principles of performing.

Upon successful completion of MUS 121B, the student should be able to:

- Identify and distinguish between different basic notational concepts.
- Identify and define a wide variety of singing styles.
- Sing a series of vocal solos with close attention to techniques demonstrated in class.
- Identify, define and distinguish between the differences in tone production, the breathing apparatus, interpretation and the qualities of an artist.

**MUS 121C Class Piano I (2) KCC AA/DA***1 hour lecture, 2 hours lecture/lab per week*

MUS 121C is the first of a four-semester sequence in learning how to play the piano. Basic principles of performance will be explored, and students will play on both digital and acoustic pianos in the electronic piano lab. Practice facilities are available on weekdays.

Upon successful completion of MUS 121C, the student should be able to:

- Play the chromatic scale in both contrary and parallel motion, three octaves/two hands.
- Play all major scales and arpeggios, one octave/two hands.
- Play at least three different articulation styles: legato, staccato, and marcato.
- Demonstrate the application of wrist rotation coupled with varied arm weight to achieve greater dynamic contrast.
- Identify major key signatures.
- Build major and minor triads in root position from any given note.
- Play simple songs from first-level literature.
- Mind-map recital repertoire with colors and shapes of phrases, and then perform two of those selections by memory.

**MUS 121D Guitar 1 (Classical) (2) KCC AA/DA***1 hour lecture, 2 hours lab per week*

MUS 121D focuses on basic principles of classical guitar performance.

Upon successful completion of MUS 121D, the student should be able to:

- Demonstrate the ability to tune the guitar properly.
- Show how to properly care for the instrument.
- Demonstrate basic playing skills; major scales, arpeggios, etudes/exercises.
- Demonstrate ability to play first level songs.
- Demonstrate an ability to perform elementary solo and ensemble literature in a public recital.
- Demonstrate an understanding of elementary music notation and style interpretation.

**MUS 121Z Beginning Ukulele (2) KCC AA/DA***1 hour lecture, 2 hours lecture/lab per week**Comment: Students are required to provide their own ukulele and music stand.*

MUS 121Z is a beginning performance course for the ukulele. Concepts and skills introduced in the class include: basic musicianship, tuning, chord identification and progressions, basic strumming techniques, and the principles of accompanying and performing.

Upon successful completion of MUS 121Z, the student should be able to:

- Tune their own instruments.
- Play basic chord progressions.
- Identify and demonstrate various rhythmic patterns.
- Identify and perform basic strumming techniques.
- Identify and perform basic strumming patterns.
- Identify and perform different picking techniques.
- Read and perform from 3 forms of notation for ukulele in the first position (fret board notation, standard notation and tablature).
- Perform major and minor scales.
- Identify and perform standard Hawaiian repertoire specifically written for the ukulele.
- Identify and perform basic slack key elements used in the Hawaiian ukulele repertoire.
- Examine the importance of the ukulele in the Hawaiian music culture and island history.

**MUS 122B Voice Class II (2) KCC AA/DA***1 hours lecture, 2 hours lecture/lab per week**Prerequisite(s): MUS 121B with a grade of "C" or higher or consent of instructor.*

MUS 122B is the second of a three-semester course in learning solo singing skills as a class. Four vocal styles (classical, jazz, ethnic, country western, and karaoke) are explored and studied to experience the different vocal and musical skills required for each genre. Performances of each style are required.

Upon successful completion of MUS 122B, the student should be able to:

- Identify and distinguish between various vocal styles and musical terms.
- Identify the origin and development of vocal music.
- Give examples of intermediate level vocal techniques: diction, tone production, and breath control through actual performances and in descriptive writing.
- Sing at an intermediate level solo vocal literature in a public recital.

**MUS 122C Class Piano II (2) KCC AA/DA***1 hour lecture, 2 hours lecture/lab per week**Prerequisite(s): MUS 121C with a grade of "C" or higher; or consent of instructor.*

MUS 122C is the second of a four-semester sequence in learning how to play the piano. Basic principles of performance will be explored, with a focus on expanding technical facility and sightreading skills. Students will play on both digital and acoustic pianos in the electronic piano lab. Practice facilities are available on weekdays.

Upon successful completion of MUS 122C, the student should be able to:

- Play all major scales and arpeggios, as well as the Group I minor scales (all three forms), two octaves/ two hands.
- Play in four different articulation styles: legato, staccato, marcato, and portato.
- Apply wrist rotation coupled with varied arm weight to achieve greater finesse in dynamic contrast.
- Identify major key signatures and their relative minor keys.
- Build major and minor triads in root position, as well as 1st and 2nd inversion triads.

- Play songs and technique exercises from second-level literature, as well as supplementary repertoire from a text such as First Bach Album.
- Mind-map recital repertoire with colors and phrase shapes, then perform two of the three required recital selections by memory.

**MUS 122D Guitar 2 (Classical) (2) KCC AA/DA***1 hour lecture, 2 hours lecture/lab per week**Prerequisite(s): MUS 121D or consent of instructor.*

MUS 122D focuses on basic principles of classical guitar performance.

Upon successful completion of MUS 122D, the student should be able to:

- Demonstrate basic playing skills: major scales, arpeggios, etudes/exercises on an intermediate level.
- Demonstrate ability to play accompaniments and solo songs.
- Demonstrate an ability to perform elementary solo and ensemble literature in a public recital.
- Demonstrate an understanding of more advanced notation and style interpretation.

**MUS 170 Music as Therapy (3) KCC AA/DH, KCC AS/AH***3 hours lecture per week*

MUS 170 is an introductory class in understanding music as a therapeutic tool, both as an arts therapy profession, and as a process integrated into other health care fields. Students will explore the diverse applications and approaches to the therapeutic power of music, personally, professionally, clinically, scientifically, experientially and educationally. The course will include active music making, musical skill development, extensive media, and weekly readings.

Upon successful completion of MUS 170, the student should be able to:

- Identify the nature of music therapy and its role in health care.
- Identify and describe the variety populations served by music therapy and other related music fields.

- Describe and interpret the human responses to music.
- Describe the pathways of music between different parts of the brain and the human response to music.
- Identify and interpret the historical development of music and sound therapy.
- Define basic terminology used in music therapy and related creative arts therapy fields.
- Demonstrate basic musical skills (instrumentally and vocally) applicable for therapeutic purposes.

### **MUS 180 Basic Theory and Aural Skills (2) KCC AA/DA**

*4 hours lecture/lab per week*

*Prerequisite(s): MUS 108 with a grade of "C" or higher or consent of instructor.*

MUS 180 is an introductory course using the basic concepts of music notation and reading for sight-singing and dictation which includes the recognition of intervals and tonal orientation. This course is designed for potential music majors with limited background in reading and sight-singing as well as for others interested in learning to read music and transcribing sound to notation.

Upon successful completion of MUS 180, the student should be able to:

- Transcribe intervals accurately.
- Transcribe rhythmic patterns in both simple and compound meters.
- Transcribe simple melodies, including the rhythms used.
- Sight-read (sing) simple melodies.

### **MUS 183 Ear-provisation: Piano by Ear (2) KCC AA/DA**

*3 hours lecture/lab per week*

*Prerequisite(s): MUS 122C.*

*Recommended Preparation: MUS 108 or MUS 253.*

*Comment: MUS 183 is repeatable for a maximum of six credits.*

MUS 183 is a course designed to prepare students for the rudiments of how to play the piano by ear, as well as learn the basics for improvisation at the keyboard.

Upon successful completion of MUS 183, the student should be able to:

- Transcribe and identify intervals (within an octave, both ascending and descending forms) accurately.
- Transcribe rhythmic patterns in both simple and in compound meters.
- Transcribe simple melodies, including rhythm used.
- Play-back at the keyboard a series of melodic patterns that the instructor will highlight, demonstrate, and drill in class.
- Sight-read (sing) simple melodies and rhythms.
- Demonstrate and apply basic music theoretical components of Western Music notation, major and minor scales, key signatures, chords and chord symbols, and chord progressions.
- Improvise to various rhythmic and melodic patterns given in class.
- Transcribe a small individual project by ear, as well as transcribe one portion of the class group project (melody/ rhythm of a section, etc.).

### **MUS 201 Vocal Ensemble (2) KCC AA/DA**

*1 hour lecture, 2 hours lecture/lab per week*

*Prerequisite(s): Audition or consent of instructor.*

MUS 201 is a performance-oriented course for all students interested in singing in a small ensemble. The selected repertoire is drawn from a range of classical, popular (jazz, musical theatre), and Polynesian/ethnic choral literature. Rehearsal and performing practices as well as intermediate music reading are included in the course of study. An extra-curricular concert is scheduled at the end of the semester. Previous choral experience is helpful but not required.

Upon successful completion of MUS 201, the student should be able to:

- Identify and give examples of the repertoire presented.
- Give examples of a more advanced knowledge of basic vocal technique.
- Identify and list the problems of performance encountered in a variety of physical settings.
- Give examples of performance etiquette, including behavior expectations prior to and after performances.
- Perform at a more advanced level of ensemble singing in terms of musicianship and performance practice.

**MUS 206 Synthesizer Ensemble (3) KCC AA/DA***6 hours lecture/lab per week**Prerequisite(s): Credit or concurrent enrollment in MUS 221C; credit or concurrent enrollment in MUS 222C.**Recommended Preparation: Two years of piano experience; some knowledge of synthesizers.**Comment: MUS 206 is repeatable for a maximum of six credits.*

MUS 206 offers rehearsals and performances of the Synthesizer Ensemble. Utilizes an assortment of computerized synthesizers and modules. Exposure to classical, pop, jazz, new age, and contemporary music, with a focus on the dichotomy of classical repertoire infused with contemporary synthesized techniques and patches in variation form. Student must have own equipment.

Upon successful completion of MUS 206, the student should be able to:

- Demonstrate skill in various techniques of playing the synthesizer: including the use of modulation and pitch wheels, MIDI connections, smooth patch changes and occasional patch editing.
- Demonstrate knowledge of path strengths/weaknesses among the various synthesizers in the set-up for optimal sound capabilities and comparisons.
- Demonstrate ability to shade dynamics and phrasing to enhance musicality.
- Perform at least one keyboard solo by memory, using pitch and/or modulation wheels.
- Demonstrate ability to arrange parts for ensemble for the variation form studied, incorporating varied styles of music from classical to contemporary.
- Demonstrate increased aural skills as the result of working out individual parts by ear from tape/CD.
- Demonstrate ability to memorize expanding repertoire.

**MUS 207 Music of the Pacific (3) KCC AA/DH***3 hours lecture per week*

MUS 207 is an introductory course on the music of the Pacific island cultures including those of Polynesia, Micronesia, and Melanesia. In each island study, the musical concepts, performance contents, and cultural processes will be surveyed and analyzed through aural and visual classroom activities.

Upon successful completion of MUS 207, the student should be able to:

- Identify and discuss the role of music in Pacific cultures.
- Describe the distinctive aural features of a variety of music traditions.
- Define and give examples of the validity of music traditions beyond one's own music culture.

**MUS 221B Voice Class III (2) KCC AA/DA***1 hour lecture, 2 hours lecture/lab per week**Prerequisite(s): MUS 122B with a grade of "C" or higher or consent of instructor.*

MUS 221B is the third in a three-semester sequence in developing solo voice as a class. Students will enhance their vocal performance skills on an advanced intermediate level through the selected repertoire which includes musical theater scenes and/or opera scenes.

Upon successful completion of MUS 221B, the student should be able to:

- Discern and demonstrate range, good intonation and tone production using proper and vocal techniques on an advanced intermediate level.
- Perform at an advanced intermediate level of musicianship.
- Give examples of advanced body technique and awareness necessary for good vocal tone production.
- Define and distinguish between vocal and dramatic interpretation used in musical theater and opera scene work.
- Identify and give examples of repertoire ranging from classical to modern vocal literature.
- Perform and participate with growing confidence in public performances.

**MUS 221C Piano 3 (2) KCC AA/DA***1 hour lecture, 2 hours lecture/lab per week**Prerequisite(s): MUS 122C or consent of instructor.*

MUS 221C is the third in a four-semester sequence in learning to play the piano. Utilizes electronic piano lab. Practice facilities available on weekdays.

Upon successful completion of MUS 221C, the student should be able to:

- Play third level repertoire on a level with Clementi Sonatinas or easier Chopin Preludes.
- Play the major scales in flats, two hands/two octaves.
- Play an elementary harmonization from chord symbols.
- Participate with growing confidence in a public performance.

### **MUS 221D Guitar III (2) KCC AA/DA**

*1 hour lecture, 2 hours lecture/lab per week*

*Prerequisite(s): MUS 122D or consent of instructor.*

MUS 221D is a continuation of MUS 122D Guitar II. The third in a three-semester sequence in guitar performance.

Upon successful completion of MUS 221D, the student should be able to:

- Demonstrate advanced playing skills: Major/Minor Scales in moveable positions across the entire fingerboard beginning on the 5th and 6th strings, Arpeggios, Etudes/Exercises on an advanced level.
- Play third level repertoire on a level with Giuliani, Carassi, Carulli, and Fernando Sor studies.
- Play intermediate to advanced accompaniments of folk/ popular songs from intermediate/advanced harmonization chord symbols.
- Perform intermediate/advanced arrangements and transcriptions of guitar ensemble music for more than two guitars.
- Demonstrate an understanding of advanced notation and style interpretation.
- Participate with growing confidence in public performances.

### **MUS 222C Piano 4 (2) KCC AA/DA**

*1 hours lecture, 2 hours lecture/lab per week*

*Prerequisite(s): Credit or concurrent enrollment in MUS 221C or consent of instructor.*

MUS 222C is the fourth in a four-semester sequence in learning to play the piano. Utilizes electronic piano labs. Practice facilities available on weekdays.

Upon successful completion of MUS 222C, the student should be able to:

- Play all major scales, two hands/four octaves, with correct fingering.
- Improvise an accompaniment from chord symbols.
- Sight-read simple songs.
- Perform on level of Chopin Preludes, Bach Two-Part Inventions or higher.
- Participate in recital with relative confidence.

### **MUS 229 MUSICAL THEATRE: SONG AND DANCE (3) KCC AA/DA, KCC AS/AH**

*2 hours lecture, 2 lecture/lab per week*

*Prerequisite(s): Ability to sing in tune, exhibit basic dance technique, Audition or Consent of Instructor*

*Recommended Preparation: MUS 121B, DNCE 131, or THEA 101.*

*Comment: MUS 229 is repeatable for a maximum of 6 credits.*

MUS 229 is a vocal and dance class which focuses on the musical theatre genre. Topics explored in this course include the history of musical theatre, the development and tradition of song and dance, standard musical theatre repertoire, and the necessary preparation for staging a musical production. Activities include song and character analysis as well as basic choreography used in this genre.

Upon successful completion of MUS 229, the student should be able to:

- Discern and demonstrate range, intonation, and good tone production using proper vocal techniques in co-ordination with basic dance skills.
- Perform at a competent level of musicianship (sing correct pitches, rhythms, the ability to read general musical notation).
- Perform at a high degree of body awareness necessary for good vocal tone production and basic dance movements.
- Discuss and recognize basic knowledge in vocal, dramatic and dance interpretation used in musical theatre.
- Discuss and identify musical theatre repertoire from a historical perspective.

- Recognize music, dance and drama as an interdisciplinary art form.
- Demonstrate organizational skills necessary for musical theatre (scheduling, time management).
- Participate with growing confidence in public performances.

### **MUS 230 MUSICAL THEATRE: PRODUCTION (4) KCC AA/DA and KCC AS/AH**

*2 hours lecture, 4 hours lecture/lab per week.*

*Prerequisite(s): MUS 229, audition or consent of Instructor.*

*Comment: \$25.00 for course materials. MUS 230 is repeatable for a maximum of 8 credits.*

MUS 230 is a performance class whereby a musical theatre production is selected as the end of the semester class project. This class is designed to enhance and develop students' voice, dance, and drama skills through the staging of the selected musical theatre production as well as offering a more in-depth study of performing practices in music, dance and drama and their interdisciplinary relationship.

Upon successful completion of MUS 230, the student should be able to:

- Perform at a competent level of vocal and dance skills necessary for any musical theatre audition.
- Perform vocal, dramatic and dance skills necessary for a musical theatre production as shown through an actual staged production.
- Demonstrate and recognize the interpretative aspects of a script through vocal and dance skills as shown in rehearsals and the actual staged production.
- Demonstrate and discuss the different aspects of a musical stage production, such as stage managing, lighting, costuming and set design by staging an actual production.
- Prepare and write a formal resume for musical theatre production companies during the audition process.
- Demonstrate the organizational skills required for time management in the performing arena.

### **MUS 231B Elementary Applied Music, Western (Voice) (1 or 2) KCC AA/DA**

*1/2 - 1 hour per week private instruction*

*Prerequisite(s): Credit or concurrent enrollment in MUS 221B or audition and consent of instructor.*

*Comment: MUS 231B is repeatable for a maximum of six credits. Special fee per credit in addition to regular tuition. MUS 231B may not be audited. MUS 231B may not be taken CR/NC. Meeting times arranged between student and instructor on an individual basis.*

MUS 231B is a course for individual instruction in vocal performance where students meet with the instructor for either 30 minutes per week (one credit) or for 1 hour per week (two credits). Students may start from the elementary to advanced level.

Upon successful completion of MUS 231B, the student should be able to:

- Discern and demonstrate range, good intonation and tone production using proper and vocal techniques.
- Identify a variety of song types and singing styles ranging from classical music to present day popular music including musical theater.
- Perform with a higher degree of body awareness necessary for good vocal tone production.
- Perform each vocal solo, particularly in English, with a relatively high degree of musicianship throughout all singing styles studied.
- Distinguish between the different qualities of an artist (interpretation, musicality, the breathing apparatus and stylization).
- Perform a series of vocal songs in a recital program.

### **MUS 231C Applied Music, Western (Piano) (1 or 2) KCC AA/DA**

*30 minutes to 1 hour individual lesson per week*

*Prerequisite(s): Credit or concurrent enrollment in MUS 222C or audition and instructor consent.*

*Comment: MUS 231C is repeatable for a maximum of six credits. Special course offered by the Office of Continuing Education and Training; OCET fee per credit in addition to regular tuition.*

MUS 231C provides individual instruction in piano performance at the elementary level. Student must have access to a piano for practice.

Upon successful completion of MUS 231C, the student should be able to:

- Demonstrate ability to play piano literature from Two-Part Invention by J. S. Bach; First movement of a sonata by Haydn, Mozart or Beethoven; and one composition by a Romantic, Impressionistic, or Contemporary composer.
- Play scales: Major and Harmonic Minor, four octaves, hands together, M.M. 92 to the quarter note.
- Play arpeggios: Major and minor triads in root position, parallel and contrary motion, two octaves.

### **MUS 231G Applied Music, Western (Guitar) (1 or 2) KCC AA/DA**

*30 minutes private instruction, 2.5 hours independent practice*

*per week (for one credit) 1 hour private instruction, 5 hours independent practice per week (for two credits)*

*Prerequisite(s): Credit or concurrent enrollment in MUS 221D or consent of instructor.*

*Comment: MUS 231G is repeatable for a maximum of six credits. Special course offered by the Office of Continuing Education and Training; OCET fee per credit in addition to regular tuition.*

MUS 231G provides advanced individual instruction in classical guitar playing.

Upon successful completion of MUS 231G, the student should be able to:

- Demonstrate an ability to play solo guitar literature (pieces with two or more voices, e.g., melody and harmony), such as Lagrima, by Francisco Tarrega; Romance, anon.; Adelita, by Francisco Tarrega; One etude by Fernando Sor; and One etude by Matteo Carcassi.
- Demonstrate the ability to play major scales on the entire fingerboard.
- Demonstrate the ability to play major and minor triads, solid and broken (arpeggios).

### **MUS 231M Applied Music, Western (Flute) (1 or 2) KCC AA/DA**

*30 minutes instruction per week (for one credit)  
1 hour instruction per week (for two credits)*

*Recommended Preparation: 2-3 years private instruction and/or band experience.*

*Comment: MUS 231M is repeatable for a maximum of six credits. Special course offered by the Office of Continuing Education and Training; OCET fee per credit in addition to regular tuition.*

MUS 231M is a performance class with an emphasis toward developing greater flexibility of technique as well as expansion of repertoire.

Upon successful completion of MUS 231M, the student should be able to:

- Demonstrate the development and refinement of basic skills and techniques of playing the flute, to include tonguing, slurring, proper breathing for phrase structure, and dynamic contrast.
- Demonstrate the ability to sight-read a piece of music.
- Demonstrate the ability to memorize repertoire for repertoire recitals as well as for board exams.
- Demonstrate the ability to perform soloistic as well as ensemble literature (ensemble literature will be demonstrated by the student performing with the KCC Synthesizer Ensemble on selected flute features).

### **MUS 253 Basic Experiences of Music (3) KCC AA/DA**

*3 hours lecture per week*

MUS 253 focuses on music fundamentals for classroom teachers is an engagement in the practice of the components of music, specifically, time, pitch, media, musical expression, and form, and how these interact with each other to comprise a musical experience. The means through which these components will be explored is singing; use of rhythm instruments including body sounds; playing recorder, ukulele, bells, piano, and other appropriate classroom instruments; listening as a primary means of engaging the musical mind; movement as a primary means of engaging the kinesthetic and body senses of responding to music; notating music; performing from notation; and analysis of music aurally and from score. Additionally, the creative use of the components as a means of understanding music will be utilized.

Upon successful completion of MUS 253, the student should be able to:

- Demonstrate and apply basic theoretical components of Western music notation, major and minor scales, key signatures, intervals, chords and chord symbols, and chord progressions using primary chords I, IV, and V7 in keys of C, F and G.
- Demonstrate the ability to notate and read basic rhythm and melodic patterns, both in simple and compound formats.
- Demonstrate the application of harmony and its application to simple melodies.
- Compose a mini song in lead sheet format.
- Demonstrate the ability to perform on the recorder, ukulele and the piano, and teach mini model lessons using the same instruments.