

- Describe in detailed and specific terms the fundamental processes which occur in respiration and photosynthesis.
- Understand and describe the fundamental principles of molecular biology and molecular genetics as they relate to the inheritance of genetic traits; the structure, replication and repair of DNA; and the transcription, processing and translation of RNA.
- Understand and describe the fundamental principles of molecular biology and molecular genetics as they relate to biotechnology; the laboratory manipulation of DNA, RNA and proteins; and the ethical issues surrounding such research and applications.
- Understand and describe the molecular structures and the biochemistry of the cytoskeleton, intracellular traffic and motility.
- Describe and understand the basic processes involved in cell signaling and in the cell cycle and how these relate to cancer.
- Describe and understand the theories explaining the development of eucaryotes and the evolution of multicellular organisms.

### **BIOL 270L Cell and Molecular Biology Laboratory (2) KCC AA/DY (formerly AA/NS1)**

*4 hours lecture/lab per week*

*Prerequisite(s): BIOL 171; BIOL 171L; BIOL 172; BIOL 172L; CHEM 272; credit or concurrent enrollment in BIOL 270*

BIOL 270L is a lecture/laboratory in cell and molecular biology for life science majors. This class is meant to be taken concurrently with or after BIOL 270. Through experimentation, students will acquire a fundamental understanding of the biochemistry of eucaryotic and procaryotic cells and experience with the modern advances in biotechnology and recombinant DNA technology.

Upon successful completion of BIOL 270L, the student should be able to:

- Understand and describe the basic principles of protein chemistry as they apply to enzymatic reactions, electrophoresis and immunoassays.
- Design, perform and analyze experiments measuring and utilizing enzyme activity, protein electrophoresis and immunochemicals.
- Understand and describe the basic principles of DNA structure, function, and chemistry as they apply to DNA extraction and purification, electrophoresis, analysis with restriction enzymes, gene isolation and cloning, DNA amplification, and DNA sequencing.
- Design, perform and analyze experiments in which DNA is isolated, purified, digested with restriction enzymes, and electrophoresed.
- Understand and 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 processes which occur in respiration and photosynthesis.
- Understand and describe the fundamental principles of molecular biology and molecular genetics as they relate to the inheritance of genetic traits; the structure, replication and repair of DNA; and the transcription, processing and translation of RNA.
- Understand and describe the fundamental principles of molecular biology and molecular genetics as they relate to biotechnology; the laboratory manipulation of DNA, RNA and proteins; and the ethical issues surrounding such research and applications.
- Understand and describe the molecular structures and the biochemistry of the cytoskeleton, intracellular traffic and motility.

- Describe and understand the basic processes involved in cell signaling and in the cell cycle and how these relate to cancer.
- Describe and understand the theories explaining the development of eucaryotes and the evolution of multicellular organisms.

## **BOTANY**

### **BOT 101 General Botany (3) KCC AA/DB (formerly AA/NS1) and KCC AS/NS**

*3 hours lecture per week*

BOT 101 is an introduction to the structure, growth, functions and evolution of plants. Plant relationships to the environment and particularly plant relationships to humans and human activities will be analyzed in BOT 101.

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

- Demonstrate the knowledge of the important biological concepts and theories (as: cell theory, energy flow, photosynthesis, growth, reproduction, etc.) and recognize that they may be explained in terms of the natural laws of physics and chemistry.
- Know the unique anatomical characteristics of major plant groups and relate these structures to the functions they perform.
- Demonstrate the basic knowledge of plant genetics and evolution of floral structures in terms of ecology and morphology.
- Develop a balanced and pragmatic knowledge in Botany.

### **BOT 101L General Botany Laboratory (1) KCC AA/DY (formerly AA/NS1) and KCC AS/NS**

*3 hours lab per week*

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

BOT 101L focuses on laboratory observations and experiments illustrating basic principles of plant biology.

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

- Demonstrate the ability of critical thinking and logical reasoning through the use of the scientific method.
- Work independently or in groups in the laboratory by performing observations, drawings, dissections and behavioral objectives.
- Cultivate responsibility and mutual respect for each other, especially during the discussions.

### **BOT 105 Ethnobotany (3) KCC AA/DS (formerly AA/SS) and KCC AS/SS**

*3 hours lecture per week*

BOT 105 is an introduction to plants and their influence upon the culture of Hawai'i and the Pacific. In BOT 105 the uses of cultivated and wild plants of the world are described.

Upon successful completion of BOT 105, the student should be able to:

- Demonstrate the knowledge of habits, habitats, reproductions and interactions of plants and their environment.
- Identify the role and influence played by plants on the culture of Hawai'i and Pacific

- Demonstrate a knowledge of the economic importance and ecology of cultivated as well as the wild plants in the world.
- Understand and appreciate the complete dependence of all living things on plants.

### **BOT 130 Plants in the Hawaiian Environment (3) KCC AA/DB (formerly AA/NS1) and KCC AS/NS**

*3 hours lecture per week*

BOT 130 is an introduction to the plant species and communities of the Hawaiian ecosystems. It discusses the plant's evolution, ecology, and economic values to humans. It also includes the observations and systematics of native and introduced flora.

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

- Discuss the geologic history of the Hawaiian Islands.
- Discuss the arrival and establishment of native and introduced species.
- Discuss the major Hawaiian ecosystems.
- Discuss variations of plant parts, especially parts and functions.
- Recognize common native and introduced plant species.
- Discuss the ecology and economic values of native/introduced species.
- Recognize the effects of humans on the flora of the Hawaiian Islands.

### **BOT 130L Plants in the Hawaiian Environment Laboratory (1) KCC AA/DY (formerly AA/NS1)**

*3 hours lab per week*

*Prerequisite(s): Credit or concurrent enrollment in BOT 130*

BOT 130L focuses on observations of plant species, populations and communities as they interact with their environment through field survey methodologies and field trips. Students will become familiar with the taxonomy and ecology of native and introduced species.

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

- Demonstrate the ability of critical thinking and logical reasoning through the use of scientific method.
- Work independently or in-groups in the laboratory by performing observations, dissections and completing behavioral objectives for each lab exercise.
- Recognize the major plant families.
- Recognize and identify economic plants.
- Discuss the effects of environmental factors on plant distribution and dispersal.

## **BUSINESS**

### **BUS 55 Computational Problems in Business (3)**

*3 hours lecture per week*

*Prerequisite(s): Qualification for MATH 24*

BUS 55 focuses on basic math applications to common business and financial problems. Training in computational skills will include use of adding machines and calculators.

Upon successful completion of BUS 55, the student should be able to:

- Demonstrate proficiency in the use of the electronic calculator and 10-key adder.

- Demonstrate knowledge of basic arithmetic processes including fractions, decimals, and percentages and their application to business problems.
- Solve business math problems for banking and sales records, interest in finance, markup and markdown, cash and trade discounts, taxes, payroll, depreciation, inventory, metric, and basic financial reports.
- Demonstrate correct usage of the electronic calculator.
- Demonstrate correct usage of the ten-key adder.
- Demonstrate basic skills in the handling of whole numbers, fractions, decimals, and percentages.
- Describe basic checking account records and prepare a bank reconciliation.
- Solve simple interest problems for principal, rate, and time.
- Solve problems in merchandise pricing including mark-ups based on cost or selling price.
- Demonstrate the use of cash and trade discounts.
- Compute sales and income taxes.
- Complete a total payroll including calculation of gross earnings, various taxes, other payroll deductions, and net earnings for each employee.
- Compute depreciation using straight-line, declining balance, and sum of the years digits methods.
- Compute inventory value by the specific identification, average cost, FIFO, and LIFO methods.
- Solve problems in metric.
- Convert Balance Sheet and Income Statements from dollars to percents for horizontal and vertical analysis; compute current and acid-test ratios and inventory turnover.

### **BUS 56 Advanced Computational Problems in Business (3)**

*3 hours lecture per week*

*Prerequisite(s): BUS 55*

BUS 56 is a continuation of BUS 55. Advanced computational skills in solving advanced business and financial problems requiring more sophisticated mathematical analysis.

Upon successful completion of BUS 56, the student should be able to:

- Demonstrate proficiency in the quantitative skills, and an understanding of business and financial transactions and concepts related to accounting and merchandising.
- Demonstrate proficiency in advanced computational techniques for solving problems.
- Demonstrate quantitative reasoning skills needed for solving advanced business problems.

### **BUS 100 Using Mathematics to Solve Business Problems (3) KCC AA/FS (formerly AA/ML) and KCC AS/ML**

*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 a grade of "C" or higher in MATH 81, or tested placement at MATH 100 or higher level math; qualification for ENG 22 or ESOL 94*

BUS 100 is a survey of important elementary concepts in algebra, logical structure, numeration systems, and probability and statistics designed to acquaint students with examples of mathematical reasoning, and to develop their capacity to engage in logical thinking and to read critically the technical information with which our society abounds. The intent of this course is to present a broad knowledge of mathematical topics to assist students in exercising sound judgment in making personal and business decisions.

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

- Analyze deductive arguments using elementary symbolic logic.
- Explore general methods for determining probabilities.
- Use statistical measures of central tendency and dispersion.
- Find mean, median, mode, and standard deviation.
- Use financial formulas as models. Derive effective yield, future value, mortgage payments. Describe the difference between compound interest savings accounts and annuities.
- Use exponential models to explore growth and decay.

### **BUS 120 Principles of Business (3)**

*3 hours lecture per week*

BUS 120 focuses on in depth analysis of and perspective to the role of a business enterprise in a capitalistic society with emphasis on the functional processes of a business and of the force fields that affect the modes of business behavior. Course requirements will include examinations and a research project.

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

- Understand the elements of capitalism with all its competing economic systems as an external environment.
- Examine the changing social climate which include population dispersion, increase in education, fluctuating social values, minority rights, the women's movement, rising youth movement, consumerism, and the influence of labor unions.
- Study the changing economic environment such as business cycles, inflation, Federal Reserve fiscal policies, declining value of the dollar, the basic theories of money within a capitalistic system, and the impact of foreign investment.
- Determine the influence of the changing political element such as economic stabilization policy, wage and price control, anti-trust legislation, consumer protection laws, and other requirements of the marketplace imposed by political bodies.
- Evaluate the changing physical limitations imposed by limits due to scarcity of natural resources, the protection of the physical environment as it contends with the vast demands of man to improve his standard of living through technological changes resulting from research.
- Understand the basic types of independent business organizations, emphasizing the sole proprietorship, partnership, and corporation.
- Have a working knowledge of the fundamental elements of management, operations and productivity strategies, human resources, and labor relations.
- Understand the basic principles of finance including equity and debt capitalization, cash flow, types of stock structure and bond types, theories of financial policy such as profitability or liquidity and risk reduction.
- Visualize the basic elements of business control such as accounting, market research, computerization, production, merchandising and marketing, international trade and multinational influences and the future of business, to itself and for career exploration.

### **BUS 150 Personal Finance (3)**

*3 hours lecture per week*

BUS 150 will provide students with basic knowledge in finance, insurance, and investment strategies. The content will demonstrate to a student how to obtain financing for the purchase of real and personal property. It will detail the different types of car, health, and life insurance options available. Basic investment strategies for the different stages of life will be presented.

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

- Identify the steps necessary in obtaining a loan for the purchase of real property (mortgage) and personal property (car, computer, etc.).
- Demonstrate the ability to choose a financial institution that best suits their particular needs.
- Understand the need for good credit and the necessary steps in obtaining it.
- Understand the need for property insurance (car and home) and the different coverages available.
- Understand and demonstrate the ability to choose the appropriate life insurance coverage needed.
- Identify the various health insurance policies available and be able to choose one appropriate for their situation.
- Demonstrate investment strategies for the different stages of life such as newly married or retired.

### **BUS 191V Topics in Business Education I (Variable)**

*Variable hours lecture/lab per week according to course content. Prerequisite(s): Consent of department chair.*

BUS 191V is a dynamic offering of varying topics in Business Education. The actual course content consists of activities and topics selected from existing 100 level Business Education courses listed in the KCC General Catalog. Content varies and consists of targeted activities and topics in Accounting, Business, Information Technology, Business Law, Entrepreneurship, Information and Computer Science, and/or Marketing courses.

Upon successful completion of BUS 191V, the student should be able to:

- Demonstrate the ability to think and read critically about topics in Business Education.
- Develop business communication (written and oral) abilities in both individual and group situations.
- Exhibit problem solving and decision-making skills in a business environment.
- Exhibit the ability to learn business techniques and practices in both independent and cooperative activities.
- Examine personal values and value systems of others in society and the work place.
- Develop skills for lifelong learning necessary to maintain currency in a business environment.

*(Effective Fall 2004)*

### **BUS 191D: Topics in Business Education I: Introduction to Databases/Microsoft Access (1)**

*1 hour lecture per week*

*Prerequisite(s): consent of the Business Education department chair*

BUS 191D is an introduction to basic database concepts and terminology, including an introduction to database design and the relationship between databases, tables, records and fields. The course includes hands-on use in a computer environment that provides the students with experience designing, creating, and manipulating a database using Microsoft Access.

Upon successful completion of BUS 191D, the student should be able to:

- Critically analyze, evaluate and respond in oral and written forms to selected readings in Business Education topics.
- Demonstrate written and oral business communication abilities in both individual and group situations.
- Solve problems and make decisions in a business environment.

- Apply appropriate business techniques and practices in both independent and cooperative activities.
- Examine personal values and value systems of others in society and the work place.
- Describe the importance of lifelong learning skills required to maintain currency in a business environment.
- Define common database terminology such as tables, records, fields, keys, views and relationships
- Describe the database design process
- Define advantages of good database design
- Define a database management system (DBMS) and describe relationships of DBMS to a database and to users
- Design simple relational database with proper documentation
- Design databases and their applications that allow queries and report generation

### **BUS 220 (Alpha) Business Seminar (3)**

*3 hours lecture per week*

*Prerequisite(s): Approval by Business Education Department Chairperson*

*Course is repeatable twice for credit*

BUS 220 (Alpha) will examine the latest topics that are important for businesses. These topics provide for a dynamic offering of activities that span across subject areas such as Accounting, Business Law, Business Math, Electronic Commerce, Entrepreneurship, Management, Marketing, Information and Computer Science, and Information Technology. These topics will vary from semester to semester, and this format will allow for current contemporary subjects to be offered in a timely manner to keep up with the rapidly changing technologies that businesses must understand and utilize in order to survive in a global economy. Topics may include web electronic commerce for the entrepreneur, project development from a distance, and programming accounting packages for small businesses.

Upon successful completion of BUS 220 (Alpha), for the topic(s) chosen, the student should be able to:

- Demonstrate the ability to think and read critically about topics in Business Education.
- Develop business communication (written and oral) abilities in both individual and group situations.
- Exhibit problem solving and decision-making skills in a business environment.
- Exhibit the ability to learn business techniques and practices in both independent and cooperative activities.
- Examine personal values and value systems of others in society and the work place.
- Develop skills for lifelong learning necessary to maintain currency in a business environment.
- Describe its impact on current business practices.

### **BUS 220B Topics in Retailing Seminar (3)**

*45 class hours*

*Prerequisite(s): Approval by Business Education Department Chairperson*

Participants in the BUS 220B seminar will study current trends in retailing in the State of Hawai'i. Emphasis is on developing teaching units in different topics, concepts and principles in retailing as it applies to Hawai'i.

Upon successful completion of BUS 220B, for the topic(s) chosen, the student should be able to:

- Describe its impact on current business practices.
- Understand principles and concepts of retailing.

- Develop teaching units in retailing.
- Develop specific strategies for the promotion of the retail merchandise concentration.

### **BUS 291V Topics in Business Education II (Variable)**

*Variable hours lecture/lab per week according to course content.*  
*Prerequisite(s): Consent of department chair*

BUS 291V is a dynamic offering of varying topics in Business Education. The actual course content consists of activities and topics selected from existing 200 level Business Education courses listed in the KCC General Catalog. Content varies and consists of targeted activities and topics in Accounting, Business, Information Technology, Business Law, Entrepreneurship, Information and Computer Science, and/or Marketing courses.

Upon successful completion of BUS 291V, the student should be able to:

- Demonstrate the ability to think and read critically about topics in Business Education.
- Develop business communication (written and oral) abilities in both individual and group situations.
- Exhibit problem solving and decision-making skills in a business environment.
- Exhibit the ability to learn business techniques and practices in both independent and cooperative activities.
- Examine personal values and value systems of others in society and the work place.
- Develop skills for lifelong learning necessary to maintain currency in a business environment.

## **BUSINESS LAW**

### **BLAW 130 Business Law (3)**

*3 hours lecture per week*

BLAW 130 is a broad introduction to business law.

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

- Recognize broad principles of law relating to contracts, agency, personal property, and business organizations, negotiable instruments, sales, real property, trusts, and estates.
- Demonstrate general awareness of legal rights and obligations arising out of business and financial dealings.

### **BLAW 200 Legal Environment of Business (3)**

*3 hours lecture per week*

BLAW 200 is an introduction to the laws impacting business operations.

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

- Demonstrate a broad understanding of the American system of jurisprudence, its concepts, evolution and procedures.
- Recognize broad principles of law relating to the three basic business organizations, contracts, agency, employment, independent contractors, personal property (including bailments), concurrent interests, product liability and consumer protection, environment laws, bankruptcy, torts, anti-trust and ethics.