

# PROGRAM LEARNING OUTCOMES

August  
2016

## Table of Contents

### **Associate of Arts Degrees (A.A.)**

Liberal Arts, General Curriculum (AA.LA.GEN).....	7
Cinema Studies Option (AA.LA.CINST).....	8
Communication Option (AA.LA.COMM).....	9
Economics Option (AA.LA.ECON) .....	10
Global Studies Option (AA.LA.GLOBAL.STUD) .....	11
History Option (AA.LA.HIST).....	12
Latin American Studies Option (AA.LA.LATST) .....	13
Literature Option (AA.LA.LIT).....	14
Philosophy Option (AA.LA.PHIL) .....	15
Political Science Option (AA.LA.POLI.SCI).....	16
Psychology Option (AA.LA.PSY) .....	17
Religion Option (AA.LA.REL) .....	18
Sociology Option (AA.LA.SOC).....	19
Women Studies Option (AA.LA.WMST).....	20
World Languages and Cultures Option (AA.LA.WLAN) .....	21
Fine and Performing Arts, General Curriculum (AA.FPA.GEN) .....	22
Art Option (AA.FPA.ART) .....	23
Cinema Studies Option (AA.FPA.CINST) .....	24
Music Option (AA.FPA.MUSC) .....	25
Theatre Arts, General Curriculum (AA.FPA.THTR) .....	26
Theatre Arts – Acting Option (AA.FPA.THTR.ACT) .....	27
Theatre Arts – Dance Option (AA.FPA.THTR.DAN) .....	28

Theatre Arts – Technical Theatre Production Option (AA.FPA.THTR.TECH) .....	29
---	----

### **Associate of Science Degrees (A.S.)**

Natural Science & Math, General Curriculum (AS.NSM.GEN).....	30
Aviation Operations Option (AS.NSM.AVT.OPR) .....	31
Biology Option (AS.NSM.BIO).....	32
Biotechnology Option (AS.NSM.BIO.TECH) .....	33
Chemistry Option (AS.NSM.CHEM) .....	34
Computer Science Option (AS.NSM.COMP.SCI).....	35
Mathematics Option (AS.NSM.MATH) .....	36
Physics Option (AS.NSM.PHYSC).....	37
Engineering Science (AS.ENGIN.SCI).....	38
Professional Studies, General Curriculum (AS.PS.GEN) .....	39
Aviation Administration Option (AS.PS.AVT.ADM).....	40
Broadcasting (AS.PS.BRCST).....	41
Business Administration – General Option (AS.PS.BUS.ADM).....	42
Business Administration – Accounting Option (AS.PS.BUS.ACCT) .....	43
Business Administration – Hospitality Option (AS.PS.BUS.HOSP).....	44
Business Administration – International Trade Option (AS.PS.BUS.INTL) .....	45
Business Administration – Management Option (AS.PS.BUS.MGMT) .....	46
Business Administration – Marketing Option (AS.PS.BUS.MKTG).....	47
Business Administration – Nonprofit Management Option (AS.PS.BUS.NONPRF.MGT) .....	48
Criminal Justice Option (AS.PS.CRIMJ) .....	49
Early Childhood Education (AS.PS.EARLY.CHILD) .....	50
Education Option (AS.PS.EDUC).....	51

## Programs, Program Descriptions and Program Learning Outcomes (as of August 2016)

Exercise Science Option (AS.PS.EXER) .....	52
Health Science Option (AS.PS.HSC) .....	53
Information Technology (AS.PS.INFO) .....	54
Journalism Option (AS.PS.JOUR) .....	55
Social Work Option (AS.PS.SOC.WK) .....	56
Sports Management Option (AS.PS.SPORT.MGMT) .....	57

### **Associate of Fine Arts Degrees (A.F.A.)**

Music – Music Business Option (AFA.MUSC.BUS) .....	58
Music – Music Technology Option (AFA.MUSC.TECH) .....	59

### **Associate of Applied Science Degrees (A.A.S.)**

Art, Computer Animation (AAS.ART.ANIM) .....	60
Art, Graphic Design/Computer Graphics (AAS.ART.GRPH) .....	61
Business Administration, Accounting (AAS.BUS.ACCT) .....	62
Business Administration, Banking and Finance (AAS.BUS.BANK) .....	63
Business Administration, e-Business Management (AAS.BUS.E-BUS.MGMT) .....	64
Business Administration, Management Information Systems (AAS.BUS.INFO.SYS) .....	65
Business Administration, Publishing Operations and Management (AAS.BUS.PUB) .....	66
Hotel/Restaurant/Hospitality – General Curriculum (AAS.BT.HR.GEN) .....	67
Hotel/Restaurant/Hospitality – Catering and Banquet Management (AAS.BT.HR.CATER) .....	68
Hotel/Restaurant/Hospitality – Culinary Entrepreneurship (AAS.BT.HR.CULEPR) .....	69
Hotel/Restaurant/Hospitality – Event Planning and Management (AAS.BT.HR.EVENT) .....	70
Hotel/Restaurant/Hospitality – Hospitality Management (AAS.BT.HR.HOSP) .....	71
Information Technology – Office Technology (AAS.BT.OFF.TECH) .....	72

## Programs, Program Descriptions and Program Learning Outcomes (as of August 2016)

Fashion Apparel Design (AAS.FD.APR) .....	73
Human Services, Correctional Studies (AAS.HS.CORR) .....	74
Human Services, Law Enforcement Studies (AAS.HS.LAWENF).....	75
Human Services, Legal Studies, Paralegal (AAS.LS.PARALGL) .....	76
Music – Music Business Option (AAS.MUSC.MUS.BUS).....	77
Health Professions – Dental Hygiene (AAS.HP.DENTL) .....	78
Health Professions – Diagnostic Medical Sonography (AAS.HP.DMS) .....	79
Health Professions – Health Science (AAS.HP.HLTH.SCI).....	80
Health Professions – Medical Office Assistant (AAS.HP.MOA) .....	81
Health Professions – Paramedic Science (AAS.HP.PAR) .....	82
Health Professions – Radiography (AAS.HP.RAD) .....	83
Health Professions – Respiratory Care (AAS.HP.RESP).....	84
Health Professions – Veterinary Technology (AAS.HP.VET).....	85
Nursing, Day Session (AAS.NURS.DAY) .....	86
Nursing, Evening Session (AAS.NURS.EVE).....	87
Health Professions/Career Tech – Interdisciplinary Program in Medical Informatics (AAS.MED.INFO) .....	88
Career Technologies – Avionics Option (AAS.IDT.AVIONICS) .....	89
Career Technologies – Drafting and Design Technology (AAS.IDT.DRFT) .....	90
Career Technologies – Electronics Technology (AAS.IDT.ELECT.TECH) .....	91
Career Technologies – General Engineering Technology (AAS.IDT.ENGIN.TECH) .....	92
Career Technologies – Manufacturing Technology (AAS.IDT.MFG.TECH) .....	93
Career Technologies – Science Technology, Horticulture (AAS.ST.HORT).....	94
Career Technologies – Science Tech – Landscape/Design/Build Option (AAS.ST.LAND) .....	95
Information Technology – Database Programming and Administration (AAS.IT.DB).....	96
Information Technology – Networking Administration (AAS.IT.NET) .....	97

## Programs, Program Descriptions and Program Learning Outcomes (as of August 2016)

Information Technology – Web Development and Management (AAS.IT.WEB) .....	98
Software Development – Game Programming (AAS.SD.GAME.PGMG) .....	99
Software Development – Game Testing (AAS.SD.GAME.TEST) .....	100
Music – Recording Technology (AAS.MUSC.REC.TECH) .....	101

### **Certificates (CERT)**

Computer Aided Drafting [CAD] (CERT.CAD) .....	102
Computer Animation (CERT.COMP.ANIM) .....	103
Computer Graphics (CERT.COMP.GRAPH) .....	104
Computer Science (CERT.COMP.SCI) .....	105
Computer Technical Support (CERT.COMP.SUPPORT) .....	106
Culinary Arts (CERT.CULN.ARTS) .....	107
Database Programming and Administration (CERT.DB) .....	108
e-Commerce: Business Emphasis (CERT.ECOMM.BUS) .....	109
Event Planning and Management (CERT.EVENT.PLAN.MGT) .....	110
Exercise Science (CERT.EXER.SCI) .....	111
Floral Design (CERT.FLORAL) .....	112
Grounds Management (CERT.GRND.MGT) .....	113
Hospitality Management (CERT.HOSP.MGMT) .....	114
Landscaping (CERT.LAND) .....	115
Legal Nurse Consultant (CERT.LGN.CON) .....	116
Medical Office Administrative Assistant (CERT.MOAA) .....	117
Office Technology (CERT.OFF.TECH) .....	118
Radiation Therapy Technology (CERT.RAD.THERAPY) .....	119
Surgical Technology (CERT.SURG/CERT.SURG.EVE) .....	120

Transfer Studies: Science, Technology, Professional Studies (CERT.TRAN.STP.GEN) .....	121
---	-----

**Certificates of Achievement (C.O.A.)**

Baking (COA.BAKING) .....	122
Biotechnology (COA.BIO.TECH) .....	123
CNC Programming (COA.CNC.PROG).....	124
Fashion Design Fundamentals (COA.FD.DESIGN).....	125
Fashion Product Development (COA.FD.PROD) .....	126
Finance (COA.FINANCE) .....	127
Fire Science (COA.FIR.SCI).....	128
Forensic Science (COA.FORENSIC).....	129
Homeland Security (COA.HOME.SEC) .....	130
Machine Tooling (COA.MACH.TOOL) .....	131
Manufacturing Design using Pro/Engineer® (COA.MFG.PROENG) .....	132
Marketing Assistant (COA.MKTG.ASST).....	133
Network Security (COA.NET.SECURITY) .....	134
Nonprofit Management (COA.NONPRF.MGT) .....	135
Private Security (COA.PRIV.SECURITY) .....	136
Professional Cooking (COA.PROF.COOK) .....	137
Real Estate (COA.REAL.EST) .....	138
Sports Management (COA.SPORT.MGMT) .....	139
Sports Merchandising (COA.SPORT.MERCH) .....	140
Welding Technology (COA.WELD).....	141

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Liberal Arts, General Curriculum (AA.LA.GEN)</b></p> <p>CIP Code 24.0101</p>	<p>The Liberal Arts General Curriculum degree program is an interdisciplinary degree that provides an overview of the arts, humanities, social sciences, mathematics and natural sciences. Because the liberal arts major covers a broad spectrum of subjects, it prepares students to transfer to four-year colleges to pursue a Bachelor's degree in such fields as English, history, humanities, journalism, foreign languages, pre-law, literature, psychology, sociology, political science, philosophy, and education. Additionally, the program stresses the following LEAP goals: civic knowledge and engagement—local and global; intercultural knowledge and competence; ethical reasoning and action; and foundations and skills for lifelong learning. It provides a more individualized education and allows the student to develop a course of study by selecting from a variety of General Education Areas.</p>	<ul style="list-style-type: none"> <li>• Demonstrate the ability to think critically and creatively.</li> <li>• Apply analytical reasoning across academic disciplines.</li> <li>• Demonstrate proficiency in oral and written communication.</li> <li>• Demonstrate information literacy and technological competency.</li> <li>• Recognize and appreciate diversity, historical viewpoints, and the global perspective.</li> <li>• Cultivate ethical values, personal wellness, and personal learning strategies.</li> </ul>



PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Cinema Studies Option (AA.LA.CINST)</b></p> <p>CIP Code 24.0101</p>	<p>The Cinema Studies Option degree program comprises a series of classes within a Liberal Arts context that allows students to learn about how films are made; how significance is created within films; the history of film; and other more specific topics such as American Cinema and Women in Cinema. The program offers Special Topics courses whose topics change; some that have been offered include Films of the 1970s, Film Noir, and Latin American Cinema.</p>	<ul style="list-style-type: none"> <li>• Interpret films through a variety of aesthetic, cultural, historical, and theoretical frameworks, those often found in other humanities courses.</li> <li>• Use the terminology and analytic questions specific to film analysis.</li> <li>• Articulate thoughts about film in writing and speaking.</li> <li>• Watch a film properly, in silence and darkness, without interruption.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Communication Option (AA.LA.COMM)</b></p> <p>CIP Code 24.0101</p>	<p>The Communication Option degree program prepares students to transfer into the junior year of a liberal arts baccalaureate program for advanced undergraduate and graduate studies in the field of Communication or other liberal arts major. The program includes courses that teach theories, principles and practices of effective and ethical communication in a range of personal, public, visual and mediated contexts. The option in Communication is appropriate for students focusing on many areas of study as well as professional careers. A concentration in Communication is often selected by students going into education, business, marketing, public relations, law, social work, criminal justice and political science.</p>	<ul style="list-style-type: none"> <li>• Demonstrate the ability to speak effectively in personal, social, academic, and business situations.</li> <li>• Learn and apply methods in researching, organizing, delivering, and evaluating formal and informal speeches.</li> <li>• Understand the body of research in related content areas of COM-100.</li> <li>• Demonstrate knowledge of theories of communication, analysis of effective speaking, interpersonal and intrapersonal communication.</li> <li>• Develop effective listening skills.</li> <li>• Demonstrate the ability to participate effectively in discussion groups.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Economics Option (AA.LA.ECON)</b></p> <p>CIP Code 24.0101</p>	<p>The Associate in Arts (AA) Degree, Economics Option, is designed to present students with introductory &amp; intermediate level courses to build a solid foundation in economic thinking and reasoning as well as understanding of fundamental concepts of microeconomics and macroeconomics theory before students transfer to a four-year institution to complete their bachelor degree. The program promotes technical communication skills, analytical thinking, and problem solving through theoretical and practical learning methods. Students explore topics such as inflation, recession, unemployment, money &amp; banking, fiscal &amp; monetary policies, exchange rate movements, externalities &amp; public goods as well as behavior of firms in pricing of products/resources and determining quantity of outputs/factors of production in different market environments.</p>	<ul style="list-style-type: none"> <li>• Demonstrate critical thinking skills to analyze and evaluate the way in which economists examine the real world to understand current events.</li> <li>• State and support their own views on economic issues addressed in their courses, in written, oral, and graphical forms, with logical rigor and clarity.</li> <li>• Understand the importance as well as the limitations of empirical evidence in evaluating the validity of economic models.</li> <li>• Evaluate and utilize economic data found on the Internet and other sources.</li> <li>• Demonstrate problem-solving and quantitative reasoning skills to address economic or policy problems.</li> <li>• Demonstrate an understanding of major economic events that have shaped and determined the course of the economic history.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Global Studies Option (AA.LA.GLOBAL.STUD)</b></p> <p>CIP Code 24.0101</p>	<p>The Global Studies Option degree program is a comprehensive and interdisciplinary program that explores cultures, political systems, historical developments and economies to help students develop the knowledge, awareness and skills needed in an increasingly interdependent world. This program is for students who intend to transfer to a 4-year International/Global Studies or liberal arts program. Global Studies is an excellent path for students interested in pursuing graduate studies in International Relations, Public Policy, Communications, Education, Linguistics, Business, Law, and any of the Social Sciences or career fields that require a global perspective.</p>	<ul style="list-style-type: none"> <li>• Demonstrate understanding of global issues from a multidisciplinary perspective.</li> <li>• Demonstrate knowledge of world geography, current political events, and contemporary global issues.</li> <li>• Increase knowledge of the value of the language, religion, art, and philosophy of different cultures.</li> <li>• Demonstrate effective communication skills, both orally and in writing.</li> <li>• Demonstrate proficiency in a relevant language other than one's own.</li> <li>• Experience life in another country through a study abroad experience.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>History Option (AA.LA.HIST)</b></p> <p>CIP Code 24.0101</p>	<p>The History Option degree program is recommended for students who are interested in pursuing the knowledge, values, and skills that are unique to the study of history and who intend to transfer to a 4-year history or liberal arts program. Coursework requirements include two survey courses in Western Civilization, European History, US History, or Latin American History. Students also take at least three History electives and a Geography course in addition to courses in general education. An AA degree with a History Option is easily transferable to all public and private colleges that accept transfer students. Those who continue on to earn a BA in history often pursue careers in education, government and non-profit, international relations and security, law, journalism and literature, film and entertainment, museums and historic preservation, business and finance.</p>	<ul style="list-style-type: none"> <li>• Demonstrate, in both written and oral discussion, the ability to consider a diversity of viewpoints, construct and defend a thesis, and revise it effectively as new evidence demands.</li> <li>• Read and comprehend a variety of primary and secondary sources, evaluate their perspective and bias, and contextualize them with appropriate detail.</li> <li>• Develop a methodological practice of identifying, gathering, evaluating, analyzing, synthesizing, interpreting, and citing historical evidence.</li> <li>• Narrate, in written or oral form, an event from the past in a way that recognizes different perspectives and multiple causation and rejects inevitability.</li> <li>• Recognize the important political, intellectual, social, and cultural forces that have shaped our past.</li> <li>• Identify examples of historical change and continuity over time and evaluate their historical significance.</li> <li>• Temper moral judgment in historical interpretation with an understanding of historical perspective and the significance of changing cultural context.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Latin American Studies Option (AA.LA.LATST)</b></p> <p>CIP Code 24.0101</p>	<p>The Latin American Studies Option degree program has been developed to give students the opportunity to take courses that focus on Latin American history, literature and Spanish language, selecting from a variety of courses currently offered at the college. This option will prepare transfer students interested in pursuing a bachelor degree with career opportunities to work in Latin America or with the U.S. Latino population in business, communications, criminal justice, education, health care, travel and tourism, hotel and restaurant management, and social work.</p>	<ul style="list-style-type: none"> <li>• Analyze a variety of texts about the history and culture of Latin America.</li> <li>• Understand basic principles and periods of Latin American artistic production.</li> <li>• Apply knowledge of different critical approaches to understanding Latin American cultures.</li> <li>• Demonstrate both critical and methodological insight in a relevant field of Latin American studies through a research project.</li> <li>• Demonstrate proficiency in a relevant language.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Literature Option (AA.LA.LIT)</b></p> <p>CIP Code 24.0101</p>	<p>The Literature Option degree program provides students the opportunity to sharpen their critical reading, thinking, and writing skills by taking courses organized by genre, topic, geographical location, and time period. The degree prepares students for further study at four-year institutions in literary studies and the humanities, as well as other majors that require a solid foundation in critical thinking skills. This preparation is also valuable for students seeking employment in a wide variety of fields.</p>	<ul style="list-style-type: none"> <li>• Identify major literary genres.</li> <li>• Employ strategies of active reading and close textual analysis to interpret and evaluate literary texts.</li> <li>• Demonstrate, in discussion and writing, an understanding of literary techniques that writers use in constructing their texts.</li> <li>• Identify the historical and cultural forces that shape the production of literary works in a global, regional, and/or national/state context.</li> <li>• Recognize diverse fields of literary theory and criticism, and apply appropriate critical lenses to selected pieces of literature.</li> <li>• Analyze works of literature in relation to their correlative aesthetic and literary movements.</li> <li>• Incorporate properly formatted research in support of an argument; and demonstrate competency in evaluating information from a critical source.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Philosophy Option (AA.LA.PHIL)</b></p> <p>CIP Code 24.0101</p>	<p>The Philosophy Option degree program introduces students to the basic principles and techniques of logical thinking and argumentation, to the history of philosophical thought, to the basic problems of philosophy (What is real? What can be known? What is really worthwhile?), and to a set of methods by which contemporary moral, social, and political problems may be clearly understood and perhaps resolved.</p>	<ul style="list-style-type: none"> <li>• Identify and analyze the basic problems of philosophy in the fields of metaphysics, epistemology, and value theory.</li> <li>• Demonstrate a sound working knowledge of the basic principles of logic and the ability to incorporate them in their analyses of philosophical issues.</li> <li>• State and support views on philosophical issues logically, coherently, concisely, and clearly, both orally and in writing.</li> </ul>



PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Political Science Option (AA.LA.POLI.SCI)</b></p> <p>CIP Code 24.0101</p>	<p>The Political Science Option degree program is designed to present students with introductory courses in order to build a solid foundation in political thinking and reasoning before students transfer to a four-year institution to complete their bachelor degree. The program promotes technical communication skills, analytical thinking, and problem solving through theoretical and practical learning methods. Students explore topics such as power, the state, government, power structures, political behavior, policies, ideologies, international relations and comparative politics.</p>	<ul style="list-style-type: none"> <li>• Demonstrate familiarity with the major concepts, theoretical perspectives, empirical findings and historical trends in political science.</li> <li>• Recognize and apply basic research methods to political science, including research design, data analysis and interpretation.</li> <li>• Use critical thinking skills to analyze and evaluate the ways in which political scientists examine the world.</li> <li>• State and support their own views on political issues addressed in their courses, both orally and in writing, with logical rigor and clarity.</li> <li>• Develop an appreciation for diversity in identifying and achieving political goals.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Psychology Option (AA.LA.PSY)</b></p> <p>CIP Code 24.0101</p>	<p>The Psychology Option degree program will prepare students for further academic study in Psychology at the junior and senior college levels. Through theoretical and experiential based learning, students will develop basic competencies that include knowledge acquisition, critical thinking, and analytical writing skills, that potentially encompass a wide range of courses. This course variety potentially includes: general topics such as research methods, abnormal behavior, educational and developmental theories and practices, psycho-biological topics, topics in sexuality and gender, health and sports psychologies, and social and cultural psychologies.</p>	<ul style="list-style-type: none"> <li>• Demonstrate familiarity with the major concepts, theoretical perspectives, empirical findings, and historical trends in psychology.</li> <li>• Apply basic research methods in psychology, including research design, data analysis, and interpretation.</li> <li>• Demonstrate critical and creative thinking, skeptical inquiry, and use scientific approach to solving problems related to behavior and mental processes.</li> <li>• Apply psychological principles to personal, social and organizational issues.</li> <li>• Demonstrate effective writing skills and oral communication skills in various formats.</li> <li>• Develop an appreciation for sociocultural diversity.</li> <li>• Demonstrate insight into their own and others' behavior and mental processes and apply effective strategies for self-management and self-improvement.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Religion Option (AA.LA.REL)</b></p> <p>CIP Code 24.0101</p>	<p>The Religion Option degree program introduces students to the basic problems and methods of theology; to the sacred literatures of Judaism, Christianity, Islam, and other religious traditions; and to the history, basic beliefs, and characteristic practices of the major religions of the world.</p>	<ul style="list-style-type: none"> <li>• Explain the relationship between religion and culture.</li> <li>• Apply academic methodologies to the study of religion.</li> <li>• Analyze sacred texts and traditions recognizing the various hermeneutical approaches.</li> <li>• Defend positions on religious issues with critical precision, clarity and rigor, both orally and in writing.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Sociology Option (AA.LA.SOC)</b></p> <p>CIP Code 24.0101</p>	<p>The Sociology Option degree program is designed to be a transfer program and to give students a general foundation in sociological theories and research methods as related to the study of society, social behavior, and contemporary social issues.</p>	<ul style="list-style-type: none"> <li>• Demonstrate the ability to apply the three major sociological perspectives (i.e., structural functionalism, conflict theory and symbolic interactionism) to social phenomena presented in each of their elective courses.</li> <li>• Demonstrate their knowledge of cultural diversity and be able to apply the perspective of cultural relativism when viewing the complex social world in which in we all live.</li> <li>• Utilize the scientific method and the unique quantitative and qualitative tools developed by sociologists to objectively analyze social environments.</li> <li>• Evaluate and utilize materials found on the internet and other sources.</li> <li>• Use critical thinking skills to analyze and evaluate the ways in which sociologists examine their social world.</li> <li>• State and support their own views on sociological issues addressed in their courses, both orally and in writing, with logical rigor and clarity.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Women Studies Option (AA.LA.WMST)</b></p> <p>CIP Code 24.0101</p>	<p>The Women's Studies Option degree program is an interdisciplinary major which examines women's roles and achievements locally and globally. Various perspectives are presented through such courses as Women in History, Sociology of Gender Roles, Women in Literature, and Women and Religion.</p>	<ul style="list-style-type: none"> <li>• Demonstrate the ability to conduct interdisciplinary feminist analysis.</li> <li>• Examine and critique ideological assumptions underlying social institutions and systems of representation, including but not limited to assumptions regarding gender, race, class, nationality, disability, age, and sexual orientation.</li> <li>• Demonstrate an understanding of women's historical and contemporary agency, and how it has shaped women's lives in various geographical settings.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>World Languages and Cultures Option (AA.LA.WLAN)</b></p> <p>CIP Code 24.0101</p>	<p>The World Languages and Cultures Option degree program develops students' appreciation for other cultures and other ways of living and thinking, and prepares students to live and work in an increasingly interdependent world. In addition to language courses, students are encouraged to take regional/cultural studies courses and participate in a study abroad program. The program prepares students to transfer to a four year school to pursue a Bachelor of Arts degree in a variety of areas including Area Studies, Languages and Literature, Translation and Interpretation, International Relations, Public Policy, Political Science, Social Sciences, Social Work, Education, and Linguistics.</p> <p>The study of world languages offers opportunities in multiple career fields in occupations such as: Teaching, research, translation and interpretation, public service, counseling, social work, advocacy, publishing, campaign management, journalism and business leadership among others.</p>	<ul style="list-style-type: none"> <li>• Demonstrate listening, speaking/signing, reading and writing skills.</li> <li>• Demonstrate an understanding of traditions, customs and beliefs related to the target language.</li> <li>• Link information about the target language and cultures to other disciplines.</li> <li>• Compare and contrast language and cultural concepts with one's own language and culture.</li> <li>• Interact with native speakers, both locally and globally, and gain a world perspective.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Fine and Performing Arts, General Curriculum (AA.FPA.GEN)</b></p> <p>CIP Code 24.0101</p>	<p>The Fine and Performing Arts/General Curriculum degree program provides students with a solid foundation in the fine arts. Students take a series of courses in art, music, theater arts and cinema studies, as well as other art electives. In addition, students take general education courses in Humanities, Social Sciences, Mathematics, Natural Sciences and Technology.</p>	<ul style="list-style-type: none"> <li>• Develop a broad understanding of the studio, historical, theoretical, and economic dimensions of the arts.</li> <li>• Demonstrate the ability to think critically and creatively.</li> <li>• Apply analytical reasoning across academic disciplines.</li> <li>• Demonstrate proficiency in oral and written communication.</li> <li>• Develop an awareness of and sensitivity to global issues.</li> <li>• Demonstrate information literacy and technological competency.</li> <li>• Identify their degree of interest to pursue further study of a specific area of the fine and performing arts while exploring other academic disciplines through the general education requirements of a liberal arts education.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Art Option (AA.FPA.ART)</b></p> <p>CIP Code 24.0101</p>	<p>The Fine and Performing Arts Option degree program provides students with a solid foundation in the visual arts. Students take a series of courses in drawing, design, and art history as well as other studio art electives. In addition, students take general education courses in Humanities, Social Sciences, Mathematics, Natural Sciences and Technology.</p>	<ul style="list-style-type: none"> <li>• Demonstrate knowledge of the history of art.</li> <li>• Apply the basic elements and principles of design.</li> <li>• Demonstrate the fundamentals of drawing.</li> <li>• Demonstrate skills specific to the materials and technologies of art.</li> <li>• Work creatively.</li> </ul>



PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Cinema Studies Option (AA.FPA.CINST)</b></p> <p>CIP Code 24.0101</p>	<p>The Cinema Studies Option degree program comprises a series of classes that allows students to learn about how films are made; how significance is created within films; the history of film; and other more specific topics such as American Cinema and Women in Cinema. The program offers Special Topics courses whose topics change; some that have been offered include Films of the 1970s, Film Noir and Latin American Cinema. This program requires fewer general liberal arts courses and thus allows a greater focus on Cinema Studies itself, without the same emphasis on a liberal arts context.</p>	<ul style="list-style-type: none"> <li>• Interpret films through a variety of aesthetic, cultural, historical, and theoretical frameworks.</li> <li>• Use the terminology and analytic questions specific to film analysis.</li> <li>• Articulate thoughts about film in writing and speaking.</li> <li>• Watch a film properly, in silence and darkness, without interruption.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Music Option (AA.FPA.MUSC)</b></p> <p>CIP Code 24.0101</p>	<p>The General Music Arts Option degree program concentrates student learning on music skills and knowledge, preparing students for further academic study of Music in a variety of music applications such as Music Education, Music Therapy, Music Studies and Music History at the junior and senior college levels. Through applied and theoretical courses, students will develop the basic competencies of musicianship, knowledge acquisition, critical thinking, and analytic writing skills that potentially encompass a wide range of degree possibilities. The music course variety potentially includes performance, listening, and theoretical skill sets necessary for a pathway towards a bachelor's degree in music.</p>	<ul style="list-style-type: none"> <li>• Demonstrate knowledge of the major and minor key signatures, and apply this knowledge to the analysis of music compositions.</li> <li>• Demonstrate theoretical mastery of and ability to play all major and minor chords and scales on the keyboard.</li> <li>• Understand the general functions and specific workings of the elements out of which many pieces of music are made: rhythm, melody, harmony, form, and such secondary factors as texture, dynamics and tone color.</li> <li>• Recognize distinctive musical characteristics as well as the historical placement and socio-cultural context of each of the major stylistic periods of Western art music, as well as those related to a variety of musical traditions including American and world popular music, folk/traditional music, and other global music styles.</li> <li>• Know the names and chord functions of the diatonic system, basic chord progressions and demonstrate proper melodic voice leading through notation.</li> <li>• Exhibit mastery of an instrument or voice at a minimum of an intermediate level.</li> <li>• Exhibit basic facility in sight reading and sight singing.</li> <li>• Exhibit growth in artistry, technical skills, collaborative competence, and knowledge of repertory through regular ensemble experiences.</li> <li>• Critique live concert performances, representing numerous and varied musical cultures and traditions, using the skills and vocabularies they have mastered in their coursework.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Theatre Arts, General Curriculum (AA.FPA.THTR)</b></p> <p>CIP Code 24.0101</p>	<p>The Theatre Arts: General Theatre Arts Option degree program introduces the student to many of the collaborative artists that make theatre 'happen.' This program is designed to give students a clearer vision into each of those collaborative disciplines in order to inform their decision on which area(s) they would like to focus as a career option or a major area of study at a four year institution.</p>	<ul style="list-style-type: none"> <li>• Demonstrate a basic, hands-on knowledge of a variety of technical aspects in the theatre.</li> <li>• Read and comprehend a ground plan and demonstrate an understanding of working in different theatrical spaces; arena, thrust, black box, proscenium, etc.</li> <li>• Demonstrate a working knowledge of the fundamentals of stage lighting, including wire lighting instruments and the basics of electricity; watts, volts, amps.</li> <li>• Read and comprehend a light plot and how to hang, focus and gel instruments according to designers.</li> <li>• Operate a fly system, follow spot-video projections, lighting board and sound board.</li> <li>• Demonstrate knowledge of the business of show business, including the various resources available for finding work and joining the unions.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Theatre Arts – Acting Option (AA.FPA.THTR.ACT)</b></p> <p>CIP Code 24.0101</p>	<p>The Theatre Arts: Acting Option degree program focuses a student on the craft of acting. Through discipline, instruction and performance, the student will be prepared to audition for professional productions as well as continue their studies in acting at a four-year institution.</p>	<ul style="list-style-type: none"> <li>• Apply a variety of methods of acting, such as those of Constantine Stanislavsky and Sanford Meisner.</li> <li>• Learn how to analyze a script, block a scene, and build a character.</li> <li>• Develop the physical and vocal technique in order to work in proscenium, three-quarters, and in-the-round (arena) settings.</li> <li>• Perform in the different styles of these genres, from period pieces to contemporary plays.</li> <li>• Demonstrate an understanding of the discipline required to work in a professional setting by having experienced the demands of a rehearsal schedule and of maintaining a strong performance during the run of the show.</li> <li>• Gain a greater appreciation of the technical, backstage, and design elements of theatre by having worked in various technical capacities in the Theatre Department.</li> <li>• Prepare at least three audition pieces (monologues.)</li> <li>• Demonstrate an understanding of the business of show business, including the various resources available for finding work, how to behave in different audition settings, purchasing headshots, writing a resume, and joining the unions.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Theatre Arts – Dance Option (AA.FPA.THTR.DAN)</b></p> <p>CIP Code 24.0101</p>	<p>The Theatre Arts: Dance Option degree program introduces a student to many dance genres including ballet, modern, jazz, tap, and ballroom dance. The student can then continue their studies as a dance major at a four-year institution focusing on dance and/or choreography or audition for a dance company and begin a career in dance.</p>	<ul style="list-style-type: none"> <li>• Demonstrate competence in the major forms of theatrical dance: ballet, modern, jazz, tap, and period dance.</li> <li>• Demonstrate the discipline required to work in a professional setting through having experienced the demands of rehearsal schedules and the run of a show.</li> <li>• Adapt choreography in order to work in proscenium, three-quarter arena, and full arena settings.</li> <li>• Perform social dances from different historical periods as well as the contemporary musical theatre.</li> <li>• Comprehend and appreciate the technical, backstage, and design elements of theatre by having worked in various technical capacities in the Theatre Department.</li> <li>• Demonstrate the knowledge and technique to compete in the field of dance and to continue training in a professional dance program either at a four year college and graduate school or at a studio.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Theatre Arts – Technical Theatre Production Option (AA.FPA.THTR.TECH)</b></p> <p>CIP Code 24.0101</p>	<p>The Theatre Arts: Technical Theatre Production Option degree program prepares a student with the basics in technical theatre. The program is designed to offer a student the opportunity to learn set design, scenic art, lighting design, stage electrics, stage management and stage crew. The program will equip the student with a deeper knowledge in technical theatre so that they can either join the workforce or move onto a four-year institution where they can choose a specific area in technical theatre they wish to focus.</p>	<ul style="list-style-type: none"> <li>• Demonstrate a basic, hands-on knowledge of a variety of technical aspects in the theatre.</li> <li>• Read and comprehend a ground plan and demonstrate an understanding of working in different theatrical spaces; arena, thrust, black box, proscenium, etc.</li> <li>• Demonstrate a working knowledge of the fundamentals of stage lighting, including how to wire lighting instruments and the basics of electricity; watts, volts and amps.</li> <li>• Read and comprehend a light plot and how to hang, focus and gel instruments according to designers.</li> <li>• Operate a fly system, follow spot-video projections, lighting board and sound board.</li> <li>• Demonstrate knowledge of the business of show business, including the various resources available for finding work and joining the unions.</li> <li>• Gain the experience, both hands-on and in the classroom, to be able to assimilate easily to compete in this field and to continue their training in a professional technical theatre program either at a college or apprenticeship program.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Natural Science &amp; Math, General Curriculum (AS.NSM.GEN)</b></p> <p>CIP Code 24.0101</p>	<p>The Associate of Science Degree Program in Natural Science and Mathematics prepares students to transfer into baccalaureate programs in Biology, Chemistry, Physics or the Earth and Environmental Sciences. The program is designed to give STEM students the maximum flexibility to choose course sequences that will transfer as program requirements at the four year school of their choice. Students are encouraged to research those programs with the STEM Counselor and /or their faculty advisor early on.</p> <p>Traditional STEM occupations in Research, Quality Control, Laboratory Technology, Engineering and Environmental Science are all options available to students that complete this degree and then focus their studies at the baccalaureate level. This program is also well suited for students interested in Pre-Med or Science Education.</p>	<ul style="list-style-type: none"> <li>• Demonstrate the knowledge of the psychological and biochemical process in a variety of organisms and the interrelationship of living systems.</li> <li>• Demonstrate laboratory competence by developing and refining technical and analytical skills, demonstrate the ability to work with peers during experiments.</li> <li>• Demonstrate the ability to critically examine information and discover new knowledge through rigorous scientific meaning.</li> <li>• Construct a mathematical model of a real-world problem.</li> <li>• Understand the fundamental concepts of functions and relations, be able to work with function notation, and understand how functions are used to represent real-world applications.</li> <li>• Work with formulas, including formula evaluation and solving a formula for any of the variables.</li> <li>• Solve equations and apply various mathematical techniques.</li> <li>• Identify and clearly describe in his or her, own words the concept and meaning behind the physical principles and laws.</li> <li>• Create sketches, diagrams, and graphs to describe physical process and problem solving.</li> <li>• Demonstrate proper use of laboratory instrumentation.</li> <li>• Demonstrate a growing sense of potential error sources and the contribution of those sources to the overall success of experiments.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Aviation Operations Option (AS.NSM.AVT.OPR)</b></p> <p>CIP Code 24.0101</p>	<p>The Associate of Science Degree Program in Aviation Operations is designed for students interested in becoming a professional pilot after completing their associates' degree and then transferring to a Baccalaureate program in Aircraft Operations. BCC has strong articulation agreements with two institutions that specialize in the field. Students in the program take a three course sequence in Aviation Technology that includes flight operations (ground school), Aviation safety and Aviation Weather along with a rigorous background in Mathematics and Science that will prepare them for further studies and a potential career in Aviation Operations.</p>	<ul style="list-style-type: none"> <li>• Demonstrate the ability to define, describe, and explain the universal management functions of directing, planning, organizing, and controlling especially where it pertains to the aviation industry.</li> <li>• Demonstrate and understanding of the fundamental concepts of Aeronautics.</li> <li>• Demonstrate the ability to define, describe, and explain basic economic principles that may affect businesses.</li> <li>• Demonstrate an understanding of fundamental principles of flight, flight design and how they are applied in current technology.</li> <li>• Recognize and apply the concepts and techniques of aviation administration in real-world situations.</li> <li>• Display, conduct and communicate in the professional manner necessary in the aviation industry.</li> <li>• Demonstrate the ability to define, describe, and explain the universal management functions.</li> </ul>



PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Biology Option (AS.NSM.BIO)</b></p> <p>CIP Code 24.0101</p>	<p>The Associate of Science Degree Program in Biology prepares students to enter various biology and biology related programs leading to a bachelor's degree in four year colleges and universities. Students in the program take a year of General Biology and two additional upper level courses in Biology plus a foundation of supporting Mathematics, Science and General Education courses. Students also acquire laboratory skills that are necessary for upper division studies in the biological sciences.</p>	<ul style="list-style-type: none"> <li>• Express the organization and classification principles employed in biological sciences.</li> <li>• Demonstrate knowledge of the physiological and biochemical processes in a variety of organisms and the interrelationships of living systems.</li> <li>• Demonstrate knowledge of the developmental processes which occur in various organisms.</li> <li>• Develop a heightened understanding of the unity, variety and evolution of life, and recognition of the importance of the stewardship and preservation of biological diversity.</li> <li>• Acquire laboratory competence by developing and refining technical and analytical skills.</li> <li>• Critically examine information and discover new knowledge through rigorous scientific reasoning.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Biotechnology Option (AS.NSM.BIO.TECH)</b></p> <p>CIP Code 24.0101</p>	<p>The Associate of Science Degree Program in Biotechnology is designed prepares students interested in transferring to a bachelor's degree program in Biology with a specialization in Biotechnology or enter the workforce as a laboratory technologist in the field. Students in the program take a year of General Biology, a two semester sequence in Biotechnology and Bioinformatics plus a foundation of supporting Mathematics, Science and General Education courses.</p>	<ul style="list-style-type: none"> <li>• Demonstrate knowledge of the methodology of biotechnology, including genetic modification, isolation, purification, and analysis of nucleic acids and proteins.</li> <li>• Acquire the skills necessary to properly handle genetically modified organisms and employ the safeguards necessary when working with such organisms.</li> <li>• Acquire laboratory competence by developing and refining technical and analytical skills.</li> <li>• Develop the ability to critically examine information and discover new knowledge through rigorous scientific reasoning.</li> <li>• Demonstrate knowledge of the practice of proper scientific laboratory record keeping.</li> <li>• Acquire knowledge of a variety of currently available genomic and proteomic databases.</li> <li>• Acquire the skills required to analyze biological sequences and interpret the results of their analyses.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Chemistry Option (AS.NSM.CHEM)</b></p> <p>CIP Code 24.0101</p>	<p>The Associate of Science Degree Program in Chemistry includes a General Chemistry sequence (I &amp; II) and an Organic Chemistry sequence (I &amp; II) as well as required courses in mathematics and physics. Students are prepared to transfer into the junior year of a baccalaureate program in chemistry.</p> <p>Occupations for graduates with degrees in chemistry include teaching, research, environmental science and scientific writing as well as positions in the chemical and pharmaceutical industries.</p>	<ul style="list-style-type: none"> <li>• Demonstrate the proper use of chemical nomenclature.</li> <li>• Analyze chemical problems and demonstrate problem solving skills.</li> <li>• Describe the nature of the atom.</li> <li>• Explain the nature of chemical bonding.</li> <li>• Demonstrate effective use of chemical software and instrumentation.</li> <li>• Demonstrate proper laboratory techniques and safety practices.</li> <li>• Recognize energy considerations in chemical reactions.</li> <li>• Propose the products of chemical reactions.</li> <li>• Demonstrate adequate mastery of chemical vocabulary.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Computer Science Option (AS.NSM.COMP.SCI)</b></p> <p>CIP Code 24.0101</p>	<p>The Associate in Science Degree Program in Computer Science prepares students to transfer into the junior year of a baccalaureate program in computer science or a related area such as computer engineering or computer information systems. The degree program includes required and elective courses in current programming languages, discrete mathematics, data structures and algorithms, database systems, system analysis and design, and computer organization.</p> <p>Computer science occupations include teaching positions at all levels, software developers, database administrators, hardware engineers, systems analysts, network architects, information security analysts, and many other both exciting and in high demand positions.</p>	<ul style="list-style-type: none"> <li>• Apply knowledge and skills to create algorithmic solutions to problems effectively and efficiently.</li> <li>• Become competent in using a programming language to solve problems.</li> <li>• Demonstrate the ability to use current techniques, skills, and tools necessary for the practice of the discipline.</li> <li>• Understand the components of the computer and the way that they work.</li> <li>• Analyze a problem, and identify and define the computing requirements appropriate to its solution.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Mathematics Option (AS.NSM.MATH)</b></p> <p>CIP Code 24.0101</p>	<p>The Associate of Science Degree Program in Mathematics prepares students to transfer into the Junior year of a baccalaureate program in mathematics or a related area such as statistics or actuarial science. The degree program includes the required courses of Calculus I, II, and III, Differential Equations, and Linear Algebra, as well as elective courses in Discrete Mathematics, Statistical Methods, and Computer Science.</p> <p>Traditional mathematics occupations include teaching positions at all levels, research positions, or positions in industry in areas such as applied mathematics, statistics, actuarial science, operations research, econometrics, or market research.</p>	<ul style="list-style-type: none"> <li>• Demonstrate an understanding of the fundamental concepts of functions and relations, function notation and how functions are used to represent real-world applications.</li> <li>• Work with formulas, including formula evaluation and solving a formula for any of the variables.</li> <li>• Construct labeled graphs of functions to accurately convey information.</li> <li>• Solve equations involving algebraic functions, exponential functions, logarithmic functions, trigonometric functions, and derivatives of functions.</li> <li>• Apply various mathematical techniques to obtain approximate solutions to problems for which an exact solution is not possible or easily obtained.</li> <li>• Apply the techniques of both differential calculus and integral calculus to problems involving functions of both one and several variables.</li> <li>• Construct a mathematical model of a real-world problem.</li> <li>• Apply mathematics to the solution of problems from other disciplines.</li> <li>• Communicate effectively using mathematics by employing proofs to validate properties and arguments involving various theorems and properties in mathematics.</li> <li>• Derive other mathematical properties from a given set of mathematical properties or axioms.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Physics Option (AS.NSM.PHYSC)</b></p> <p>CIP Code 24.0101</p>	<p>The Associate of Science Degree Program in Physics is designed to give students who have the desire and drive to explore the universe, the background that four year colleges require for their own undergraduate preparation. Physics is the study of all physical phenomena and utilizes skills such as mathematics, analysis, software, and clear communications. It explores questions like how did the universe start? How will it end? What is a black hole? Is time travel possible?</p> <p>Physics graduates find employment in occupations such as research, medicine, software design, and even finance. Physicists are found in many fields of study including Research and Development, Aerospace and Defense, Design and Production, Medical Physics, Astronomy and Astrophysics, Geophysics, Meteorology, and education. Physics spans dimensions from that of the nucleus of an atom to the Universe itself. It is the science behind the innovations of the future.</p>	<ul style="list-style-type: none"> <li>• Work in teams to demonstrate proper and safe use of instrumentation and software in performing laboratory measurements and analysis to develop a growing sense of error sources that affect accuracy and precision of experimental results.</li> <li>• Demonstrates logical reasoning in problem solving by using appropriate mathematics (high level algebra and calculus), diagrams, and the principles of physics.</li> <li>• Demonstrates clear scientific writing skills and proper terminology to describe the principles of physics.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Engineering Science (AS.ENGIN.SCI)</b></p> <p>CIP Code 24.0101</p>	<p>The Associate of Science Degree Program in Engineering Science is designed for students who enjoy applying their knowledge to the analysis, design, and construction of physical devices. Engineering disciplines draw on the concepts of thermodynamics, fluid flow, stress and strain, electricity and magnetism, mathematics and software modeling, and complex forces.</p> <p>Students who obtain an AS in Engineering Science from Bergen Community College will be prepared to continue at a four year college for more advance content and specialized fields such as Mechanical, Electrical, Biomedical, Chemical and Civil Engineering. Students should check the course requirements at the destination 4-year college and choose electives appropriately.</p>	<ul style="list-style-type: none"> <li>• Demonstrate foundational technical drawing skills.</li> <li>• Demonstrates the use of structured programming principles for the solution of engineering problems.</li> <li>• Work in teams to demonstrate proper and safe use of instrumentation and software in performing laboratory measurements and analysis to develop a growing sense of error sources that affect accuracy and precision of experimental results.</li> <li>• Demonstrate logical reasoning in problem solving by using appropriate mathematics (high level algebra and calculus), diagrams, and the principles of physics and chemistry.</li> <li>• Demonstrate clear scientific writing skills and proper terminology to describe the principles of physics and chemistry.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Professional Studies, General Curriculum (AS.PS.GEN)</b></p> <p>CIP Code 24.0101</p>	<p>The General Curriculum Degree Program provides students with a broad and multidisciplinary course of study rather than some of the more specific programs the College offers. The General Curriculum degree prepares students to think critically and analytically across a wide range of disciplines or fields of study. In addition to their General Education requirements, students take courses in a variety of disciplines in the humanities, arts and social sciences.</p>	<ul style="list-style-type: none"> <li>• Demonstrate the ability to think critically and creatively.</li> <li>• Apply analytical reasoning across academic disciplines.</li> <li>• Demonstrate proficiency in oral and written communication.</li> <li>• Demonstrate information literacy and technological competency.</li> <li>• Recognize and appreciate diversity, historical viewpoints, and the global perspective.</li> <li>• Cultivate ethical values, personal wellness, and personal learning strategies.</li> </ul>



PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Aviation Administration Option (AS.PS.AVT.ADM)</b></p> <p>CIP Code 24.0101</p>	<p>The Associate of Science Degree Program in Aviation Administration is designed for students interested in completing their associates' degree and then transferring to a Baccalaureate program in Aviation Administration or moving directly into a career at an airline or airport. BCC has strong articulation agreements with two institutions that specialize in the field. Students in the program take a two course sequence in Aviation Technology that includes Aircraft Operations and Aviation Safety along with a strong background in Business Management that will prepare them for further studies and a career in Aviation Administration.</p>	<ul style="list-style-type: none"> <li>• Demonstrate the ability to define, describe, and explain the universal management functions of directing, planning, organizing, and controlling especially where it pertains to the aviation industry.</li> <li>• Demonstrate and understanding of the fundamental concepts of Aeronautics, their historical development and how they are utilized in current real-world applications.</li> <li>• Demonstrate the ability to define, describe, and explain basic economic principles that may affect businesses.</li> <li>• Demonstrate business knowledge and broad-based business theory which positions them for success in a baccalaureate program in aviation management or direct entry into the field.</li> <li>• Demonstrate an understanding of fundamental principles of flight, flight design and how they are applied in current technology.</li> <li>• Recognize and apply the concepts and techniques of aviation administration in real-world situations to be able to solve operational problems using data driven / analytical decision making.</li> <li>• Display, conduct and communicate in the professional manner necessary in the aviation industry.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Broadcasting (AS.PS.BRCAS)</b></p> <p>CIP Code 24.0101</p>	<p>The Associate of Science Degree Program in Broadcasting prepares students to transfer into the junior year of a baccalaureate program in Broadcasting or a related area such as media, advertising, marketing, and public relations. In addition, the degree provides students with an understanding of the historical, regulatory, technical, and business components that combine to create the media world of today. Broadcasting career options include work in management or administration, sales, engineering or technical support, production and programming.</p>	<ul style="list-style-type: none"> <li>• Learn to compare and contrast mass media to other forms of communication.</li> <li>• Analyze the economic foundation of mass media as well as its function.</li> <li>• Understand which mass media are government regulated, self- regulated, and protected by the first amendment.</li> <li>• Identify the political framework of media in other cultures.</li> <li>• Understand how current trends of conglomeration and technological advances are affecting the mass media.</li> <li>• Recognize the different formats used to prepare information for print, broadcast and the Internet.</li> <li>• Gain an overview of the various laws and ethics that govern the media.</li> <li>• Improve writing and critical thinking skills.</li> <li>• Explore various career opportunities available in mass media.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Business Administration – General Option (AS.PS.BUS.ADM)</b></p> <p>CIP Code 24.0101</p>	<p>This degree program option in General Business Administration is designed for students seeking a career in the business field, however, have not yet decided an area of expertise. This AS provides a solid foundation for transfer to a senior institution for higher-level study. The Degree offers an integration of accounting, business and liberal arts courses needed to enhance critical thinking, analytical, decision-making and communication skills required by contemporary professionals regardless of specialization.</p>	<ul style="list-style-type: none"> <li>• Identify, describe or explain the external forces that affect the business world and business concepts involved with international commerce.</li> <li>• Identify, describe or explain the various functions of running a business such as management, marketing, accounting, finance, human resources, information technology, ownership, and production.</li> <li>• Describe or explain workplace ethics and diversity.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Business Administration – Accounting Option (AS.PS.BUS.ACCT)</b></p> <p>CIP Code 24.0101</p>	<p>This degree program option in Accounting is designed for students seeking a career in the accounting field. This AS provides a solid foundation for transfer to a senior institution for higher-level study. The Degree offers an integration of accounting, business and liberal arts courses needed to enhance critical thinking, analytical, decision-making and communication skills required by contemporary accountants.</p>	<ul style="list-style-type: none"> <li>• Apply GAAP to the recording and reporting of business transactions.</li> <li>• Prepare financial statements in accordance with Generally Accepted Accounting Principles.</li> <li>• Identify the importance of the Sarbanes-Oxley Act and identify the responsibilities and requirements of ethical behavior incumbent upon management and the outside auditors.</li> <li>• Demonstrate computer competency in business applications such as word processing, spreadsheets, and presentation software.</li> <li>• Use financial information to perform managerial decision making.</li> <li>• Present ideas in writing in an effective manner for a professional audience.</li> <li>• Present ideas orally in an effective manner for a professional audience.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Business Administration – Hospitality Option (AS.PS.BUS.HOSP)</b></p> <p>CIP Code 24.0101</p>	<p>This degree program option in Hospitality is designed for students seeking a career in the Hospitality field. This AS provides a solid foundation for transfer to a senior institution for higher-level study. The Degree offers an integration of accounting, business and liberal arts courses needed to enhance critical thinking, analytical, decision-making and communication skills required by contemporary hospitality professionals.</p>	<ul style="list-style-type: none"> <li>• Be prepared to transfer to a Bachelor’s program in Hospitality or a related field.</li> <li>• Be able to apply theories related to the hospitality business.</li> <li>• Establish a foundation of business and general education classes for transfer.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Business Administration – International Trade Option (AS.PS.BUS.INTL)</b></p> <p>CIP Code 24.0101</p>	<p>This degree program option in International Trade is designed for students seeking a career in global business. This AS provides a solid foundation for transfer to a senior institution for higher-level study. The Degree offers an integration of accounting, business and liberal arts courses needed to enhance critical thinking, analytical, decision-making and communication skills required by international trade professionals.</p>	<ul style="list-style-type: none"> <li>• Analyze the international landscape for appropriate entry modes.</li> <li>• Identify and apply various international business theories.</li> <li>• Compare various global markets.</li> <li>• Evaluate the economic, political social and cultural concerns of a country.</li> <li>• Write a report to support a global initiative.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Business Administration – Management Option (AS.PS.BUS.MGMT)</b></p> <p>CIP Code 24.0101</p>	<p>This degree program option in Management is designed for students seeking a career in the management field. This AS provides a solid foundation for transfer to a senior institution for higher-level study. The Degree offers an integration of accounting, business and liberal arts courses needed to enhance critical thinking, analytical, decision-making and communication skills required by contemporary managers.</p>	<ul style="list-style-type: none"> <li>• Demonstrate business knowledge and broad-based business theory which positions them for third-year admission into a senior institution.</li> <li>• Substantiate proficiency in a four-year college/university accounting core of six-credits; i.e., financial and managerial accounting.</li> <li>• Demonstrate the ability to define, describe, and explain the universal management functions of directing, planning, organizing, and controlling.</li> <li>• Demonstrate the ability to define, describe, and explain basic economic principles that may affect businesses.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Business Administration – Marketing Option (AS.PS.BUS.MKTG)</b></p> <p>CIP Code 24.0101</p>	<p>This degree program option in Marketing is designed for students seeking a career in the marketing field. This AS provides a solid foundation for transfer to a senior institution for higher-level study. The Degree offers an integration of accounting, business and liberal arts courses needed to enhance critical thinking, analytical, decision-making and communication skills required by contemporary marketing professionals.</p>	<ul style="list-style-type: none"> <li>• Demonstrate knowledge of marketing's basics and theories to position students for admission to a 4-year college marketing program.</li> <li>• Demonstrate the ability to define, describe, and explain the 4 elements of the marketing mix.</li> <li>• Identify, describe or explain the relationship of marketing to overall macroeconomics and microeconomics.</li> <li>• Demonstrate the ability to understand basic Accounting concepts appropriate for reading financial statements for marketing applications.</li> </ul>



PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Business Administration – Nonprofit Management Option</b>  <b>(AS.PS.BUS.NONPRF.MGT)</b></p> <p>CIP Code 24.0101</p>	<p>This degree program opting in Nonprofit Management is designed for students seeking a career in the not-for-profit sector. This AS provides a solid foundation for transfer to a senior institution for higher-level study. The Degree offers an integration of not-for-profit accounting, not-for-profit fundraising or grants writing as well as liberal arts courses needed to enhance critical thinking, analytical, decision-making and communication skills required by professionals working not-for-profit organizations.</p>	<ul style="list-style-type: none"> <li>• Create a well written "Case for Support" that attracts volunteers, increase stakeholder commitment, builds community awareness and draws in support for their initiative.</li> <li>• Resolve a scenario of a "controversial" problem within the nonprofit sector and compare three different techniques for handling the situation.</li> <li>• Develop a "SWOT" analysis, presenting strengths, weaknesses, opportunities and threats of a nonprofit organization.</li> <li>• Communicate orally in proper nonprofit terminology potential funding sources and contacts to donors.</li> <li>• Identify and explain the types of managerial accounting techniques necessary to operate a nonprofit organization.</li> <li>• Identify and explain the various financial statements and guidelines for nonprofit organizations.</li> <li>• Identify and explain basic economic principles that may affect nonprofit businesses.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Criminal Justice Option (AS.PS.CRIMJ)</b></p> <p>CIP Code 24.0101</p>	<p>The degree program option in Criminal Justice prepares students to transfer into the junior year of a baccalaureate program in criminal justice or a related area. The program provides a balanced and comprehensive overview of the nature and structure of the criminal justice system so that students gain an understanding of the criminal justice system. Students will develop competency in interpersonal and group interactions. Career opportunities: Federal, State and Local Law Enforcement agencies, Federal, State Court/Judiciary, Federal, State, County and Private Correctional facilities, Corporate and Private Security firms.</p>	<ul style="list-style-type: none"> <li>• Demonstrate a working knowledge of the functions, interrelationships, and processes of the criminal justice components.</li> <li>• State and support the opinions on critical issues and problems facing the criminal justice system.</li> <li>• Demonstrate a sound working knowledge of the philosophy, history, and application of law related to the criminal justice system.</li> <li>• Describe and analyze the theories of causation and impact of crime.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Early Childhood Education (AS.PS.EARLY.CHILD)</b></p> <p>CIP Code 24.0101</p>	<p>This degree program in Early Childhood Education prepares students for careers in Education, working with diverse student populations, from birth through third grade. Students will learn research-based, developmentally appropriate practices for teaching observe in various classroom settings and have the opportunity to practice instructional and classroom management strategies in early childhood classrooms, under the supervision of certified teachers. Students who wish to pursue careers as certified public school teachers are fully prepared for transfer to four-year colleges and universities. Upon graduation, students are fully prepared to enter the workforce as teachers' assistants, teachers' aides, and paraprofessionals in public and private schools.</p>	<ul style="list-style-type: none"> <li>• Analyze, through observation and reflection, a variety of educational philosophies and approaches, and develop personal learning styles and an individual teaching philosophy.</li> <li>• Compare a variety of instructional strategies and methods that address individual learners and learning styles in order to develop collaborative critical thinking and creative problem solving skills in a variety of student populations.</li> <li>• Employ effective interpersonal, instructional and cultural communication techniques in order to foster active dialogue, collaboration and positive interactions with peers, school officials, parents and learners.</li> <li>• Demonstrate the understanding and knowledge needed to promote cross-cultural understanding and educational equity in the classroom, through the adaption of curriculum, coupled with instructional strategies, to meet the diverse needs of students.</li> <li>• Design inquiry-based learning experiences that integrate technologies to engage students in individual and collaborative learning.</li> <li>• Describe what it means to be a competent, ethical and professional teacher in a democratic, diverse and technological society in order to develop commitment to professional growth and to the legal and ethical responsibilities of public school teachers.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Education Option (AS.PS.EDUC)</b></p> <p>CIP Code 24.0101</p>	<p>This degree program option in Education prepares students for transfer to four-year institutions to pursue Elementary, Middle School or Secondary Education teaching certifications. Students in this option take courses in education theory and practice, conduct classroom observations, along with general education studies required for successful transfer. Students are introduced to: foundations of education, organization and structure of schools systems, teaching the exceptional child, multicultural education, effective teaching techniques, and technology integration in teaching and learning. This option also provides students with a solid foundation in disciplines like humanities, social science, mathematics and science to facilitate teaching in the subject content areas.</p>	<ul style="list-style-type: none"> <li>• Analyze, through observation and reflection, a variety of educational philosophies and approaches and develop personal learning styles and an individual teaching philosophy.</li> <li>• Compare a variety of instructional strategies and methods that address individual learners and learning styles in order to develop collaborative critical thinking and creative problem solving skills in a variety of student populations.</li> <li>• Employ effective interpersonal, instructional and cultural communication techniques in order to foster active learning, dialogue, collaboration, and positive interaction with peers, school officials, parents and learners.</li> <li>• Demonstrate the understanding and knowledge needed to promote cross-cultural understanding and educational equity in the classroom, through the adaptation of curriculum, coupled with instructional strategies, to meet the diverse needs of students.</li> <li>• Design inquiry-based learning experiences that integrate technologies to engage students in individual and collaborative learning.</li> <li>• Describe what it means to be a competent, ethical and professional teacher in a democratic, diverse and technological society in order to develop commitment to professional growth and to the legal and ethical responsibilities of public school teachers.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Exercise Science Option (AS.PS.EXER)</b></p> <p>CIP Code 24.0101</p>	<p>This degree program option in Exercise Science provides a comprehensive exposure to those courses which are basic to understanding and applying the science of exercise and its effect on the human condition. The program provides the opportunity for transfer to a Baccalaureate degree program or for employment in the exercise industry.</p> <p>Additionally, the program provides preparation for National Certification Examinations such as those offered by the American Council on Exercise, as well as others.</p>	<ul style="list-style-type: none"> <li>• Use an appropriate theoretical framework for determining exercise needs and goals for individuals.</li> <li>• Use appropriate methodology in health/fitness appraisal of specified parameters in lifestyle behavior modification.</li> <li>• Create an appropriate exercise program design with the aid of software relative to the needs and desires of individuals.</li> <li>• Implement, when necessary, appropriate knowledge and skill in the treatment of exercise related injury/emergency and nutritional suggestion typographical individuals.</li> <li>• Demonstrate command of the knowledge base and skills necessary to seek a variety of employment situations, agency certifications and/or transfer to a four-year institution.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Health Science Option (AS.PS.HSC)</b></p> <p>CIP Code 24.0101</p>	<p>This degree program option in Health Science is a two year course of study health care practices for the individual who pursues another track in the healthcare industry other than clinical based careers. Candidates explore business, law, cross cultural health care, health care literacy, and medical terminology. Upon completion of this course of education a community health capstone course enables the student to tie all of the important aspects of the major together. This is a transfer program. Students are encouraged to seek further education by exploring continued graduate studies.</p>	<ul style="list-style-type: none"> <li>• Apply principles of cultural competence.</li> <li>• Identify the legal doctrines that affect patient care and legal and ethical decision making.</li> <li>• Apply basic principles of management to the daily business operations of the medical facility.</li> <li>• Compare and contrast the healthcare practices and beliefs in diverse populations.</li> <li>• Comprehend and apply medical terminologies in a variety of settings.</li> <li>• Compare and contrast healthcare delivery systems.</li> <li>• Demonstrate knowledge of health care finance and its impact on patient care.</li> <li>• Explore the fields of medical communication, administration, counseling and education.</li> <li>• Develop communication skills to be applied in collaborative health settings.</li> <li>• Apply principles of community health assessment, planning, implementation and evaluation to a variety of settings.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Information Technology (AS.PS.INFO)</b></p> <p>CIP Code 24.0101</p>	<p>This degree program is designed for students who wish to transfer to a 4-year college or university for continued study in Information Technology or any business computing program. In addition to general studies, students are required to take six degree-specific courses which include introductory courses in information technology and business, two semesters of a programming language, systems analysis, and must elect one course from a given set that includes programming, networking and database design. Choice of elective and programming language should be determined by requirements at the college to which the student will transfer.</p>	<ul style="list-style-type: none"> <li>• Write applications in at least two current industry-standard computer languages.</li> <li>• Perform a complete systems analysis and design for computing technology systems used in the workplace.</li> <li>• Transfer to 4-year programs of study in Information Technology.</li> <li>• Use standard business productivity software to support electronic projects.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Journalism Option (AS.PS.JOUR)</b></p> <p>CIP Code 24.0101</p>	<p>This degree program includes courses in introductory journalism, media writing, copy editing and print journalism production, the last of which helps produce The Torch, the student newspaper of Bergen Community College. In addition to teaching students the skills needed to report, write and edit news for print media, broadcast and the Web, the program links the students and the wider campus community through the student newspaper.</p>	<ul style="list-style-type: none"> <li>• Develop the ability to write clear, concise, accurate and interesting news stories.</li> <li>• Demonstrate basic skills and techniques in news-gathering and news-writing.</li> <li>• Demonstrate an understanding of major legal and ethical issues in journalism.</li> <li>• Develop appropriate style through writing, revision and editing.</li> <li>• Demonstrate an ability to design and lay-out print news publications.</li> <li>• Write crisp, accurate and compelling advertising and public relations copy.</li> </ul>



PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Social Work Option (AS.PS.SOC.WK)</b></p> <p>CIP Code 24.0101</p>	<p>This degree program in Professional Studies, Social Work Option is designed to be a transfer program and to train students for entry level positions in a variety of human and social service fields such as gerontology, domestic violence, residential care, developmental disability, child care, substance abuse, and juvenile justice. Through theoretical and experiential based learning, this program will provide students with competencies for assessment, advocacy, and intervention with individuals, small groups, and community organizations. Such skills are fundamental to the human services field.</p>	<ul style="list-style-type: none"> <li>• Define the roles of the human services and social work professional.</li> <li>• Understand the nature of human systems: individual, groups, organization, community and society, and their major interactions, and how these systems interact in producing human problems.</li> <li>• Explain the conditions which promote or limit optimal functioning and types of deviations from desired functioning in the major human systems (i.e., racism, sexism, and classism).</li> <li>• Plan, implement, and evaluate interventions which promote growth and goal attainment. Interventions may include assistance, referral, advocacy or direct counseling.</li> <li>• Apply basic level counseling and advocacy skills, and understand the functions of service agencies to typical problems encountered by a cross-section of populations at risk, such as child welfare, juvenile justice, rehabilitation, mental health, and aging.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Sports Management Option (AS.PS.SPORT.MGMT)</b></p> <p>CIP Code 24.0101</p>	<p>The degree option in Sports Management is designed for students seeking a career in the sports field and who have not yet decided on an area of concentration or expertise in that field. This AS.PS. two year degree program provides a platform for transfer to a four year institution for further study. The degree provides a combination of business, liberal arts and sports management courses, which include contemporary and current information and communication skills necessary in today's sports industry.</p>	<ul style="list-style-type: none"> <li>• Graduates will be able to identify the local, domestic and international aspects and trends in sports management.</li> <li>• Graduates will be able to incorporate relevant business practices, information technology and management skills and apply them to sports management.</li> <li>• Graduates will acquire the necessary communication skills required to be a successful Sports Administrator and Manager.</li> <li>• Demonstrate the ability to define, describe and explain basic sports management principles that can apply to the field of sport.</li> <li>• Demonstrate sport and business knowledge which position students for 3<sup>rd</sup> year admission into a senior institution.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Music – Music Business Option (AFA.MUSC.BUS)</b></p> <p>CIP Code 24.0101</p>	<p>The Associate of Fine Arts Degree Program in Music Business is recommended for students interested in transferring to a four-year college Bachelor of Music or Bachelor of Arts music business or popular music studies program. Coursework incorporates the core musicianship classes and general education coursework typically taken during the freshman and sophomore years of four-year college music degree programs, as well as classes covering business, copyright, music publishing, record companies, artist management, concert promotion, marketing, economics, and career opportunities in the music industry.</p>	<ul style="list-style-type: none"> <li>• Explain basic concepts of music theory and perform all major and minor scales and chords on piano.</li> <li>• Exhibit mastery of an instrument or voice at an intermediate level.</li> <li>• Exhibit basic facility in sight-reading and sight singing musical notation.</li> <li>• Demonstrate growth in artistry, technical skills, collaborative competence, and knowledge of repertory in ensemble settings.</li> <li>• Explain the contemporary structure of the music industry, including music publishing, record production, concert promotion, and marketing.</li> <li>• Explain the role of new media and technology in the recording and concert industries and apply this knowledge to the development of production and marketing plans.</li> <li>• Articulate the legal and economic principles applicable to the entertainment industry.</li> <li>• Transfer to a bachelor's degree program in music.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Music – Music Technology Option (AFA.MUSC.TECH)</b></p> <p>CIP Code 24.0101</p>	<p>The Associate of Fine Arts Degree Program in Music Technology is recommended for students interested in furthering their musicianship while exploring the technology behind music recording and production in preparation for transfer to a bachelor's degree program in music. Coursework incorporates the core musicianship classes and general education coursework typically taken during freshman and sophomore years of 4-year music degree programs, as well as classes in studio recording and electronic music.</p>	<ul style="list-style-type: none"> <li>• Use microphones, outboard gear, consoles and software effectively to conduct studio recording sessions featuring live instruments and vocals.</li> <li>• Apply critical listening skills and the concepts of audio theory to creating broadcast quality music productions.</li> <li>• Apply the concepts of rhythm, melody, harmony, arranging, performance and sound synthesis to compose expressive music using MIDI sequencing software and hardware.</li> <li>• Employ signal processors and other tools of recording technology to effectively mix and edit multi-track recordings.</li> <li>• Explain and apply the concepts of mastering to recorded music.</li> <li>• Use their knowledge of audio signal flow to setup, use, and troubleshoot studio equipment.</li> <li>• Transfer to a bachelor's degree program in music.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Art, Computer Animation (AAS.ART.ANIM)</b>	<p>The Associate in Applied Science Degree Program in Art, Computer Animation gives students a strong foundation in the fundamentals of artistic design, story development, project management, digital content creation, and portfolio development. It also offers students an advanced skill set in 3D modeling, character design, animation, and video game simulation. The industries that employ the most multimedia artists and animators include motion picture and video industries, computer systems design, software publishers, advertising, public relations, among others.</p>	<ul style="list-style-type: none"> <li>• Apply principles of design.</li> <li>• Demonstrate fundamentals of drawing.</li> <li>• Demonstrate photographic/graphic image skills.</li> <li>• Demonstrate digital media skills.</li> <li>• Develop/complete portfolio of time/frame based media.</li> <li>• Demonstrate knowledge of the animation history and film analysis.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Art, Graphic Design/Computer Graphics (AAS.ART.GRPH)</b>	<p>The Associate in Applied Science Degree Program in Art, Graphic Design/Computer Graphics gives students a strong foundation in the fundamentals of artistic design, digital content creation, and portfolio development. The industries that employ graphic designers include specialized design services, publishing, advertising, public relations, and related service industries.</p>	<ul style="list-style-type: none"> <li>• Apply principles of design.</li> <li>• Demonstrate fundamentals of drawing.</li> <li>• Demonstrate photographic/graphic image skills.</li> <li>• Demonstrate digital media skills.</li> <li>• Develop/complete portfolio of print and digital display artworks.</li> <li>• Demonstrate knowledge of the history of art.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Business Administration, Accounting (AAS.BUS.ACCT)</b>	The Associate in Applied Science (AAS) Degree, Accounting is designed for students seeking a position within the accounting field. This AAS provides a solid foundation for employment in accounting. The Degree offers an integration of accounting, general business and liberal arts courses needed to enhance critical thinking, analytical, decision-making and communication skills required by many entry and intermediate accounting positions that do not require a baccalaureate degree.	<ul style="list-style-type: none"> <li>• Demonstrate introductory knowledge of the principles of financial accounting and, in particular, the accounting cycle through the recording of financial transactions and the preparation of financial reports in accordance with Generally Accepted Accounting Principles.</li> <li>• Demonstrate introductory knowledge of managerial accounting and its place within business through the preparation of budgets, analysis, of cost behavior and record keeping for manufacturing enterprises.</li> <li>• Demonstrate an introductory knowledge of the field of business and related subject areas.</li> <li>• Demonstrate computer competency in business applications such as accounting and tax preparation software as well as word processing, spreadsheet and presentation software.</li> <li>• Demonstrate effective business communication skills.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Business Administration, Banking and Finance (AAS.BUS.BANK)</b>	<p>The Associate in Applied Science (AAS) Degree, Banking and Finance is designed for students seeking a position in a bank, lending institution or financial firm. This AAS provides a solid foundation for employment within the banking and finance field. The Degree offers an integration of career specific banking and finance, general business and liberal arts courses needed to enhance critical thinking, analytical, decision-making and communication skills required by many entry and intermediate positions that do not require a baccalaureate degree.</p>	<ul style="list-style-type: none"> <li>• Analyze the financial results of companies.</li> <li>• Recognize and apply various financial theories.</li> <li>• Demonstrate the understanding of financial metrics.</li> <li>• Defend the collected data that will be used to conduct financial analysis.</li> <li>• Organize and write a financial report.</li> </ul>



PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Business Administration, e-Business Management (AAS.BUS.E-BUS.MGMT)</b>	<p>The Associate in Applied Science (AAS) Degree, e-Business Management is designed for students seeking a position in Web-based and Internet driven workplaces. This AAS provides a solid foundation for employment within the Web-based and bricks-and-clicks organizations. The Degree offers an integration of career specific computer, Web management, general business and liberal arts courses needed to enhance critical thinking, analytical, decision-making and communication skills required by many entry and intermediate Internet dominated positions that do not require a baccalaureate degree.</p>	<ul style="list-style-type: none"> <li>• Demonstrate skills of integrated Internet resources, websites and applications into businesses and not-for-profits.</li> <li>• Formulate an e-enterprise from its design phase to its launch on the World Wide Web.</li> <li>• Evaluate and assess a planned and existing E-enterprise from a marketing point of view.</li> <li>• Articulate ideas by applying business vocabulary; demonstrating such through effective business communication skills.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Business Administration, Management Information Systems (AAS.BUS.INFO.SYS)</b>	<p>The Associate in Applied Science (AAS) Degree, Management Information Systems (MIS) is designed for students seeking a position in an organization's MIS department. This AAS provides a solid foundation for employment within the data management field. The Degree offers an integration of career specific computer, software system design, general business and liberal arts courses needed to enhance critical thinking, analytical, decision-making and communication skills required by many entry and intermediate MIS positions that do not require a baccalaureate degree.</p>	<ul style="list-style-type: none"> <li>• Demonstrate skills which emphasize information as a resource to be managed, planned, and controlled in much the same way as other organizational resources.</li> <li>• Substantiate their ability for combining information technology with sound business practices and management.</li> <li>• Evaluate and assess a planned and existing MIS system relative to its strengths and weaknesses.</li> <li>• Effectively communicate with stakeholders orally, visually, and in writing to determine stakeholders' business requirements, explain how their requirements will be met, and provide ongoing audience-appropriate information.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Business Administration, Publishing Operations and Management (AAS.BUS.PUB)</b>	The Associate in Applied Science (AAS) Degree, Publishing Operations and Management is designed for students seeking a position within the publishing industry. This AAS provides a solid foundation for employment in the publishing field. The Degree offers an integration of career specific technical, processing management, general business and liberal arts courses needed to enhance critical thinking, analytical, decision-making and communication skills required by many entry and intermediate publishing positions that do not require a baccalaureate degree.	<ul style="list-style-type: none"> <li>• Demonstrate the skills of publishing operations and applications within businesses and not-for-profits.</li> <li>• Evaluate and assess the business aspects of the publishing process.</li> <li>• Articulate ideas by applying administrative assistant skills, e.g., copy-editing, accounting, and word-process; demonstrating such through effective written and oral communications as well as project management.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Hotel/Restaurant/Hospitality – General Curriculum (AAS.BT.HR.GEN)</b>	<p>This degree program consists of foundation classes for culinary students or professionals who are in related studies, and who are interested in Hotel/Restaurant/Hospitality but are not certain in which specific area they wish to specialize. Depending upon which track the student chooses, subjects emphasizing managerial proficiency, issues in the hospitality industry, business procedures, purchasing, computer operation, and accounting. Students choosing the culinary track are offered professional baking techniques, professional food preparation methods, sanitation and safety regulations, and aspects of menu planning. Upon successful completion, graduates can obtain employment in food service and management in the various settings such as hotel, restaurants, health care facilities and private enterprises.</p>	<ul style="list-style-type: none"> <li>• Evaluate the need for unions and government regulations.</li> <li>• Use plants, supplies and design skills in flower arrangement.</li> <li>• Evaluate methods to maintain quality and cost effective measures.</li> <li>• Use proprietary software applications and the internet to produce required reports.</li> <li>• Analyze specifications for purchased products.</li> <li>• Address the basic problems in all food services: purchasing, receiving, storage, preparation and service effectively.</li> <li>• Produce menus that are nutritionally adequate and maintain variety, balance and appeal to the target group.</li> <li>• Practice the principles of management.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Hotel/Restaurant/Hospitality – Catering and Banquet Management (AAS.BT.HR.CATER)</b>	<p>This degree is for students interested specifically in the management and operation of a facility offering catering and banquet services. Students will understand the regulations and standards that concern the hospitality industry and be proficient in food preparation and production, purchasing, and all phases of decorating and serving food. Graduates are eligible for jobs in supervisory or middle management positions in the banquet department of hotels, restaurants, food service companies and related areas of the hospitality industry. Co-Op work experience is available.</p>	<ul style="list-style-type: none"> <li>• Analyze specifications for purchased products.</li> <li>• Identify organization and operation of public lodging facilities.</li> <li>• Produce menus that are nutritionally adequate and maintain variety, balance and appeal to the target group.</li> <li>• Evaluate methods to maintain quality and cost effective measures.</li> <li>• Address the basic problems in all food services: Purchasing, receiving, storage, preparation and service effectively.</li> <li>• Earn industry-approved ServSafe Certification.</li> <li>• Treat staff in an ethical and professional manner.</li> <li>• Manage cafeteria kitchen, table service and dining rooms.</li> <li>• Use professional courtesy and respect for customer's needs.</li> <li>• Review job titles and responsibilities.</li> <li>• Allocate space to accomplish efficient work, materials, and product flow.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Hotel/Restaurant/Hospitality – Culinary Entrepreneurship (AAS.BT.HR.CUL.EPR)</b>	<p>This degree program consists of foundation classes for culinary students as well as professionals who are looking for alternative ways to earn income in the culinary industry. The program is geared to professionals who want to break out of a particular niche or specialty within the culinary industry, or to students enrolled in traditional cooking and hospitality programs who want broader exposure to the industry than is provided in the typical culinary arts curriculum. Included in this program are various managerial as well as culinary courses. Studies will include subjects such as hospitality law, banquet and catering management, hospitality accounting, as well as floral design and food and beverage cost control. Graduates will gain insight into the workings of a small business .Co-Op work experience is available.</p>	<ul style="list-style-type: none"> <li>• Practice the principles of ownership and management of a small business or new venture.</li> <li>• Evaluate the need for unions and government regulations.</li> <li>• Use plants, supplies and design skills in flower arrangements.</li> <li>• Evaluate methods to maintain quality and cost effective measures.</li> <li>• Use proprietary software applications and the internet to produce required reports.</li> <li>• Analyze specifications for purchased products.</li> <li>• Use professional courtesy and respect for customer's needs.</li> <li>• Treat staff in an ethical and professional manner.</li> <li>• Address the basic problems in all food services: Purchasing, receiving, storage, preparation and service effectively.</li> <li>• Earn industry-approved ServSafe Certification.</li> <li>• Produce menus that are nutritionally adequate and maintain variety, balance and appeal to the target group.</li> <li>• Allocate space to accomplish efficient work, materials, and product flow.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Hotel/Restaurant/Hospitality – Event Planning and Management (AAS.BT.HR.EVENT)</b>	<p>Throughout this degree program, business and hospitality management is emphasized. Consisting of various courses including hospitality accounting, front office procedures, event planning and management, marketing principles, hospitality law, and beverage management, this program will enable the graduate to apply for a certificate in the Meeting Management Association. Business relies on successful events to encourage growth and promote enthusiasm throughout an industry in regards to their company. Therefore, students who choose this option should have strong organizational and communication skills. The Event Planner coordinates and organizes meetings, luncheons and other special events. The Event Planner also must contact a facility representative and other vendors and organize other details for the event. Co-op work experience is available.</p>	<ul style="list-style-type: none"> <li>• Identify the planning, space, and equipment elements necessary to support the logistics of an event.</li> <li>• Recognize the role food and beverage plays in an event.</li> <li>• Review the process of hiring professionals, such as, caterer, entertainers, sound specialists, lighting companies, etc.</li> <li>• Create a comprehensive meeting document.</li> <li>• Summarize the importance of keeping detailed financial records and generating accurate post-event reports.</li> <li>• Explain how having a written code of ethics and engaging in ethics training can contribute to a better work environment and a more successful business.</li> <li>• Provide general guidelines for accommodating people with disabilities at an event by studying specifically the law as it pertains to event planning and management.</li> <li>• Describe the criteria for an effective return on investment process by studying a practical model.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Hotel/Restaurant/Hospitality – Hospitality Management (AAS.BT.HR.HOSP)</b>	<p>This degree program is for students interested specifically in the management of people, goods, and services in the hospitality industry. Students will understand the regulations and standards that concern the hospitality industry, and be proficient in food preparation, purchasing and all phases of hospitality work, supervision, and management. Other courses include restaurant service management, front office procedures. Graduates are eligible for jobs and supervision of middle management positions in hotels, restaurants, food service companies, and related areas of the hospitality industry. Co-Op work experience is available.</p>	<ul style="list-style-type: none"> <li>• Identify the basic components of the Hospitality Industry.</li> <li>• Describe the relationship between the Hospitality Industry and travel and tourist management.</li> <li>• Discuss to positive and negative effects of tourism.</li> <li>• Compare the company-owned, franchise-licensed, and management contract forms of chain ownership.</li> <li>• Identify the steps of hotel development from conceptualization to grand opening.</li> <li>• Evaluate methods to maintain quality and cost effective measures.</li> <li>• Outline the factors involved in obtaining financial backing for hotel development and operation.</li> <li>• Manage cafeteria and table-service kitchens and dining rooms.</li> <li>• Define demographics and list ways hospitality guests have reacted to economic or cultural trends.</li> </ul>



PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Information Technology – Office Technology (AAS.BT.OFF.TECH)</b>	<p>This degree program focuses on preparing students to meet the demands of the current office environment with specific emphasis on the resourceful use of computers in day-to-day activities. Today’s modern office requires knowledge in a wide variety of technologies including word processing, spreadsheet applications, database skills, presentation ability, use of the Internet, electronic scheduling and communications, computerized accounting, web design and publishing, and multimedia including graphics, audio, and video. This program will assist with preparation towards the Microsoft Office Specialist (MOS) exams.</p>	<ul style="list-style-type: none"> <li>• Demonstrate proficiency using standard business productivity software.</li> <li>• Make informed decisions regarding the appropriate use of productivity software to solve a variety of technology-related workplace problems.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Fashion Apparel Design (AAS.FD.APR)</b>	<p>The Fashion Apparel Design Degree program is designed for those students who desire a comprehensive, two-year, women's apparel design curriculum. The program encompasses fashion milestones and current trends, textile science, conceptual design, sewing and garment construction, and collection development. In their final semester, students will participate in a capstone course that includes construction of garments from start to finish and the creation of a design e-portfolio. Graduates of the program will be prepared to further their academic studies. An associate's degree in Fashion Apparel Design prepares students for careers as designers, technical designers and stylists.</p>	<ul style="list-style-type: none"> <li>• Communicate their ideas through various formats, including oral and visual presentations, written work and design.</li> <li>• Identify the milestones of fashion design and how to apply this knowledge, along with consumer behaviors, current trends and future forecasting, to product and line development.</li> <li>• Classify the materials of fashion design, and identify the unique attributes of natural and manmade fibers and textiles, within the context of design and sustainability.</li> <li>• Construct a garment from start to finish, using techniques such as illustration, flat patternmaking and draping.</li> <li>• Employ technology and computer applications to develop their designs from concept to reality.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Human Services, Correctional Studies (AAS.HS.CORR)</b>	This degree program is intended for students seeking to pursue a career in corrections at both federal and local levels. It provides fundamental knowledge of the functions and process of the criminal justice system as it relates to correctional studies. Students will study the philosophy, history, and legal principles guiding correctional practices and procedures. Career opportunities: Federal, State, County, and Private Correctional facilities as well as Federal and State Courts/Judiciary as Probation and Parole Officers.	<ul style="list-style-type: none"> <li>• Demonstrate a working knowledge of the functions, interrelationships and processes of the criminal justice components.</li> <li>• State and support the opinions on critical issues and problems facing the criminal justice system.</li> <li>• Demonstrate a sound working knowledge of the philosophy, history and application of law related to the criminal justice system.</li> <li>• Describe and analyze the theories of causation and impact of crime.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Human Services, Law Enforcement Studies (AAS.HS.LAWENF)</b>	<p>This program is intended for students seeking to pursue a career in law enforcement at both local and federal levels. This program will provide the fundamental knowledge of the functions and process of the criminal justice system as well as philosophy, history, and legal principles guiding law enforcement practices and procedures. Career opportunities: Federal, State and Local Law Enforcement agencies, Federal, State Court/Judiciary, Federal, State and County Correctional facilities, Corporate and Private Security firms.</p>	<ul style="list-style-type: none"> <li>• Demonstrate a working knowledge of the functions, interrelationships and processes of the criminal justice components.</li> <li>• State and support the opinions on critical issues and problems facing the criminal justice system.</li> <li>• Demonstrate a sound working knowledge of the philosophy, history and application of law related to the criminal justice system.</li> <li>• Describe and analyze the theories of causation and impact of crime.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Human Services, Legal Studies, Paralegal (AAS.LS.PARALGL)</b>	<p>Approved by the American Bar Association, the Bergen Community College Paralegal Studies Program offers an Associate's Degree in Applied Science. The program combines a general education background with law related specialty courses to provide the graduate with communication skills, knowledge of the legal system, and practical hands-on-experience immediately applicable to the legal workplace. The student will receive instruction on the basic principles of the law, along with the analytical, technical, and communication skills necessary for a career in the legal field. Topics of instruction include: ethics and professional responsibilities of the legal profession, effective legal and research and writing, and practical aspects of varied legal subject matters such as estates and trusts, commercial transactions, criminal and civil litigation, family law, real estate, legal accounting and business law.</p> <p>Paralegals may not provide legal services directly to the public or give legal advice, except as permitted by law.</p>	<ul style="list-style-type: none"> <li>• Attain a balanced and varied knowledge in a range of substantive legal fields and practical skills that are necessary to enter the work force as a paralegal or legal nurse consultant.</li> <li>• Apply practical skills including the techniques of legal research, practice and procedure, investigation, interviewing, drafting of documents, motions and pleadings and other practical skills needed for an array of potential positions in the public, private and corporate law sectors.</li> <li>• Promote the appreciation of an adherence to ethical practice and professional responsibility as a paralegal and legal nurse consultant.</li> <li>• Demonstrate an understanding of the legal environment and work under the supervision of lawyers in the private and public sector.</li> <li>• Respond to the needs of the legal community and promote the economical and efficient delivery of legal services through paralegals and legal nurse consultants working under the supervision of attorneys.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Music – Music Business Option (AAS.MUSC.MUS.BUS)</b>	<p>The Associate of Applied Science in Music Business Degree is recommended for students who wish to pursue a variety of careers utilizing music business knowledge upon completion of the degree. Unlike the AFA in Music Business, this program does not require the core musicianship or general education coursework recommended for transfer to a bachelor's degree in music, but rather focuses specifically on classes covering business, copyright, music publishing, record companies, artist management, concert promotion, marketing, economics, and career opportunities in the music industry. All AAS Music Business students engage in industry internships as part of their coursework.</p>	<ul style="list-style-type: none"> <li>• Evaluate and research career options in the music industry and develop promotional materials and interview skills for workforce opportunities.</li> <li>• Explain the contemporary structure of the music industry, including music publishing, record production, artist management, and concert promotion.</li> <li>• Explain the role of new media and technology in the recording and concert industries and apply this knowledge to the development of production and marketing plans.</li> <li>• Exhibit entrepreneurial skills and an understanding of the history of the music industry.</li> <li>• Demonstrate a basic understanding of copyright law, publishing, contracts, and licensing.</li> <li>• Explain and apply knowledge of the marketing, promotion, and merchandising of music products.</li> <li>• Demonstrate basic understanding of management, law, and accounting as it applies to the music industry.</li> <li>• Demonstrate competency in an entertainment industry workplace environment.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Health Professions - Dental Hygiene (AAS.HP.DENTL)</b>	<p>The Dental Hygiene Program prepares graduates to perform competently in providing preventive oral care. The program incorporates didactic, clinical, technological, and laboratory teaching approaches throughout the curriculum. The dental hygiene curriculum is a challenging one that provides a “hands-on” approach and incorporates a variety of educational experiences and environments from the traditional classroom to the laboratory and the on-campus clinic. The dental hygiene clinic is open to anyone seeking preventative oral health care.</p> <p>The Dental Hygiene Program is accredited by the Commission on Dental Accreditation.</p>	<ul style="list-style-type: none"> <li>• Apply a professional code of ethics in all endeavors.</li> <li>• Adhere to state and federal regulations and laws in the provision of dental hygiene care.</li> <li>• Use critical thinking skills and comprehensive problem-solving to identify oral health care, strategies to promote patient health and wellness.</li> <li>• Use evidence based decision making to evaluate emerging technology and treatment modalities into patient care plans to achieve high-quality, cost-effective care.</li> <li>• Assume responsibility for dental hygiene actions and care based on accepted scientific theories and research as well as the accepted standard of care.</li> <li>• Continuously perform self-assessment for lifelong learning and professional development.</li> <li>• Integrate accepted scientific theories and research into educational, preventive, and therapeutic oral health services.</li> <li>• Promote the values of the dental hygiene profession through service-based activities, positive community affiliations, and active involvement in local organizations.</li> <li>• Apply quality assurance mechanisms to ensure continuous commitment to accepted standards of care.</li> <li>• Communicate effectively with diverse individuals and groups, serving all without discrimination by acknowledging and appreciating diversity.</li> <li>• Record accurate, consistent and complete documentation for oral health service provided.</li> <li>• Initiate a collaborative approach in the development of individualized patient care plans that are specialized, comprehensive, culturally sensitive and acceptable to all.</li> <li>• Initiate consultations and collaborations with all relevant health care providers to facilitate optimal treatment outcomes.</li> <li>• Manage medical emergencies by using professional judgment. Providing life support and utilizing required CPR and any specialized training and knowledge.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Health Professions – Diagnostic Medical Sonography (AAS.HP.DMS)</b></p>	<p>The Diagnostic Medical Sonography program specializes in abdomen, obstetrics/gynecology and cardiac sonography. Diagnostic Medical Sonographers work in close association with radiologists and physicians to provide quality images to aid in diagnostic interpretation. Students are required to complete all three specialties upon completion of the program. The program is a competency-based education and provides a curriculum sequence in order for the students to correlate didactic, lab and clinical skills sufficiently.</p> <p>The Diagnostic Medical Sonography Program is accredited by the Joint Review Committee on Education in Diagnostic Medical Sonography, a Committee of the Commission on Accreditation of Allied Health Education Programs (CAAHEP) in these three areas and students are eligible to take the American Registry of Diagnostic Medical Sonography (ARDMS) exam upon completion of the program.</p>	<ul style="list-style-type: none"> <li>• Demonstrate the ability to efficiently perform basic abdominal and small parts, pelvic, obstetrical, and cardiac ultrasound examinations at an acceptable level of competence.</li> <li>• Correlate ultrasound images with clinical findings, patient history, and pertinent pathophysiology.</li> <li>• Possess the knowledge, skills and abilities of the student sonographer in caring for the ill patient.</li> <li>• Demonstrate the ability to promote good interpersonal relations with members of the health team.</li> <li>• Possess a medical and professional sense of values and a concern for public health and safety.</li> <li>• Have an awareness of the responsibilities and limitations of the role of the sonographer and to be able to function within these limits.</li> <li>• Understand the importance of continued personal and educational growth.</li> <li>• Recognize and appreciate the cost, preparation, maintenance and care of sophisticated instrumentation found within the ultrasound department.</li> <li>• Be prepared to successfully complete the registry examinations offered by the American Registry of Diagnostic Medical Sonographers (ARDMS) in the areas of Abdominal, Ob/Gyn, and Adult Echocardiography.</li> </ul>



PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Health Professions – Health Science (AAS.HP.HLTH.SCI)</b>	<p>This is a post certification course of study to earn an associate’s degree for those individuals who have received education in a hospital sponsored program and are certified (or registered professionals) and are seeking degrees. The specific certification/ registration and the accreditation of program attended of the discipline MUST be the same bodies that accredit and certify programs at Bergen Community College. Bergen Community College awards thirty credits for the certification/ accreditation after the completion of the coursework in the general education courses required for an Associate’s Degree.</p>	<ul style="list-style-type: none"> <li>• Explain the impact of the economy on ability to deliver health care.</li> <li>• Identify the legal doctrines that affect the patient, his or her care and ethical decision making.</li> <li>• Apply basic principles of management to the daily business operations of the medical facility.</li> <li>• Compare and contrast the cultures in diverse population.</li> <li>• Explain methods to management diverse cultural population.</li> <li>• State the meaning of different pathologies using medical terminology principles.</li> <li>• Compare and contrast socialized from non-socialized medical practices.</li> <li>• Explain the impact of third party payment, or lack thereof, on health care.</li> <li>• Explore the fields of medical communication, administration, counseling and education.</li> <li>• Listen and respond to points and replies of the patient, their families, the community, faculty, and students.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Health Professions – Medical Office Assistant (AAS.HP.MOA)</b></p>	<p>Medical Office Assistants are multi-skilled practitioners who perform administrative and clinical as well as management duties. Graduates may work in physicians' offices, clinics, HMO's, billing companies, or other ambulatory care facilities, such as freestanding emergency centers and hospitals. Clinical responsibilities include: performing laboratory tests, taking electrocardiograms, injections, vein punctures, sterilization techniques, vital signs, and assisting with minor surgery. Administrative responsibilities include: scheduling appointments, billing and collecting, coding diagnoses and procedures, insurance claim forms, medical records, performing computer applications, and providing patient instructions. Graduates are prepared to take the Certified Medical Assistant examination by the American Association of Medical Assistants. The program is designed for the college student as well as the returning student who is career orientated.</p> <p>The program is accredited by CAAHEP (Commission on Accreditation of Allied Health Education Programs) which adapts the AAMA (American Association of Medical Assistants) Role of Delineation Study.</p>	<ul style="list-style-type: none"> <li>• Demonstrates entry-level competency in performing administrative medical office assistant skills.</li> <li>• Demonstrates technical proficiency in all clinical skills.</li> <li>• Assess disease symptoms and diagnostic treatments to determine patient care.</li> <li>• Apply medical terminology when communicating professionally in a health care setting with patients, physicians, and all members of the health care team.</li> <li>• Apply critical thinking skills to construct, evaluate, and measure administrative tasks to operate the office efficiently.</li> <li>• Demonstrate computer literacy to retrieve, organize, and analyze information using skills from medical simulations and information technology classes.</li> <li>• Prepare and formulate action plans for emergencies that affect the community.</li> <li>• Demonstrate ethical and professional behavior in the workplace.</li> <li>• Adhere to state, federal and local regulations and laws that apply to health care.</li> <li>• Communicate effectively with diverse populations.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Health Professions – Paramedic Science (AAS.HP.PAR)</b>	<p>An Emergency Medical Technician (EMT) provides basic life support to patients in the pre-hospital environment. Paramedics bring the emergency department to the field by providing critical treatment an advanced life support — equivalent to treatments offered in the first 15-20 minutes of care in the emergency room. Paramedics and EMTs, both EMS practitioners, work cohesively to stabilize the patient’s condition during emergency transport and transfer.</p> <p>The program curriculum employs a workforce development model. Students complete all general education courses in the first year followed by core courses in the second year. Students can also easily transfer completed general education courses that meet transfer guideline criteria. During field assignments, students fulfill externship hours on paramedic units three days per week in varied geographic response areas. Through integrated instruction, laboratory and clinical experience, students strengthen skills and bridge knowledge gaps.</p>	<ul style="list-style-type: none"> <li>• Demonstrate skill proficiency in all entry-level psychomotor skills, utilizing them when clinically appropriate and at the correct time to improve patient outcomes.</li> <li>• Mange pre-hospital patient care utilizing evidence-based emergency medicine and paramedic science.</li> <li>• Demonstrate critical thinking in decision-making processes to improve the health and welfare of pre-hospital patients.</li> <li>• Perform competently in the roles and responsibilities outlined in the New Jersey state paramedic scope of practice.</li> <li>• Achieve the minimum requirements for eligibility to sit for the paramedic National Registry of Emergency Medical Technicians (NREMT) paramedic exam and become licensed as a paramedic, enabling the student to be eligible for licensure in New Jersey. Demonstrate professional demeanor that is outlined in the Code of Conduct for the paramedic profession.</li> <li>• Obtain employment as an entry-level paramedic with an EMS agency in New Jersey.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Health Professions – Radiography (AAS.HP.RAD)</b>	<p>The Radiography Program is a 24 month course of study that is designed to prepare the graduate for employment in the medical imaging profession. Radiographers are professionals who use radiation to create radiographs of the human body for the medical doctor to diagnose disease. A study of anatomy, patient care, imaging equipment, technique, and radiation biology are integrates into each course. Students will learn principles related to medical imaging and apply these to practice to clinical. The program has three components- classroom, laboratory, and off site clinical education. Students spend approximately 1700 hours in clinical practice. Upon completion of the program students are eligible to apply for certification examination with the American Registry of Radiologic Technologists (ARRT) and apply for state licensure (if a license is required for that particular state).</p>	<ul style="list-style-type: none"> <li>• Perform all clinical responsibilities in a competent manner.</li> <li>• Use principles of critical thinking skills for problem solving.</li> <li>• Demonstrate competent and proficient written and oral communication skills.</li> <li>• Accomplish all tasks and pursue actions in a professional manner within the field of diagnostic imaging.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Health Professions – Respiratory Care (AAS.HP.RESP)</b>	<p>The Respiratory Care Program prepares graduates to perform competently in providing all phases of respiratory care therapies and modalities. The program incorporates didactic, clinical, technological, and laboratory teaching approaches throughout the curriculum. The respiratory care curriculum is a challenging one that provides a “hands-on” approach and incorporates a variety of educational experiences and environments from the traditional classroom to the laboratory and clinical settings. The program is a competency-based education and provides a curriculum sequence in order for the students to correlate didactic, lab and clinical skills sufficiently. After graduation, students will take the national certification and registry exams administered by the NBRC National Board for Respiratory Care and will obtain a license to work in the desired state.</p> <p>The Respiratory Care Program is accredited by the Commission on Accreditation for Respiratory Care.</p>	<ul style="list-style-type: none"> <li>• To prepare graduates with demonstrated competence in the cognitive (knowledge) learning domains of respiratory care practice as performed by registered respiratory therapists (RRT’s).</li> <li>• To prepare graduated with demonstrated competence in the psychomotor (skills) learning domains of respiratory care practice as performed by registered respiratory therapists (RRT’s).</li> <li>• To prepare graduates with demonstrated competence in the affective (behavior) learning domains of respiratory care practice as performed by registered respiratory therapists (RRT’s).</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Health Professions – Veterinary Technology (AAS.HP.VET)</b>	<p>The Veterinary Technology Program has been designed to develop personnel capable of assisting veterinarians in large animal practices, small animal practices, laboratory animal situations, and related veterinary medical activities. The curriculum provides a sound foundation in basic veterinary technology and promotes habit of mind that inspires students to continue their education. Through coursework, skill acquisition, and meaningful clinical experiences, the graduate will be a productive employee at the entry level and will have the capabilities to perform satisfactorily in positions of increasing responsibility.</p> <p>The program is accredited by the American Medical Association (AVMA), and the Committee on Veterinary Technician Education and Activities (CVTEA). Veterinary Technology is not designed as a preparatory program for those students who wish to pursue a career in Veterinary Medicine.</p>	<ul style="list-style-type: none"> <li>• Demonstrate knowledge in the care and handling of domestic animals.</li> <li>• Demonstrate didactic proficiency in medical and surgical nursing, diagnostic imaging, and clinical laboratory procedures.</li> <li>• Demonstrate competency in psychomotor skills in all the areas of clinical practice of veterinary technology.</li> <li>• Develop a concern for public health and safety.</li> <li>• Demonstrate compliance with federal, state, and local laws relevant to the practice of veterinary technology.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Nursing, Day Session (AAS.NURS.DAY)</b></p>	<p>The Bergen Community College Nursing Program prepares its graduates to assume an entry-level position as a registered nurse. Nursing students are actively involved as self-directed, responsible partners in the learning process. Students are educated in the classroom, in the nursing skills and simulation laboratories and in a variety of clinical settings. The program uses technology such as Computer Assisted Instruction (CAI) and the Human Child and Adult Patient Simulators to enhance learning, skills mastery and critical thinking in the application of the nursing process.</p> <p>The Nursing Program is approved by the New Jersey State Board of Nursing and is accredited by the Accreditation Commission for Education in Nursing.</p>	<ul style="list-style-type: none"> <li>• Apply the Nursing Process to assist individuals, families and groups in the promotion.</li> <li>• Demonstrate an understanding of the maintenance and restoration of optimum health.</li> <li>• Adapt the nursing process according to an individual's developmental capabilities.</li> <li>• Communicate effectively with individuals, families and other health team members.</li> <li>• Incorporate knowledge of biological, psychological, sociological, cultural, spiritual and economic factors in the provision of care.</li> <li>• Assume responsibility for personal, professional, and educational development.</li> <li>• Practice within the legal and ethical framework of nursing.</li> <li>• Incorporate technical resources for the improvement of nursing practice.</li> <li>• Model critical thinking in the application of the nursing process to the care of individuals.</li> <li>• Demonstrate quantitative reasoning skills in nursing practice.</li> <li>• Integrate teaching and learning principles into nursing practice.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Nursing, Evening Session (AAS.NURS.EVE)</b></p>	<p>The Bergen Community College Nursing Program prepares its graduates to assume an entry-level position as a registered nurse. Nursing students are actively involved as self-directed, responsible partners in the learning process. Students are educated in the classroom, in the nursing skills and simulation laboratories and in a variety of clinical settings. The program uses technology such as Computer Assisted Instruction (CAI) and the Human Child and Adult Patient Simulators to enhance learning, skills mastery and critical thinking in the application of the nursing process.</p> <p>The Nursing Program is approved by the New Jersey State Board of Nursing and is accredited by the Accreditation Commission for Education in Nursing.</p>	<ul style="list-style-type: none"> <li>• Apply the Nursing Process to assist individuals, families and groups in the promotion.</li> <li>• Demonstrate an understanding of the maintenance and restoration of optimum health.</li> <li>• Adapt the nursing process according to an individual's developmental capabilities.</li> <li>• Communicate effectively with individuals, families and other health team members.</li> <li>• Incorporate knowledge of biological, psychological, sociological, cultural, spiritual and economic factors in the provision of care.</li> <li>• Assume responsibility for personal, professional, and educational development.</li> <li>• Practice within the legal and ethical framework of nursing.</li> <li>• Incorporate technical resources for the improvement of nursing practice.</li> <li>• Model critical thinking in the application of the nursing process to the care of individuals.</li> <li>• Demonstrate quantitative reasoning skills in nursing practice.</li> <li>• Integrate teaching and learning principles into nursing practice.</li> </ul>



PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Health Professions/Career Tech – Interdisciplinary Program in Medical Informatics (AAS.MED.INFO)</b>	<p>Medical Informatics involves the ability to update and retrieve medical data as well as design and manage medical information systems. This degree is a joint effort of the Information Technology (INF) and Medical Office Administration (MOA) programs at BCC, and the BS Engineering Technology, Computer Technology program at NJIT. It addresses the need for individuals with both medical and technical knowledge. This AAS degree will currently transfer to the NJIT Bachelor of Science in Engineering Technology (BSET) program where students can concentrate in Medical Informatics.</p>	<ul style="list-style-type: none"> <li>• Use standard industry tools to design, create, delete and update electronic databases.</li> <li>• Use technology resources that help to transform analog (paper-based) records into searchable electronic records.</li> <li>• Use standard medical and pharmacology terminology, and coding, medical and ethical practices.</li> <li>• Use standard business productivity software to support electronic projects.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Career Technologies – Avionics Option (AAS.IDT.AVIONICS)</b></p>	<p>This degree program in Avionics is designed for students interested in Electronics Technology who wish to focus their studies on electronic systems used in the control, navigation and communications systems used in aircraft. Graduates from the program work as Avionics technologists or transfer to a Baccalaureate program in Avionics. BCC has strong articulation agreements with two institutions that specialize in the field.</p> <p>Students in the program take a three course sequence in Aviation Technology that includes flight operations (ground school), Aviation safety and Aviation Weather along with a rigorous background in Mathematics and Science that will prepare them for further studies and a potential career in Aviation Operations.</p>	<ul style="list-style-type: none"> <li>• Adjust and repair commercial and consumer electronic equipment.</li> <li>• Test, troubleshoot and prototype Avionics products and systems, such as the Garmin 1000®.</li> <li>• Troubleshoot, service and repair control, navigation and communications systems installed in Aircraft.</li> <li>• Assist in technical writing projects, and for those who excel in oral communications skills, assist in technical marketing or sales of avionics systems.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Career Technologies – Drafting and Design Technology (AAS.IDT.DRFT)</b>	<p>This degree program will produce qualified design-draftspersons who, in support of architects and designers, civil and MEP engineers, contractors and industrial designers, in diverse technical fields will be able to communicate design information by conventional pencil and sketch drafting, computer aided drafting, and oral communication. We will inspire characteristics of professionalism.</p>	<ul style="list-style-type: none"> <li>• Read and create multi-view mechanical and architectural drawings compliant to industry standards.</li> <li>• Demonstrate effective time management responsibility by completing projects with assigned time constraints.</li> <li>• Develop two dimensional presentation drawings using computer aided drafting software.</li> <li>• Communicate graphically and orally in proper technical terminology and in their related systems.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Career Technologies – Electronics Technology (AAS.IDT.ELECT.TECH)</b>	<p>This degree program is primarily intended to prepare students for entry-level positions in the electronics industry. The areas of application are diverse, broadly encompassing military &amp; space electronics, communications &amp; avionics electronics, consumer &amp; automotive electronics, and medical &amp; power electronics.</p>	<ul style="list-style-type: none"> <li>• Adjust and repair commercial and consumer electronic equipment as entry level service shop technicians.</li> <li>• Test, troubleshoot, or prototype electronic products and systems as entry level lab technicians.</li> <li>• Service and repair installed electronic systems at the user's location as entry level field service technicians.</li> <li>• Assist in technical writing projects, and for those who excel in oral communications skills, assist in technical marketing or sales.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Career Technologies – General Engineering Technology (AAS.IDT.ENGIN.TECH)</b>	<p>This degree program is intended to prepare students for entry-level positions as support personnel with myriad technological skills for the broad area of engineering &amp; technology.</p>	<ul style="list-style-type: none"> <li>• Qualify for entry level positions as Engineering Assistants in basic design and development work, and in computer aided drafting and simulation of actual or conceptual systems.</li> <li>• Adjust and repair electromechanical equipment as entry level service shop technicians.</li> <li>• Test, troubleshoot, or prototype electromechanical products and systems as entry level lab technicians.</li> <li>• Service and repair installed electromechanical systems at the user's location as entry level field service technicians.</li> <li>• Assist in technical writing projects, and for those who excel in oral communications skills, assist in technical marketing or sales.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Career Technologies – Manufacturing Technology (AAS.IDT.MFG.TECH)</b>	<p>This degree program prepares graduates for entry-level positions in machining, grinding, welding, CNC (computer numerical control) programming/machining, industrial design, fixturing and quality assurance/control positions. Students will have a broad exposure to common manufacturing industry methods, procedures and safety.</p>	<ul style="list-style-type: none"> <li>• Express and implement all safety rules and procedures across the full scope of machining, welding and fabrication disciplines.</li> <li>• Recognize the theory and application of precision measurement and will be able to apply these skills in a professional work environment.</li> <li>• Read multi-view drawings, specify materials and procedures, and construct machined parts to professional standards using manual and CNC machinery.</li> <li>• Design, specify materials and construct fabricated mechanisms &amp; structures using various measurements, machining, material-joining and fabrication techniques for application in a professional environment.</li> <li>• Demonstrate comprehension of various problem solving techniques and then demonstrate their abilities to apply them to machining, measurement, CNC programming and fabrication disciplines.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Career Technologies – Science Technology, Horticulture (AAS.ST.HORT)</b>	<p>This degree program prepares students for employment in horticulture based on hands-on training in a wide range of topics that can lead directly to employment in horticulture or to a four-year program. Topics include science, art and business aspects such as: plant science, propagation, turf, pests, design, marketing, plant materials, etc.</p>	<ul style="list-style-type: none"> <li>• Describe and demonstrate the elements and principles of design utilized for a landscape site.</li> <li>• Conduct an analysis of the environmental concerns for good plant growth at an interior and/or exterior landscaped site.</li> <li>• Coordinate the process of preparing a plan, specifying materials to be used and the installation of those materials on a landscaped site.</li> <li>• Prescribe the “Best Horticultural Practices” for a wide variety of interior and exterior plant materials used in the ornamental industries.</li> <li>• Demonstrate the materials and methods used for the propagation of a wide variety of ornamental crops.</li> <li>• Discuss the anatomy and physiology of a plant at an industry-needs level.</li> <li>• Identify the biotic and abiotic problems associated with the maintenance of a wide range of interior and exterior plant materials used in the ornamental industries.</li> <li>• Collect a soil sample for analysis of the structure, texture, pH and nutrient content so a determination can be made to add amendments to the soil or to apply a chemical treatment.</li> <li>• Discuss the marketing and sale of the aesthetic and environmentally achieved results of a design.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Career Technologies – Science Tech – Landscape/Design/Build Option (AAS.ST.LAND)</b>	<p>This degree program option provides students with a set of knowledge, skills and abilities that prepares them for direct employment in the landscape design field. It includes sustainable design and construction, management and development of presentation skills.</p>	<ul style="list-style-type: none"> <li>• Describe a site analysis of a new or existing landscape and evaluate the removal or transplanting of existing plant materials.</li> <li>• Prepare a conceptual, preliminary and final copy plan complete with a detailed Plant Materials List, Construction Materials to be used and the Order of Occurrence for implementation of the design.</li> <li>• Develop a budget for each phase of project and propose a payment plan for project.</li> <li>• Explain in detail the materials and methods to be used with both plant and construction materials.</li> </ul>



PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Information Technology – Database Programming and Administration (AAS.IT.DB)</b>	<p>This degree program emphasizes computer programming skills and database management. Two semesters of a programming language, three semesters of database courses, systems analysis, and applications development courses prepare the student to actively participate in real-world software development projects.</p>	<ul style="list-style-type: none"> <li>• Design, implement and administer databases.</li> <li>• Design a normalized database, create its conceptual model, further implement it physical design and manipulate it by using structured query language (SQL), data definition language (DDL), transaction control language (TCL) and data control language (DCL).</li> <li>• Analyze a business situation and develop a database application that meets customer requirements.</li> <li>• Create database applications using a procedural language extension to SQL. It included procedural language constructs, exception handling as well as using, creating and managing packages. Advanced software includes Oracle database and PL SQL.</li> <li>• Install, configure, deploy and administer database servers. They will be able to resolve not only basic installation and configuration database issues, but also data management, backup, recovery, and transportation between databases, user administration as well as network configuration. Advance software includes Linux Operating System and Oracle database.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Information Technology – Networking Administration (AAS.IT.NET)</b>	<p>This degree program emphasizes planning, designing, managing, and maintaining computer networks. Operating systems studied include Windows and UNIX/Linux. Current topics in networking are presented. This program assists with preparation toward the Microsoft Certified Systems Engineer (MCSE) exams and the CompTIA A+ Certification.</p>	<ul style="list-style-type: none"> <li>• Design, implement and administer a LAN, MAN and WAN.</li> <li>• Install, configure and maintain server and client Operating Systems including Windows and Unix and effectively conduct management responsibility of network resources, including users, printers, file shares and multiple network related objects.</li> <li>• Write and present infrastructure and application related project plans and graphs supported by realistic figures and network configuration material while working under time constraints.</li> <li>• Integrate the use of many common presentation and writing software used to further enhance project management, physical /logical concepts, and sales materials to support in network and application deployments</li> <li>• Use standard business productivity software to support electronic projects.</li> <li>• Step in to any IT environment and conduct an infrastructure and security assessment based on solid knowledge of the IP protocol and make significant improvement recommendations from the early stage.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Information Technology – Web Development and Management (AAS.IT.WEB)</b>	<p>This degree program emphasizes web skills. Students delve into all facets of web page preparation. Current topics include Web page design and development, client and server side scripting, programming, multimedia, and database and networking concepts.</p>	<ul style="list-style-type: none"> <li>• Code web documents that meet web compliance standards, using standard mark-up and style-sheet tools.</li> <li>• Integrate the use of at least one scripting language to make their web documents interactive.</li> <li>• Code static and active web pages that meet current web compliance standards.</li> <li>• Use standard web productivity tools in the creation of enterprise-level websites.</li> <li>• Use standard business productivity software to support electronic projects.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Software Development – Game Programming (AAS.SD.GAME.PGMG)</b>	<p>This degree program focuses on designing games, writing the program code, and testing that the game works as expected. Emphasis is on computer programming in C++ and algorithms.</p>	<ul style="list-style-type: none"> <li>• Complete pre-production planning and design documents needed for video-game development.</li> <li>• Design and develop video-game applications using standard commercial and open-source development products.</li> <li>• Design and develop audio-visual assets for video-games using standard commercial and open-source development products.</li> <li>• Use standard business productivity software to support electronic projects.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Software Development – Game Testing (AAS.SD.GAME.TEST)</b>	<p>This degree program focuses on quality assurance in visual software development. Emphasis is on design and testing of computer games and the inclusion of multimedia elements. Students will complete a sequence in a programming language of their choice.</p>	<ul style="list-style-type: none"> <li>• Complete pre-production planning and design documents needed for video-game development.</li> <li>• Design and develop video-game applications using standard commercial and open-source development products</li> <li>• Perform quality-assurance assessment of both personal and commercial-grade video-games.</li> <li>• Document the results of their quality-assurance assessment work.</li> <li>• Use standard business productivity software to support electronic projects.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Music – Recording Technology</b> <b>(AAS.MUSC.REC.TECH)</b>	<p>This degree program is recommended for students who wish to pursue a variety of careers utilizing audio production skills upon completion of the degree. Unlike the AFA in Music Technology, this program does not require the musicianship or general education coursework recommended for transfer to a bachelor's degree in music, but rather focuses specifically on audio production for the music and film/video industries with opportunities to explore radio and TV production through courses in the college's Broadcasting program. All AAS Recording Technology students engage in industry internships as part of their coursework.</p>	<ul style="list-style-type: none"> <li>• Use microphones, outboard gear, consoles and software effectively to conduct studio recording sessions featuring live instruments and vocals.</li> <li>• Apply critical listening skills and the concepts of audio theory to creating broadcast quality audio productions.</li> <li>• Incorporate MIDI sequences with recorded audio.</li> <li>• Employ signal processors and other tools of recording technology to effectively mix and edit music and broadcast productions.</li> <li>• Explain and apply the concepts of mastering to recorded music and broadcast productions.</li> <li>• Use their knowledge of audio signal flow to setup, use and troubleshoot studio equipment.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Computer Aided Drafting [CAD] (CERT.CAD)</b>	<p>This certificate program is designed to produce qualified Computer Aided Drafting (CAD) draftspersons in diverse technical fields. Students will be able to communicate design information beginning from an early concept pencil sketch to an industry standard digital design using CAD, visualization, and animation software. The program will also inspire characteristics of professionalism designed to help students achieve their career goals.</p>	<ul style="list-style-type: none"> <li>• Read and create multi view mechanical drawings compliant to industry standards.</li> <li>• Demonstrate effective time management responsibility by completing projects with assigned time constraints.</li> <li>• Develop three-dimensional rendered drawings using CAD software and add-on software packages. Produce portfolio drawings from final project assignments.</li> <li>• Identify methods of design technology such as rapid-prototyping, reverse engineering and model making.</li> <li>• Implement common presentation software used to further enhance CAD rendered images.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Computer Animation (CERT.COMP.ANIM)</b>	This certificate program is designed for practicing professionals in this field in Computer Animation who may need to update their skills or for students who have already completed substantial college level work. Students may choose only those courses for which prerequisites have been met. Returning professionals may request that prerequisites be waived by submitting a portfolio for review by a member of the Art faculty.	<ul style="list-style-type: none"> <li>• Apply principles of design.</li> <li>• Demonstrate fundamentals of drawing.</li> <li>• Demonstrate photographic /graphic image skills.</li> <li>• Demonstrate digital media skills.</li> <li>• Develop/complete portfolio of print and digital display art work.</li> <li>• Demonstrate knowledge of animation history and film analysis.</li> </ul>



PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Computer Graphics (CERT.COMP.GRAPH)</b>	This certificate program is designed for practicing professionals in the field of Computer Graphics who may need to update their skills or for students who have already completed substantial college level work. Students may choose only those courses for which prerequisites have been met. Returning professionals may request that prerequisites be waived by submitting a portfolio for review by a member of the Art faculty.	<ul style="list-style-type: none"> <li>• Apply principles of design.</li> <li>• Demonstrate photographic /graphic image skills.</li> <li>• Demonstrate digital media skills.</li> <li>• Develop/complete portfolio of print and digital display art work.</li> <li>• Demonstrate knowledge of the history of art.</li> <li>• Demonstrate fundamentals of drawing.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Computer Science (CERT.COMP.SCI)</b>	<p>The certificate program is primarily intended for individuals who have completed a degree in another discipline and would now like to transition into the field of computer science or a related area such as computer engineering or computer information systems. The certificate program includes required and elective courses in current programming languages, discrete mathematics, data structures and algorithms, database systems, system analysis and design, and computer organization.</p> <p>Computer science occupations include teaching positions at all levels, software developers, database administrators, hardware engineers, systems analysts, network architects, information security analysts, and many other both exciting and in high demand positions.</p>	<ul style="list-style-type: none"> <li>• Apply knowledge and skills to create algorithmic solutions to problems effectively and efficiently.</li> <li>• Become competent in using a programming language to solve problems.</li> <li>• The ability to use current techniques, skills, and tools necessary for the practice of the discipline.</li> <li>• Understand the components of the computer and the way that they work.</li> <li>• Analyze a problem, and identify and define the computing requirements appropriate to its solution.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Computer Technical Support (CERT.COMP.SUPPORT)</b>	This certificate program emphasizes troubleshooting and diagnostic skills for both hardware and software issues encountered at a Help Desk. Preparation includes computer support, upgrade and repair functions. This program assists with preparation toward the CompTIA A+ Certification.	<ul style="list-style-type: none"> <li>• Troubleshoot and solve a variety of equipment-related issues in a workplace environment.</li> <li>• Make recommendations regarding appropriate equipment acquisition, maintenance, upgrade and life-cycling in the workplace.</li> <li>• Use standard business productivity software to support electronic projects.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Culinary Arts</b> <b>(CERT.CULN.ARTS)</b>	<p>This certificate program is designed to aid those working food service professionals who wish to increase their job value or refresh their culinary preparation and leadership skills. Students who choose this program will also be able to transfer their credits to an Associate Degree program in the college. Graduates are eligible for positions in the banquet department of hotels, restaurants, food service companies and related areas of the hospitality industry.</p>	<ul style="list-style-type: none"> <li>• Address the basic problems in all food services: Purchasing, receiving, storage, preparation and service effectively.</li> <li>• Earn industry-approved ServSafe Certification.</li> <li>• Produce menus that are nutritionally adequate and maintain variety, balance and appeal to the target group.</li> <li>• Be proficient in food preparation and production, purchasing, and all phases of decorating and serving food.</li> <li>• Review job titles and responsibilities.</li> <li>• Prepare food in cafeteria kitchens for dining rooms as well as food in table-service kitchen for dining rooms.</li> <li>• Evaluate methods to maintain quality and cost effective measures.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Database Programming and Administration (CERT.DB)</b>	This certificate program prepares a student to design, develop, deploy and administer current industry-standard databases, both as an end-user and as a database administrator. In its current implementation, the program assists with preparation for Oracle certification exams.	<ul style="list-style-type: none"> <li>• Write application programs that use standard industry tools to create delete and update information in enterprise databases.</li> <li>• Use standard business productivity software to support electronic projects.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>e-Commerce: Business Emphasis (CERT.ECOMM.BUS)</b>	<p>This certificate program is designed for students seeking either (1) an entry level a position in the e-commerce field, or (2) an added marketing credential to an existing degree or skills-set. This Certificate is a one-year experience; whereby, the credits can be seamlessly be transferred into the AAS e-Enterprise degree program.</p>	<ul style="list-style-type: none"> <li>• Recognize the role and position E-Commerce plays in the overall business environment.</li> <li>• Describe internet infrastructure and its supports of the E-Commerce activities of the business.</li> <li>• Recognize effective problem-solving and its importance to E-Commerce.</li> <li>• Demonstrate knowledge of core business disciplines (accounting, finance, marketing, management, technology) as they pertain and support E-Commerce.</li> <li>• Recognize ethical issues and respond appropriately.</li> <li>• Identify norms and business practices across the globe.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Event Planning and Management</b> <b>(CERT.EVENT.PLAN.MGT)</b>	<p>This certificate program is for students wishing to only explore the field of Event Planning may desire to pursue this option. In addition to hospitality management and event planning, the student will select from courses in business communications, business math, small business management, event planning and management, and food and beverage cost control. Entry level positions are open to those who wish to organize functions such as weddings, special events, and business meetings. Graduates also have the option to apply for membership in the Meeting Planners Association.</p>	<ul style="list-style-type: none"> <li>• Identify the planning, space, and equipment elements necessary to support the logistics of the event by studying the resource workbook.</li> <li>• Recognize the role food and beverage plays in an event.</li> <li>• Review the process of hiring professionals, such as, caterer, entertainers, sound specialists, lighting companies, etc.</li> <li>• Communicate details of the event to all the staff and suppliers concerned.</li> <li>• Summarize the importance of keeping detailed financial records and generating accurate post-event reports.</li> <li>• Analyze the role of ethics in establishing meetings industry best practices.</li> <li>• Provide guidelines for accommodating people with disabilities at an event.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Exercise Science (CERT.EXER.SCI)</b>	<p>The certificate program will provide the students with the knowledge and expertise to develop and manage fitness programs, as personal trainers and work in fitness related businesses. Students will demonstrate effective techniques in assessing clients' fitness levels design and instruct fitness programs and evaluate progress and goal achievement.</p> <p>Preparation for certification is included.</p>	<ul style="list-style-type: none"> <li>• Use an appropriate theoretical framework for determining exercise needs and goals for individuals.</li> <li>• Use appropriate methodology in health/fitness appraisal of specified parameters in lifestyle behavior modification.</li> <li>• Create an appropriate exercise program design with the aid of software relative to the needs and desires of individuals.</li> <li>• Implement, when necessary, appropriate knowledge and skill in the treatment of exercise related injury/emergency and nutritional suggestion to individuals.</li> <li>• Demonstrate command of the knowledge base and skills necessary to seek a variety of employment situations, agency certifications and/or transfer to a four-year institution.</li> </ul>



PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Floral Design (CERT.FLORAL)</b>	This certificate program will expose students to the materials and creative processes of the florist and interior landscaping industries. The role that both the physical and environmental setting has on the elements of design (color, texture and form) and aesthetic considerations are dealt with in laboratory and lecture projects.	<ul style="list-style-type: none"> <li>• Identify the commonly used cut flowers, greens and supplies used in the floral industry.</li> <li>• Identify the common tropical plants and holiday plants used in the floral industry.</li> <li>• Construct the basic designs (e.g. centerpieces, arrangements, corsages etc.) for holiday and special events.</li> <li>• Discuss and demonstrate the elements and principles of design used by the floral industry.</li> <li>• Handle and process cut flowers and greens under accepted industry practices.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Grounds Management (CERT.GRND.MGT)</b>	<p>This certificate program will provide students of with an understanding in the function of various plant types (e.g. grasses, shrubs, trees, herbaceous plants) and the cultural needs of these for sustainably dealing with soils, water, fertilizer, pruning, pest control, planting and more. A hands-on educational approach is given to each student with designed projects for them to fulfill on campus.</p>	<ul style="list-style-type: none"> <li>• Identify the major insect, disease, nutritional and physiological disorders that effect plant growth.</li> <li>• Conduct a site analysis of the existing and potential problems to the plants and surrounding items and areas.</li> <li>• Take a soil sample and remedy any deficiencies, abnormal pH levels or nutritional concerns</li> <li>• Manage the turf area for weeds, insects, diseases and nutrient needs.</li> <li>• Consult on pruning practices appropriate for shrub and tree care.</li> <li>• Coordinate sub contracted services necessary to the site.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Hospitality Management (CERT.HOSP.MGMT)</b>	<p>This certificate program is designed to aid those working professionals who wish to increase their job value or refresh their leadership skills such as, food purchasing, food and beverage cost control, food purchasing, beverage management, banquet and catering management. Students who are interested specifically in the management of people, goods and services in the hospitality industry and whose time is limited may consider this management option. Graduates are eligible for positions in hotels, restaurants, food service companies and related areas of the hospitality industry. Co-ops are available.</p>	<ul style="list-style-type: none"> <li>• Identify the basic components of the Hospitality Industry.</li> <li>• Understand the regulations and standards that concern the hospitality industry.</li> <li>• Become proficient in food preparation, purchasing and the many phases of hospitality work, supervision, and management.</li> <li>• Evaluate methods to maintain quality and cost effective measures.</li> <li>• Outline the factors involved in obtaining financial backing for hotel development and operation.</li> <li>• Assist managers in cafeteria and table-service kitchens and dining rooms.</li> <li>• Evaluate methods to maintain quality and cost effective measures.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Landscaping (CERT.LAND)</b>	This certificate program exposes students to the plants and construction materials utilized in landscaping to transform a new or existing site for functional and/or aesthetic needs. Students study a site, prepare a plan, and implement a project on campus as one of the laboratory components. They demonstrate the design principles they have learned to resolve problems in the everyday world of landscaping (drainage, topography, exposure, sustainability, etc.).	<ul style="list-style-type: none"> <li>• Conduct a Site Analysis and Family Inventory Analysis for a residential landscape site.</li> <li>• Identify and propose solutions to the drainage and site problems that need to be rectified by the design.</li> <li>• Develop conceptual, preliminary and final copy plans for the site.</li> <li>• Formulate a functional and/or aesthetic group of plants and materials that best suits the environment and the client's needs.</li> <li>• Organize the various phases of implementing the design, from permits to final inspections.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Legal Nurse Consultant (CERT.LGN.CONNS)</b></p>	<p>The Bergen Community College Legal Nurse Consultant (LNC) Certificate Program is an American Bar Association approved this 30-credit program. The Bergen Community College program is one of only a handful of ABA-approved legal nurse consultant programs in the country.</p> <p>The LNC program is open to Registered Nurses who hold an AAS or BS in science degree, current licensure in New Jersey and have a minimum of 2,000 hours of nursing experience. The curriculum prepares nurses for paralegal nurse consultant positions in law firms, hospitals, insurance companies, health maintenance organizations, government offices, and risk management companies either as an independent contractor while remaining active in traditional nursing or through full-time employment as a legal nurse consultant. By combining health care expertise with basic legal knowledge the Bergen Community College LNC Graduate will be prepared to deal with the medical aspects of a lawsuit, offer expert opinion and testimony and act as liaison between the attorney, the health care provider, and the client.</p>	<ul style="list-style-type: none"> <li>• Enter the work force as a paralegal or legal nurse consultant.</li> <li>• Apply practical skills including the techniques of legal research, practice and procedure, investigation, interviewing, drafting of documents, motions and pleadings and other practical skills needed for an array of potential positions in the public, private and corporate law sectors.</li> <li>• Promote the appreciation of and adherence to ethical practice and professional responsibility as a paralegal and legal nurse consultant.</li> <li>• Demonstrate an understanding of the legal environment and work under the supervision of lawyers in the private and public sector.</li> <li>• Develop an appreciation for the needs of the legal community and the economical and efficient delivery of legal services through paralegals and legal nurse consultants working under the supervision of attorneys.</li> <li>• Attain up-to-date skills in law office technology including the use of computers for word processors and computer assisted legal and non-legal research.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Medical Office Administrative Assistant (CERT.MOAA)</b>	<p>Medical Office Administrative Assistants are multi-skilled practitioners who perform administrative and management duties. Graduates may work in physicians' offices, clinics, HMO's, billing companies, or other ambulatory care facilities, such as freestanding emergency centers and hospitals. Administrative responsibilities include: scheduling appointments, billing and collecting, coding diagnoses and procedures, insurance claim forms, medical records, performing computer applications, and providing patient instructions. The program is designed for the college student as well as the returning student who is career orientated.</p>	<ul style="list-style-type: none"> <li>• Demonstrate entry-level competence in performing administrative medical office assistant skills.</li> <li>• Demonstrate technical proficiency in all administrative skills</li> <li>• Apply medical terminology when communicating professionally in a health care setting with patients, physicians, and all members of the health care team.</li> <li>• Apply critical thinking skills to construct, evaluate, and measure administrative tasks to operate the office efficiently.</li> <li>• Demonstrate computer literacy to retrieve, organize, and analyze information using skills from medical simulations and information technology classes.</li> <li>• Demonstrate ethical and professional behavior in the workplace.</li> <li>• Adhere to state, federal and local regulations and laws that apply to health care.</li> <li>• Communicate effectively with diverse populations.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Office Technology (CERT.OFF.TECH)</b>	<p>This certificate program prepares a student to effectively use software in a modern office environment. Word processing, spreadsheet applications, database skills, presentation ability, use of the Internet, electronic scheduling and communications, and web design and publishing are investigated. This program will assist with preparation towards the Microsoft Office Specialist (MOS) exams.</p>	<ul style="list-style-type: none"> <li>• Demonstrate proficiency using standard business productivity software.</li> <li>• Use standard business productivity software to support electronic projects.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Radiation Therapy Technology (CERT.RAD.THERAPY)</b></p>	<p>Radiation Therapy is one of the most common treatments for cancer and is prescribed in more than half of all cancer cases. Many people become free of cancer after receiving radiation treatment alone or in combination with surgery, chemotherapy and/or immunotherapy (biologic therapy). The Radiation Therapist works with a team of oncology professionals to effectively design and administer a therapeutic dose of radiation to a targeted area. They use advanced computer systems to operate sophisticated radiation therapy equipment. Additionally, the Radiation Therapists assists in managing the patient's well-being by providing care and support for patients throughout their course of radiotherapy treatment.</p> <p>The Radiation Therapy Certificate Program at Bergen Community College is a one year advanced certificate program. Didactic courses are incorporated with formalized lectures and laboratory training followed by actual clinical experience. Upon entry into the program, the candidate must be a registered or registry eligible Diagnostic Radiographer and must have completed an Associate's degree or higher.</p>	<ul style="list-style-type: none"> <li>• Administer radiation therapy as prescribed by the physician.</li> <li>• Display professional conduct essential to the well-being of the radiation oncology patient.</li> <li>• Demonstrate effective written communication skills; maintain accurate and detailed treatment chart documentation.</li> <li>• Demonstrate effective verbal communication skills in the clinical setting.</li> <li>• Observe the clinical progress of the radiation oncology patient, use clinical decision making skills to recognize and report any signs of complications.</li> <li>• Utilize treatment accessories to accurately reproduce the radiation treatment.</li> <li>• Adhere to radiation safety procedure protocol.</li> <li>• Safely and effectively operate a variety of computerized simulation and treatment machines.</li> <li>• Perform machine safety checks; know safe limits of equipment operations, and report abnormalities or inconsistencies to the proper authority.</li> <li>• Construct immobilization devices and employ custom blocking techniques that are conducive to conformal radiation therapy.</li> <li>• Utilize sophisticated imaging equipment and treatment planning systems for precise tumor localization.</li> <li>• Work closely with the radiation Oncologist and the therapy team in the preparation of a treatment plan that is customized to the patient's needs.</li> <li>• Adhere to the Radiation Therapist Code of Ethics.</li> </ul>



PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<p><b>Surgical Technology (CERT.SURG/CERT.SURG.EVE)</b></p>	<p>The Surgical Technology Certificate program at Bergen Community College is the only community college program in the state of New Jersey and the first program to be nationally accredited. Major hospitals throughout New Jersey and the entire Eastern seaboard seek graduates of the Surgical Technology Program, often months before graduation. New facilities include an integrated three room suite incorporating a state-of-the-art classroom, fully equipped “mock” operating room reflective of a real hospital OR, and a sterilization/prep room. Students learning in this type of environment are better prepared to enter their clinical externship because of the hands-on practice and real life situations taught here.</p> <p>The Surgical Technology program is accredited by the Accreditation Council on Education in Surgical Technology and Surgical Assisting, a Committee of the Commission on Accreditation of Allied Health Education Programs (CAAHEP)</p>	<ul style="list-style-type: none"> <li>• Deliver professional and compassionate care for all patients.</li> <li>• Communicate professionally.</li> <li>• Use learned critical skills for problem solving.</li> <li>• Perform as a Level 1 surgical technologist.</li> <li>• Practice using the legal and ethical framework of the profession.</li> <li>• Seek continued activities for the pursuit of professional development.</li> <li>• Meet the needs of the diverse community.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Transfer Studies: Science, Technology, Professional Studies</b> <b>(CERT.TRAN.STP.GEN)</b>	The Transfer Certificate allows science, technology or professional studies students, who may only be attending BCC for one year before transferring to a 4 year school, to transfer with a college certificate.	<ul style="list-style-type: none"> <li>• Demonstrate the ability to think critically and creatively.</li> <li>• Apply analytical reasoning across academic disciplines.</li> <li>• Demonstrate proficiency in oral and written communication.</li> <li>• Demonstrate the ability to critically examine information and discover new knowledge through rigorous meaning in a science, technology or professional studies field.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Baking (COA.BAKING)</b>	The Certificate of Achievement in Baking introduces the student to hands-on quality baked products which include yeast breads, puff pastry, quick breads, cakes, pies, as well as decorating. Obtaining these skills, the student may obtain positions in the various settings in which freshly baked products are offered for sale. Students who choose this program will also be able to transfer their credits to an Associate Degree Program in the college. Graduates are eligible for positions in the banquet department of hotels and in restaurants, food service companies and related areas of the hospitality industry.	<ul style="list-style-type: none"> <li>• Learn the complexities of weighing and measuring accurately; in both metric and customary USA units.</li> <li>• Utilize their earned industry-approved ServSafe Certification.</li> <li>• Maintain variety, balance and product appeal to the target group.</li> <li>• Become proficient in specialized baking and production, and in decorating.</li> <li>• Prepare baked products in cafeteria and table-service kitchens for dining rooms.</li> <li>• Demonstrate marketing and selling skills.</li> <li>• Evaluate methods to maintain quality and cost effective measures.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Biotechnology (COA.BIO.TECH)</b>	<p>The Certificate of Achievement in in Biotechnology is designed prepares students interested in gaining the working knowledge and skills used in modern Biotechnology laboratories without necessarily earning a degree. Very well suited for students who already have a college degree but are considering a career in Biotechnology. Students in the program take a year of General Biology, a two semester sequence in Biotechnology and Bioinformatics plus a foundation of supporting Mathematics, Science and General Education courses.</p>	<ul style="list-style-type: none"> <li>• Demonstrate knowledge of the methodology of biotechnology, including genetic modification, isolation, purification, and analysis of nucleic acids and proteins.</li> <li>• Acquire laboratory competence by developing and refining technical and analytical skills.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>CNC Programming (COA.CNC.PROG)</b>	<p>The Certificate of Achievement in CNC Programming prepares graduates for entry-level positions in CNC machining, programming, machine operator, machine set-up, quality control/inspection, safety practices, print reading and associated machine shop tasks.</p>	<ul style="list-style-type: none"> <li>• Express and implement all safety rules and procedures across the full scope of machining, welding and fabrication disciplines.</li> <li>• Demonstrate various problem solving techniques and apply them to machining, measurement, CNC programming and fabrication disciplines.</li> <li>• Specify materials, develop an order of operations and determine appropriate use of machinery for the construction of CNC produced mechanical parts.</li> <li>• Develop CNC programs using G and M-code programming language, load programs to the machine, troubleshoot problems and produce parts using professional techniques and equipment.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Fashion Design Fundamentals (COA.FD.DESIGN)</b>	<p>The Certificate of Achievement in Fashion Design Fundamentals was designed for students of all ages without a background in fashion design or sewing. This certificate will provide students with the basic skills needed to create a women's garment, including sewing, patternmaking and draping. Students who successfully complete this certificate will be prepared for transfer into an associate level program in Fashion Apparel Design; students will also be prepared for entry level employment in garment making/tailoring businesses.</p>	<ul style="list-style-type: none"> <li>• Construct a simple garment from start to finish, using sewing techniques, flat patternmaking and draping.</li> <li>• Use beginner illustration techniques to sketch simple apparel designs.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Fashion Product Development (COA.FD.PROD)</b>	<p>The Certificate of Achievement in Fashion Product Development was designed for students who have a limited background in fashion design or sewing, and would like to hone their skills and/or expand their understanding of fashion product development. This certificate will provide a foundation for understand fashion supply chain management, textiles, consumer behaviors and production. Students who successfully complete this certificate will be prepared to transfer to an associate level program in Fashion Apparel Design or Fashion Merchandising &amp; Management; students will also be prepared for employment in an array of fashion and fashion-related industries.</p>	<ul style="list-style-type: none"> <li>• Identify the milestones of fashion design and how to apply this knowledge, along with consumer behaviors, current trends and future forecasting, to product and line development.</li> <li>• Sketch and sew a simple garment understanding the differences between natural and manmade fibers and textiles.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Finance (COA.FINANCE)</b>	The Certificate of Achievement in Finance is designed for students seeking either (1) an entry level a position in the finance industry, or (2) an added finance education credential to an existing degree or skills-set. This COA provides a solid core of specific finance coursework. The COA is designed whereby all courses can seamless move to the College's AAS degree program in Banking and Finance.	<ul style="list-style-type: none"> <li>• Analyze the financial results of companies.</li> <li>• Recognize and apply various financial theories.</li> <li>• Demonstrate the understanding of financial metrics.</li> <li>• Defend the collected data that will be used to conduct financial analysis.</li> <li>• Organize and write a financial report.</li> </ul>



PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Fire Science (COA.FIR.SCI)</b>	The Certificate of Achievement in Fire Science prepares students for careers in the field of fire science and enhances the working knowledge of practitioners. The program provides the fundamental concepts and practices needed for fire prevention, protection and suppression. Career opportunities: Federal, State, and Municipal Fire Services, Federal and Local Forest and Park Fire Service, Arson Investigators, and Corporate and Private Security firms.	<ul style="list-style-type: none"> <li>• Students will be able to describe the history, and evolution of the fire service. Students will be able to explain and apply the principles relevant to hazard control, structural design, fire detection, suppression, and limitation of loss.</li> <li>• Analyze the basic components of fire as a chemical reaction, the major phases of fire, and examine the main factors that influence fire spread and fire behavior.</li> <li>• Demonstrate their understanding of fire ground strategy and tactics, the occupational risks firefighters face and management strategies available to manage resources and reduce injuries/fatalities of firefighters and civilians.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Forensic Science (COA.FORENSIC)</b>	<p>The Certificate of Achievement in Forensic Science provides a broad view of forensics as it pertains to investigations, adjudication and evidentiary matters. This program explores the fundamental scientific and mathematical concepts of investigative practices, evidence collection, and the guiding legal principles. Career opportunities: Federal, State, County, and Municipal Crime Scene Units, Forensics laboratories, and Medical Examiner's Office.</p>	<ul style="list-style-type: none"> <li>• State and explain the fundamental concepts of chemistry, biology, geometry, and physics as these pertain to forensic investigations.</li> <li>• Demonstrate a working knowledge of the Federal Rules of Evidence guidelines for the presentation of expert testimony, forensic evidence and lay witnesses.</li> <li>• Describe the role of laboratories and other scientific and medical services including chemistry, toxicology, serology, biology, odontology, ballistics, and psychiatry in forensic investigations.</li> <li>• Apply appropriate investigative procedures and techniques in collecting analyzing and preserving physical evidence from a crime scene.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Homeland Security (COA.HOME.SEC)</b>	<p>The Certificate of Achievement in Homeland Security is designed to expand the knowledge of practitioners in the field, as well as to introduce students to homeland security and emergency management. Students explore issues pertaining to domestic and international terrorism, counter terrorism strategies, best practices for security planning and threat assessment. Students are also introduced to key principles of an all hazards approach to emergency management, disaster planning, and man-made or natural threats. Career opportunities: Federal, State, and County Homeland Security agencies, Federal, State, and Municipal Office of Emergency Management, and Corporate and Private Security firms.</p>	<ul style="list-style-type: none"> <li>• Develop the knowledge, experience, and critical decision-making skills needed to respond appropriately to emergency and disaster situations.</li> <li>• Develop operational plans to respond to natural and man-made disasters and terrorist incidents.</li> <li>• Analyze risk, vulnerabilities, and formulate strategic plans to respond to disasters and implement recovery and mitigation operations.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Machine Tooling (COA.MACH.TOOL)</b>	<p>The Certificate of Achievement in Machine Tooling prepares graduates for entry-level positions in manual machining, grinding, machine set-up, quality control/inspection, print reading, safety practices and associated machine shop tasks.</p>	<ul style="list-style-type: none"> <li>• Express and implement all safety rules and procedures across the full scope of machining, welding and fabrication disciplines.</li> <li>• Recognize the theory and application of precision measurement and will be able to apply these skills in a professional work environment.</li> <li>• Design, specify materials and construct fabricated mechanisms &amp; structures using various measurements, machining, material-joining and fabrication techniques for application in a professional environment.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Manufacturing Design using Pro/Engineer® (COA.MFG.PROENG)</b>	<p>The Certificate of Achievement in Manufacturing Design prepares graduates for entry-level positions using Pro/Engineer software at an engineering or architectural firm. Students can also earn a nationally recognized certification.</p>	<ul style="list-style-type: none"> <li>• Demonstrate competency with the basic design skills used within Pro/Engineer software, and comfortably navigate through the graphical user interface.</li> <li>• Recognize the design techniques available within the Pro/Engineer software critical to creating a flexible parametric design necessary for a more streamlined manufacturing process.</li> <li>• Communicate with their peers a comprehensive knowledge of their Pro/Engineer software design process in order to prepare for real world situations.</li> <li>• Develop and complete all necessary electronic and hardcopy deliverables required for typical design process utilizing Pro/Engineer software.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Marketing Assistant (COA.MKTG.ASST)</b>	<p>The Certificate of Achievement in Marketing Assistant is designed for students seeking either (1) an entry level a position in the marketing field, or (2) an added marketing credential to an existing degree or skills-set. This COA provides a solid core of specific marketing coursework.</p>	<ul style="list-style-type: none"> <li>• Demonstrate an understanding of the basics and theories of marketing.</li> <li>• Demonstrate an ability to effectively communicate both orally and in writing.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Network Security (COA.NET.SECURITY)</b>	The Certificate of Achievement in Network Security provides five in-depth courses and instruction in securing a network. Prior coursework in networking or professional experience required prior to matriculation.	<ul style="list-style-type: none"> <li>• Troubleshoot and solve a variety of security-related issues in a workplace environment.</li> <li>• Make recommendations regarding overall security strategies and implementations for workplace environments.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Nonprofit Management (COA.NONPRF.MGT)</b>	<p>The Certificate of Achievement in Nonprofit Management is designed for students seeking either (1) an entry level a position in the nonprofit sector, or (2) an added nonprofit education credential to an existing degree or skills-set. This COA provides a solid core of specific not-for-profit coursework. The COA is designed whereby all courses can seamless move to the College's AS degree program.</p>	<ul style="list-style-type: none"> <li>• Create a well-written “Case for Support” that attracts volunteers, increases stakeholder commitment, builds community awareness and draws in support for their initiative.</li> <li>• Resolve a scenario of a “controversial” problem within the nonprofit sector and compare three different techniques for handling the situation.</li> <li>• Develop a “SWOT” analysis, presenting strengths, weaknesses, opportunities and threats of a nonprofit organization.</li> <li>• Communicate orally in proper nonprofit terminology potential funding sources and contacts to donors.</li> <li>• Demonstrate an understanding of the various financial statements and guidelines for nonprofit organizations.</li> </ul>



PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Private Security (COA.PRIV.SECURITY)</b>	<p>The Certificate of Achievement in Private Security prepares students to enter the field of private and corporate security. It provides students with fundamental knowledge and practices of crime prevention, protection and investigations. Students will also explore the contemporary development of security approaches, systems, and security management as well as the complex relationship between the criminal justice system and private security.</p> <p>Career opportunities: Corporate and Private Security firms in areas including, but not limited to, banking and financial Services, commercial and residential properties, museums/cultural properties, athletic and entertainment arenas, manufacturing, agriculture, and pharmaceutical industries, private and public educational and medical institutions, and loss prevention for retail companies.</p>	<ul style="list-style-type: none"> <li>• Demonstrate a working knowledge of the functions and processes of the Criminal Justice System.</li> <li>• Demonstrate a sound working knowledge of the nature, roles, functions and contributions of private security to overall crime reduction.</li> <li>• State and support the opinions on issues of the conflicts between public and private security.</li> <li>• Describe the lessons learned that influence crime prevention programs.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Professional Cooking (COA.PROF.COOK)</b>	<p>The Certificate of Achievement in Professional Cooking introduces the student to preparing commercially acceptable foods and baked products. Potential customers include those in food courts or in malls; in cafeterias, restaurants, hotels and other establishments. Students who choose this program will also be able to transfer their credits to an Associate Degree program in the college. Graduates are eligible for positions in the banquet department of hotels and in restaurants, food service companies and related areas of the hospitality industry.</p>	<ul style="list-style-type: none"> <li>• Demonstrate an understanding of the complexities of weighing and measuring accurately; in both metric and customary USA units.</li> <li>• Utilize the earned industry-approved ServSafe Certification.</li> <li>• Present dishes that maintain nutritional variety, balance and product appeal to the target group.</li> <li>• Become proficient in the preparation of specialized dishes according to clientele.</li> <li>• Prepare meals and baked products in cafeteria and table-service kitchens for dining rooms.</li> <li>• Demonstrate the techniques for presentation and decoration of food platters and individual plates.</li> <li>• Evaluate methods to maintain quality and cost effective measures.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Real Estate (COA.REAL.EST)</b>	The Certificate of Achievement in Real Estate offers students the opportunity to gain in depth knowledge of issues critical to a successful career in real estate sales, both residential and commercial. The subject matter covered in the specialized courses will provide a greater understanding of the technicalities faced by first time home buyers and investors alike. The program will provide a working knowledge of how and why decisions are made by lenders and zoning boards and will assist the real estate professional in meeting their goals.	<ul style="list-style-type: none"> <li>• Demonstrate balanced and varied knowledge in the field of real estate.</li> <li>• Apply practical real estate skills needed for an array of potential positions in the real estate industry.</li> <li>• Demonstrate an appreciation of and adherence to ethical practice and professional responsibility as a real estate professional.</li> <li>• Develop an appreciation for the needs of the real estate industry and the economical and efficient delivery of real estate services.</li> <li>• Attain up-to-date skills in technology as they apply to the real estate industry.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Sports Management (COA.SPORT.MGMT)</b>	<p>The Certificate of Achievement in Sports Management offers students the opportunity to acquire professional business skills, understand the scope of Sports Management and the job opportunities available.</p> <p>Areas such as Sports Agency, Sport Law, Facility and Event Management, Personal Training as well as Sports Marketing and International Sports are explored. Upon successful completion of the program, students will have experienced networking and job interviewing skills through internships.</p>	<ul style="list-style-type: none"> <li>• Prepare student for transfer to a 4 year degree program.</li> <li>• Provide students with opportunities in Sports Management careers.</li> <li>• Develop an understanding of the specializations in Sports Management.</li> <li>• To provide a positive experience in the form of Co-Op and internship.</li> <li>• To provide understanding of good health and fitness practices.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Sports Merchandising (COA.SPORT.MERCH)</b>	The Certificate of Achievement in Sports Merchandising is designed for students seeking either (1) an entry level a position in the sports merchandising field, or (2) an added sports merchandising credential to an existing degree or skills-set. This COA provides a solid core of specific sports merchandising coursework.	<ul style="list-style-type: none"> <li>• Analyze trends in sports merchandise and apparel.</li> <li>• Make buying decisions based on season, fashion, and demand for sports products.</li> <li>• Perform operational activities relative to merchandising sports products within a sports-driven or retail organization.</li> </ul>

PROGRAM	PROGRAM DESCRIPTION	PROGRAM LEARNING OUTCOMES
<b>Welding Technology (COA.WELD)</b>	<p>The Certificate of Achievement in Welding is designed for students wishing to gain the working knowledge and skills related to basic welding for either professional or personal gain. This certificate can be taken alone or be used to complement a degree in Manufacturing Technology. Students in the program take a two semester sequence in welding plus a Drafting course and a course in Materials Processing &amp; Fabrication.</p>	<ul style="list-style-type: none"> <li>• Express and implement all safety rules and procedures across the full scope of machining, welding and fabrication disciplines.</li> <li>• Recognize the theory and application of precision measurement and will be able to apply these skills in a professional work environment.</li> <li>• Demonstrate an understanding and application of safety rules and procedures related to the use of electrical equipment, welding gases and arc/gas welding procedures.</li> <li>• Demonstrate an understanding of electrical and gas and arc welding theory.</li> <li>• Apply appropriate processes and demonstrate proficiency to create welded joints in various ferrous and nonferrous metals.</li> </ul>