

Academic Programs - Degree

Important Points

Students are advised that some certificate and all degree programs share the following common points:

- Successful completion of a credit bearing mathematics course is a graduation requirement for students entering the college fall 1996 and thereafter.
- First time, full-time students are also required to take INT 1520: Student Success Seminar.
- Some courses have prerequisites. Students should check course descriptions to be sure course prerequisites have been met.
- Not all courses are offered on all campuses every semester. The master schedule for each semester lists current offerings. See the Course Descriptions section for frequency of offerings.
- Physical education is optional but may be required by some transfer colleges.

Current course, degree, and certificate information can be found on JCC's website, www.sunycc.edu.

ASSOCIATE IN SCIENCE

BIOTECHNOLOGY

curriculum code: 1211

Hegis code: 5604

Minimum credit hours required: 61-62

This degree prepares students for transfer to four-year colleges and universities to major in biology, molecular genetics, biochemistry, biotechnology and related fields. It provides a strong background in liberal arts and the comprehensive, interdisciplinary, and robust training required for bachelor's degree programs in the modern biological sciences. Students interested in fields such as medical, veterinary, agricultural, environmental, and pharmaceutical sciences should consider a biotechnology degree to prepare them for their professional studies. Genetics, molecular biology, cell biology, immunology, microbiology are incorporated into the biotechnology degree, and students learn laboratory techniques such as tissue culture, DNA and RNA isolation and evaluation, and instrumental analysis. They can also participate in biomedical and environmental undergraduate research in state-of-the-art classrooms and laboratories.

General Degree Requirements	16 credit hours
Humanities	6
ENG 1530: English Composition II	3
ENG 1540: Writing About Literature	3
Social Science Electives	6
Mathematics	4
MAT 1710: Calculus and Analytic Geometry I	4
Program Core Requirements	34-38 credit hours
BIO 1570: Principles of Biology	4
BIO 1580: Principles of Biology II or	
BIO 2660: Zoology and BIO 2670: Botany	4-8
BIO 2530: Microbiology	4
BIO 2800: Cell Biology	4
BIO 2820: Biotechnology Techniques I	2
CHE 1550: College Chemistry I	4
CHE 1560: College Chemistry II	4
CHE 2530: Organic Chemistry I	4
CHE 2540: Organic Chemistry II	4
Additional Science Electives*	4-8 credit hours

Choose carefully from the following list depending on your desired transfer destination and intended area of concentration.

- BIO 2510: Anatomy and Physiology I
- BIO 2520: Anatomy and Physiology II
- BIO 2560: Principles of Genetics
- PHY 1610: General Physics I or PHY 1710: Mechanics
- PHY 1620: General Physics II or PHY 2710: Electricity and Magnetism

* It is intended that the program core requirements and the additional science electives total a minimum of 42 credit hours.

Additional Liberal Arts & Sciences or Career Elective 3-4 credit hours
By choosing carefully from the Additional Liberal Arts & Sciences category, a student may be able to add a seventh SUNY General Education course to his/her curriculum.

IMPORTANT POINTS (Refer to top of page)

ASSOCIATE IN APPLIED SCIENCE

BUSINESS - ACCOUNTING

curriculum code: 0630

Hegis code: 5002

minimum credit hours required: 60

This degree program prepares students for entry level accounting careers such as junior accountant, payroll accountant, receivables/payables clerk, or bookkeeper. It combines application courses in accounting, computer science, law, and management with liberal arts courses to develop communication and computation skills. With this background, the students will be readily employable and have the skills necessary for further development. Students interested in professional careers in public accounting (CPA) or management accounting (CMA) that require a bachelor's degree are encouraged to refer to the Associate in Science in business administration degree on page 41.

General Degree Requirements	20-21 credit hours
Humanities	6
ENG 1530: English Composition II	3
English elective (college level)	3
Social Sciences Electives	6
Mathematics/Sciences	6-7
CSC 1560: Microcomputer Applications I	4
Additional Mathematics/Sciences Elective	2-3
Liberal Arts and Sciences Elective	2
Program Core Requirements	29 credit hours
BUS 1410: Accounting Fundamentals	3
BUS 1510: Principles of Financial Accounting	4
BUS 1520: Principles of Managerial Accounting	4
BUS 1610: Personal Finance or BUS 2510: Business Finance	3
BUS 2270: Introduction to Taxation	3
BUS 2530 or BUS 2540: Business Law I or II	3
BUS 2550: Marketing or BUS 2570: Principles of Management or	
BUS 2630: Human Resource Management	3
BUS 2580: Management and Organizational Behavior	3
BUS 2590: Advanced Managerial Accounting	3
Liberal Arts & Sciences and/or Career Electives	11 credit hours

IMPORTANT POINTS (Refer also to top of page)

- To maximize student success, it is strongly recommended that ENG 1530 and ENG 1540 be taken before registering for 2000-level business courses.

ASSOCIATE IN APPLIED SCIENCE

BUSINESS - BUSINESS ADMINISTRATION

curriculum code: 0632

Hegis code: 5004

minimum credit hours required: 60

The A.A.S. degree program in business administration offers students the opportunity to obtain a broad business foundation and the knowledge, skills, and values necessary for a variety of entry level positions in business. This career program is designed to provide the student with the skills necessary to function in a professional, competent manner in business organizations. Students will take courses in accounting, management, law, computer applications, and courses that are related to business. Decision-making skills are stressed throughout the program as well as consensus-building skills that support working in team situations.

General Degree Requirements	20-21 credit hours
Humanities	6
ENG 1530: English Composition II	3
English elective (college level)	3
Social Sciences Electives	6
Mathematics/Sciences	6-7
CSC 1560: Microcomputer Applications I	4
Additional Mathematics Elective	2-3
Liberal Arts and Sciences Elective	2
Program Core Requirements	26 credit hours
BUS 1510: Principles of Financial Accounting	4
BUS 1520: Principles of Managerial Accounting	4
BUS 2530 or 2540: Business Law I or II	3
BUS 2580: Management and Organizational Behavior	3
Additional credits from the following list,	
3 credits of which must be 2000-level courses:	12
BUS 1430: Entrepreneurship I	
BUS 1500: Introduction to Business	
BUS 1610: Personal Finance	
BUS 1650: Introduction to Global Business	
BUS 2010: Business Internship	
BUS 2510: Business Finance	
BUS 2550: Marketing	
BUS 2570: Principles of Management	
BUS 2630: Human Resource Management	
CMM 1610: Public Speaking	
ECO 1530: Contemporary Economic Problems	
Liberal Arts & Sciences and/or Career Electives	14 credit hours

IMPORTANT POINTS (Refer also to top of page)

- BUS 1500 is recommended to students who want to study general business activities and develop an understanding of the business environment.
- Business course electives should be selected with career goals in mind. Working closely with your academic advisor will help assure the correct mix of electives to optimize employment opportunities when you complete your degree program.
- To maximize student success, it is strongly recommended that ENG 1530 and ENG 1540 be taken before registering for 2000-level business courses.

ASSOCIATE IN SCIENCE

BUSINESS- BUSINESS ADMINISTRATION

curriculum code: 0671

Hegis code: 5004

minimum credit hours required: 60

This degree program prepares students for transfer into bachelor level programs in business and many business related majors. This degree allows for flexibility in selecting major and electives courses to enable students to match the requirements set by transfer institutions. Students who successfully complete this degree can transfer into programs that lead to professional careers including accounting (CPA or CMA), business administration, financial management, human resource management, industrial relations, international business, management science, marketing, production control, and others as well. Working with their faculty advisor, JCC students can create a program that will give them full junior status upon completion and transfer.

General Degree Requirements	30 credit hours
Humanities	6
ENG 1530: English Composition II	3
ENG 1540: Writing about Literature	3
Social Sciences	6
ECO 2610: Macroeconomic Principles	3
ECO 2620: Microeconomic Principles	3
Mathematics/Sciences	11
CSC 1560: Microcomputer Applications I	4
MAT 1530: Finite Mathematics or	4
MAT 1590: College Algebra and Trigonometry or higher	
MAT 1540: Elementary Statistics	3
Liberal Arts and Sciences Electives	7
Program Core Requirements	17 credit hours
BUS 1510: Principles of Financial Accounting	4
BUS 1520: Principles of Managerial Accounting	4
Additional business courses (six credits of which must be numbered 2500 or higher)	9
Liberal Arts & Sciences and/or Career Electives	13 credit hours

IMPORTANT POINTS (Refer also to page 40):

- Successful completion of a credit bearing mathematics course is a graduation requirement.
- Most bachelor's degree programs in business administration require calculus for junior status.
- Students are strongly encouraged to begin a math sequence which will enable them to include MAT 1630: Calculus for Business and Social Sciences I as a mathematics elective in their associate degree programs.
- For optimal sophomore year course selection, you are encouraged to select your transfer college by the second semester of your freshman year.

Academic Information

ASSOCIATE IN SCIENCE COMMUNICATIONS

curriculum code: 1173
Hegis code: 5008
minimum credit hours required: 60

This general communication program is intended for students who wish to transfer to four-year institutions to pursue further study in human communication, public relations, communication management, broadcast journalism, intercultural communication, or other branch of communication not involving media production. This program can also serve the needs of students seeking entry level employment in those areas mentioned above, or of students who are currently employed in those areas who wish to continue their education and upgrade their skills.

General Degree Requirements	30 credit hours
Humanities	9
ENG 1530: English Composition II	3
ENG 1540: Writing about Literature	3
One course chosen from the following:	3
CMM 2530: Writing for Electronic Media	
ENG 2740: Newswriting and Editing	
ENG 2840: Film Study and Appreciation	
ENG 2890: Advanced Prose Writing	
Social Sciences Electives	9
Students are encouraged to consult with their academic advisor prior to selecting electives (PSY 1510: General Psychology, SOC 1510: Introduction to Sociology, HIS 1520: World History II Since 1500 or HIS 1540: US History II Since 1865, or ANT 1520: Introduction to Cultural Anthropology are recommended).	
Mathematics/Sciences	9
MAT 1500 or higher	3
Mathematics/Sciences Electives	6
Students are encouraged to enroll in mathematics and science courses which are recommended by the college to which they wish to enroll.	
Liberal Arts and Sciences Electives	3
Program Core Requirements	24 credit hours
CMM 1510: Introduction to Communication	3
CMM 1610: Public Speaking	3
CMM 1750: The Rhetoric of Vision and Sound	3
CMM 2500: Interpersonal Communication	3
CMM 2610: Mass Communication and Media Literacy	3
Core Electives (three of the following courses must be chosen in consultation with an academic advisor):	9
ANT 1520: Introduction to Cultural Anthropology	
ANT 2540: Social Anthropology	
BUS 2550: Marketing	
BUS 2570: Principles of Management	
BUS 2580: Management and Organizational Behavior	
BUS 2630: Human Resource Management	
CMM 1630: Introduction to Television Production	
CMM 1650: Introduction to Broadcasting	
CMM 1710: Digital Video Production	
CMM 2530: Writing for Electronic Media	
CMM 2560: Communication & Media Arts Internship (up to 6 credit hours)	
ENG 1560: English for Careers	
ENG 2540: Creative Writing	
GEO 1520: World Regional Geography	
HIS 1520: World History II Since 1500	
HIS 1540: US History II Since 1865	
HUM 1650: Leadership Development	
PHL 1510: Introduction to Philosophy	
PHL 1530: Critical Reasoning	
PHL 2610: Introduction to Ethical Theory	
PHL 2630: Contemporary Moral Problems	
PSY 2500: Psychology of Personality	
PSY 2570: Psychology of the Workplace	
PSY 2530: Social Psychology	
Liberal Arts and Sciences and/or Career Electives	6 credit hours

IMPORTANT POINTS (Refer also to page 40):

- Students are advised to select program electives after careful consultation with their advisors.

ASSOCIATE IN APPLIED SCIENCE COMPUTER INFORMATION SYSTEMS

curriculum code: 0581
Hegis code: 5103
minimum credit hours required: 60

Graduates will gain an understanding of the foundation of the system development life cycle for business-oriented and computer-based information systems. The topics involve the study of systems analysis, systems design, database management, computer and web programming. Other technical and business areas of study, emphasizing database and web development, will focus on the implementation of information systems in a variety of operational settings.

General Degree Requirements	20 credit hours
Humanities	6
ENG 1530: English Composition II	3
English Elective (college level)	3
Social Sciences Electives	6
Mathematics/Sciences Electives* (MAT 1590 or higher)	6
Liberal Arts and Sciences Elective	2
Program Core Requirements	32 credit hours
BUS course numbered 1500 or higher	3
CSC 1530: Web Publishing	3
CSC 1560: Microcomputer Applications I	4
CSC 1570: Programming Concepts and Applications	2
CSC 1590: Computing Fundamentals I	4
CSC 1760: Microcomputer Applications II	3
CSC 2410: Web Programming	3
CSC 2450: CIT Capstone	3
CSC 2540: Introduction to Systems Analysis	3
CSC 2660: Database Management	4
Liberal Arts & Sciences and/or Career Electives	8 credit hours

IMPORTANT POINTS (Refer also to page 40):

- Mathematics courses are selected based on a student's background. Note that CSC 1590 and CSC 1760 have a corequisite of MAT 1590.
- All courses required for this degree are available online.

ASSOCIATE IN SCIENCE COMPUTER SCIENCE

curriculum code: 0532
Hegis code: 5101
minimum credit hours required: 60

The A.S. in computer science program is designed for students who plan to transfer to a four-year college or university to major in computer science.

General Degree Requirements	30 credit hours
Humanities	6
ENG 1530: English Composition II	3
ENG 1540: Writing about Literature	3
Social Sciences Electives	6
Mathematics/Sciences	9
MAT 1670: Discrete Mathematics	3
Additional mathematics courses numbered 1540 or higher	6
Liberal Arts and Sciences Electives	9
Program Core Requirements	23 credit hours
CSC 1570: Programming Concepts and Applications	2
CSC 1580: Microcomputer Hardware & Systems Software	3
CSC 1590: Computing Fundamentals I	4
CSC 1600: Computing Fundamentals II	4
CSC 2510: Introduction to Networks	3
CSC 2670: Computer Organization	4
Computer science electives, one credit hour of which must be numbered 2500 or higher	3
Additional Liberal Arts & Sciences and/or Career Electives	7 credit hours

Suggested first semester

CSC 1570: Programming Concepts and Applications	2
ENG 1530: English Composition II	3
INT 1520: Student Success Seminar	1
MAT 1590: College Algebra and Trigonometry or higher	4
Social Sciences Elective	3
Free Elective	3
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IMPORTANT POINTS (Refer also to page 40):

- For computer science majors, CSC 1590 has a corequisite of ENG 0430 and MAT 1590 or higher.
- MAT 1710-1720 will probably be required at your transfer institution. Many students elect to take these courses at JCC.
- All courses required for this degree are available online.

ASSOCIATE IN SCIENCE

CRIMINAL JUSTICE

curriculum code: 1100

Hegis code: 5505

minimum credit hours required: 60

The A.S. program in criminal justice is intended for students interested in fields such as law enforcement, corrections, probation, investigations, and other criminal justice related fields. In addition, this program is intended to prepare students for transfer to a four- year college or university to earn a baccalaureate degree in an area of criminal justice.

General Degree Requirements	30 credit hours
Humanities	9
ENG 1530: English Composition II	3
ENG 1540: Writing about Literature	3
Humanities Elective	3
Social Sciences Electives	9
Mathematics/Sciences Electives	9
Liberal Arts and Sciences Electives	3
Program Core Requirements	18 credit hours
CRI 1510: Introduction to Criminal Justice	3
Additional CRI electives (at least 9 credit hours at 2000 or higher)	15
Liberal Arts & Sciences and/or Career Electives	12 credit hours

IMPORTANT POINTS (Refer also to page 40):

- A credit-bearing mathematics course is a graduation requirement. Recommended math/science electives include MAT 1540, CSC 1510, and CRI 2540.
- Criminal justice electives should be selected with career goals in mind. Working closely with the academic advisor will help assure the correct mix of electives.

ASSOCIATE IN APPLIED SCIENCE

CRIMINAL JUSTICE-POLICE

curriculum code: 0640

Hegis code: 5505

minimum credit hours required: 60

This career program has a three-fold purpose:

- to provide the pre-service student (no previous employment in the field) with the occupational skills and background necessary for entering employment with law enforcement agencies;
- to upgrade skills and background knowledge of in-service personnel; and
- to provide both pre-service and in-service students with a broader understanding of human nature through general education.

General Degree Requirements	20 credit hours
Humanities	6
ENG 1530: English Composition II	3
ENG 1540: Writing about Literature	3
Social Sciences Electives	6
Mathematics/Sciences Electives	6
Liberal Arts and Sciences Elective	2
Program Core Requirements	25 credit hours
CRI 1320: Introduction to Law Enforcement	3
CRI 1420: Report Writing in Criminal Justice	2
CRI 1510: Introduction to Criminal Justice	3
CRI 2330: Criminal Procedural Law or CRI 2530: Criminal Law	3
CRI 2370: Criminal Investigation	3
CRI 2550: Ethics in Criminal Justice	3
CRI 7014: Physical Fitness for Criminal Justice	2
Criminal Justice Electives	6
Liberal Arts & Sciences and/or Career Electives	15 credit hours

IMPORTANT POINTS (Refer also to page 40):

- Recommended electives include: BIO 1510: Health Science; BIO 1710: Personal Health & Safety; CHE 1500: Introduction to Chemistry; CHE 1550-1560: College Chemistry I or II; or a mathematics course appropriate to the student's background.
- CMM 1610: Public Speaking is strongly recommended as an elective.
- Credit for criminal justice courses may be given to those students who have successfully completed an accredited Basic Recruit School for Police. Arrangements for this corresponding credit must be made through the criminal justice coordinator or admissions director.

ASSOCIATE IN APPLIED SCIENCE

DIGITAL/COMPUTER TECHNOLOGY

curriculum code: 1655

Hegis code: 5310

minimum credit hours required: 63

This career level program prepares students for entry level careers in the fields of electronic design, computer repair, microcomputer-based systems installation, maintenance and repair, and technical sales and service. Graduates also have the option of transferring to four-year institutions offering the bachelor's degree in electrical or computer technology.

General Degree Requirements	28 credit hours
Humanities	6
ENG 1530: English Composition II	3
English Elective (college level)	3
Social Sciences Electives	6
Mathematics/Sciences	16
MAT 1220: Applied Mathematics for Technology or MAT 1590	4
MAT 1250: Applied Technical Calculus	4
PHY 1250: Technical Physics I	4
PHY 1260: Technical Physics II	4
Program Core Requirements	35 credit hours
CSC 1310: Introduction to the World Wide Web	1
CSC 1320: Introduction to Word Processing	1
CSC 1330: Introduction to Electronic Spreadsheets	1
CSC 1570: Programming Concepts and Applications	2
CSC 1580: Microcomputer Hardware and Systems Software	3
CSC 2510: Introduction to Networks or	
DCT 1220: Programmable Logic Controllers	3
DCT 1290: DC Electricity	4
DCT 1300: AC Electricity	4
DCT 1330: Electrical Devices and Circuits I	4
DCT 2220: Digital Electronics	4
DCT 2330: Electrical Devices and Circuits II	4
DCT 2390: Microcontrollers	4

Suggested first semester

CSC 1310: Introduction to the World Wide Web	1
CSC 1320: Introduction to Word Processing	1
CSC 1330: Introduction to Spreadsheets	1
CSC 1570: Programming Concepts and Applications	2
DCT 2220: Digital Electronics	4
ENG 1530: English Composition II	3
INT 1520: Student Success Seminar	1
MAT 1220: Technical Mathematics	4
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IMPORTANT POINTS (Refer also to page 40):

- If a student enters the program requiring both ENG 0410 and ENG 0430, delay the CSC 1310, 1320 and 1330 modules until later in the program, possibly during a summer session.
- CSC 1310-1330 are each 5-week courses that together represent a time commitment of 15 weeks (equivalent to a full-semester course)
- INT 1520 is a one-credit hour course that is given during the first 5 weeks. CSC 1570 is a two-credit hour course that begins in week 6, immediately following the end of INT 1520.
- DCT 2220 has a corequisite of MAT 0600.
- MAT 1220 has a prerequisite of MAT 0600 or two years of high school algebra/geometry or placement exam.
- Students should discuss selection of mathematics courses with their advisor.

ASSOCIATE IN SCIENCE ENGINEERING SCIENCE

curriculum code: 0530
Hegis code: 5609
minimum credit hours required: 60[□]

The A.S. in engineering science program is designed to prepare students to transfer with full junior status to a four-year college or university to earn a bachelor degree in engineering. This degree program is an appropriate preparation for careers in mechanical, chemical, civil, electrical, industrial, ceramic, aerospace, nuclear, environmental, or metallurgical engineering.

General Degree Requirements	54 credit hours
Humanities	6
ENG 1530: English Composition II	3
ENG 1540: Writing about Literature	3
Social Sciences Electives [✓]	6
Mathematics/Sciences Electives	42
Choose from the following list:	
CHE 1550: College Chemistry I	4
CHE 1560: College Chemistry II	4
CSC 1720: Numerical Analysis I	1
CSC 2650: Numerical Analysis II	1
CSC 2680: Numerical Analysis III	1
ENR 1560: Introduction to Engineering and Engineering Design	3
ENR 2550: Mechanics-Statics	3
ENR 2560: Mechanics-Dynamics	3
ENR 2580: Strength of Materials	4
ENR 2740: Analysis of Linear Electrical Circuits	3
MAT 1710: Calculus and Analytic Geometry I	4
MAT 1720: Calculus and Analytic Geometry II	4
MAT 2650: Intermediate Calculus	4
MAT 2670: Linear Algebra	3
MAT 2680: Ordinary Differential Equations	3
PHY 1710: Mechanics	4
PHY 2710: Electricity and Magnetism	4
PHY 2720: Modern Physics	4
Program Core Requirements	6 credit hours
at least six hours of ENR courses numbered 2500 or higher	6

Suggested first semester	
CHE 1550: College Chemistry I	4
ENG 1530: English Composition II	3
ENR 1560: Introduction to Engineering and Engineering Design	3
INT 1520: Student Success Seminar	1
MAT 1710: Calculus and Analytic Geometry I	4
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IMPORTANT POINTS (Refer also to page 40):

- Students routinely elect to take up to 70 credit hours to enhance transferability.
- ✓ Recommended social sciences electives are ECO 2610: Macroeconomic Principles and ECO 2620: Microeconomic Principles.
- Chemical engineering majors should take CHE 1550-1560: College Chemistry I and II during their freshman year. Also, CHE 2530-2540: Organic Chemistry I and II should be substituted for ENR 2560 and ENR 2740.
- Students are encouraged to consult with a divisional advisor prior to registering for any courses in engineering science.

ASSOCIATE IN SCIENCE FINE ARTS: MUSIC

curriculum code: 0682
Hegis code: 5610
minimum credit hours required: 60

The A.S. in fine arts: music program is designed to prepare students for transfer to a four-year baccalaureate degree in music or a music-related field. It includes a strong core component of mathematics/science, social sciences, and humanities. The program also serves the student interested in an associate's degree as a terminal degree before pursuing employment in music or a music-related career. Students from other areas of study such as communications, multimedia, theatre, education, arts management, sound recording, audio engineering, and therapy find JCC's course offerings useful. Full- and part-time students are welcome to participate in music courses and ensembles.

General Degree Requirements	33 credit hours
Humanities	15
ENG 1530: English Composition II	3
ENG 1540: Writing about Literature	3
MUS 1570: Music Theory I	3
MUS 1580: Music Theory II	3
MUS 2570: Music Theory III	3
Social Sciences Electives	9
Mathematics/Sciences Electives	9
Program Core Requirements	27 credit hours
MUS 1610, 1620, 2610, 2620: Applied Music: Private Lessons	4
MUS 1630: Beginning Voice	3
MUS 1670: Beginning Piano	3
MUS 1690: Piano II	3
Music Ensembles (four semesters); choose from the following:	8
MUS 1750, 1760, 2750, 2760: Chorus	
MUS 1830, 1840, 2830, 2840: Jazz	
MUS 1850, 1860, 2850, 2860: Rock	
MUS 1870, 1880, 2870, 2880: Concert Band	
MUS 1930: Aural Skills I	1
MUS 1940: Aural Skills II	1
MUS 2930: Aural Skills III	1
Music Electives	3
Choose from the following list:	
MUS 1510: Introduction to Music	
MUS 1590: American Music: Classical/Popular	
MUS 1680: Beginning Guitar	
MUS 1700: Guitar II	
MUS 1710: Audio Recording	
MUS 1730: Music and the Digital Studio	
MUS 1890: Guitar Maintenance/Repair	
MUS 2630, 2640: Applied Music: Private Lessons	
MUS 2580: Music Theory IV	
MUS 2890: Digital/Audio Studio Seminar	
MUS 2940: Aural Skills IV	

IMPORTANT POINTS (Refer also to page 40):

- Students interested in transferring to a four-year music degree program should be aware of the following:
- Successful completion of a credit-bearing mathematics course is a graduation requirement.
 - At the discretion of the college, a limited number of JCC music courses may be made available to multiple JCC campuses as traditional or distance learning courses. Courses delivered in the DL format will be indicated in the master schedule.
 - Although the JCC program is endorsed by specific four-year colleges, schools of music will audition all entering freshman and transfer students from any other school in the following areas: solo performance, aural skills, written theory, and, often, piano skills. JCC students should consult with their advisor and prospective transfer school(s) to ensure that they are covering these important areas as required.
 - Students should consult with their advisor in their choice of additional music electives to better prepare for transfer or employment.

ASSOCIATE IN SCIENCE

FINE ARTS: STUDIO ARTS

curriculum code: 1445

Hegis code: 5610

minimum credit hours required: 60

The A.S. in fine arts: studio arts degree program requires a strong liberal arts component of humanities, social sciences, and math/science courses. The visual arts courses begin with a thorough foundation in drawing, design, and historical survey material and permit further study in a variety of media. The program prepares the graduate to enter the workplace or transfer to art schools or four-year institutions to pursue degrees in such areas as graphic design, photography, computer graphics, fine arts, communication design, illustration, environmental design, interior design, architecture, art therapy, and art education.

General Degree Requirements	36 credit hours
Humanities	18
ART 1500: Introduction to Art	3
ART 1550: Survey of Visual Art (Prehistoric through Medieval)	3
ART 1560: Survey of Visual Art (Renaissance through Contemporary)	3
ENG 1530: English Composition II	3
ENG 1540: Writing about Literature	3
Any humanities elective except visual arts	3
Social Sciences Electives	9
Mathematics/Sciences Electives	9
Program Core Requirements	18 credit hours
ART 1510: Drawing I	3
ART 1520: Drawing II	3
ART 1530: 2-D Design & Color	3
ART 1540: 3-D Design, Concepts, Materials	3
ART 1730: Introduction to Computer Art and Design	3
Fine Arts Electives	3
Choose from the following list:	
ART 1570: Basic Black and White Photography	
ART 1590: Ceramics I	
ART 1600: Creative Ceramics	
ART 1610-1623, 2610-2623: Studio Problems	
ART 1740: Graphic Design, Layout, and Publishing Basics	
ART 1750: Graphic Design Applications	
ART 2500: Watercolor	
ART 2510: Painting I	
ART 2520: Painting II	
ART 2570: Intermediate Black and White Photography	
ART 2600: Ceramics II	
ART 2730: Web Design and Animation	
ART 2750: Portfolio Seminar or any approved art elective	
Liberal Arts & Sciences and/or Career Electives	6 credit hours

IMPORTANT POINTS (Refer also to page 40):

- Students transferring to baccalaureate programs should check with the transfer institution for advice on enrolling in more art studio courses than the JCC core requires.
- The importance of developing a good portfolio of visual art experiences cannot be overstated. Almost all career opportunities will be based on the quality of your portfolio.
- Art advisement is extremely important to match JCC courses to those of the transfer institution.
- Students must learn from transfer institutions the due date for application and portfolio review.
- Students should consult with their advisor in their choice of additional art electives to better prepare for transfer or employment.

ASSOCIATE IN APPLIED SCIENCE

HUMAN SERVICES

curriculum code: 0604

Hegis code: 5501

minimum credit hours required: 60

This program is designed for students seeking immediate employment after graduation in social services, public assistance, alcohol and chemical dependency, mental health, recreation, early care and education, and gerontology programs, and services to the physically, cognitively, or developmentally disabled. Students may prepare for entry level positions in private or public agencies, working in individual and group settings, by completing two semesters of internship experience and through elective course offerings.

General Degree Requirements	20 credit hours
Humanities	6
ENG 1530: English Composition II	3
ENG 1540: Writing about Literature	3
Social Sciences Electives [□]	6
Mathematics/Sciences Electives	6
Liberal Arts and Sciences Elective	2
Program Core Requirements	31 credit hours
HUS 1210: Introduction to Human Services	3
HUS 2210: Field Placement I	5
HUS 2220: Field Placement II	5
HUS 2250: Policy and Organization	3
Human services required electives 1	5
(Choose 15 credit hours of human services electives*)	
Liberal Arts & Sciences and/or Career Electives	9 credit hours

IMPORTANT POINTS (Refer also to page 40):

- The core requirements in this human services program include two field placements. Students currently employed in an approved human services agency may, under certain circumstances, use employment experiences to partially fulfill the field placement requirement. Permission of the instructor and the agency is required. Details must be worked out prior to registration for the course with their human services advisor.
- Students must be willing to obtain and pay for any necessary physical or medical examinations or tests which are required by some internship agencies.
- Enrollment in the human services program does not guarantee acceptance into field placements in the human services program.
- Students must complete an application for internship and approval of the application is required for all field placement courses in human services. Some internship agencies require FBI or Child Abuse Registry checks. These processes can be lengthy and may require up to four months in order for approval to be obtained prior to placement.
- PSY 1510 is a prerequisite for many HUS courses.
- [□] PSY 1510: General Psychology I or SOC 1510: Introduction to Sociology are recommended social sciences electives.
- * SOC 2580, PSY 2520, and PSY 2540 can be used to fulfill HUS elective requirements.

ASSOCIATE IN SCIENCE HUMAN SERVICES

curriculum code: 1175
Hegis code: 5501
minimum credit hours required: 60

This program is designed to prepare students for transfer into baccalaureate programs in social work, human services, counseling, psychology, early care and education, and other related fields. While providing a foundation of knowledge in human services, students will choose electives that match their career goals in fields such as mental health; early care and education; gerontology; alcohol and chemical dependency; and developmental, cognitive, and physical disabilities and rehabilitation services. Students will prepare for transfer and employment by completing a one-semester internship and additional liberal arts and sciences electives.

General Degree Requirements	30 credit hours
Humanities	6
ENG 1530: English Composition II	3
ENG 1540: Writing about Literature	3
Social Sciences Electives [□]	6
Mathematics/Sciences Electives*	6
Liberal Arts and Sciences Electives	12
Program Core Requirements	23 credit hours
HUS 1210: Introduction to Human Services	3
HUS 2210: Field Placement I	5
HUS 2250: Policy and Organization	3
Human services required electives ¹	2
(Choose 12 credit hours of human services electives, PSY 2520, PSY 2540, or SOC 2580, according to area of interest to fulfill program.)	
Liberal Arts & Sciences and/or Career Electives	7 credit hours

IMPORTANT POINTS (Refer also to page 40):

- The core requirements in this human services program include one field placement. Students currently employed in an approved human services agency may, under certain circumstances, use employment experiences to partially fulfill the field placement requirement. Permission of the instructor and the agency is required. Details must be worked out prior to registration for the course with their human services advisor.
- Students must be willing to obtain and pay for any necessary physical or medical examinations or tests which are required by some internship agencies.
- Enrollment in the human services program does not guarantee acceptance into field placements in the human services program.
- Students must complete an application for internship and approval of the application is required for all field placement courses in human services. Some internship agencies require FBI or Child Abuse Registry checks. These processes can be lengthy and may require up to four months in order for approval to be obtained prior to placement.
- PSY 1510 is a prerequisite for many HUS courses.
- PSY 1510: General Psychology I or SOC 1510: Introduction to Sociology are recommended.
- * MAT 1540: Elementary Statistics and BIO 1500: Human Biology are recommended.

ASSOCIATE IN ARTS INDIVIDUAL STUDIES

curriculum code: 0688
Hegis code: 5699
minimum credit hours required: 60

Students who have not chosen a career direction but plan on transferring to a four-year college or university may choose this transfer degree program with a humanities emphasis.

General Degree Requirements	48 credit hours
Humanities ²	4
ENG 1530: English Composition II	3
ENG 1540: Writing About Literature	3
Humanities Electives ¹	8
Social Sciences Electives	9
Mathematics/Sciences Electives	9
Liberal Arts and Sciences Electives	6
Liberal Arts & Sciences and/or Career Electives	12 credit hours

IMPORTANT POINTS (Refer also to page 40):

- At least 48 hours in liberal arts and sciences must be present to graduate with this degree.
- Arrangements for the A.A. in individual studies degree should be done carefully and with the assistance of a counselor.
- All courses required for this degree are available online.

OR

ASSOCIATE IN ARTS INDIVIDUAL STUDIES

curriculum code: 0688
Hegis code: 5699
minimum credit hours required: 60

Students who have not chosen a career direction but plan on transferring to a four-year college or university may choose this transfer degree program with a social sciences emphasis.

General Degree Requirements	48 credit hours
Humanities	9
ENG 1530: English Composition II	3
ENG 1540: Writing About Literature	3
Humanities Electives	3
Social Sciences Electives ²	4
Mathematics/Sciences Electives	9
Liberal Arts and Sciences Electives	6
Liberal Arts & Sciences and/or Career Electives	12 credit hours

IMPORTANT POINTS (Refer also to page 40):

- At least 48 hours in liberal arts and sciences must be present to graduate with this degree.
- Arrangements for the A.A. in individual studies degree should be done carefully and with the assistance of a counselor.
- All courses required for this degree are available online.

OR

ASSOCIATE IN ARTS INDIVIDUAL STUDIES

curriculum code: 0688
Hegis code: 5699
minimum credit hours required: 60

Students who have not chosen a career direction but plan on transferring to a four-year college or university may choose this transfer degree program with a mathematics/sciences emphasis.

General Degree Requirements	48 credit hours
Humanities	9
ENG 1530: English Composition II	3
ENG 1540: Writing About Literature	3
Humanities Electives	3
Social Sciences Electives	9
Mathematics/Sciences Electives ²	4
Liberal Arts and Sciences Electives	6
Liberal Arts & Sciences and/or Career Electives	12 credit hours

IMPORTANT POINTS (Refer also to page 40):

- At least 48 hours in liberal arts and sciences by be present to graduate with this degree.
- Arrangements for the A.A. in individual studies degree should be done carefully and with the assistance of a counselor.
- All courses required for this degree are available online.

ASSOCIATE IN APPLIED SCIENCE INDIVIDUAL STUDIES

curriculum code: 0688
Hegis code: 5699
minimum credit hours required: 60

The A.A.S. in individual studies degree is designed for students who are pursuing career courses but not in a specified career area.

General Degree Requirements	20 credit hours
Humanities	6
ENG 1530: English Composition II	3
ENG 1540: Writing about Literature	3
Social Sciences Electives	6
Mathematics/Sciences Electives	6
Liberal Arts and Sciences Electives	2
Liberal Arts & Sciences and/or Career Electives	40 credit hours

IMPORTANT POINTS (Refer also to page 40):

- At least 20 hours in liberal arts and sciences must be present to graduate with this degree.
- Arrangements for the A.A.S. in individual studies degree should be done carefully and with the assistance of a counselor.
- All courses required for this degree are available online.

ASSOCIATE IN SCIENCE INDIVIDUAL STUDIES

curriculum code: 0688
Hegis code: 5699
minimum credit hours required: 60

The A.S. in individual studies degree is designed for students who are pursuing a transfer degree but are undecided about a career path. This degree may be completed with 18 credit hours in one of the following liberal arts and sciences areas: humanities, social sciences, or mathematics/sciences.

General Degree Requirements	30 credit hours
Humanities	6
ENG 1530: English Composition II	3
ENG 1540: Writing about Literature	3
Social Sciences Electives	6
Mathematics/Sciences Electives	6
Liberal Arts and Sciences Electives	12
Liberal Arts & Sciences and/or Career Electives	30 credit hours

IMPORTANT POINTS (Refer also to page 40):

- At least 30 hours in liberal arts and sciences must be present to graduate with this degree.
- Arrangements for the A.S. in individual studies degree should be done carefully and with the assistance of a counselor.
- All courses required for this degree are available online.

ASSOCIATE IN APPLIED SCIENCE INFORMATION TECHNOLOGY

curriculum code: 1492
Hegis code: 5101
minimum credit hours required: 60

Graduates earning the A.A.S. in information technology degree will have both an in-depth understanding of computing technology fundamentals and the skills necessary for implementation in selected environments. Students in the IT program complete several core courses and then select from a number of liberal arts and career electives. The wide range of electives provides flexibility for students as they select courses that further their technology related career goals. Graduates are able to identify technology needs and specify appropriate systems. They have the skills to perform installation, configuration, maintenance, troubleshooting, and documentation services. Depending on their choice of electives, students are directly employable in the areas of computer support, application support, along with help desk, network and database support.

General Degree Requirements	20 credit hours
Humanities	6
ENG 1530: English Composition II	3
English Elective (college level)	3
Social Sciences Electives	6
Mathematics/Sciences Elective	6
Liberal Arts and Sciences and/or Career Elective	2
Program Core Requirements	24 credit hours
CSC 1530: Web Publishing	3
CSC 1560: Microcomputer Applications I	4
CSC 1570: Programming Concepts and Applications	2
CSC 1580: Microcomputer Hardware/Systems Software	3
CSC 1760: Microcomputer Applications II	3
CSC 2450: IT Capstone	3
CSC 2470: Network Administration	3
CSC 2510: Introduction to Networks	3
Liberal Arts & Sciences and/or Career Electives	16 credit hours

IMPORTANT POINTS (Refer to page 40):

- All courses required for this degree are available online.

ASSOCIATE IN SCIENCE

LIBERAL ARTS AND SCIENCES: ADOLESCENCE EDUCATION (TEACHER EDUCATION TRANSFER)

JCC's teacher education transfer degree programs provide students with knowledge, skills, theory, and hands-on educational experiences that will prepare them for transfer to a four-year institution with New York state teacher certification authority. Graduates will be able to transfer with full credit and junior status into participating SUNY four-year teacher education programs. Students will begin fulfilling their liberal arts concentration requirements along with courses in education theory and practice. Concentration areas include: art, biology, chemistry, earth science, English, foreign language, general science, history/social studies, mathematics, music, and physics.

curriculum code: 1804
Hegis code: 5649
Minimum credit hours required: 60

This program is designed to prepare students for transfer to classroom teacher preparation programs in the areas of adolescence education (grades 7-12 subject area) at four-year institutions with New York state teacher certification authority. Students who plan carefully can normally be expected to transfer to a four-year institution as juniors. The transfer institutions may have differing requirements. Students should plan their programs with a transfer counselor and an academic advisor as soon as possible and preferably before beginning their first semester at JCC.

General Degree Requirements**	minimum 33 credit hours
Humanities	6
ENG 1530: English Composition II	3
ENG 1540: Writing about Literature	3
Social Sciences	3
PSY 1510: General Psychology I	3
SUNY General Education Requirements**	24-28
Mathematics	3-4
Natural Sciences (lab science recommended)	3-4
Other World Civilizations	3
The Arts	3
American History	3
Western Civilization	3
Foreign Language	6-8
Liberal Arts Concentration Area	12-18 credit hours
All New York state registered teacher education programs require the completion of a liberal arts concentration. Students should determine concentration areas prior to transferring to begin fulfilling concentration requirements. These courses should be selected with a transfer counselor or academic advisor and reflect the transfer institution's requirements and the student's area of academic concentration.	
Program Core Requirements	6 credit hours
EDU 1510: Foundations of Education	3
PSY 2550: Psychology of Adolescence	3
Program Electives	4-8 credit hours
EDU 2210: Field Placement I	4
EDU 2450: Introduction to Exceptional Children	3
EDU 2460: Exceptional Children Field Experience	1

IMPORTANT POINTS (Refer also to page 40):

- * Students planning to transfer should work closely with a transfer counselor and an academic advisor. The degree requirements may be modified depending on the requirements of the specific transfer institution. Many transfer institutions also have specific overall GPA requirements.
- ** Students planning to transfer to a four-year SUNY institution to complete their teacher education baccalaureate degree must complete the entire SUNY General Education Requirements (SUNY-GER) plus an additional three credits of foreign language. Students must work closely with an academic advisor when choosing the courses to fulfill SUNY GER.
- *** EDU 1510, 2210, and 2460 all include a field component. The number of field hours varies by course. It is possible to achieve a total of 165 field hours through JCC coursework.

ASSOCIATE IN SCIENCE

LIBERAL ARTS AND SCIENCES: CHILDHOOD EDUCATION (TEACHER EDUCATION TRANSFER)

JCC's teacher education transfer degree programs provide students with knowledge, skills, theory, and hands-on educational experiences that will prepare them for transfer to a four-year institution with New York state teacher certification authority. Graduates will be able to transfer with full credit and junior status into participating SUNY four-year teacher education programs. Students will begin fulfilling their liberal arts concentration requirements along with courses in education theory and practice. Concentration areas include: art, biology, chemistry, earth science, English, foreign language, general science, history/social studies, mathematics, music, and physics.

curriculum code: 1802
Hegis code: 5649
minimum credit hours required: 60

This program is designed to prepare students for transfer to classroom teacher preparation programs in the areas of childhood education (grades 1-6) with middle school extension (grades 7-9 subject area) at four-year institutions with New York state teacher certification authority. Students who plan carefully can normally be expected to transfer to a four-year institution as juniors. The transfer institutions may have differing requirements. Students should plan their programs with a transfer counselor and an academic advisor as soon as possible and preferably before beginning their first semester at JCC.

General Degree Requirements**minimum	33 credit hours
Humanities	6
ENG 1530: English Composition II	3
ENG 1540: Writing about Literature	3
Social Sciences	3
PSY 1510: General Psychology I	3
SUNY General Education Requirements**	24-28
Mathematics	3-4
Natural Sciences (lab science recommended)	3-4
Other World Civilizations	3
The Arts	3
American History	3
Western Civilization	3
Foreign Language	6-8
Liberal Arts Concentration Area	12-18 credit hours
All New York state registered teacher education programs require the completion of a liberal arts concentration. Students should determine concentration areas prior to transferring to begin fulfilling concentration requirements. These courses should be selected with a transfer counselor or academic advisor and reflect the transfer institution's requirements and the student's area of academic concentration.	
Program Core Requirements	6 credit hours
EDU 1510: Foundations of Education	3
PSY 2520: Child Development	3
Career Electives***	3-12 credit hours
Childhood Education Track	
EDU 2210: Field Placement I	4
EDU/HUS 2440: Children's Literature	3
EDU/HUS 2450: Introduction to Exceptional Children	3
EDU/HUS 2460: Exceptional Children Field Experience	1

IMPORTANT POINTS (Refer also to page 40):

- * Students planning to transfer should work closely with a transfer counselor and an academic advisor. The degree requirements may be modified depending on the requirements of the specific transfer institution. Many transfer institutions also have specific overall GPA requirements.
- ** Students planning to transfer to a four-year SUNY institution to complete their teacher education baccalaureate degree must complete the entire SUNY General Education Requirements (SUNY-GER) plus an additional three credits of foreign language. Students must work closely with an academic advisor when choosing the courses to fulfill SUNY GER.
- *** EDU 1510, EDU 2210, and EDU/HUS 2460 all include a field component. The number of field hours varies by course. It is possible to achieve a total of 165 field hours through JCC coursework.

ASSOCIATE IN SCIENCE

LIBERAL ARTS AND SCIENCES: EARLY CHILDHOOD EDUCATION (TEACHER EDUCATION TRANSFER)

JCC's teacher education transfer degree programs provide students with knowledge, skills, theory, and hands-on educational experiences that will prepare them for transfer to a four-year institution with New York state teacher certification authority. Graduates will be able to transfer with full credit and junior status into participating SUNY four-year teacher education programs. Students will begin fulfilling their liberal arts concentration requirements along with courses in education theory and practice. Concentration areas include: art, biology, chemistry, earth science, English, foreign language, general science, history/social studies, mathematics, music, and physics.

curriculum code: 1803
Hegis code: 5649
minimum credit hours required: 60

This program is designed to prepare students for transfer to classroom teacher preparation programs in the areas of early childhood education (birth through grade 2) at four-year institutions with New York state teacher certification authority. Students who plan carefully can normally be expected to transfer to a four-year institution as juniors. The transfer institutions may have differing requirements. Students should plan their programs with a transfer counselor and an academic advisor as soon as possible and preferably before beginning their first semester at JCC.

General Degree Requirements**minimum	33 credit hours
Humanities	6
ENG 1530: English Composition II	3
ENG 1540: Writing about Literature	3
Social Sciences	3
PSY 1510: General Psychology I	3
SUNY General Education Requirements**	24-28
Mathematics	3-4
Natural Sciences (lab science recommended)	3-4
Other World Civilizations	3
The Arts	3
American History	3
Western Civilization	3
Foreign Language	6-8
Liberal Arts Concentration Area	12-18 credit hours
All New York state registered teacher education programs require the completion of a liberal arts concentration. Students should determine concentration areas prior to transferring to begin fulfilling concentration requirements. These courses should be selected with a transfer counselor or academic advisor and reflect the transfer institution's requirements and the student's area of academic concentration.	
Program Core Requirements	6 credit hours
EDU 1510: Foundations of Education	3
PSY 2520: Child Development	3
Career Electives***	3-12 credit hours
Early Childhood Education	
EDU/HUS 2150: Infant/Toddler Development and Education	3
EDU 2210: Field Placement I	4
EDU/HUS 2440: Children's Literature	3
EDU/HUS 2450: Introduction to Exceptional Children	3
EDU/HUS 2460: Exceptional Children Field Experience	1

IMPORTANT POINTS (Refer also to page 40):

- * Students planning to transfer should work closely with a transfer counselor and an academic advisor. The degree requirements may be modified depending on the requirements of the specific transfer institution. Many transfer institutions also have specific overall GPA requirements.
- ** Students planning to transfer to a four-year SUNY institution to complete their teacher education baccalaureate degree must complete the entire SUNY General Education Requirements (SUNY-GER) plus an additional three credits of foreign language. Students must work closely with an academic advisor when choosing the courses to fulfill SUNY GER.
- *** EDU 1510, EDU/HUS 2150, EDU 2210, and EDU/HUS 2460 all include a field component. The number of field hours varies by course. It is possible to achieve a total of 185 field hours through JCC coursework.

ASSOCIATE IN ARTS

LIBERAL ARTS AND SCIENCES: HUMANITIES

curriculum code: 0201
Hegis code: 5649
minimum credit hours required: 60

This program leads to the Associate in Arts degree and is designed to prepare students for transfer to a four-year college or university to earn a baccalaureate degree in an area of the humanities. Humanities is one of the broadest of the academic disciplines and offers students a great deal of flexibility and significant freedom in course selections. Working with their faculty advisors, JCC students can create academic concentrations in art, English, philosophy, modern language, music, and theatre as a preparation for the completion of the associate degree and eventually the baccalaureate degree. Students in this liberal arts program can study abroad as JCC students and earn credits toward their associate degree.

General Degree Requirements	48 credit hours
Humanities	24
ENG 1530: English Composition II	3
ENG 1540: Writing About Literature	3
Humanities Electives*	15
Foreign Language	3
Social Sciences Electives	9
Mathematics/Sciences Electives**	9
Liberal Arts and Sciences Electives***	6
Liberal Arts & Sciences and/or Career Electives	12 credit hours

IMPORTANT POINTS (Refer also to page 40):

- * Students are required to take at least 12 hours of upper division (2000-level) coursework in humanities electives.
- ** Students are required to take MAT 1500: Problem Solving with Mathematics or higher.
- *** Must be upper division (2000-level) coursework.
- Students are required to take a 3-4 credit hour foreign language course, excluding sign language courses. This requirement could be waived for students who have successfully completed the Regents Foreign Language III exam with a score of 85% or above.
- If students know the area they would like to major in at their transfer institution, they could choose to concentrate in a field such as philosophy, literature, or writing.

ASSOCIATE IN SCIENCE

LIBERAL ARTS AND SCIENCES: MATH & SCIENCE

curriculum code: 0645

Hegis code: 5649

minimum credit hours required: 60

With an emphasis on the study of mathematics, science, or both, this program parallels the first two years of course content for the Bachelor of Science or Bachelor of Arts degrees offered by many four-year colleges or universities. Working with faculty advisors, students can carefully select courses at JCC which will prepare them for transfer into baccalaureate programs in mathematics, biology, chemistry, geology, physics, and environmental science and forestry. Many students interested in careers in pharmacy, medicine, dentistry, veterinary medicine, medical technology, and related areas begin their studies in this degree program. It is very important for a student to learn the requirements of the first two years of any college to which he or she may wish to transfer.

General Degree Requirements	36 credit hours
Humanities	6
ENG 1530: English Composition II	3
ENG 1540: Writing about Literature	3
Social Sciences Electives	6
Mathematics/Sciences Electives*2	4
Liberal Arts and Sciences and/or Career Electives	24 credit hours

IMPORTANT POINTS (Refer also to page 40):

- One course in mathematics at the level of MAT 1710: Calculus and Analytical Geometry I or higher is required.
- A two-semester sequence in laboratory science in biology, chemistry, geology, or physics is required, and four semesters of science is recommended.
- A GPA of at least 2.0 in math/science coursework is required for graduation.
- Math and computer science courses numbered below 1500 do not meet requirements for this degree.

ASSOCIATE IN ARTS

LIBERAL ARTS AND SCIENCES: SOCIAL SCIENCE

curriculum code: 0212

Hegis code: 5649

minimum credit hours required: 60

This program is designed to prepare students for transfer to a four-year college or university to earn a baccalaureate degree in an area of the social sciences. The social and behavioral sciences are concerned primarily with the development and activity of human beings both as individuals and in society. Disciplines included in the broad area of the social sciences include anthropology, history, political science, economics, geography, criminal justice, psychology, and sociology. The social sciences curriculum offered by JCC is an excellent transfer program since it parallels the first two years of most baccalaureate liberal arts programs. Working closely with their faculty advisors, students can select their courses to meet degree requirements and be prepared to complete a baccalaureate degree at a transfer institution with two additional years of full-time study. Many graduates of four-year programs whose bases are in the social sciences seek careers in psychology, teaching, government, and social work.

General Degree Requirements	48 credit hours
Humanities	9
ENG 1530: English Composition II	3
ENG 1540: Writing about Literature	3
Humanities Elective	3
Social Sciences Electives	24
(courses numbered 1500-1990 or 2500-2990)	
Mathematics/Sciences Electives	9
Liberal Arts and Sciences Electives	6
Liberal Arts & Sciences and/or Career Electives	12 credit hours

IMPORTANT POINTS (Refer also to page 40):

- Students are required to take courses in at least three different areas of social sciences.
- Students are required to take at least one 2000-level social science course.

ASSOCIATE IN APPLIED SCIENCE

MECHANICAL TECHNOLOGY

curriculum code: 0595

Hegis code: 5315

minimum credit hours required: 62-63

Machine Tool Specialization: 63

Design Specialization: 62

This career program is for students desiring employment in the field of mechanical or industrial engineering technology. Graduates may qualify for positions such as machine, tool, and product designer; industrial laboratory technician; inspector; production control technician; sales, field, or safety technician; CAD operator; and other related positions. Graduates also have the option of transferring to four-year institutions offering the bachelor's degree in mechanical technology.

General Degree Requirements	23 credit hours
Humanities	6
ENG 1530: English Composition II	3
English Elective (college level)	3
Social Sciences Electives	6
Mathematics/Sciences	11
CSC 1310: Introduction to the World Wide Web*	1
CSC 1320: Introduction to Electronic Word Processing*	1
CSC 1330: Introduction to Electronic Spreadsheets*	1
MAT 1220: Applied Mathematics for Technology**✓ or MAT 1590	4
PHY 1250: Technical Physics I	4
Program Core Requirements	18 credit hours
MCT 1240: Engineering Drawing with AutoCAD	3
MCT 1270: Machine Theory and Operations	3
MCT 1280: Computer Numerical Control of Machine Tools	3
MCT 1380: Introduction to Solid Modeling	3
MCT 2380: Advanced Solid Modeling	3
MCT 2420: Manufacturing Processes I	3
Machine Tool Specialization specific degree requirements	22 credit hours
Specialization Core Requirements	
MCT 1300: Machine Tool Technology II	4
MCT 1340: Manufacturing Drawings/Geometric Dimensioning & Tolerancing	3
MCT 2280: Advanced CNC Programming	3
MCT 2300: Machine Tool Technology III	4
MCT 2340: Dimensional Metrology	2
MCT 2410: Computer-Aided Manufacturing	3
WLD 2370: Metallurgy	3
Suggested Technical Electives	
MAT 1250: Applied Technical Calculus*	4
MCT 1250: Fundamentals of Mechanics	3
MCT 2230: Mechanics of Materials	4
PHY 1260: Technical Physics II*	4
Design Specialization specific degree requirements	21 credit hours
Specialization Core Requirements	
MCT 1250: Statics for Technology	3
MCT 2230: Mechanics for Materials	4
MCT 2270: Mechanics of Energy Systems	4
Mathematics/Sciences	
CSC 1570: Programming Concepts Applications	2
MAT 1250: Applied Technical Calculus or MAT 1600	4
PHY 1260: Technical Physics II	4
Suggested Technical Electives	
DCT 1210: Electrical/Electronic Concepts	3
DCT 1220: Programmable Logic Controllers	3
MCT 1390: AutoCAD	2

- IMPORTANT POINTS (Refer also to page 40):**
- To complete the program in two years, students must begin in a fall semester at the appropriate levels of math.
 - Students should discuss selection of mathematics courses with their advisor.
 - * CSC 1310-1330 are 5-week courses that represent a time commitment of 15 weeks equivalent to a full three-credit hour course.
 - ** MAT 1220 has a prerequisite of MAT 0600 or two years of high school algebra/geometry and placement exam.
 - ✓ With the appropriate mathematical background students may elect to take MAT 1600 and/or MAT 1710.
 - ✦ Students with appropriate background may opt for PHY 1610 or PHY 1710.
 - ✦ Students who plan to transfer should consider taking this course to prepare them for their transfer institution.

ASSOCIATE IN SCIENCE

MEDIA ARTS

curriculum code: 1732

Hegis code: 5012

minimum credit hours required: 60

This general media arts curriculum is intended for students who wish to transfer to four-year institutions to pursue further study in media and/or multimedia production. This program can also serve the needs of students seeking entry level employment in those areas, or for students currently employed in those areas who wish to upgrade their skills and continue their education.

General Degree Requirements	30 credit hours
Humanities	9
ENG 1530: English Composition II	3
ENG 1540: Writing about Literature	3
One sophomore level humanities course chosen from the following:	
CMM 2530: Writing for Electronic Media	3
ENG 2740: News Writing and Editing	3
ENG 2840: Film Study and Appreciation	3
Social Sciences Electives*	9
Mathematics/Sciences Electives	9
Liberal Arts and Sciences Elective	3
Program Core Requirements	27 credit hours
CMM 1510: Introduction to Communication	3
CMM 1610: Public Speaking	3
CMM 1750: The Rhetoric of Vision and Sound	3
CMM 2610: Mass Communication and Media Literacy	3
One production course chosen from the following:	3
ART 1730: Introduction to Computer Art and Design	
CMM 1710: Digital Video Production	
Required Electives*	12
Chosen from the following:	
ART 1510: Drawing I	
ART 1530: 2-D Design and Color	
ART 1570: Basic Black and White Photography	
ART 1611/2611: Studio Problems in Computer Graphics	
ART 1613/2613: Studio Problems in Photography	
ART 1670: Introduction to Digital Photography	
ART 1730: Introduction to Computer Art and Design	
ART 1740: Graphic Design, Layout, and Publishing Basics	
ART 1750: Graphic Design Application	
ART 2570: Intermediate Black and White Photography	
ART 2730: Web Design and Animation	
ART 2800: Interactive Design	
CMM 1630: Introduction to Television Production	
CMM 1650: Introduction to Broadcasting	
CMM 1710: Digital Video Production	
CMM 2560: Communication/Media Arts Internship	
CSC 1530: Internet and Web Publishing	
MUS 1710: Audio Recording	
MUS 1730: Music and the Digital Studio	
Additional Liberal Arts & Sciences and/or Career Electives	3 credit hours

IMPORTANT POINTS (Refer also to page 40):

* Students are advised to select program electives after careful consultation with their advisors.

ASSOCIATE IN APPLIED SCIENCE

MEDICAL OFFICE TECHNOLOGY

curriculum code: 1664

Hegis code: 5214

minimum credit hours required: 60

This career program provides students with the skills necessary to prepare for employment in today's medical office. The program offers an education that will prepare a student in automated medical office communications, medical terminology, medical coding, medical transcription and medical insurance, along with a broad background in liberal arts that will add to students' ability to develop decision-making skills. Upon completion of this program, students will be able to enter the job market or transfer to a four-year institution.

General Degree Requirements	26 credit hours
Humanities	9
ENG 1530: English Composition II	3
ENG 1540: Writing about Literature	3
ENG 1560: English for Careers	3
CMM 1510: Introduction to Communication or CMM 1610: Public Speaking	3
Social Sciences Electives	6
Mathematics/Sciences	11
BIO 1500: Human Biology	4
CSC 1560: Microcomputer Applications I	4
MAT 1230: Mathematics of Business	3
Program Core Requirements	31 credit hours
BUS 1220: College Keyboarding	3
BUS 1320: Word Processing	3
BUS 1410: Accounting Fundamentals	3
BUS 2420: Professional Development/Internship	5
MOT 1410: Medical Terminology	3
MOT 1420: Medical Office Procedures	3
MOT 2430: Medical Transcription	3
MOT 2440: Medical Coding I (CPT)	3
Program Core Electives	5
Business Electives* (to complement the program)	
Liberal Arts and Sciences and/or Career Electives	3 credit hours

IMPORTANT POINTS (Refer also to page 40):

* Students are encouraged to consult with an advisor prior to selecting electives.

ASSOCIATE IN APPLIED SCIENCE

NURSING

curriculum code: 0622

Hegis code: 5208.1

minimum credit hours required: 69

Upon completion of the nursing program, the associate degree graduate will be educationally prepared to provide client-centered care to individuals across the lifespan who are experiencing disruptions in their functional health patterns.

Utilizing the nursing process, principles of management, and knowledge of professional behaviors, the graduate will demonstrate competency in the roles of provider of care, manager of care, and member within the discipline of nursing.

General Degree Requirements	29 credit hours
Humanities	6
ENG 1530: English Composition II	3
ENG 1540: Writing about Literature	3
Social Sciences	9
PSY 1510: General Psychology I	3
PSY 2510: Life Span Development	3
SOC 1510: Introduction to Sociology	3
Mathematics/Sciences	14
BIO 2510: Anatomy and Physiology I [□]	4
BIO 2520: Anatomy and Physiology II [✓]	4
BIO 2760: Nutrition	3
MAT 1500: Problem Solving with Mathematics	3
(or a higher level mathematics course; MAT 1540 is required by most baccalaureate programs)	
Program Core Requirements	40 credit hours
NUR 1500: Basic Pharmacology & Dosage Calculations	1
NUR 1510: Foundations of Nursing [*]	6
NUR 1520: Health Restoration [*]	7
NUR 2350: Pharmacology for Nurses	3
NUR 2510: Health Restoration and Maintenance I [*]	8
NUR 2520: Health Restoration and Maintenance II [*]	8
NUR 2550: Pathophysiology I	2
NUR 2560: Pathophysiology II	2
NUR 2970: Health Assessment	3

IMPORTANT POINTS (Refer also to page 40):

- BIO 2510: Anatomy and Physiology I must be completed with a minimum grade of "C" prior to taking NUR 1520. Students in NUR 1510 may not progress to NUR 1520 with a grade lower than a "C." Students will be administratively dropped from the nursing program and will be required to reapply for admission.
- ✓ BIO 2520: Anatomy and Physiology II must be taken concurrently with or prior to NUR 1520 and must be completed with a minimum grade of "C." Students in NUR 1520 may not progress to NUR 2510 with a grade lower than a "C." Students will be administratively dropped from the nursing program and will be required to reapply for admission.
- ✦ A minimum grade of C is required in each nursing core course. A student will be permitted to repeat one nursing core course (NUR 1510, NUR 1520, NUR 2510, and NUR 2520) one time. Should the student be unsuccessful in repeating any nursing core course, he/she would be ineligible to continue in the nursing program. Students who are unsuccessful in more than one nursing core course and have already repeated one core course will not be eligible to repeat a second nursing core course. Withdrawal from a core nursing course after the first 30 calendar days will be considered a failure of the course for reapplication purposes. In case of illness or other extreme circumstances, the faculty may consider a one-time exception.
- Students entering the nursing program may only have two opportunities to successfully complete Anatomy and Physiology I and/or II with a "C" grade or better. Students who have taken Anatomy and Physiology I or II more than twice will not be permitted to enter or continue in the nursing program. A student wishing to be considered for a waiver to the two course limits should obtain letters of support from two faculty members, at least one of which must be from a nursing faculty member.
- Prior to entrance into NUR 1510, students are required to present certification of completion of a course in Basic Life Support that includes infant, child, and adult CPR.
- See pages 10-12 for information regarding admission to the nursing program.

ASSOCIATE IN APPLIED SCIENCE

OCCUPATIONAL THERAPY ASSISTANT

curriculum code: 0665

Hegis code: 5210

minimum credit hours required: 67

Upon completion of the occupational therapy assistant program, the associate degree graduate will be educationally prepared to provide service to individuals having difficulties in living due to developmental deficits, physical injury and illness, psychological and social disabilities, and the aging process. The occupational therapy assistant works with, and under the direction of, a registered occupational therapist, and assists with the processes of client evaluation, goal setting, implementation of care, and documentation of occupational therapy services. The coursework includes a series of general education courses with an emphasis on the biological and psychological sciences. Professional studies focus on how human occupational development is affected by illness and injury, and how function can be facilitated.

General Degree Requirements	26 credit hours
Humanities	6
ENG 1530: English Composition II	3
ENG 1540: Writing about Literature	3
Social Sciences	9
PSY 1510: General Psychology I	3
PSY 2510: Life Span Development	3
PSY 2560: Abnormal Behavior	3
Mathematics/Sciences	11
BIO 2510: Anatomy and Physiology I [□]	4
BIO 2520: Anatomy and Physiology II [□]	4
MAT 1500: Problem Solving with Mathematics	
(or a higher level mathematics course)	
	3
Program Core Requirements [✦]	41 credit hours
OTA 1510: Foundations of Occupational Therapy	3
OTA 1520: Medical Specialties	3
OTA 1530: Therapeutic Occupations I	1
OTA 1610: Gerontology	2
OTA 1620: Mental Health	2
OTA 1630: Therapeutic Occupations II	1
OTA 1640: Therapeutic Groups	2
OTA 1700: Fieldwork I A [*]	1
OTA 1720: Fieldwork I B	1
OTA 2510: Issues in Service Delivery	3
OTA 2530: Therapeutic Occupations III	1
OTA 2550: Adaptive Devices and Assistive Technology	3
OTA 2610: Pediatrics and Developmental Disabilities	3
OTA 2620: Physical Disabilities	3
OTA 2700: Fieldwork IIA [*]	6
OTA 2720: Fieldwork IIB [*]	6

IMPORTANT POINTS (Refer also to page 40):

- BIO 2510 and BIO 2520 must be completed with a minimum grade of "C" prior to Level II fieldwork rotations.
- ✦ OTA courses are offered only on the Jamestown Campus. All other required courses are scheduled so they may be taken at either the Jamestown or Cattaraugus County campuses.
- ✦ CPR certification through the American Red Cross (CPR for the Professional Rescuer) or the American Heart Association (Basic Life Support for Health Care Providers) is required prior to registering for OTA 2700 or OTA 2720. All students must successfully pass each OTA and general education course with a minimum grade of "C" and a GPA of 2.5 or better to enroll in OTA 2700 and OTA 2720.
- * All students will take OTA 1700 either concurrently with OTA 1610 and OTA 2610 or during the summer following completion of OTA 1610 and OTA 2610.
- The four-semester sequence of OTA courses begins each fall semester.
- A minimum grade of C is required in each OTA course. A student will be permitted to repeat two OTA core courses one time. Should the student be unsuccessful in repeating any OTA course, he/she would be ineligible to continue in the OTA program. Should a student be required to repeat more than two OTA core courses he/she will be ineligible to continue in the OTA program.
- See pages 13-14 for information regarding admission to the OTA program.

ASSOCIATE IN APPLIED SCIENCE OFFICE TECHNOLOGY

curriculum code: 0667

Hegis code: 5005

minimum credit hours required: 60

The A.A.S. degree in office technology provides the student with skills necessary to prepare for employment in an office position. Training is available for those who have had no office preparation and for students with limited office skills who desire to enhance or update present skills. The program may also offer short-term training and development to those seeking a career change or return to the job market. Students who value lifelong learning may also be attracted to this program. The program focus is skill building in the areas of keyboarding, word processing, office communications, and office procedures. Courses in business management, computer courses, and a broad background in liberal arts will add to the student's ability to develop decision-making skills. The ability to solve problems will be stressed throughout the program. Upon completion of the program, students will be able to enter the workplace or transfer credits to a four-year institution.

General Degree Requirements	22 credit hours
Humanities	9
ENG 1530: English Composition II	3
ENG 1540: Writing about Literature	3
ENG 1560: English for Careers	3
CMM 1510: Introduction to Communications or	
CMM 1610: Public Speaking	3
Social Science Electives	6
Mathematics/Sciences	7
CSC 1560: Microcomputer Applications I	4
MAT 1230: Mathematics of Business	3
Program Core Requirements	35 credit hours
BUS 1220: College Keyboarding	3
BUS 1320: Word Processing	3
BUS 1410: Accounting Fundamentals	3
BUS 1420: Office Procedures	3
BUS 1500: Introduction to Business	3
BUS 2320: Word Processing Production	3
BUS 2420: Professional Development/Internship	5
BUS 2480: Business Electronic Communications	3
Business electives (to complement the program)	9
Liberal Arts and Sciences and/or Career Electives	3 credit hours

IMPORTANT POINTS (Refer also to page 40):

- Students are encouraged to consult with an advisor prior to selecting electives.

ASSOCIATE IN SCIENCE PHYSICAL EDUCATION STUDIES

curriculum code: 1659

Hegis code: 5299

minimum credit hours required: 60

This program is undergoing revisions. Please consult with an academic advisor. The program is designed to provide students with knowledge, physical skills, theory, and educational experiences which will prepare them for transfer to an accredited baccalaureate program in physical education, health studies, or related area. Graduates will be prepared to pursue a degree program in physical education teaching, athletic training, sports management, adaptive physical education, coaching, exercise science, sports medicine, and/or health education.

General Degree Requirements	33 credit hours
Humanities	6
ENG 1530: English Composition II	3
ENG 1540: Writing About Literature	3
Social Sciences Electives*	9
Mathematics/Sciences	18
Sciences Elective	15
Mathematics Elective	3
Program Core Requirements	12 credit hours minimum
PHE 1670: Introduction to Physical Education	3
Physical Education Electives*	9
Liberal Arts and Sciences and/or Career Electives*	15 credit hours

IMPORTANT POINTS (Refer also to page 40):

- * Requirements for bachelor's degrees in this field vary widely. Selection of electives should be made in close consultation with an advisor and should be based on student career concentration and transfer college requirements.

ASSOCIATE IN APPLIED SCIENCE PROFESSIONAL PILOTING

curriculum code: 1494

Hegis code: 5302

minimum credit hours required: 60

This program is designed to prepare students to enter the field of aviation as a professional pilot. Students successfully completing the program will have earned the Federal Aviation Administration (FAA) certifications of Private and Commercial Pilot, with Instrument Rating, and be a Certified Flight Instructor - Airplane. All instruction occurs under Part 141 of the Federal Aviation Regulations (FARs). Students may also elect to obtain the multi-engine and the Certified Flight Instructor - Instrument ratings. Graduates may choose to work as a Certified Flight Instructor which will allow them to log the same hours as their students, earn pay, and not pay airplane rental fees. Students planning to work for the commercial airlines are encouraged to earn a four-year degree.

General Degree Requirements	20 credit hours
Humanities	6
ENG 1530: English Composition II	3
English Elective (college level)	3
Social Sciences	6
GEO 1520: World Regional Geography	3
Social Sciences Elective	3
Mathematics/Sciences	7
MAT 1590: College Algebra and Trigonometry	4
MET 1510: Introduction to Meteorology	3
Liberal Arts and Sciences Elective	1
Program Core Requirements	31 credit hours
AVN 1100: Aircraft Powerplants and Systems	3
AVN 1140: Private Pilot Ground School	3
AVN 1150: Private Pilot Flight	1.5
AVN 1200: Survey of Air Traffic Control	3
AVN 1240: Instrument Pilot Ground School	3
AVN 1250: Instrument Pilot Flight	1.5
AVN 1340: Commercial Pilot Ground School I	1.5
AVN 1350: Commercial Pilot Flight I	1.5
AVN 2100: Aviation Safety	3
AVN 2140: Commercial Pilot Ground School II	1.5
AVN 2150: Commercial Pilot Flight II	2.5
AVN 2200: Advanced Aircraft Systems	3
AVN 2250: Certified Flight Instructor I - Airplane or AVN 2350	3
Liberal Arts & Sciences and/or Career Electives	9 credit hours

IMPORTANT POINTS (Refer also to page 40):

- Ground school and flight instruction are offered at Dunkirk Aviation, Jamestown Aviation, Prior Aviation, Rochester Air Center, Hirsch Aviation, and other approved fixed-base operators (FBOs).

ASSOCIATE IN APPLIED SCIENCE WELDING TECHNOLOGY

Curriculum code: 1643

Hegis code: 5308

Minimum credit hours required: 63

This career program is for students desiring employment in the expanding field of welding and welding technology engineering. Graduates will have the opportunity to pursue careers such as welding technician, welding supervisor, inspector, and sales engineer, qualifying for technician level positions involved in testing and improving welding processes, procedures, and equipment. Graduates also have the option of transferring to four-year institutions offering the bachelor's degree in welding engineering technology.

General Degree Requirements	28 credit hours
Humanities	6
ENG 1530: English Composition II	3
English Elective (college level)	3
Social Science Electives	6
Mathematics/Sciences [□]	16
MAT 1220: Applied Mathematics for Technology ^{**✓} or MAT 1590	4
MAT 1250: Technical Calculus [✓] or MAT 1600	4

PHY 1250: Technical Physics I ⁺	4
PHY 1260: Technical Physics II ⁺	4
Program Core Requirements	35 credit hours
CSC 1310: Introduction to World Wide Web [*]	1
CSC 1320: Introduction to Word Processing [*]	1
CSC 1330: Introduction to Spreadsheets [*]	1
WLD 1200: Safety and Cutting Processes	3
WLD 1350: Shielded Metal Arc Welding	3
WLD 1360: Gas Metal Arc Welding	3
WLD 1370: Gas Tungsten Arc Welding	3
WLD 2250: Advanced SMAW	3
WLD 2260: Advanced GMAW	3
WLD 2270: Advanced GTAW	3
WLD 2350: Fabrication	3
WLD 2360: Alternate Processes	3
WLD 2370: Metallurgy	3
WLD 2450: Capstone Project	2

Suggested Technical Electives

MCT 1240: Engineering Drawing With AutoCAD	3
MCT 1250: Fundamentals of Mechanics	3
MCT 1270: Machine Theory and Operation	3
MCT 1380: Introduction to Solid Modeling [*]	3
MCT 2230: Mechanics of Materials	4

Suggested first semester

INT 1520: Student Success Seminar	1
MAT 1220: Applied Math for Technology	4
WLD 1200: Safety and Cutting Processes	3
WLD 1350: Shielded Metal Arc Welding	3
WLD 1360: Gas Metal Arc Welding	3
WLD 1370: Gas Tungsten Arc Welding	3
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IMPORTANT POINTS (Refer to page 40):

Notes: If a student enters the program requiring ENG 0430 and ENG 0410, the student should delay CSC 1310-1330 modules until later in the program.

* CSC 1310-1330 are five-week courses that represent a time commitment of 15 weeks equivalent to a full three-credit hour course.

** MAT 1220 has a prerequisite of MAT 0600 or two years of high school algebra/geometry and placement exam.

□ Students who have completed less than three years of high school mathematics should take MAT 1220; those with three years of high school mathematics should take MAT 1600; those with four years of high school mathematics should take MAT 1250 or MAT 1710. A second mathematics course should be selected as advised.

✓ With the appropriate mathematical background students may elect to take MAT 1600 and/or MAT 1710.

+ Students with appropriate background may opt for PHY 1610/1620 or PHY 1710/2710.

✦ Students who plan to transfer to Ferris State University must take this course to ensure being accepted into the fifth semester of the welding engineering technology program at Ferris State University.

• To complete the program in two years, students must begin in a fall semester at the appropriate levels of math.

• Students should discuss selection of mathematics courses with their advisor.

• Recommended mechanical technology elective is MCT 1380: Introduction to Solid Modeling.