Contact for WSU:
Phone: 316-978-3400
www.wichita.edu/academics/
engineering/essc/advising/
Home page:
www.wichita.edu/engineering

The Associate of Arts degree (A.A.) at JCCC is a general transfer degree and partners well with the first two years of most bachelor degree programs. Students pursuing the A.A. may select courses that satisfy both the A.A. degree requirements and lower division requirements for a bachelor's degree at four-year institutions. The elective hours within the A.A. allow students to complete additional general education and lower division courses required for specific majors. The A.A. degree requires completion of 60 credit hours. To be eligible for graduation from Wichita State University, students transferring from a two-year college must complete at least 60 credit hours of four-year college work and 45 credit hours of upper-division coursework. Meeting with a JCCC counselor is strongly recommended for selection of appropriate courses.

## General Education Requirements for Wichita State University

Effective Fall 2020, with AA/AS exceptions noted below, students must complete 36 credit hours of general education requirements as part of the WSU bachelor's degree. At least nine hours of the 36 credit hours must be numbered 300 or above. For all College of Engineering majors (except ET and AC), 300-level general education coursework is satisfied by degree requirements. One course from the student's major area may be used toward general education requirements. The 36 credit hours are divided as follows:

- 12 credit hours: Four Foundation Courses (grade of C- or better)
- 12 credit hours: One course from each of the four Academic Divisions Fine Arts, Humanities, Social/Behavioral Sciences, Mathematics and Natural Sciences
- 12 credit hours: Four courses chosen from at least two of the four Academic Divisions above. For all Engineering Majors (except AC, CS, ET), three of the four courses will be from Mathematics and Natural Sciences division.
NOTE: General education requirements vary by major.


## WSU College of Engineering

- To graduate from a WSU Engineering Program, a candidate must attain 2.0 GPA in each of the following categories: •
- All college and university work attempted (cumulative GPA)
- All work attempted at WSU (WSU GPA) •
- All work in the student's major at WSU including Engineering+ requirements.
- Most engineering courses have prerequisites and/or corequisites; the prerequisite course must have been completed before the course requiring it can be taken, and the co-requisite must be completed prior to or taken concurrently with the required course sequence.
- Specific engineering courses for each major will be provided during student advising.


## WSU Engineering Majors:

- Aerospace Engineering (AE)
- Applied Computing (AC) (optional Cybersecurity focus available)
- Biomedical Engineering (BME)
- Computer Engineering (CE)
- Computer Science (CS)
- Electrical Engineering (EE)
- Industrial Engineering (IE)
- Product Design \& Manufacturing Engineering (PDME)
- Mechanical Engineering (ME)
- Engineering Technology (ET)

ET Concentrations:

- Civil Engineering Technology (CE)
- Engineering Technology Management (ETM)
- Facilities Management (FM)
- Mechatronics Technology (MT)


## WSU Transfer Students Should Remember:

- Dual Advising: WSU strongly suggests that potential transfer students involve their WSU advisor in program planning. Sign up for dual advising here: https://www.wichita.edu/dualadvising
- Graduation Requirements: To qualify for graduation with a WSU bachelor's degree, transfer students must meet certain requirements such as course credit hours, levels, GPA, and residency. Transfer students should visit the following page to familiarize themselves with all requirements: http://catalog.wichita.edu/undergraduate/academics/graduation
- WSU Transfer Policy - Credit Acceptance: It is the policy of Wichita State University (WSU) to accept all credits - with the exception of remedial coursework - earned at a post- secondary institution accredited by one of the U.S. regional accrediting agencies. Each academic college or department within WSU determines how those credits apply toward a particular degree program. Sometimes there can be a significant difference between what transfers and what counts toward a degree, especially if the courses are vocational in nature.
- WSU Transfer Policy - AA/AS Degrees: Students transferring to WSU with an AA or AS degree from a Kansas public community college will be considered to have satisfied WSU's general education curriculum provided that they successfully complete, at WSU (with a grade of C- or better), two general education courses numbered 300 or above. These two courses must be in two separate divisions or subject areas. Students must also complete the WSU or WSU-equivalent Foundation courses with a grade of C - or better.
Note: Students completing JCCC courses equivalent to the full WSU general education curriculum are not required to complete the two above-mentioned general education courses numbered 300 or above at WSU.
- Students who transfer to WSU without completing AA or AS degree: Courses will be evaluated on a course-by-course basis toward meeting WSU requirements.
- Note: While JCCC courses equivalent to WSU courses numbered 300 or above may count toward the required nine hours of general education numbered 300 or above, they do not count toward the 45 credit hours of upper-division requirement. All students are also required to complete the WSU or WSU-equivalent Foundation courses with a grade of C- or better.


## REQUIREMENTS FOR JCCC ASSOCIATE OF ARTS

* JCCC course has a prerequisite or corequisite.
(L) Course meets JCCC Lab Science requirement and carries the lab attribute for WSU.
${ }^{\wedge}$ JCCC Cultural Diversity Requirement for JCCC Associate of Arts; one required for Associate of Arts.
For additional Cultural Diversity courses, see http://catalog.jccc.edu/degreerequirements/associate-arts/

Communications Requirements for JCCC Associate of Arts
Complete all three courses (with a grade of C or better):

| WSU Course | Hrs | JCCC Equivalent | Hrs | WSU <br> Requirement |
| :--- | :--- | :--- | :--- | :--- |
| English Composition | 3 | ENGL 121 Composition I* | 3 | Foundation |
| ENGL 101 College English I | 3 | ENGL 122 Composition II* | 3 | Foundation |
| ENGL 102 College English II | 3 | COMS 121 Public Speaking OR <br> COMS 125 Personal Communication | 3 | Foundation |
| Oral Communication | COMM 111 Public Speaking |  |  |  |

Humanities Requirements for JCCC Associate of Arts
(6 hours, no more than one course from each area)

| WSU Course | Hrs | JCCC Equivalent | Hrs | WSU <br> Requirement |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| A. Literature/Theatre |  |  |  |  |  |
| ENGL 230 Exploring Literature | 3 | ENGL 130 Introduction to Literature* | 3 | Humanities |  |
| ENGL 310 Nature of Poetry | 3 | ENGL 227 Introduction to Poetry* | 3 | Humanities |  |
| ENGL 330 The Nature of Fiction | 3 | ENGL 230 Introduction to Fiction* | 3 | Humanities |  |
| ENGL 320 The Nature of Drama | 3 | ENGL 235 Drama as Literature* | 3 | Humanities |  |
| ENGL 360 Major British Writers I | 3 | ENGL 236 British Literature to 1800* | 3 | Humanities |  |
| ENGL 361 Major British Writers II | 3 | ENGL 237 British Lit. II after 1800* | 3 | Humanities |  |
| ENGL 362 Major American Writers I | 3 | ENGL 246 American Literature I* | 3 | Humanities |  |
| ENGL 363 Major American Writers II | 3 | ENGL 247 American Literature II ${ }^{*}$ | 3 | Humanities |  |
| THEA 143 The Art of the Theater | 3 | THEA 120 Introduction to Theatre | 3 | Fine Arts |  |
| B. Foreign Language |  |  |  |  |  |
| GERM 210 Intermediate German I | 3 | FL 220 Intermediate German I* | 3 | Humanities |  |
| GERM 224 Intermediate German II | 3 | FL 221 Intermediate German II* | 3 | Humanities |  |
| SPAN 210 Intermediate Spanish | 3 | FL 230 Intermediate Spanish I* | 3 | Humanities |  |
| FREN 223 Intermediate French <br> Readings I | 3 | FL 241 Intermediate French II ${ }^{*}$ | 3 | Humanities |  |

JCCC Humanities continued on next page...

JCCC Humanities continuation...

| WSU Course | Hrs | JCCC Equivalent | Hrs | WSU <br> Requirement |
| :---: | :---: | :---: | :---: | :---: |
| C. History |  |  |  |  |
| HIST 2000 History Elective | 3 | HIST 125 Western Civ: Ancient World to the Renaissance | 3 | Humanities |
| HIST 102 Western Civ Since 1648 | 3 | HIST 126 Western Civ: Scientific Revolution to the Modern Age | 3 | Humanities |
| HIST 2000 History Elective | 3 | HIST 130 European History Since 1789 | 3 | Humanities |
| HIST 131 History of the US: Colonial to 1865 | 3 | HIST 140 U.S. History to 1877 | 3 | Humanities |
| HIST 132 History of the US: Since 1865 | 3 | HIST 141 U.S. History Since 1877 | 3 | Humanities |
| HIST 101 World Civilization to 1500 | 3 | ${ }^{\wedge}$ HIST 151 World History I: Traditional | 3 | Humanities |
| HIST 100 The Human Adventure: World Civilization Since 1500 | 3 | ${ }^{\wedge}$ HIST 152 World History II: Modern | 3 | Humanities |
| HIST 320 Russian History Survey | 3 | $\wedge$ HIST 160 Modern Russian History | 3 | Humanities |
| HIST 312 Modern Latin America | 3 | $\wedge$ HIST 162 Modern Latin America | 3 | Humanities |
| D. Humanities |  |  |  |  |
| ARTH 2000 Art History Elective | 3 | ${ }^{\wedge}$ ARTH 180 Art History: Ancient to Medieval | 3 | Fine Arts |
| ARTH 2000 Art History Elective | 3 | ARTH 182 Art History: Renaissance to Modern | 3 | Fine Arts |
| HUMN 2000 Humanities Elective | 3 | HUM 122 Introduction to Humanities | 3 | Humanities |
| HUMN 2000 Humanities Elective | 3 | ${ }^{\wedge}$ HUM 145 Introduction to World Humanities I | 3 | Humanities |
| HUMN 2000 Humanities Elective | 3 | ${ }^{\wedge}$ HUM 146 Introduction to World Humanities II | 3 | Humanities |
| HUMN 2000 Humanities Elective | 3 | HUM 155 Classical Mythology | 3 | Humanities |
| COMM 130 - Communication \& Society | 3 | JOUR 120 Mass Media and Society | 3 | Social \& Behav Sci |
| MUSC 160 What to Listen for in Music | 3 | MUS 121 Introduction to Music Listening | 3 | Fine Arts |
| MUSC 162 World Music | 3 | ${ }^{\wedge}$ MUS 126 Introduction to World Music | 3 | Fine Arts |
| MUSC 2000 Music Elective | 3 | ${ }^{\wedge}$ MUS 128 History of Rock \& Roll Music | 3 | Fine Arts |

JCCC Humanities continued on next page...

JCCC Humanities continuation...

| WSU Course | Hrs | JCCC Equivalent | Hrs | WSU <br> Requirement |  |
| :--- | :--- | :--- | :--- | :--- | :---: |
| REL 2000 Religion Elective | 3 | $\wedge$ REL 120 Exploring World Religions | 3 | Humanities |  |
| REL 2000 Religion Elective | 3 | ${ }^{\wedge}$ REL 125 Religions of the East | 3 | Humanities |  |
| REL 2000 Religion Elective | 3 | $\wedge$ REL 126 Religions of the West | 3 | Humanities |  |
| E. Philosophy |  |  |  |  |  |
| PHIL 100 Meaning of Philosophy | 3 | PHIL 121 Introduction to Philosophy 3 | Humanities |  |  |
| PHIL 105 Critical Reasoning | 3 | PHIL 124 Logic and Critical <br> Thinking | 3 | Humanities <br> See note on page <br> 11 for CS Major |  |
| PHIL 144 Moral Issues |  | 3 | PHIL 143 Ethics | 3 |  |
| PHIL 331 Ancient Greek Philosophy | 3 | PHIL 154 History of Ancient Phil. | 3 | Humanities |  |
| PHIL 346 Philosophy of Religion | 3 | PHIL 176 Philosophy of Religion | 3 | Humanities |  |

## Social Science/Economics Requirements for JCCC Associate of Arts

( 6 hrs , no more than one course from each area)

| WSU Course | Hrs | JCCC Equivalent | Hrs | WSU Requirement |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| A. Anthropology |  | 3 | $\wedge$ ANTH 125 Cultural Anthropology | 3 | Social \& Behavioral <br> Sciences |
| ANTH 102 Cultural <br> Anthropology | 3 | $\wedge$ ANTH 130 World Cultures | 3 | Social \& Behav Sci |  |
| ANTH 303 - World Cultures | 3 | ANTH 142 World Prehistory | 3 | Social \& Behav Sci |  |
| ANTH 103 Introduction to <br> Archaeology | 3 |  |  |  |  |
| Note: JCCC ANTH 142 and ANTH 144 are each (individually) equivalents to WSU ANTH 103. If both are <br> taken, this counts as 3 hours of WSU general education and 3 hours elective. |  |  |  |  |  |
| ANTH 352 Linguistic <br> Anthropology | 3 | ^ANTH 165 Linguistic Anthropology | 3 | Social \& Behav Sci |  |
| B. Economics |  |  |  |  |  |

JCCC Social Sciences/Economics continued on next page...

JCCC Social Sciences/Economics continuation...

| WSU Course | Hrs | JCCC Equivalent | Hrs | WSU Requirement |
| :---: | :---: | :---: | :---: | :---: |
| D. Psychology |  |  |  |  |
| PSY 111 General Psychology | 3 | PSYC 130 Intro to Psychology | 3 | Social \& Behav Sci <br> Required for AC |
| E. Sociology |  |  |  |  |
| SOC 111 Intro to Sociology | 3 | $\wedge$ SOC 122 Intro to Sociology | 3 | Social \& Behav Sci |
| SOC 320 - Contemporary Social Problems | 3 | $\wedge$ SOC 125 Social Problems | 3 | Social \& Behav Sci |
| SOC 315 - Marriage \& Families | 3 | SOC 131 Sociology of Families | 3 | Social \& Behav Sci |
| F. Gender and Ethnic Studies |  |  |  |  |
| WOMS 287 - Women In Society Social Issues | 3 | ^WGS 201 Global Women's Studies | 3 | Humanities |

Science and Math Requirements for JCCC AA (9 hrs with one Math and one Lab Science)
Note WSU Program-Specific Requirements on pages 10-12 of this guide.

| WSU Course | Hrs | JCCC Equivalent | Hrs | WSU Requirement |
| :---: | :---: | :---: | :---: | :---: |
| A. Life Science |  |  |  |  |
| BIOL 210 General Biology I | 4 | BIOL 135 Principles of Cell and Molecular Biology(L) | 4 | See ProgramSpecific Information on pages 10-12 |
| BIOL 223 Human Anatomy and Physiology <br> BIOL 223 Human Anatomy and Physiology | 8 5 | BIOL 140 Human Anatomy AND BIOL 225 Human Physiology* (L) OR BIOL 144 Human Anatomy and Physiology* (L) | $\begin{aligned} & 4 \\ & 4 \end{aligned}$ | See ProgramSpecific Information on pages 10-12 |
| BIOL 211 General Biology II | 5 | BIOL 150 Biology of Organisms* (L) | 5 | See ProgramSpecific Information on pages 10-12 |
| B. Physical Science |  |  |  |  |
| PHYS 195 Intro to Modern <br> Astronomy and PHYS 196 Lab in Modern Astronomy | 3/1 | ASTR 122 Astronomy (L) | 4 | Math \& Natural Sci |
| CHEM 103 Introductory General, Organic and Biochemistry | 5 | CHEM 140 Principles of Organic \& Biological Chemistry* (L) | 5 | See ProgramSpecific Information on pages 10-12 |
| CHEM 211 General Chemistry I and CHEM 211L Lab | 4/1 | CHEM 124/125 General Chemistry I <br> Lecture* and Lab* (L) | 4/1 | Math \& Natural <br> Sciences for all WSU <br> Engineering majors <br> (except AC, CE, CS) |

JCCC Science/Math continued on next page...

JCCC Science/Math continuation...

| WSU Course | Hrs | JCCC Equivalent | Hrs | WSU Requirement |
| :---: | :---: | :---: | :---: | :---: |
| CHEM 212/212L General Chemistry II and Lab | 4/1 | CHEM 131/132 General Chemistry II Lecture */Lab* (L) | 4/1 | See ProgramSpecific Information on pages 10-12 |
| GEOL 111 General Geology | 5 | GEOS 130 General Geology (L) | 5 | See ProgramSpecific Information on pages 10-12 |
| GEOG 210 - Introduction to World Geography | 3 | ${ }^{\wedge}$ GEOS 145 World Regional Geography | 3 | Social and <br> Behavioral Sciences |
| PHYS 213 General College Physics I | 5 | PHYS 130 College Physics I* (L) | 5 | See ProgramSpecific Information on pages 10-12 |
| PHYS 214 General College Physics II | 5 | PHYS 131 College Physics II* (L) | 5 | See ProgramSpecific Information on pages 10-12 |
| PHYS 313 Physics for Scientists I AND PHYS 315 University Physics Lab I | 4/1 | PHYS 220 Eng. Physics I* (L) | 5 | Math \& Natural Sciences for all WSU <br> Engineering majors (except AC) |
| PHYS 314 Physics for Scientists II AND PHYS 316 University Physics Lab II | 4/1 | PHYS 221 Engineering Physics II* (L) | 5 | Math \& Natural <br> Sciences for all WSU <br> Engineering majors <br> (except AC) |
| C. Mathematics |  |  |  |  |
| MATH 111 College Algebra MATH 123 College Trig MATH 112 Precalc Math | $\begin{aligned} & 3 \\ & 3 \\ & 3 \\ & 5 \end{aligned}$ | MATH 171 College Algebra* <br> MATH 172 Trigonometry* <br> MATH 173 Precalculus* <br> Note prerequisites for additional Math courses required for major | $\begin{array}{\|l} \hline 3 \\ 3 \\ 3 \\ 5 \end{array}$ | See ProgramSpecific Information on pages 10-12 |
| STAT 370 Elementary Statistics | 3 | MATH 181 Statistics* | 3 | Math \& Natural <br> Sciences for all WSU <br> Engineering majors (except AC, AE, ET, ME) |
| MATH 242 Calculus I | 5 | MATH 241 Calculus I* | 5 | Math \& Natural <br> Sciences for all WSU <br> Engineering majors <br> (except AC) |
| MATH 243 Calculus II | 5 | MATH 242 Calculus $\mathrm{II}^{*}$ | 5 | Math \& Natural <br> Sciences for all WSU <br> Engineering majors (except AC) |

JCCC Science/Math continued on next page....

JCCC Science/Math continuation...

| WSU Course | Hrs | JCCC Equivalent | Hrs | WSU Requirement |
| :--- | :--- | :--- | :--- | :--- |
| MATH 344 Calculus III | 5 | MATH 243 Calculus III* | 5 | Math \& Natural <br> Sciences (Only $A E$, <br> $E E, M E)$ |
| MATH 350 Modeling <br> Differential Equations |  | MATH 254 Differential Equations* <br> Note: Math Minors should discuss <br> with WSU advisor before enrolling | 4 | Math \& Natural <br> Sciences for all WSU <br> Engineering majors <br> (except AC, CS, IE, <br> ET) |

## Electives for JCCC Associate of Arts

Students may wish to choose electives from the remaining pages to complete 60-hour minimum required for JCCC AA while meeting requirements toward WSU Bachelor degree. Students should consider residency requirements and upper-level course requirements at WSU. WSU strongly suggests that potential transfer students involve their WSU advisor in program planning. Sign up for dual advising here: https://www.wichita.edu/dualadvising

Additional JCCC Courses that meet General Education Requirements at WSU

| WSU Course | Hrs | JCCC Equivalent | Hrs | WSU Requirement |
| :--- | :--- | :--- | :--- | :--- |
| ANTH 103 - Intro to <br> Archaeology | 3 | ANTH 144 Archaeology | 3 | Social \& Behav Sci |
| Note: JCCC ANTH 142 and ANTH 144 are each (individually) equivalents to WSU ANTH 103. If both are <br> taken, this counts as 3 hours of WSU general education and 3 hours elective. |  |  |  |  |
| ANTH 303 - World <br> Cultures | 3 | ^ANTH 150 People/Cultures of <br> Mesoamerica | 3 | Social \& Behav Sci |
| ARTS 270 - Introduction to <br> Ceramics | 3 | ART 142 Ceramics I | 3 | Fine Arts |
| CHEM 531 - Organic <br> Chemistry I | 5 | CHEM 220 Organic Chemistry I* (L) | 5 | See Program- <br> Specific Information <br> on pages 10-12 |
| PC 105 - Intro to Computers <br> and Applications OR | 3 | CIS 124 Introduction to Computer <br> Concepts and Applications <br> (Carries WSU Lab attribute) | 3 | See Program- <br> Specific Information <br> on pages 10-12 |
| BADM 161 - Business <br> Software: Word AND <br> BADM 162 - Business <br> Software: Excel AND <br> BADM 163 - BA Software: | 1 | 1 | 1 | 3 |

Additional Courses continued on next page....

Additional Courses continuation...

| WSU Course | Hrs | JCCC Equivalent | Hrs | WSU Requirement |
| :--- | :--- | :--- | :--- | :--- |
| COMM 302 - Interpersonal <br> Communication | 3 | COMS 120 Interpersonal <br> Communication <br> (Meets Communication Requirement <br> for JCCC AA, but does not count as <br> Foundation Course at WSU) | 3 | Humanities |
| COMM 335 - International <br> and Intercultural <br> Communication OR <br> ETHS 210 - Fundamentals <br> of Cross-Cultural <br> Communications | 3 | ^CMS 180 Intercultural <br> Communication <br> (Meets Communication Requirement <br> for JCCC AA, but does not count as <br> Foundation Course at WSU) | 3 | Humanities |
| ENGL 2000 - Engl Elective | 3 | ENGL 205 Bible as Literature* | 3 | Humanities |
| ENGL 2000 - Engl Elective | 3 | ENGL 243 Literature of Science <br> Fiction* | 3 | Humanities |
| ENGL 2000 - Engl Elective | 3 | ^ENGL 244 Literature of American <br> Popular Music* | 3 | Humanities |
| COMM 321 - Introduction <br> to Film Studies | 3 | ^FMS 100 Intro to Film | 3 | Humanities |
| SOC 346 - Sociology of <br> Globalization | 3 | ^GIST 250 Introduction to <br> Globalization | 3 | Social \& Behav Sci |
| HIST 535 - History of <br> Kansas | 3 | HIST 120 Local \& Kansas History | 3 | Humanities |
| PHIL 306 - Business Ethics | 3 | PHIL 140 Business Ethics | 3 | Humanities |
| PHIL 322 - Early Modern <br> Philosophy | 3 | PHIL 210 History of Modern <br> Philosophy | 3 | Humanities |
| PSY 414 - Child Psychology | 3 | PSYC 215 Child Development* | 3 | Social \& Behav Sci |
| PSY 325 - Developmental <br> Psychology OR <br> CESP 334 - Intro Diversity <br> Hum Growth/Dev | 3 | PSYC 218 Human Development* | 3 | Social \& Behav Sci |
| PSY 323 - Social Psychology | 3 | ^PSYC 220 Social Psychology* | 3 | Social \& Behav Sci |
| CJ 593 - Crime Causation <br> and Criminal Justice Policy | 3 | SOC 127 Criminology | 3 | Social \& Behav Sci |
| SCWK 201 - Introduction <br> to Soc Work/Soc Welfare | 3 | ^SOC 146 Introduction to Social Work <br> and Social Welfare OR <br> SOC 147 Social Work \& Social Justice | 3 | Social \& Behav Sci |

* JCCC course has a prerequisite or corequisite.
(L) Course meets JCCC Lab Science requirement and carries the lab attribute for WSU.
${ }^{\wedge}$ Also meets JCCC Cultural Diversity Requirement, one course required for JCCC AA.
For additional Cultural Diversity courses, see http://catalog.jccc.edu/degreerequirements/associate-arts/


## Program-Specific Requirements

## WSU Engineering Majors:

- Aerospace Engineering (AE)
- Applied Computing (AC) (optional Cybersecurity focus available)
- Biomedical Engineering (BME)
- Computer Engineering (CE)
- Computer Science (CS)
- Electrical Engineering (EE)
- Industrial Engineering (IE)
- Product Design \& Manufacturing Engineering (PDME)
- Mechanical Engineering (ME)
- Engineering Technology (ET)

ET Concentrations:

- Civil Engineering Technology (CE)
- Engineering Technology Management (ETM)
- Facilities Management (FM)
- Mechatronics Technology (MT)


## MATH \& NATURAL SCIENCES

Required for all College of Engineering majors.

- CHEM 124 Gen Chemistry I Lecture and CHEM 125 Gen Chemistry I (L) (except AC, CE, CS)
- MATH 241 Calculus I (except AC)
- MATH 242 Calculus II (except AC)
- MATH 243 Calculus III (only $A E, E E, M E$ )
- MATH 181 Statistics (except AC, AE, ET, ME)
- MATH 254 Differential Equations (except AC, CS, IE, ET)
- PHYS 220 Engineering Physics I (L) (except AC)
- PHYS 221 Engineering Physics II (L) (except AC)


## NATURAL SCIENCES ELECTIVE

Only AE, ME majors. Complete one course in BIOL, CHEM, GEOL or PHYS. Lab required.

## BIOL

- BIOL 135 Principles of Cell \& Molecular Biology (L)
- BIOL 140 Human Anatomy and BIOL 225 Human Physiology (L)
- BIOL 144 Human Anatomy \& Physiology (L)
- BIOL 150 Biology of Organisms (L)


## CHEM

- CHEM 131 General Chemistry II Lecture and CHEM 132 General Chemistry II (L) (also satisfies IE Nat Science elective)
- CHEM 220 Organic Chemistry I (L) (AE only)


## GEOL

- GEOS 130 General Geology (L)


## PHYS

- ASTR 122 Astronomy (L)


## OTHER COURSES BY MAJOR

Aerospace Engineering - AE

- ENGR 131 Engineering Graphics I: AutoCAD
- ENGR 254 Dynamics
- ENGR 251 Statics


## Applied Computing - AC

- MATH 171 College Algebra or MATH 171H HON: College Algebra
- MATH 172 Trigonometry or MATH 172H HON: Trigonometry
- PHYS 130 General Physics I (L)
- PHYS 131 General Physics II (L)
- CIS 124 Introduction to Computer Concepts and Applications


## Biomedical Engineering - BME

- CHEM 131 General Chemistry II Lecture and CHEM 132 General Chemistry II Lab (L)
- CHEM 140 Principles of Organic \& Biological Chemistry (L)
- BIOL 135 Principles of Cell \& Molecular Biology (L)
- BIOL 144 Human Anatomy \& Physiology (L)
- ENGR 251 Statics


## Computer Engineering - CE

- CS 200 Concepts of Programming Algorithms Using C++
- CS 250 Basic Data Structures Using C++


## Computer Science (CS)

- Computer Science majors choose JCCC's PHIL 124 Logic \& Critical Thinking (minimum grade of C). This course will also satisfy the general education humanities requirement.
- CS 200 Concepts of Programming Algorithms Using C++
- CS 250 Basic Data Structures Using C++


## Electrical Engineering - EE

- CS 200 Concepts of Programming Algorithms Using C++
- ENGR 251 Statics


## Industrial Engineering - IE

- CS 200 Concepts of Programming Algorithms Using C++
- ENGR 131 Engineering Graphics I


## Product Design \& Manufacturing Engineering - PDME

- ENGR 131 Engineering Graphics I: AutoCAD
- ENGR 251 Statics


## Mechanical Engineering - ME

- ENGR 131 Engineering Graphics I: AutoCAD
- ENGR 254 Dynamics
- ENGR 251 Statics

Engineering Technology - ET

- ACCT 121 Accounting I and ACCT 122 Accounting II (ETM only)
- CIS 124 Introduction to Computer Concepts and Applications (FM, ETM only)
- CS 200 Concepts of Programming Algorithms Using C++ (CE, MT only)
- ENGR 131 Engineering Graphics I: AutoCAD
- MKT 230 Marketing (ETM only)

It is the STUDENT'S RESPONSIBILITY to check for updates to all transfer information. This transfer guide is provided as a service and is updated as needed. Degree requirements at the four-year colleges are subject to change by those institutions. To ensure you have the most accurate up to date information about the program, it is imperative you meet with an advisor at the transfer institution.

