
*PROGRAMS
THAT LEAD TO A*

***BACHELOR'S
DEGREE***

ASSOCIATE IN SCIENCE
and
**ASSOCIATE IN
ENGINEERING SCIENCE**

Associate in Science

Program Code: 0002

Description:

These requirements are for students who are majoring in science or mathematics and who plan to transfer to a four-year institution to complete a baccalaureate degree. The curriculum guides that follow serve as a general guide to the selection of courses toward fulfilling degree requirements specific to your intended major at a four-year college or university. Since requirements vary at colleges and universities, it is important to select your courses with the assistance of an academic advisor.

Admission:

Students wishing to pursue this degree may do so prior to being formally admitted to the program. However, all students must fulfill the admissions requirements, noted under the *Admissions Information* section of the catalog, prior to graduation.

Terms:

Students have six years to complete the requirements for the program they have declared. If the requirements are not completed within six years, students will be required to meet degree requirements for the program in effect at that time. However, students not enrolled for three consecutive semesters (not including summer) must meet the curriculum requirements in effect at the time of re-enrollment. Students can always choose to complete the current curriculum degree requirements.

Total Hours:

A minimum of 64 semester credits is required for this degree.

Residency:

Fifteen of the last 24 credits or an accumulation of 36 credits must be completed at SWIC. Active duty U.S. armed forces and reserve service members are only required to earn 15 credits at SWIC.

GPA:

A minimum cumulative GPA of 2.00 is required for a degree.

English 101 Requirement:

All students pursuing transfer degrees (AA, AS, AFA, AES) are required to enroll in English 101 or (if applicable) an English 101 requisite within their first 24-30 semester credits of enrollment.

Transfer Resources:

Please view additional transfer resources at swic.edu/articulation.

SWIC 2+2 Agreements:

SWIC has developed a number of 2+2 Agreements with four-year universities to allow for seamless transfer into specific majors. These articulations list recommended coursework to prepare SWIC graduates for entry at the junior level. Please visit swic.edu/articulation to learn more about 2+2 Agreements.

Human Relations:

One of the following courses must be completed. The course that is selected may also be applied toward the Humanities or Social/Behavioral Science General Education requirement as applicable. For reference, these courses are listed in **white** print in the general education areas.

- Humanities & Fine Arts: ART 110 HIST 230, LIT 117, LIT 215, LIT 216
- Social Science & Behavioral Science: : POLS 150, PSYC 295, SOC 153, SOC 203, SOC 230

Non-Western Culture:

One of the following courses must be completed. The course that is selected may also be applied toward the Humanities or Social/Behavioral Science General Education requirement as applicable. For reference, these courses are **highlighted** in the general education areas.

- Humanities & Fine Arts: ART 103, HIST 286, LIT 205, MUS 110, PHIL 155
- Social Science & Behavioral Science: ANTH 150, GEOG 202, HIST 101, HIST 102, HIST 114, HIST 115, HIST 117, HIST 118, POLS 241

College Orientation:

Beginning students are encouraged to enroll in ORIE 101 College Orientation Seminar. For information regarding this course, see the *Course Description Guide* at the back of the catalog.

Apply for Graduation:

Students must submit an application to Enrollment Services. Applications can be submitted through eSTORM or through Enrollment Services. To be considered for a specific term, applications must be received by the following dates:

<u>Term</u>	<u>Application Date</u>
Fall/December	Oct. 15
Spring/May	Feb. 15
Summer/July	June 15

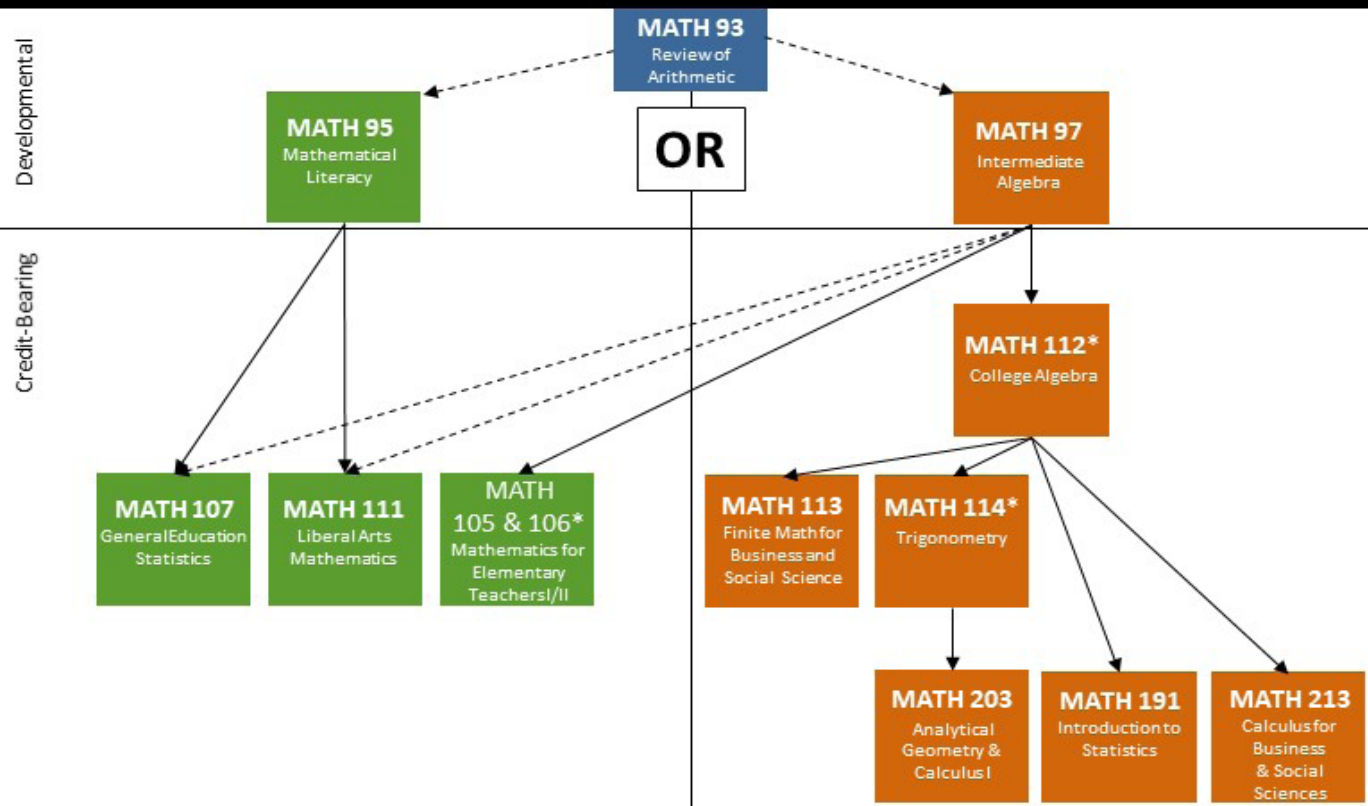
MATH COURSE PLACEMENT SEQUENCE

Transfer Programs – Pre-Majors

Associate in Arts (AA) &
Associate in Fine Arts (AFA)

Associate in Science (AS) &
Associate in Engineering Science (AES)

Initial placement is by multiple measures. Higher placement (up to MATH 203) can be achieved by using ALEKS PPL prior to enrollment in math courses. Students placing into developmental math courses are strongly encouraged to use ALEKS PPL preparation modules and/or Math Boot Camps (<https://www.swic.edu/students/services/support-services/success-center/additional-services/boot-camp/>) prior to retest to aim for higher placement.



PRE-MAJORS OFFERED AT SWIC

Art	Education—Special Ed.	Military Science
Music Education	English	Music
Music Performance	Exercise Science	Philosophy
Accounting	Film	Political Science
Aerospace Studies	Foreign Language	Pre-Chiropractic
Agriculture	Geography	Pre-Law
Anthropology	Health/Physical Ed.	Psychology
Business Admin.	Health Science/Safety	Social Work
Criminal Justice	Ed. History	Sociology
Early Childhood Ed.	International	Speech Communication
Economics	Studies Journalism	Theater Arts
Education—Elementary Literature		
Education—Secondary	Mass Communication	

Gen. Ed. Requirement:

1 course from MATH 106, 107, 111, 113, 191, 203, 204, 205, 213, or BUS 205

Verify your requirements with an academic advisor.

PRE-MAJORS OFFERED AT SWIC

Biology	Physics
Chemistry	Pre-Dentistry
Computer	Pre-Medicine
Science Earth	Pre-Pharmacy
Science	Pre-Veterinary Medicine
Engineering	
Mathematics	

Additional Courses You May Need: MATH 171, MATH 203, MATH 204, MATH 205, MATH 210, MATH 271, MATH 290, MATH 292

Gen. Ed. Requirement:

Minimum 2 qualifying courses from MATH 113, 191, 203, 204, 205, 213, and BUS 205

AES degree requires additional math. Verify your requirements with an academic advisor.

*Geometry is an additional requirement for MATH 105, MATH 106, MATH 112, and MATH 114.

Graduation requirements will vary—Students should verify Math requirements for their pre-major with an Academic Advisor or Department Chair.

Associate in Engineering Science

Program Code: AES1

Description:

An Associate in Engineering Science degree is an award for the satisfactory completion of a prescribed curriculum intended to transfer to baccalaureate degree programs in the area of engineering. The curriculum guides that follow serve as a general guide to the selection of courses toward fulfilling degree requirements specific to your intended major at a four-year college or university. Since requirements vary at colleges and universities, it is important to select your courses with the assistance of an academic advisor.

Admission:

Students wishing to pursue this degree may do so prior to being formally admitted to the program. However, all students must fulfill the admissions requirements, noted under the *Admissions Information* section of the catalog, prior to graduation.

Terms:

Students have six years to complete the requirements for the program they have declared. If the requirements are not completed within six years, students will be required to meet degree requirements for the program in effect at that time. However, students not enrolled for three consecutive semesters (not including summer) must meet the curriculum requirements in effect at the time of re-enrollment. Students can always choose to complete the current curriculum degree requirements.

Total Hours:

A minimum of 65 semester credits is required for this degree.

Residency:

Fifteen of the last 24 credits or an accumulation of 36 credits must be completed at SWIC. Active duty U.S. armed forces and reserve service members are only required to earn 15 credits at SWIC.

GPA:

A minimum cumulative GPA of 2.00 is required for a degree.

English 101 Requirement:

All students pursuing transfer degrees (AA, AS, AFA, AES) are required to enroll in English 101 or (if applicable) an English 101 requisite within their first 24-30 semester credits of enrollment.

Transfer Resources:

Please view additional transfer resources at swic.edu/articulation.

SWIC 2+2 Agreements:

SWIC has developed a number of 2+2 Agreements with four-year universities to allow for seamless transfer into specific majors. These articulations list recommended coursework to prepare SWIC graduates for entry at the junior level. Please visit swic.edu/articulation to learn more about 2+2 Agreements.

Human Relations:

One of the following courses must be completed. The course that is selected may also be applied toward the Humanities or Social/Behavioral Science General Education requirement as applicable. For reference, these courses are listed in **white** print in the general education areas.

- Humanities & Fine Arts: ART 110 HIST 230, LIT 117, LIT 215, LIT 216
- Social Science & Behavioral Science: : SOC 230

Non-Western Culture:

One of the following courses must be completed. The course that is selected may also be applied toward the Humanities or Social/Behavioral Science General Education requirement as applicable. For reference, these courses are **highlighted** in the general education areas.

- Humanities & Fine Arts: ART 103, HIST 286, LIT 205, MUS 110, PHIL 155
- Social Science & Behavioral Science: ANTH 150, GEOG 202, HIST 101, HIST 102, HIST 114, HIST 115, HIST 117, HIST 118, POLS 241

College Orientation:

Beginning students are encouraged to enroll in ORIE 101 College Orientation Seminar. For information regarding this course, see the *Course Description Guide* at the back of the catalog.

Apply for Graduation:

Students must submit an application to Enrollment Services. Applications can be submitted through eSTORM or through Enrollment Services. To be considered for a specific term, applications must be received by the following dates:

<u>Term</u>	<u>Application Date</u>
Fall/December	Oct. 15
Spring/May	Feb. 15
Summer/July	June 15

Associate in Engineering Science

Degree Requirements Checklist

(Required by all Engineering Specialties)

Communications (6 semester credits) A minimum grade of "C" is required for ENG 101 & ENG 102

___ENG 101

___ENG 102

Mathematics (17 semester credits)

___MATH 203

___MATH 204

___MATH 205

___MATH 290

Physical Science (13 semester credits)

___CHEM 105

___PHYS 204

___PHYS 205

Human Well-Being (2 semester credits) Courses listed in this section are not IAI courses.

___HES 130

___HES 131

___HES 151

___HES 152

___HES 160

Select Engineering Specialty

Mechanical Engineering

Aeronautical Engineering

Manufacturing Engineering

Engineering Mechanics

(21 semester credits)

___ENGR 103

___ENGR 263

___ENGR 264

___ENGR 271

___ENGR 275

___Electives-5 semester credits

(Select from elective courses below)

Computer Engineering

(21 semester credits)

___ENGR 271

___MATH 171

___MATH 271

___Electives-10 semester credits

(Select from elective courses below)

Electrical Engineering

(21 semester credits)

___ENGR 271

___MATH 171 OR MATH 210

___Electives-14-15 semester credits

Civil Engineering

(21 semester credits)

___ENGR 103

___ENGR 263

___ENGR 264

___ENGR 275

___Electives-8 semester credits

(Select from elective courses below)

Industrial Engineering

(21 semester credits)

___ENGR 103

___ENGR 263

___ENGR 264

___ENGR 275

___Electives-8 semester credits

(Select from elective courses below)

Chemical Engineering

(21 semester credits)

___CHEM 106

___CHEM 201

___CHEM 202

Electives-6 semester credits

(Select from elective courses below)

Electives: This degree requires 11 to 16 semester credits of electives selected from the lists below. Students may not count completed credit from above. Please check with your transfer institution for suggested electives.

Math/Engineering/Physical & Life Sciences (0-10 semester credits)

___ATY 101

___CHEM 106

___ES 102

___MATH 271

___BIOL 100

___ENGR 103

___ES 114

___MATH 292

___BIOL 101

___ENGR 263

___ES 250

___PHYS 206

___BIOL 102

___ENGR 264

___MATH 171

___BIOL 106

___ENGR 271

___MATH 191 or BUS 205

___BIOL 108

___ENGR 275

___MATH 210

Communications, Humanities and Fine Arts (0-9 semester credits) Note: Some engineering programs require COMM 155.

___ART 101

___HIST 230

___LIT 214

___PHIL 152

___ART 102

___HIST 286

___LIT 215

___PHIL 153

___ART 103

___LIT 113

___LIT 216

___PHIL 154

___ART 104

___LIT 117

___LIT 251

___PHIL 155

___ART 105

___LIT 120

___LIT 252

___PHIL 160

___ART 106

___LIT 125

___LIT 290

___SPAN 202

___ART 110

___LIT 133

___LIT 291

___COMM 151

___FILM 115

___LIT 134

___MUS 101

___COMM 155

___FILM 215

___LIT 201

___MUS 102

___THEA 120

___FILM 225

___LIT 202

___MUS 110

___FREN 202

___LIT 205

___PHIL 150

___GERM 202

___LIT 213

___PHIL 151

Social and Behavioral Sciences (0-9 semester credits) Note: Many engineering programs require ECON 201.

___ANTH 150

___HIST 101

___POLS 150

___PSYC 251

___ANTH 160

___HIST 102

___POLS 240

___PSYC 253

___ANTH 250

___HIST 114

___POLS 241

___PSYC 295

___ECON 115

___HIST 115

___POLS 262

___SOC 153

___ECON 201

___HIST 117

___POLS 270

___SOC 203

___ECON 202

___HIST 118

___PSYC 151

___SOC 230

___GEOG 152

___HIST 180

___PSYC 210

___SOC 255

___GEOG 202

___HIST 181

___PSYC 250

This degree requires successful completion of one Human Relations class and one Non-Western Culture class.

XXX Human Relations Classes XXX Non-Western Culture

Biology Pre-Major

Associate in Science Degree

swic.edu/biology

Department Chair/Faculty: K. Charles Knoth (August-May);

Biology pre-majors may work toward degrees in organismal biology such as botany, microbiology or zoology; environmental degrees such as ecology, forestry or wildlife biology; professional areas such as pre-dentistry, pre-pharmacy, pre-medicine or pre-veterinary; or education degrees such as elementary, secondary or college science teaching.

2+2 Articulation Agreements

- SIUE – BS Biology-Ecology, Evolution & Environment
- SIUE – BS Biology-Genetics & Cellular
- SIUE – BS Biology-Integrative Studies
- SIUE – BS Biology-Medical Sciences

Important Transfer Information

Read the Course Description Guide (yellow section of the catalog) for more information on course content and requisites, which may be necessary for some courses.

If you KNOW where you are transferring:

- Transfer requirements vary by receiving institution.
- Plan your Associate in Science and transfer requirements with a SWIC academic advisor and use the transfer guide of the four-year institution you plan to attend.
- Refer to *Recommended Steps and Timeline to Transfer to Four-Year Institutions* in the front of this catalog.

If you DON'T KNOW where you are transferring:

- Plan your Associate in Science with a SWIC academic advisor.
- The **Associate in Science Degree Requirement Checklist** in the front of this section may be used as a GENERAL GUIDE; transfer requirements vary by receiving institution.
- Refer to *Recommended Steps and Timeline to Transfer to Four-Year Institutions* in the front of this catalog.

Please view additional transfer resources at swic.edu/articulation.

Associate in Science Degree (0002) – Biology Pre-Major

Students who plan to earn an Associate in Science degree and then transfer to a four-year college or university to major in Biology should follow the steps listed below. **It is strongly recommended that you confer with a SWIC academic advisor prior to enrolling each semester and familiarize yourself with the specific requirements of the four-year institution where you plan to transfer.**

1. Fulfill the General Education and other institutional requirements for the Associate in Science degree listed in the front of this section. General Education course **preferences** may vary by transfer institution. For students who do not know where they plan to transfer, the Illinois Articulation Initiative (IAI) Biological Sciences Major Panel recommends the following general education courses for this major:
 - MATH 203 Analytic Geometry & Calculus I
 - BIOL 101 Principles of Biology I
 - CHEM 105 General Chemistry I
2. As you fulfill your degree requirements, it is **strongly recommended** by the IAI Biological Sciences Major Panel that you take the following classes:
 - BIOL 102 Principles of Biology II
 - CHEM 106 General Chemistry II
 - CHEM 201 Organic Chemistry I
 - CHEM 202 Organic Chemistry II
3. The additional courses recommended below may be applicable toward a baccalaureate Biology major. **Please keep in mind that most transfer institutions limit the number of semester credits taken within a student's major field of study at the community college level.** To ensure the acceptance of such courses toward your intended major, check with the four-year institution where you are transferring or a SWIC academic advisor regarding their applicability.
 - BIOL 108 General Ecology
 - BIOL 151 Fundamental Botany
 - BIOL 270 Genetics
 - PHYS 151 College Physics I
OR PHYS 204 Physics-Mechanics
 - PHYS 152 College Physics II
OR PHYS 205 Physics-Heat, Electricity & Magnetism
 - MATH 191 Introduction to Statistics
4. Fulfill all other Associate in Science degree requirements listed in the front of this section.
5. Apply for graduation by the date published in the college calendar.
6. Earn at least 64 **transferable** credits with a minimum cumulative grade point average of 2.00 to graduate from SWIC. **Many** transfer institutions require a higher GPA for admission to the institution and/or specific majors.

Note: Enrollment in many transfer classes is based on your fulfillment of course requisites and/or your placement in Math and English classes.

Career Opportunities

A variety of careers are open to students who graduate with a bachelor's degree in biology including:

- Aquatic biologist
- Biomedical scientist
- Ecologist
- Fisheries biologist
- Forensic scientist
- Geneticist
- Infection control specialist
- Laboratory technician
- Marine biologist
- Microbiologist
- Mortician
- Physiologist
- Public health specialist
- Teacher
- Veterinarian
- Wildlife biologist

Chemistry Pre-Major

Associate in Science Degree

swic.edu/chemistry

Department Chair: Stan Hatfield

Chemistry provides the basis for medicine, biomedical technology, ceramics, polymers, metallurgy, environmental and ecological sciences and many other fields. Students may pursue one of these fields or may choose a special interest in a specific area of chemistry such as analytical chemistry, biochemistry, organic chemistry, physical chemistry, colloid and surface chemistry, polymer chemistry or biology.

2+2 Articulation Agreements

- SIUE – BS Chemistry
- SIUE – BS Chemistry-ACS Certified Biochemistry
- SIUE – BS Chemistry-ACS Certified Chemistry
- SIUE – BS Chemistry-Biochemistry
- SIUE – BS Chemistry-Medical Science

Important Transfer Information

Read the Course Description Guide (yellow section of the catalog) for more information on course content and requisites, which may be necessary for some courses.

If you KNOW where you are transferring:

- Transfer requirements vary by receiving institution.
- Plan your Associate in Science and transfer requirements with a SWIC academic advisor and use the transfer guide of the four-year institution you plan to attend.
- Refer to *Recommended Steps and Timeline to Transfer to Four-Year Institutions* in the front of this catalog.

If you DON'T KNOW where you are transferring:

- Plan your Associate in Science with a SWIC academic advisor.
- The **Associate in Science Degree Requirement Checklist** in the front of this section may be used as a GENERAL GUIDE; transfer requirements vary by receiving institution.
- Refer to *Recommended Steps and Timeline to Transfer to Four-Year Institutions* in the front of this catalog.

Please view additional transfer resources at swic.edu/articulation.

Associate in Science Degree (0002) – Chemistry Pre-Major

Students who plan to earn an Associate in Science degree and then transfer to a four-year college or university to major in Chemistry should follow the steps listed below. **It is strongly recommended that you confer with a SWIC academic advisor prior to enrolling each semester and familiarize yourself with the specific requirements of the four-year institution where you plan to transfer.**

1. Fulfill the General Education and other institutional requirements for the Associate in Science degree listed in the front of this section. General Education course **preferences** may vary by transfer institution. For students who do not know where they plan to transfer, the Illinois Articulation Initiative (IAI) Chemistry Major Panel recommends the following general education courses for this major:
 - MATH 203 Analytic Geometry & Calculus I
 - MATH 204 Analytic Geometry & Calculus II
 - PHYS 204 Physics-Mechanics
 - PHYS 205 Physics-Heat, Electricity & Magnetism
 - BIOL 101 Principles of Biology I
2. As you fulfill your degree requirements, it is **strongly recommended** by the IAI Chemistry Major Panel that you take the following classes:
 - CHEM 105 General Chemistry I
 - CHEM 106 General Chemistry II
 - CHEM 201 Organic Chemistry I
 - CHEM 202 Organic Chemistry II
3. The additional courses recommended below may be applicable toward a baccalaureate Chemistry major. **Please keep in mind that most transfer institutions limit the number of semester credits taken within a student's major field of study at the community college level.** To ensure the acceptance of such courses toward your intended major, check with the four-year institution where you are transferring or a SWIC academic advisor regarding their applicability.
 - BIOL 102 Principles of Biology II
 - MATH 191 Introduction to Statistics
 - PHYS 206 Physics-Light & Modern Physics
 - MATH 205 Analytic Geometry & Calculus III
4. Fulfill all other Associate in Science degree requirements listed in the front of this section.
5. Apply for graduation by the date published in the college calendar.
6. Earn at least 64 **transferable** credits with a minimum cumulative grade point average of 2.00 to graduate from SWIC. **Many** transfer institutions require a higher GPA for admission to the institution and/or specific majors.

Note: Enrollment in many transfer classes is based on your fulfillment of course requisites and/or your placement in Math and English classes.

Career Opportunities

A variety of careers are open to students who graduate with a bachelor's degree in chemistry including:

- Pharmacologist
- Biochemist
- Pharmacist
- Teacher
- Chemical engineer
- Toxicologist
- Quality control specialist
- Chemical technician
- Crime lab analyst
- Product tester
- Forensic chemist
- Analytical chemist
- Water purification chemist
- Pharmaceutical sales person

Computer Science Pre-Major

Associate in Science Degree

swic.edu/computer-science

(August-May);

Department Chair: Keven Hansen

Assistant Chair: Jaime Manche

(June-July);

Department Chair: Jaime Manche

Assistant Chair: Melissa Rossi

This two-year program is designed for students who plan to transfer to a senior institution to complete a four-year degree program with a technical/mathematical emphasis. A four-year degree in computer science prepares students to work as scientific and business application programmers, computer systems analysts, operation research analysts and numerical analysts. Career opportunities are available in industry, business, government and education.

Important Transfer Information

Read the Course Description Guide (yellow section of the catalog) for more information on course content and requisites, which may be necessary for some courses.

If you **KNOW** where you are transferring:

- Transfer requirements vary by receiving institution.
- Plan your Associate in Science and transfer requirements with a SWIC academic advisor and use the transfer guide of the four-year institution you plan to attend.
- Refer to *Recommended Steps and Timeline to Transfer to Four-Year Institutions* in the front of this catalog.

If you **DON'T KNOW** where you are transferring:

- Plan your Associate in Science with a SWIC academic advisor.
- The **Associate in Science Degree Requirement Checklist** in the front of this section may be used as a GENERAL GUIDE; transfer requirements vary by receiving institution.
- Refer to *Recommended Steps and Timeline to Transfer to Four-Year Institutions* in the front of this catalog.

Please view additional transfer resources at swic.edu/articulation.

Associate in Science Degree (0002) – Computer Science Pre-Major

Students who plan to earn an Associate in Science degree and then transfer to a four-year college or university to major in Computer Science should follow the steps listed below. **It is strongly recommended that you confer with a SWIC academic advisor prior to enrolling each semester and familiarize yourself with the specific requirements of the four-year institution where you plan to transfer.**

1. Fulfill the General Education and other institutional requirements for the Associate in Science degree listed in the front of this section. General Education course **preferences** may vary by transfer institution. For students who do not know where they plan to transfer, the Illinois Articulation Initiative (IAI) Computer Science Major Panel recommends the following general education courses for this major:
 - MATH 203 Analytic Geometry & Calculus I
OR MATH 213 Calculus for Business & Social Sciences
OR MATH 113 Finite Math for Business & Social Sciences
 - PHYS 204 Physics-Mechanics
 - ECON 115 Introduction to Economics
OR ECON 201 Principles of Economics I (Macro) and
OR ECON 202 Principles of Economics II (Micro)
2. As you fulfill your degree requirements, it is **strongly recommended** by the IAI Computer Science Major Panel that you take the following classes:
 - MATH 171 Computer Science I – Java
 - MATH 271 Computer Science II – Java
3. The additional courses recommended below may be applicable toward a baccalaureate Computer Science major. **Please keep in mind that most transfer institutions limit the number of semester credits taken within a student's major field of study at the community college level.** To ensure the acceptance of such courses toward your intended major, check with the four-year institution where you are transferring or a SWIC academic advisor regarding their applicability.
 - MATH 292 Linear Algebra
 - MATH 191 Introduction to Statistics
4. Fulfill all other Associate in Science degree requirements listed in the front of this section.
5. Apply for graduation by the date published in the college calendar.
6. Earn at least 64 **transferable** credits with a minimum cumulative grade point average of 2.00 to graduate from SWIC. **Many** transfer institutions require a higher GPA for admission to the institution and/or specific majors.

Note: Enrollment in many transfer classes is based on your fulfillment of course requisites and/or your placement in Math and English classes.

Career Opportunities

A variety of careers are open to students who graduate with a bachelor's degree in computer science including:

- Web master
- Database administrator
- Computer network specialist
- Computer programmer
- Computer software engineer
- Computer systems analyst
- Information systems manager
- Teacher/professor
- Internet/intranet programmer

Earth Science Pre-Major

Associate in Science Degree

swic.edu/earth-science

Department Chair: Stan Hatfield

Earth Science is the general name for all the sciences that seek to understand the Earth and its neighbors in space. Geology, which literally means the study of the Earth, examines the origin and development of the solid Earth, as well as the processes that operate beneath and upon its surface. Meteorology involves the study of our atmosphere, while oceanography deals with the dynamics of the oceans. The study of the Earth is not confined to investigating the interactions and interrelationships on our planet alone, but also attempts to relate the earth to the larger universe using the science of astronomy.

2+2 Articulation Agreements

- Eastern Illinois University – BS Geology
- Eastern Illinois University – BS Geography

Important Transfer Information

Read the Course Description Guide (yellow section of the catalog) for more information on course content and requisites, which may be necessary for some courses.

If you KNOW where you are transferring:

- Transfer requirements vary by receiving institution.
- Plan your Associate in Science and transfer requirements with a SWIC academic advisor and use the transfer guide of the four-year institution you plan to attend.
- Refer to *Recommended Steps and Timeline to Transfer to Four-Year Institutions* in the front of this catalog.

If you DON'T KNOW where you are transferring:

- Plan your Associate in Science with a SWIC academic advisor.
- The **Associate in Science Degree Requirement Checklist** in the front of this section may be used as a GENERAL GUIDE; transfer requirements vary by receiving institution.
- Refer to *Recommended Steps and Timeline to Transfer to Four-Year Institutions* in the front of this catalog.

Please view additional transfer resources at swic.edu/articulation.

Associate in Science Degree (0002) – Earth Science Pre-Major

Students who plan to earn an Associate in Science degree and then transfer to a four-year college or university to major in Geology, Meteorology, Astronomy, or Oceanography should follow the steps listed below. **It is strongly recommended that you confer with a SWIC academic advisor prior to enrolling each semester and familiarize yourself with the specific requirements of the four-year institution where you plan to transfer.**

1. Fulfill the General Education and other institutional requirements for the Associate in Science degree listed in the front of this section. General Education course preferences may vary by transfer institution. For students who do not know where they plan to transfer, the Physical Sciences department recommends the following general education courses for these majors:
 - MATH 203 Analytic Geometry & Calculus I
 - SOC 153 Introductory Sociology
 - GEOG 152 World Regional Geography
 - CHEM 105 General Chemistry I
2. As you fulfill your degree requirements, it is strongly recommended by the Physical Sciences department that you take the following classes for the listed majors:

Geology Major

ES 102 Physical Geology
ES 180 Historical Geology
CHEM 106 General Chemistry II

Meteorology Major

ES 250 Introduction to Meteorology
CHEM 106 General Chemistry II

Astronomy Major

ATY 101 Astronomy
CHEM 106 General Chemistry II

Oceanography Major

ES 102 Physical Geology
CHEM 106 General Chemistry II

3. The additional courses recommended on the next page may be applicable toward the indicated majors. Please keep in mind that most transfer institutions limit the number of semester credits taken within a student's major field of study at the community college level. To ensure the acceptance of such courses toward your intended major, check with the four-year institution where you are transferring or a SWIC academic advisor regarding their applicability.

Geology or Oceanography Major

PHYS 151 College Physics I **OR** PHYS 204 Physics-Mechanics

PHYS 152 College Physics II **OR** PHYS 205 Physics-Heat, Electricity & Magnetism

Astronomy or Meteorology Major

MATH 204 Analytic Geometry & Calculus II

PHYS 204 Physics-Mechanics

PHYS 205 Physics-Heat, Electricity & Magnetism

4. Fulfill all other Associate in Science degree requirements listed in the front of this section.
5. Apply for graduation by the date published in the college calendar.
6. Earn at least 64 transferable credits with a minimum cumulative grade point average of 2.00 to graduate from SWIC. Many transfer institutions require a higher GPA for admission to the institution and/or specific majors.

Note: Enrollment in many transfer classes is based on your fulfillment of course requisites and/or your placement in Math and English classes.

Career Opportunities

A variety of careers are open to students who graduate with a bachelor's degree in geology, astronomy, meteorology or oceanography including:

- Geologist
- Oceanographer
- Mining engineer
- Meteorologist
- Teacher
- Astronomer
- Economic geologist
- Paleontologist
- Park naturalist
- Hydrologist
- Solar energy engineer
- Seismologist
- Agricultural scientist
- Environmental engineer
- Soil scientist
- Forest ranger
- Volcanologist

Engineering Pre-Major

Associate in Engineering Science Degree

swic.edu/engineering

Department Chair: Stan Hatfield

IMPORTANT NOTE TO STUDENTS: The Illinois Articulation Initiative (IAI) Engineering Major Panel recommends students planning to pursue an engineering major upon transfer should complete the Associate in Engineering Science degree instead of the Associate in Arts or Associate in Science degree. If these students instead choose to complete the full general education package in the AA or AS degree, it is likely that they will either have too many hours in transfer and/or will miss important prerequisites and major courses that will prolong the time it takes to obtain the bachelor's degree. This is why the AES degree is the best option for students seeking a bachelor's degree in Engineering.

Note that different engineering specialties require a unique set of courses.

2+2 Articulation Agreements

- SIUE – BS Civil Engineering
- SIUE – BS Computer Engineering
- SIUE – BS Electrical Engineering
- SIUE – BS Mechanical Engineering
- SIUE – BS Industrial Engineering
- SIUE – BS Mechatronics and Robotics Engineering

Important Transfer Information

Read the Course Description Guide (yellow section of the catalog) for more information on course content and requisites, which may be necessary for some courses.

If you KNOW where you are transferring:

- Transfer requirements vary by receiving institution.
- Plan your Associate in Engineering Science and transfer requirements with a SWIC academic advisor and use the transfer guide of the four-year institution you plan to attend.
- Refer to *Recommended Steps and Timeline to Transfer to Four-Year Institutions* in the front of the catalog.

If you DON'T KNOW where you are transferring:

- Plan your Associate in Engineering Science with a SWIC academic advisor.
- The **Associate in Engineering Science Degree Requirement Checklist** in the front of this section may be used as a GENERAL GUIDE; transfer requirements vary by receiving institution.
- Refer to *Recommended Steps and Timeline to Transfer to Four-Year Institutions* in the front of the catalog.

Please view additional transfer resources at swic.edu/articulation.

Associate in Engineering Science Degree (AES1) – Engineering Pre-Major

Students who plan to earn an Associate in Engineering Science degree and then transfer to a four-year college or university to major in Engineering should follow the steps listed below. **It is strongly recommended that you confer with a SWIC academic advisor prior to enrolling each semester and familiarize yourself with the specific requirements of the four-year institution where you plan to transfer.**

1. Fulfill the General Education and other institutional requirements for the Associate in Engineering Science degree listed on page 111 of this catalog. The Illinois Articulation Initiative (IAI) Engineering Major Panel recommends the following general education and prerequisite courses for all engineering majors:
 - MATH 203 Analytic Geometry & Calculus I
 - MATH 204 Analytic Geometry & Calculus II
 - MATH 205 Analytic Geometry & Calculus III
 - MATH 290 Differential Equations
 - CHEM 105 General Chemistry I
 - PHYS 204 Physics-Mechanics
 - PHYS 205 Physics-Heat, Electricity & Magnetism

Engineering Pre-Major (continued)

2. As you fulfill your degree requirements, it is strongly recommended by the IAI Engineering Major Panel that you take the following classes for the listed Engineering Specialties:

Mechanical Engineering, Aeronautical Engineering, Manufacturing Engineering, and Engineering Mechanics:

ENGR 103 Engineering Graphics
ENGR 263 Analytical Mechanics-Statics
ENGR 264 Analytical Mechanics-Dynamics
ENGR 271 Electrical Circuits
ENGR 275 Mechanics of Solids

Civil Engineering

ENGR 103 Engineering Graphics
ENGR 263 Analytical Mechanics-Statics
ENGR 264 Analytical Mechanics-Dynamics
ENGR 275 Mechanics of Solids

Electrical Engineering

ENGR 271 Electrical Circuits
OR MATH 171 Computer Science I-Java

Computer Engineering

MATH 171 Computer Science I-Java
OR MATH 271 Computer Science II-Java
ENGR 271 Electrical Circuits

Chemical Engineering

CHEM 106 General Chemistry II
CHEM 201 Organic Chemistry I
CHEM 202 Organic Chemistry II

Industrial Engineering

ENGR 103 Engineering Graphics
ENGR 263 Analytical Mechanics-Statics
ENGR 264 Analytical Mechanics-Dynamics
ENGR 275 Mechanics of Solids
ECON 202 Principles of Economics II (Micro)

3. The additional courses recommended below may be applicable toward a baccalaureate Engineering major. **Please keep in mind that most transfer institutions limit the number of semester credits taken within a student's major field of study at the community college level.** To ensure the acceptance of such courses toward your intended major, check with the four-year institution where you are transferring or a SWIC academic advisor regarding their applicability.
- ENGR 103 Engineering Graphics
 - ECON 202 Principles of Economics II (Micro)
 - MATH 171 Computer Science I-Java
 - **OR** MATH 210 Computer Programming for Engineers
4. Fulfill all other Associate in Engineering Science degree requirements listed in the front of this section.
5. Apply for graduation by the date published in the college

calendar.

6. Earn at least 65 transferable credits with a minimum cumulative grade point average of 2.00 to graduate from SWIC. Many transfer institutions require a higher GPA for admission to the institution and/or specific majors.

Note: Enrollment in many transfer classes is based on your fulfillment of course requisites and/or your placement in Math and English classes.

Career Opportunities

A variety of careers are open to students who graduate with a bachelor's degree in engineering including:

- Aerospace engineer
- Agricultural engineer
- Automotive engineer
- Biomedical engineer
- Chemical engineer
- Electrical/electronics engineer
- Industrial designer
- Materials engineer
- Mechanical engineer
- Metallurgical engineer
- Mining engineer
- Nuclear engineer
- Petroleum engineer
- Quality engineer

Mathematics Pre-Major

Associate in Science Degree

swic.edu/math

Department Chair: Keven Hansen

As society has become more technical, many professions are requiring additional mathematical skills. Some of the fastest growing and highest paying fields require individuals with sophisticated mathematical competence, as well as other communication skills. A bachelor's degree in mathematics is a highly marketable degree in a wide variety of professions.

2+2 Articulation Agreements

- EIU – BS Mathematics-Applied Mathematics
- EIU – BS Mathematics-Pure Mathematics
- SIUE – BS Mathematics-Actuarial Science
- SIUE – BS Mathematics-Applied Mathematics
- SIUE – BS Mathematics-Pure Mathematics
- SIUE – BS Mathematics-Statistics

Important Transfer Information

Read the Course Description Guide (yellow section of the catalog) for more information on course content and requisites, which may be necessary for some courses.

If you KNOW where you are transferring:

- Transfer requirements vary by receiving institution.
- Plan your Associate in Science and transfer requirements with a SWIC academic advisor and use the transfer guide of the four-year institution you plan to attend.
- Refer to *Recommended Steps and Timeline to Transfer to Four-Year Institutions* in the front of this catalog.

If you DON'T KNOW where you are transferring:

- Plan your Associate in Science with a SWIC academic advisor.
- The **Associate in Science Degree Requirement Checklist** in the front of this section may be used as a GENERAL GUIDE; transfer requirements vary by receiving institution.
- Refer to *Recommended Steps and Timeline to Transfer to Four-Year Institutions* in the front of this catalog.

Please view additional transfer resources at swic.edu/articulation.

Associate in Science Degree (0002) – Mathematics Pre-Major

Students who plan to earn an Associate in Science degree and then transfer to a four-year college or university to major in Mathematics should follow the steps listed below. **It is strongly recommended that you confer with a SWIC academic advisor prior to enrolling each semester and familiarize yourself with the specific requirements of the four-year institution where you plan to transfer.**

1. Fulfill the General Education and other institutional requirements for the Associate in Science degree listed in the front of this section. General Education course **preferences** may vary by transfer institution. For students who do not know where they plan to transfer, the Illinois Articulation Initiative (IAI) Mathematics Major Panel recommends the following general education courses for this major:
 - MATH 203 Analytic Geometry & Calculus I
 - PHYS 204 Physics-Mechanics
2. As you fulfill your degree requirements, it is **strongly recommended** by the IAI Mathematics Major Panel that you take the following classes:
 - MATH 204 Analytic Geometry & Calculus II
 - MATH 205 Analytic Geometry & Calculus III
 - MATH 292 Linear Algebra
 - MATH 290 Differential Equations
3. The additional courses recommended below may be applicable toward a baccalaureate Mathematics major. **Please keep in mind that most transfer institutions limit the number of semester credits taken within a student's major field of study at the community college level.** To ensure the acceptance of such courses toward your intended major, check with the four-year institution where you are transferring or a SWIC academic advisor regarding their applicability.
 - MATH 191 Introduction to Statistics
OR MATH 171 Computer Science I – JAVA
OR MATH 210 Computer Programming for Engineers
 - PHYS 205 Physics-Heat, Electricity & Magnetism
4. Fulfill all other Associate in Science degree requirements listed in the front of this section.
5. Apply for graduation by the date published in the college calendar.
6. Earn at least 64 **transferable** credits with a minimum cumulative grade point average of 2.00 to graduate from SWIC. **Many** transfer institutions require a higher GPA for admission to the institution and/or specific majors.

Note: Enrollment in many transfer classes is based on your fulfillment of course requisites and/or your placement in Math and English classes.

Career Opportunities

A variety of careers are open to students who graduate with a bachelor's degree in math including:

- Statistician
- Actuary
- Operations research analyst
- Engineer (civil, electrical, mechanical, etc.)
- Teacher
- Financial analyst
- Systems consultant
- Research data analyst

Physics Pre-Major

Associate in Science Degree

swic.edu/physics

Department Chair: Stan Hatfield

Physics seeks to understand the very basic concepts of force, energy, mass and charge. It is a broad and deep subject split into theoretical and experimental branches. Theoretical physics deals with the inquiry and formulation of new theories while experimental physics tests and analyzes these or previously existing theories. Physics relies extensively on sophisticated mathematics to provide its framework of study. A degree in physics can lead to careers from engineering to space research. Nuclear power, lasers and solid-state electronics are examples of technological advances that have come about through the study of physics.

2+2 Articulation Agreements

- SIUE – BS Physics-Standard
- SIUE – BS Physics-Astronomy
- SIUE – BS Physics-Biomedical
- SIUE – BS Physics-Photonics and Laser

Important Transfer Information

Read the Course Description Guide (yellow section of the catalog) for more information on course content and requisites, which may be necessary for some courses.

If you **KNOW** where you are transferring:

- Transfer requirements vary by receiving institution.
- Plan your Associate in Science and transfer requirements with a SWIC academic advisor and use the transfer guide of the four-year institution you plan to attend.
- Refer to *Recommended Steps and Timeline to Transfer to Four-Year Institutions* in the front of this catalog.

If you **DON'T KNOW** where you are transferring:

- Plan your Associate in Science with a SWIC academic advisor.
- The **Associate in Science Degree Requirement Checklist** in the front of this section may be used as a GENERAL GUIDE; transfer requirements vary by receiving institution.
- Refer to *Recommended Steps and Timeline to Transfer to Four-Year Institutions* in the front of this catalog.

Please view additional transfer resources at swic.edu/articulation.

Associate in Science Degree (0002) – Physics Pre-Major

Students who plan to earn an Associate in Science degree and then transfer to a four-year college or university to major in Physics should follow the steps listed below. **It is strongly recommended that you confer with a SWIC academic advisor prior to enrolling each semester and familiarize yourself with the specific requirements of the four-year institution where you plan to transfer.**

1. Fulfill the General Education and other institutional requirements for the Associate in Science degree listed in the front of this section. General Education course **preferences** may vary by transfer institution. For students who do not know where they plan to transfer, the Illinois Articulation Initiative (IAI) Physics Major Panel recommends the following general education courses for this major:
 - MATH 203 Analytic Geometry & Calculus I
 - MATH 204 Analytic Geometry & Calculus II
 - CHEM 105 General Chemistry I
2. As you fulfill your degree requirements, it is **strongly recommended** by the IAI Physics Major Panel that you take the following classes:
 - PHYS 204 Physics-Mechanics
 - PHYS 205 Physics-Heat, Electricity & Magnetism
 - PHYS 206 Physics-Light & Modern Physics
3. The additional courses recommended below may be applicable toward a baccalaureate Physics major. **Please keep in mind that most transfer institutions limit the number of semester credits taken within a student's major field of study at the community college level.** To ensure the acceptance of such courses toward your intended major, check with the four-year institution where you are transferring or a SWIC academic advisor regarding their applicability.
 - MATH 205 Analytic Geometry & Calculus III
 - MATH 290 Differential Equations
 - MATH 292 Linear Algebra
 - CHEM 106 General Chemistry II
4. Fulfill all other Associate in Science degree requirements listed in the front of this section.
5. Apply for graduation by the date published in the college calendar.
6. Earn at least 64 **transferable** credits with a minimum cumulative grade point average of 2.00 to graduate from SWIC. **Many** transfer institutions require a higher GPA for admission to the institution and/or specific majors.

Note: Enrollment in many transfer classes is based on your fulfillment of course requisites and/or your placement in Math and English classes.

Career Opportunities

A variety of careers are open to students who graduate with a bachelor's degree in physics including:

- Nuclear engineer
- Atomic physicist
- Medical physicist
- Aerospace engineer
- Civil engineer
- Geologist
- Architect
- Audio engineer
- Electrical engineer
- Teacher

Pre-Dentistry Pre-Major

Associate in Science Degree

swic.edu/pre-dentistry

Dentists focus on maintaining oral health through such preventive and repair practices as extracting, filling, cleaning or replacing teeth; performing corrective work, such as straightening teeth; treating diseased tissue of the gums; performing surgical operations on the jaw or mouth; and making and fitting false teeth. To be a dentist, one must attend dental school after graduating from college. Most dental schools require applicants to pass the DAT, or Dental Admissions Test, which tests a student's ability to succeed in dental school.

Individuals interested in pursuing dentistry as a career should also note the importance of manual dexterity and scientific ability. Skilled, steady hands are necessary, as well as good space and shape judgment and artistic and creative ability. Good vision is required because of the detailed work. Individuals should also possess a love of learning since advances in dental research require dentists to continue their education throughout their careers.

Important Transfer Information

Read the Course Description Guide (yellow section of the catalog) for more information on course content and requisites, which may be necessary for some courses.

If you KNOW where you are transferring:

- Transfer requirements vary by receiving institution.
- Plan your Associate in Science and transfer requirements with a SWIC academic advisor and use the transfer guide of the four-year institution you plan to attend.
- Refer to *Recommended Steps and Timeline to Transfer to Four-Year Institutions* in the front of this catalog.

If you DON'T KNOW where you are transferring:

- Plan your Associate in Science with a SWIC academic advisor.
- The **Associate in Science Degree Requirement Checklist** in the front of this section may be used as a GENERAL GUIDE; transfer requirements vary by receiving institution.
- Refer to *Recommended Steps and Timeline to Transfer to Four-Year Institutions* in the front of this catalog.

Please view additional transfer resources at swic.edu/articulation.

Associate in Science Degree (0002) – Pre-Dentistry Pre-Major

Students who plan to earn an Associate in Science degree, transfer to a four-year college or university, and then continue on to a school of dentistry should follow the steps listed below. **It is strongly recommended that you confer with a SWIC academic advisor prior to enrolling each semester and familiarize yourself with the specific requirements of the four-year institution where you plan to transfer.**

1. Fulfill the General Education and other institutional requirements for the Associate in Science degree listed in the front of this section. General Education course **preferences** may vary by transfer institution.
2. As you fulfill your degree requirements, it is **strongly recommended** that you take the following classes:
 - BIOL 101 Principles of Biology I
 - BIOL 102 Principles of Biology II
 - CHEM 105 General Chemistry I
 - CHEM 106 General Chemistry II
 - CHEM 201 Organic Chemistry I
 - CHEM 202 Organic Chemistry II
3. **Most** dental schools will accept the following courses for credit towards meeting admission requirements:
 - MATH 191 Introduction to Statistics
 - PHYS 151 College Physics I
 - **OR** PHYS 204 Physics-Mechanics
 - PHYS 152 College Physics II
 - **OR** PHYS 205 Physics-Heat, Elec, & Magnetism
4. The **optional** courses listed below may be applicable toward admission to dental school. **Please keep in mind that most transfer institutions limit the number of semester credits taken within a student's major field of study at the community college level.** To ensure the acceptance of such courses toward your intended major, check with the four-year institution where you are transferring or a SWIC academic advisor regarding their applicability.
 - PSYC 151 General Psychology
 - BIOL 157 Human Anatomy & Physiology I
 - BIOL 158 Human Anatomy & Physiology II
 - BIOL 270 Genetics
 - MATH 203 Analytic Geometry & Calculus I
5. Fulfill all other Associate in Science degree requirements listed in the front of this section.
6. Apply for graduation by the date published in the college calendar.
7. Earn at least 64 **transferable** credits with a minimum cumulative grade point average of 2.00 to graduate from SWIC. **Many** transfer institutions require a higher GPA for admission to the institution and/or specific majors.

Note: Enrollment in many transfer classes is based on your fulfillment of course requisites and/or your placement in Math and English classes.

Pre-Medicine Pre-Major

Associate in Science Degree

swic.edu/pre-med

A physician's responsibilities cover a wide range of functions in health maintenance, including both acute care and preventive care approaches involving substantial patient education. These responsibilities include diagnosing disease, supervising the care of patients, and prescribing and implementing treatment.

Important Transfer Information

Read the Course Description Guide (yellow section of the catalog) for more information on course content and requisites, which may be necessary for some courses.

If you **KNOW** where you are transferring:

- Transfer requirements vary by receiving institution.
- Plan your Associate in Science and transfer requirements with a SWIC academic advisor and use the transfer guide of the four-year institution you plan to attend.
- Refer to *Recommended Steps and Timeline to Transfer to Four-Year Institutions* in the front of this catalog.

If you **DON'T KNOW** where you are transferring:

- Plan your Associate in Science with a SWIC academic advisor.
- The **Associate in Science Degree Requirement Checklist** in the front of this section may be used as a GENERAL GUIDE; transfer requirements vary by receiving institution.
- Refer to *Recommended Steps and Timeline to Transfer to Four-Year Institutions* in the front of this catalog.

Please view additional transfer resources at swic.edu/articulation.

Associate in Science Degree (0002) – Pre-Medicine Pre-Major

Students who plan to earn an Associate in Science degree, transfer to a four-year college or university, and then continue on to a school of medicine should follow the steps listed below. **It is strongly recommended that you confer with a SWIC academic advisor prior to enrolling each semester and familiarize yourself with the specific requirements of the four-year institution where you plan to transfer.**

1. Fulfill the General Education and other institutional requirements for the Associate in Science degree listed in the front of this section. General Education course **preferences** may vary by transfer institution.
2. As you fulfill your degree requirements, it is **strongly recommended** that you take the following classes:
 - BIOL 101 Principles of Biology I
 - BIOL 102 Principles of Biology II
 - CHEM 105 General Chemistry I
 - CHEM 106 General Chemistry II
 - CHEM 201 Organic Chemistry I
 - CHEM 202 Organic Chemistry II
3. **Most** medical schools will accept the following courses for credit towards meeting admission requirements:
 - MATH 191 Introduction to Statistics
 - PHYS 151 College Physics I
 - **OR** PHYS 204 Physics-Mechanics
 - PHYS 152 College Physics II
 - **OR** PHYS 205 Physics-Heat, Electricity & Magnetism
4. The **optional** courses listed below may be applicable toward admission to medical schools. **Please keep in mind that most transfer institutions limit the number of semester credits taken within a student's major field of study at the community college level.** To ensure the acceptance of such courses toward your intended major, check with the four-year institution where you are transferring or a SWIC academic advisor regarding their applicability.
 - PSYC 151 General Psychology
 - BIOL 157 Human Anatomy & Physiology I
 - BIOL 158 Human Anatomy & Physiology II
 - BIOL 270 Genetics
 - MATH 203 Analytic Geometry & Calculus I
5. Fulfill all other Associate in Science degree requirements listed in the front of this section.
6. Apply for graduation by the date published in the college calendar.
7. Earn at least 64 **transferable** credits with a minimum cumulative grade point average of 2.00 to graduate from SWIC. **Many** transfer institutions require a higher GPA for admission to the institution and/or specific majors.

Note: Enrollment in many transfer classes is based on your fulfillment of course requisites and/or your placement in Math and English classes.

Pre-Pharmacy Pre-Major

Associate in Science Degree

swic.edu/pre-pharmacy

Pharmacists distribute prescription drugs to individuals and advise patients and physicians on the selection, dosages, interactions and side effects of medications. Pharmacists monitor the health of patients to ensure the safe and effective use of medication. They also advise patients about general health topics such as diet, exercise and stress management. They could be involved in research for pharmaceutical manufacturers, developing new drugs and testing their side effects, or they could work in marketing, sales, or carrying out cost-benefit analysis on certain drugs. Other pharmacists work for the government or public health care services.

Important Transfer Information

Read the Course Description Guide (yellow section of the catalog) for more information on course content and requisites, which may be necessary for some courses.

If you KNOW where you are transferring:

- Transfer requirements vary by receiving institution.
- Plan your Associate in Science and transfer requirements with a SWIC academic advisor and use the transfer guide of the four-year institution you plan to attend.
- Refer to *Recommended Steps and Timeline to Transfer to Four-Year Institutions* in the front of this catalog.

If you DON'T KNOW where you are transferring:

- Plan your Associate in Science with a SWIC academic advisor.
- The **Associate in Science Degree Requirement Checklist** in the front of this section may be used as a GENERAL GUIDE; transfer requirements vary by receiving institution.
- Refer to *Recommended Steps and Timeline to Transfer to Four-Year Institutions* in the front of this catalog.

Please view additional transfer resources at swic.edu/articulation.

Associate in Science Degree (0002) – Pre-Pharmacy Pre-Major

Students who plan to earn an Associate in Science degree, transfer to a four-year college or university, and then continue on to a school of pharmacy should follow the steps listed below. **It is strongly recommended that you confer with a SWIC academic advisor prior to enrolling each semester and familiarize yourself with the specific requirements of the four-year institution and professional school where you plan to transfer.**

1. Fulfill the General Education and other institutional requirements for the Associate in Science degree listed in the front of this section. General Education course **preferences** may vary by transfer institution.
2. As you fulfill your degree requirements, it is **strongly recommended** that you take the following classes:
 - BIOL 101 Principles of Biology I
 - BIOL 102 Principles of Biology II
 - CHEM 105 General Chemistry I
 - CHEM 106 General Chemistry II
 - CHEM 201 Organic Chemistry I
 - CHEM 202 Organic Chemistry II
3. **Most** pharmacy schools will accept the following courses for credit towards meeting admission requirements:
 - PHYS 151 College Physics I
 - **OR** PHYS 204 Physics-Mechanics
 - PHYS 152 College Physics II
 - **OR** PHYS 205 Physics-Heat, Electricity & Magnetism
 - BIOL 157 Human Anatomy & Physiology I
 - BIOL 158 Human Anatomy & Physiology II
 - MATH 191 Introduction to Statistics
 - MATH 203 Analytic Geometry & Calculus I
4. The **optional** courses listed below may be applicable toward admission to pharmacy schools. **Please keep in mind that most transfer institutions limit the number of semester credits taken within a student's major field of study at the community college level.** To ensure the acceptance of such courses toward your intended major, check with the four-year institution where you are transferring or a SWIC academic advisor regarding their applicability.
 - ECON 201 Principles of Economics I (Macro) **OR** other ECON class
 - BIOL 151 Fundamental Botany
5. Fulfill all other Associate in Science degree requirements listed in the front of this section.
6. Apply for graduation by the date published in the college calendar.
7. Earn at least 64 **transferable** credits with a minimum cumulative grade point average of 2.00 to graduate from SWIC. **Many** transfer institutions require a higher GPA for admission to the institution and/or specific majors.

Note: Enrollment in many transfer classes is based on your fulfillment of course requisites and/or your placement in Math and English classes.

Pre-Veterinary Medicine Pre-Major

Associate in Science Degree

swic.edu/pre-vet

A veterinarian's responsibilities cover a wide range of functions in animal health maintenance, including both acute care and preventive care approaches. These responsibilities include diagnosing disease, supervising the care of animals, and prescribing and implementing treatment.

Important Transfer Information

Read the Course Description Guide (yellow section of the catalog) for more information on course content and requisites, which may be necessary for some courses.

If you KNOW where you are transferring:

- Transfer requirements vary by receiving institution.
- Plan your Associate in Science and transfer requirements with a SWIC academic advisor and use the transfer guide of the four-year institution you plan to attend.
- Refer to *Recommended Steps and Timeline to Transfer to Four-Year Institutions* in the front of this catalog.

If you DON'T KNOW where you are transferring:

- Plan your Associate in Science with a SWIC academic advisor.
- The **Associate in Science Degree Requirement Checklist** in the front of this section may be used as a GENERAL GUIDE; transfer requirements vary by receiving institution.
- Refer to *Recommended Steps and Timeline to Transfer to Four-Year Institutions* in the front of this catalog.

Please view additional transfer resources at swic.edu/articulation.

Associate in Science Degree (0002) – Pre-Veterinary Medicine Pre-Major

Students who plan to earn an Associate in Science degree, transfer to a four-year college or university, and then continue on to a school of veterinary medicine should follow the steps listed below. **It is strongly recommended that you confer with a SWIC academic advisor prior to enrolling each semester and familiarize yourself with the specific requirements of the four-year institution where you plan to transfer.**

1. Fulfill the General Education and other institutional requirements for the Associate in Science degree listed in the front of this section. General Education course **preferences** may vary by transfer institution.
2. As you fulfill your degree requirements, it is **strongly recommended** that you take the following classes:
 - AGRI 111 Animal Science
 - BIOL 101 Principles of Biology I
 - BIOL 102 Principles of Biology II
 - CHEM 105 General Chemistry I
 - CHEM 106 General Chemistry II
 - CHEM 201 Organic Chemistry I
 - CHEM 202 Organic Chemistry II
3. **Most** veterinary schools will accept the following classes for credit towards meeting admission requirements
 - MATH 191 Introduction to Statistics
 - PHYS 151 College Physics I
 - **OR** PHYS 204 Physics-Mechanics
 - PHYS 152 College Physics II
 - **OR** PHYS 205 Introduction to Statistics
4. The **optional** courses listed below may be applicable toward admission to veterinary schools. **Please keep in mind that most transfer institutions limit the number of semester credits taken within a student's major field of study at the community college level.** To ensure the acceptance of such courses toward your intended major, check with the four-year institution where you are transferring or a SWIC academic advisor regarding their applicability.
 - BIOL 157 Human Anatomy & Physiology I
 - BIOL 158 Human Anatomy & Physiology II
 - BIOL 270 Genetics
 - MATH 203 Analytic Geometry & Calculus I
5. Fulfill all other Associate in Science degree requirements listed in the front of this section.
6. Apply for graduation by the date published in the college calendar.
7. Earn at least 64 **transferable** credits with a minimum cumulative grade point average of 2.00 to graduate from SWIC. **Many** transfer institutions require a higher GPA for admission to the institution and/or specific majors.

Note: Enrollment in many transfer classes is based on your fulfillment of course requisites and/or your placement in Math and English classes.