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: : 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>	Application Date
Fall/December	Oct. 15
Spring/May	Feb. 15
Summer/July	June 15

Associate in Science

Degree Requirements Checklist

Students MUST take one Human Relations Course AND one Non-Western Culture Course

Human Relations Course:

designed specifically to examine aspects of human diversity within the US

Non-Western Course:

designed specifically to examine aspects of human diversity from a non-Western perspective

*Included in IAI majors codes. Check:

https://itransfer.org/courses/descriptors.php

		•	u of their own comparable lower-d	•
education requirements.	sineges and aniversities agree to a	ecept the war diee in he	a or their own comparable lower a	IVISION BENEful
	of 3 courses / 9 semester credit	s) – A minimum grade o	f "C" is required for ENG 101 & 102).
ENG 101	or o courses, a semicator creare	ENG 102		COMM 151
2.10 101	-	2.10 102	-	
HUMANITIES AND FINE A	RTS			
	nester credits: at least 1 course fr	om humanities and at I	east 1 course from fine arts)	
Humanities (at least 1 cou			,	
FREN 202	LIT 117	LIT 202	LIT 251*	PHIL 152
FILM 225	\ LIT 120	LIT 205	LIT 252*	PHIL 155
GERM 202	LIT 125	LIT 213*	LIT 290	PHIL 160
HIST 230	LIT 133	 LIT 214*	LIT 291	SPAN 202
HIST 286	LIT 134	LIT 215	PHIL 150	
LIT 113	LIT 201	LIT 216	PHIL 151	
Fine Arts (at least 1 cours			 ·····-	
ART 101	ART 105	FILM 115	MUS 101	THEA 120
ART 103	ART 106	FILM 215	MUS 102	
ART 104	ART 110	FILM 225	MUS 110	
		_		
SOCIAL SCIENCES AND BE	HAVIORAL SCIENCES			
(total of 2 courses / 6 sen	nester credits: 1 course each fron	n at least 2 disciplines b	elow)	
•	course / 3 semester credits)		•	
ECON 115	GEOG 202	HIST 115	HIST 181*	POLS 262*
ECON 201	HIST 101*	HIST 117	POLS 150*	POLS 270*
ECON 202	HIST 102*	HIST 118	POLS 240*	
GEOG 152	HIST 114	HIST 180*	POLS 241*	
Behavioral Sciences (at le	east 1 course / 3 semester credits)			
ANTH 150	PSYC 151*	PSYC 251*	SOC 153*	SOC 255*
ANTH 160	PSYC 210*	PSYC 253*	SOC 203*	
ANTH 250	PSYC 250*	PSYC 295*	SOC 230*	
			 	
MATHEMATICS (total of 2	2 courses / 6-8 semester credits)			
MATH 191 or BUS 20	05*	MATH 203*		MATH 205*
MATH 113	_	MATH 204*		MATH 213
	-		-	
PHYSICAL AND LIFE SCIEN	ICES			
(total of 3 courses: 1 Life	Science; 1 Physical Science; with	at least 1 of those being	g a laboratory course 10-11 semest	ter credits)
Life Science (1 course / to	tal of 3-4 semester credits)	Physical Science (1	course / total of 3-4 semester credi	its)
BIOL 100		ATY 101	ES 102	PHYS 101
BIOL 101*		CHEM 101	ES 114	PHYS 151
BIOL 106	_	CHEM 105*	ES 180	PHYS 204*
		ES 101	ES 250	
Additional Physical and L	ife Sciences (total 3-4 semester cr	redits)		
Additional course fro	om either Physical or Life Sciences			
BIOL 102	CHEM 106	CHEM 202	PHYS 205	
BIOL 106	CHEM 201	PHYS 152	PHYS 206	
HUMAN WELL-BEING (to	tal of 2 semester credits) The cour	ses below are not includ	ded in the IAI General Education Co	re Curriculum.
HES 130	HES 152	HES 156	HES 172	HRO 101
HES 131	HES 154	HES 158	HES 180	HRO 150
HES 151	HES 155	HES 160		

Additional Transfer Major/Minor Courses and Electives (total of 26-27 semester credits)

Applicable major/minor/elective courses are identified in the Course Description Guide as "T" type classes. "C" type courses included in 2+2 Articulation Agreements of the A.A.S. Programs can be included as electives for the A.S. Since requirements vary from one institution to another, all new degree seeking students must meet regularly with an academic advisor as well as verify information with the transfer institution. Electives should be selected from the following disciplines:

AGRI CHEM ES MATH PHY
ATY ENGR GEOG MSC

BIOL ED HES ORIE

Other (as identified in 2+2 agreements)

GECC: Students seeking to complete the GECC should take one additional Humanities and Fine Arts and one additional Social and Behavioral Science course (6 total credit hours). These credits can be applied to the 26-27 credits of additional transfer major/minor and electives.

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

Associate in Engineering Science

Degree Requirements Checklist

(Required by all Engineering Sp. Communications (6 semester ENG 101		" is required for ENG 101 & 102 ENG 102		
Mathematics (17 semester cre MATH 203	edits) MATH 204	MATH 205	MATH 290	
Physical Science (13 semester CHEM 105	credits) PHYS 204	PHYS 205		
Human Well-Being (2 semeste	er credits) Courses listed in this s	section are not IAI courses.		
HES 130	HES 151	HES 154	HES 156	HES 160
HES 131	HES 152	HES 155	HES 158	HES 172
Select Engineering Specialty (2	21 competer credits)			HES 180
Mechanical Engineering	Aeronautical Engineering	Manufacturing Engineering	Engineering Mechanics	
ENGR 103	ENGR 263	ENGR 264	ENGR 271	ENGR 275
	edits (select from elective course	es below)		
Chemical Engineering (21 sem		CHEM 202		
CHEM 106	CHEM 201 edits (select from elective course	CHEM 202		
Computer Engineering (21 ser	` ·	es below)		
ENGR 271	MATH 171	MATH 271		
	redits (select from elective cour	ses below)		
Electrical Engineering (21 sem	ester credits)			
ENGR 271	MATH 171 OR MATH 21			
	er credits (select from elective c	ourses below)		
Civil Engineering (21 semester		ENGR 264	FNCD 27F	
ENGR 103	ENGR 263 edits (select from elective course		ENGR 275	
Industrial Engineering (21 sem		es below)		
ENGR 103	ENGR 263	ENGR 264	ENGR 275	
Electives – 8 semester cre	edits (select from elective course	es below)		
				
		ectives selected from the lists below	w. Students may not count comple	eted credit from
	transfer institution for suggester			
ATY 101	Life Sciences (0-10 semester cr BIOL 108	ENGR 263	ES 114	MATH 271
BIOL 100	BIOL 151	ENGR 264	ES 250	MATH 292
BIOL 101	CHEM 106	ENGR 271	MATH 171	PHYS 206
BIOL 102	ENGR 103	ENGR 275	MATH 191 OR BUS 205	
BIOL 106	ENGR 251	ES 102	MATH 210	
		edits) Note: some engineering prog		5 450
ART 101 ART 102	FILM 225	LIT 133	LIT 251	PHIL 152
ART 102 ART 103	FREN 202 GERM 202	LIT 134 LIT 201	LIT 252 LIT 290	PHIL 153 PHIL 154
ART 103	HIST 230	LIT 202	LIT 291	PHIL 155
ART 105	HIST 286	LIT 205	MUS 101	PHIL 160
ART 106	LIT 113	LIT 213	MUS 102	SPAN 202
ART 110	LIT 117	LIT 214	MUS 110	COMM 151
FILM 115	LIT 120	LIT 215	PHIL 150	COMM 155
FILM 215	LIT 125	LIT 216	PHIL 151	THEA 120
		any engineering programs require		DCVC 251
ANTH 150 ANTH 160	GEOG 152 GEOG 202	HIST 117 HIST 118	POLS 241 POLS 262	PSYC 251 PSYC 253
ANTH 160 ANTH 250	HIST 101	HIST 180	POLS 270	PSYC 295
ECON 115	HIST 102	HIST 181	PSYC 151	SOC 153
ECON 201	HIST 114	POLS 150	PSYC 210	SOC 203
ECON 202	HIST 115	POLS 240	PSYC 250	SOC 230
				SOC 255
This degree requires successfu	Il completion of one Human Rel	ations class and one Non-Western	Culture class.	
Human Relations Courses	Non-Western Culture			

SOUTHWESTERN ILLINOIS COLLEGE 2024-2025

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.

Articulation Agreements

- Eastern Illinois University BS Biological Services
- SIU-Edwardsville BS Biology-Ecology, Evolution & Environment
- SIU-Edwardsville BS Biology-Genetics & Cellular
- SIU-Edwardsville BS Biology-Integrative Studies
- SIU-Edwardsville 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.

- 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
 - As you fulfill your degree requirements, it is <u>strongly</u> <u>recommended</u> 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
 DP PHYS 205 Physics Heat
 - OR PHYS 205 Physics-Heat, Electricity & Magnetism
 - MATH 191 Introduction to Statistics
- Fulfill all other Associate in Science degree requirements listed in the front of this section.
- Apply for graduation by the date published in the college calendar.
- Earn at least 64 <u>transferable</u> credits with a minimum cumulative grade point average of 2.00 to graduate from SWIC. <u>Many</u> 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: Mitch Robertson

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.

Articulation Agreements

- SIU-Edwardsville BS Biochemistry
- SIU-Edwardsville BS Biochemistry ACS Certified
- SIU-Edwardsville BS Chemistry
- SIU-Edwardsville BS Chemistry ACS Certified
- SIU-Edwardsville 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.

- Fulfill the General Education and other institutional requirements for the Associate in Science degree listed in the front of this section. General Education course <u>preferences</u> 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.
- Apply for graduation by the date published in the college calendar.
- Earn at least 64 <u>transferable</u> credits with a minimum cumulative grade point average of 2.00 to graduate from SWIC. <u>Many</u> 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.

Articulation Agreements

• SIU-Carbondale – BS Information Technology

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
 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.
- Apply for graduation by the date published in the college calendar.
- Earn at least 64 <u>transferable</u> credits with a minimum cumulative grade point average of 2.00 to graduate from SWIC. <u>Many</u> 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: Mitch Robertson

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.

Articulation Agreements

Eastern Illinois University:

- BS Geography: Environmental/Physical
- BS Geography: Human Geography
- BS Geology

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.

Earth Science Pre-Major (continued)

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

- Fulfill all other Associate in Science degree requirements listed in the front of this section.
- 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: Mitch Robertson

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.

Articulation Agreements

- SIU-Edwardsville BS Civil Engineering
- SIU-Edwardsville BS Computer Engineering
- SIU-Edwardsville BS Electrical Engineering
- SIU-Edwardsville BS Mechanical Engineering
- SIU-Edwardsville BS Industrial Engineering
- SIU-Edwardsville BS Mechatronics and Robotics Engineering
- SIU-Carbondale BS Civil Engineering
- SIU-Carbondale BS Mechanical 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.

- 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 <u>strongly recommended</u> 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 EngineeringCHEM 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
- 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 <u>transferable</u> credits with a minimum cumulative grade point average of 2.00 to graduate from SWIC. <u>Many</u> 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

(August-May); Department Chair: Keven Hansen Assistant Chair: Jaime Manche

(June-July);

Department Chair: Jaime Manche Assistant Chair: Melissa Rossi

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.

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.

- Fulfill the General Education and other institutional requirements for the Associate in Science degree listed in the front of this section. General Education course <u>preferences</u> 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
- As you fulfill your degree requirements, it is <u>strongly</u> <u>recommended</u> 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.
- Apply for graduation by the date published in the college calendar.
- Earn at least 64 <u>transferable</u> credits with a minimum cumulative grade point average of 2.00 to graduate from SWIC.
 <u>Many</u> 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: Mitch Robertson

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.

Articulation Agreements

- SIUE BS Physics-Astronomy
- SIUE BS Physics-Biomedical Physics
- SIUE BS Physics-Photonics
- SIUE BS Physics-Laser Physics

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.

- Fulfill the General Education and other institutional requirements for the Associate in Science degree listed in the front of this section. General Education course <u>preferences</u> 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
- As you fulfill your degree requirements, it is <u>strongly</u> <u>recommended</u> 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.
- Apply for graduation by the date published in the college calendar.
- Earn at least 64 <u>transferable</u> credits with a minimum cumulative grade point average of 2.00 to graduate from SWIC. <u>Many</u> 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 succeeded 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
- 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 <u>optional</u> 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.
- Apply for graduation by the date published in the college calendar.
- 7. Earn at least 64 <u>transferable</u> credits with a minimum cumulative grade point average of 2.00 to graduate from SWIC. <u>Many</u> transfer institutions require a higher GPA for admission to the institution and/or specific majors.

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.

- Fulfill the General Education and other institutional requirements for the Associate in Science degree listed in the front of this section. General Education course <u>preferences</u> 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
- 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 <u>optional</u> 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.
- Apply for graduation by the date published in the college calendar.
- 7. Earn at least 64 <u>transferable</u> credits with a minimum cumulative grade point average of 2.00 to graduate from SWIC. <u>Many</u> transfer institutions require a higher GPA for admission to the institution and/or specific majors.

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.

- Fulfill the General Education and other institutional requirements for the Associate in Science degree listed in the front of this section. General Education course <u>preferences</u> 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
- 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 <u>optional</u> 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.
- 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.

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.

- Fulfill the General Education and other institutional requirements for the Associate in Science degree listed in the front of this section. General Education course <u>preferences</u> may vary by transfer institution.
- 2. As you fulfill your degree requirements, it is <u>strongly</u> <u>recommended</u> 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
- 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 <u>optional</u> 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.
- Apply for graduation by the date published in the college calendar.
- 7. Earn at least 64 <u>transferable</u> credits with a minimum cumulative grade point average of 2.00 to graduate from SWIC. <u>Many</u> transfer institutions require a higher GPA for admission to the institution and/or specific majors.