
ASSOCIATE OF SCIENCE DEGREE

San Juan College offers the Associate of Science Degree (A.S.), designed for students who will be transferring to other colleges or universities to acquire advanced degrees.

To receive the A.S. degree, students must satisfactorily complete a minimum of 66 credits. This includes 35 credits to meet the general education core requirements, 3 credits in computer science, and at least 28 credits in an area of concentration.

Transferable General Education Common Core

The following general education common core was developed through collaboration of New Mexico's public postsecondary institutions to facilitate transfer of students between New Mexico's institutions of higher education. For students enrolled at any public institution in New Mexico, the general education common core courses will transfer to any other New Mexico public college or university, and apply toward associate and baccalaureate degree program requirements. (Students preparing for careers in engineering, health sciences, or other profession-related fields are advised that some of this coursework may not transfer toward general education requirements but in most cases will apply toward elective requirements.)

Transfer Guides and Catalogs

Several transfer guides have been developed through collaboration of New Mexico's postsecondary institutions. Students who have selected a field of study and/or the college or university where they wish to graduate are advised to consult the transfer guide or catalog for that institution for advice to guide their course selection. Planning for effective transfer is ultimately the student's responsibility. Responsible transfer planning includes early and regular consultation with the intended transfer institution to assure that all pre-transfer coursework will meet the requirements of the desired degree.

Program Concentration Choice

The general education list of 35 credit hours is the safest choice for students who have not yet selected either a major field of study or the college or university they plan to attend after San Juan College. Students wishing to prepare for possible transfer into a degree program at another institution are advised to take these courses during their freshman and sophomore years.

General Education Requirements*

	Credits
Area I: Communications - select 9 credits	
Freshman Composition (ENGL 111)	3
Advanced Composition (ENGL 211) or Advanced Technical Composition (ENGL 218)	3
Oral Communication (SPCH 110, 111)	3
Area II: Mathematics - minimum of 3 credits	
College Algebra (MATH 185)	3
Calculus I (MATH 188)	3
Other college level mathematics	3
Area III: Laboratory Science - select 2 for 8 credits	
General Biology (BIOL 110, 121, 122)	4-8
General Chemistry (CHEM 111, 112)	4-8
General Physics (PHYS 211, 212, 215, 216)	4-8
Geology/Earth Science (GEOL 110, 111)	4-8

Continued on next page

Area IV: Social and Behavioral Science

(minimum of 6 credits, must have 15 credits total between
Social/Behavioral Science area and Humanities/Fine Arts area)

Economics (ECON 251, 252)	3
Human Geography (GEOG 145)	3
Political Science (POLS 110, 250)	3
Psychology (PSYC 120)	3
Sociology (SOC 110, 210, 215)	3
Anthropology (ANTH 110, 210, 211, 255)	3-4

Area V: Humanities and Fine Arts

(minimum of 6 credits, must have 15 credits total between
Social/Behavioral Science area and Humanities/Fine Arts area)

History (HIST 121, 122, 211, 212)	3
Philosophy (PHIL 110, 115)	3
Humanities (HUMA 210, 211)	3
Literature (ENGL 251, 252, 261, 262, 245, 230, 235)	3
Orientation in Art (ARTS 110)	3
Music (MUSI 110, 111, 112, 114, 115, 130 OR 131)	3
Theatre (THEA 110, 120)	3

General Education Requirements 35 credits

*Certain profession-related programs, such as engineering and nursing, may be exempt from the requirement that they apply all 35 credit hours toward general education or major requirements, but the remaining work may be accepted as elective credits. There are also special requirements for education majors.

Computer Science Requirement for Associate of Science Degree

Any Computer Science course (COS 111 or above)	3
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(transfer colleges vary in whether they accept computer science courses as electives)

Area of Concentration for Associate of Science Degree

Students may complete their Associate of Science requirements by completing at least 28 credits with a 2.0 GPA or higher in one of the following areas of concentration. The following concentration guides show the optimal preparation for transfer in the student's chosen area of interest. Areas of concentration are intended to be used as a guide for selecting courses and the sequence for taking these courses. It is recognized that students often need preliminary preparation courses and more semesters to complete the A.S. degree.

Courses not included in the general core curriculum above may not necessarily be accepted by the transfer institution. Students are advised that grades below "C" may not transfer. Students intending to transfer to a bachelor degree granting college or university are strongly encouraged to check with their advisor and carefully coordinate their coursework at San Juan College with the requirements of the transfer institution.

BIOLOGY

Associate of Science

The Associate of Science degree is intended for transfer to a four-year baccalaureate granting institution. Those wishing to transfer to a baccalaureate granting institution and pursue a degree program are strongly encouraged to check with their advisor and carefully coordinate their coursework at San Juan College with the requirements of the transfer institution. Prerequisite courses must be completed prior to the courses listed below (e.g., MATH 180 and 185 prior to MATH 188). In general, however, it is suggested that students complete the New Mexico Transfer Module as outlined below.

Communications: 9 credit hours			Credits
ENGL	111	Freshman Composition	3
ENGL	211	Advanced Composition	3
SPCH	110	Public Speaking OR	3
SPCH	111	Interpersonal Communication	

Mathematics: 4 credit hours			
MATH	188	Calculus I	4

Social and Behavioral Science: Minimum of 6 credits. Must have 15 credits TOTAL between Humanities and Fine Arts

- Anthropology (ANTH 110, 210, 211, 255)
- Economics (ECON 251, 252)
- Human Geography (GEOG 145)
- Introduction to Psychology (PSYC 120)
- Political Science (POLS 110, 250)
- Sociology (SOCL 110, 210, 215)

Humanities and Fine Arts: Minimum of 6 credits. Must have 15 credits TOTAL between Social and Behavioral Science.

- Orientation in Arts (ARTS 110)
- History (HIST 121, 122, 211, 212)
- Humanities (HUMA 210, 211)
- Literature (ENGL 230, 235, 245, 251, 252, 261, 262)
- Music (MUSI 110, 111, 112, 114, 115, 130 OR 131)
- Philosophy (PHIL 110, 115)
- Theatre (THEA 110, 120)

Biology-core classes

BIOL	121	Introductory Biology I	4
BIOL	122	Introductory Biology II	4
BIOL	240	Ecology	4
BIOL	255	Introduction to Genetics	4
COSC	111	Computer Literacy OR Higher Computer Science	3
Approved Science Selection*			20

Total credit hours required for this degree 67

*Approved Science Selections:

BIOL	220	General Botany	CHEM	251	Organic Chemistry I
BIOL	222	Invertebrate Zoology	CHEM	252	Organic Chemistry II
BIOL	223	Vertebrate Zoology	GEOL	110	Introduction to Geology
BIOL	224	Microbiology	GEOL	111	Historical Geology
BIOL	230	Environmental Conservation	PHYS	211	General Physics I
BIOL	250	Systematic Botany	PHYS	211L	General Physics I Lab
BIOL	260	Cell Biology	PHYS	212	General Physics II
CHEM	111	General Chemistry I	PHYS	212L	General Physics II Lab
CHEM	112	General Chemistry II			
CHEM	210	Organic Chemistry Survey			

CHEMISTRY

Associate of Science

The Associate of Science degree is intended for transfer to a four-year baccalaureate granting institution and also serves as a terminal degree for those wishing to work as a chemical technician in a laboratory setting. Those wishing to transfer to a baccalaureate granting institution and pursue a degree program are strongly encouraged to check with their advisor and carefully coordinate their coursework at San Juan College with the requirements of the transfer institution. Prerequisite courses must be completed prior to the courses listed below (e.g., MATH 180 and 185 prior to MATH 188).

			Credits
Communications: 9 credit hours			
ENGL	111	Freshman Composition	3
ENGL	211	Advanced Composition OR	3
ENGL	218	Advanced Technical Composition	
SPCH	110	Public Speaking OR	3
SPCH	111	Interpersonal Communication	
Mathematics: 8 credit hours			
MATH	188	Calculus I	4
MATH	189	Calculus II	4

Social and Behavioral Science: Minimum of 6 credits. Must have 15 credits **total** between Humanities and Fine Arts.

Anthropology (ANTH 110, 210, 211, 255)
 Economics (ECON 251, 252)
 Human Geography (GEOG 145)
 Introduction to Psychology (PSYC 120)
 Political Science (POLS 110, 250)
 Sociology (SOC 110, 210, 215)

Humanities and Fine Arts: Minimum of 6 credits. Must have 15 credits **total** between Social and Behavioral Science

Orientation in Arts (ARTS 110)
 History (HIST 121, 122, 211, 212)
 Humanities (HUMA 210, 211)
 Literature (ENGL 230, 235, 245, 251, 252, 261, 262)
 Music (MUSI 110, 111, 112, 114, 115, 130 OR 131)
 Philosophy (PHIL 110, 115)
 Theatre (THEA 110, 120)

Chemistry – Core classes: 36 credit hours

CHEM	111	General Chemistry I	4
CHEM	112	General Chemistry II	4
CHEM	251	Organic Chemistry I	4
CHEM	252	Organic Chemistry II	4
CHEM	281	Analytical Chemistry	5
PHYS	215	Engineering Physics I	4
PHYS	216	Engineering Physics II	4
COSC	116	Spreadsheets, OR	
COSC	118	Computer Programming Fundamentals I with C++	3

Math or Science Elective: Select a minimum of 4 credit hours
 Mathematics (MATH 268 Calculus III, or MATH 251 Statistics)
 Biology (BIOL 121 Introductory Biology I, or BIOL 224 Microbiology)
 Geology (GEOL 110 Introduction to Geology, or GEOL 270 Mineralogy)
 Physics (PHYS 217 Engineering Physics III)
 Chemistry (CHEM 299 Chemistry Special Topics)

Total credit hours required for this degree 68

COMPUTER SCIENCE Associate of Science

The Computer Science Associate of Science degree is designed for students interested in software design and programming. Those wishing to transfer to a baccalaureate granting institution and pursue a degree program are strongly encouraged to check with their advisor and carefully coordinate their coursework at San Juan College with the requirements of the transfer institution. The rigorous nature of this degree fulfills the expectations at the baccalaureate level. This degree also begins prospective computing professors and/or research students on their path leading to graduate degrees. Consider taking a foreign language at San Juan College if your intended transfer institution has such a requirement. These courses will be in addition to the requirements listed below.

Prerequisite courses must be completed prior to the courses listed below (e.g., MATH 180 and 185 prior to MATH 188). In general, however, it is suggested that students complete the New Mexico Transfer Module as outlined below. Student must earn a grade of "C" or higher in all COSC courses for the course to count toward a degree.

			Credits
Communications:			
ENGL	111	Freshman Composition	3
ENGL	211	Advanced Composition	3
SPCH	110	Public Speaking OR	3
SPCH	111	Interpersonal Communication	
Mathematics:			
MATH	188	Calculus I	4
MATH	189	Calculus II	4
MATH	231	Discrete Mathematics	3
Computer Science – Core classes:			
COSC	118	Computer Programming Fundamentals I with C++ **	3
COSC	190	Database Concepts and Principles	3
COSC	218	Computer Programming Fundamentals II with C++	3
COSC	236	UNIX	3
COSC	240	Java Programming	3
COSC	243	Web Programming on UNIX Systems	3
COSC	262	Data Structures with C++	3
COSC	270	Windows GUI Programming	3
PHYS	211	General Physics I ***	4
PHYS	212	General Physics II ***	4
		Approved Humanities and Fine Arts Course	3
		Approved Humanities and Fine Arts Course	3
		Approved Social and Behavioral Science Course	3
		Approved Social and Behavioral Science Course	3
		Approved Social and Behavioral Science OR Humanities and Fine Arts Course	3

Total credit hours required for this degree 67

** You need to be able to use a computer, type, create documents, save files, etc. before taking COSC 118. If your computing skills are low you should take COSC 097 concurrently.

*** Read the current catalog of your intended transfer degree institution to take the most appropriate laboratory science courses. Any San Juan College approved laboratory science course may be substituted as deemed appropriate by your computer science advisor. This course also satisfies General Education laboratory science requirement. For information about NM Tech go to www.nmt.edu, [NMSU www.nmsu.edu](http://www.nmsu.edu) and Fort Lewis www.fortlewis.edu.

ENGINEERING

Associate of Science

The Associate of Science degree is intended for transfer to a four-year baccalaureate granting institution. Those wishing to transfer to a baccalaureate granting institution and pursue a degree program are strongly encouraged to check with their advisor and carefully coordinate their coursework at San Juan College with the requirements of the transfer institution. Prerequisite courses must be completed prior to the courses listed below (e.g., MATH 180 and 185 prior to MATH 188). In general, however, it is suggested that students complete the New Mexico Transfer Module as outlined below.

Students must have a minimum 2.0 grade point average and may not receive a grade of "D" or "F" in any of the courses required for transfer.

			Credits
Communications:			
ENGL	111	Freshman Composition	3
ENGL	211	Advanced Composition OR	3
ENGL	218	Advanced Technical Composition	
Mathematics:			
MATH	188	Calculus I	4
MATH	189	Calculus II	4
MATH	268	Calculus III	4
MATH	282	Differential Equations	4
Social and Behavioral Science: Select one.			3
Anthropology (ANTH 110, 210, 211, 255)			
Human Geography (GEOG 145)			
Introduction to Psychology (PSYC 120)			
Political Science (POLS 110, 250)			
Sociology (SOCL 110, 210, 215)			
Humanities and Fine Arts: Select two.			6
Orientation in Arts (ARTS 110)			
History (HIST 121, 122, 211, 212)			
Humanities (HUMA 210, 211)			
Literature (ENGL 230, 235, 245, 251, 252, 261, 262)			
Music (MUSI 110, 111, 112, 114, 115, 130 OR 131)			
Philosophy (PHIL 110, 115)			
Theatre (THEA 110, 120)			
Engineering – Core classes:			
CHEM	111	General Chemistry I	4
CHEM	112	General Chemistry II	4
COSC	118	Computer Programming Fundamentals I with C++	3
CE	233	Mechanics-Statics	3
ECON	251	Macroeconomics OR	
ECON	252	Microeconomics	3
EE	201	Engineering Circuit Analysis	3
ENGR	111	Introduction to Engineering	2
ME	159	Graphical Communication and Design	2
ME	234	Mechanics-Dynamics	3
ME	240	Thermodynamics	3
PHYS	215	Engineering Physics I	4
PHYS	216	Engineering Physics II	4

Total credit hours required for this degree 69

GENERAL SCIENCE Associate of Science

The Associate of Science degree is intended for transfer to a four-year baccalaureate granting institution. Those wishing to transfer to a baccalaureate granting institution and pursue a degree program are strongly encouraged to check with their advisor and carefully coordinate their coursework at San Juan College with the requirements of the transfer institution. Prerequisite courses must be completed prior to the courses listed below (e.g., MATH 180 and 185 prior to MATH 188). In general, however, it is suggested that students complete the New Mexico Transfer Module as outlined below.

	Credits
Communications:	
ENGL 111 Freshman Composition	3
ENGL 211 Advanced Composition OR	3
ENGL 218 Advanced Technical Composition	
SPCH 110 Public Speaking OR	
SPCH 111 Interpersonal Communication	3
Mathematics:	
MATH 188 Calculus I	4
Social and Behavioral Science: Select two.	6
Anthropology (ANTH 110, 210 211, 255)	
Economics (ECON 251, 252)	
Human Geography (GEOG 145)	
Introduction to Psychology (PSYC 120)	
Political Science (POLS 110, 250)	
Sociology (SOCL 110, 210, 215)	
Humanities and Fine Arts: Select three.	9
Orientation in Arts (ARTS 110)	
History (HIST 121, 122, 211, 212)	
Humanities (HUMA 210, 211)	
Literature (ENGL 230, 235, 245, 251, 252, 261, 262)	
Music (MUSI 110, 111, 112, 114, 115, 130 OR 131)	
Philosophy (PHIL 110, 115)	
Theatre (THEA 110, 120)	
General Science – Core classes:	
BIOL 121 Introductory Biology I, Science Selection*	4
BIOL 122 Introductory Biology II, Science Selection*	4
CHEM 111 General Chemistry I, Science Selection*	4
CHEM 112 General Chemistry II, Science Selection*	4
COSC 111 Computer Literacy or Higher Computer Science	3
GEOL 110 Introduction to Geology, GEOL 111 Historical Geology	4
OR Science Selection	
PHYS 211 General Physics I	3
PHYS 211L General Physics I Lab	1
Science Selection* (See Science Selection below)	8
Approved Elective**	3

Total credit hours required for this degree 66

* Science selection must include classes selected from Biology, Chemistry, Geology, and Physics.

** See your advisor for approved elective.

*Approved Science Selections:		
BIOL 220 General Botany	BIOL 260 Cell Biology	GEOL 111 Historical Geology
BIOL 222 Invertebrate Zoology	CHEM 111 General Chemistry I	PHYS 211 General Physics I
BIOL 223 Vertebrate Zoology	CHEM 112 General Chemistry II	PHYS 211L General Physics I Lab
BIOL 224 Microbiology	CHEM 210 Organic Chemistry Survey	PHYS 212 General Physics II
BIOL 230 Environmental Conservation	CHEM 251 Organic Chemistry I	PHYS 212L General Physics II Lab
BIOL 250 Systematic Botany	CHEM 252 Organic Chemistry II	
	GEOL 110 Introduction to Geology	

GEOGRAPHY

Associate of Science or One-Year GIS Certificate

The Geography program provides students with education in a variety of geographic theory, digital mapping and spatial database technology including GIS, GPS, remote sensing, and spatial analysis techniques. Instruction emphasizes application to a variety of fields through hands-on learning with state-of-the-art hardware, software, and other mapping tools. Graduates may seek employment as GIS Technicians, GIS Specialists, or GIS Analysts with government and private industry that rely on geospatial information for managing resources, planning, transportation, emergency response, and other location-based services. Degree options include a one year Certificate or a two year Associate of Science (AS). The certificate is appropriate for persons interested in developing skills in geospatial technologies to use in their current profession or for those seeking immediate employment as a technician. The AS is designed to provide a more comprehensive education in GIST and is appropriate for students seeking employment as technicians and analysts, or those wishing to transfer to a four-year degree program elsewhere.

Associate of Science Degree Requirements

1st Semester			Credits
GEOG	112	World Regional Geography OR	
GEOG	145	Human Geography	3
GEOG	115	Map Use, Interpretation, and Design	4
GEOG	118	Introduction to Mapping Technologies	4
ENGL	111	Freshman Composition	3
MATH	185	College Algebra	3
			Total 17
2nd Semester			
GEOG	111	Introduction to Physical Geography	4
GEOG	120	GPS and Surveying Methods	4
GEOG	151	Geographic Information Systems I	4
		Approved Social and Behavioral Science Elective	3
		Approved Humanities and Fine Arts Elective	3
			Total 18
3rd Semester			
GEOG	251	Geographic Information Systems II	4
		Approved Geography Elective (see below)	3 or 4
MATH	251	Statistics	4
SPCH	110	Public Speaking OR	
SPCH	111	Interpersonal Communication	3
		Approved Social and Behavioral Science Elective OR	
		Approved Humanities and Fine Arts Elective	3
			Total 17 or 18
4th Semester			
		Approved Geography Elective (see below)	3 or 4
ENGL	211	Advanced Composition	3
COSC	185	Database Management Systems	3
		Approved Social and Behavioral Science Elective	3
		Approved Humanities and Fine Arts Elective	3
			Total 15 or 16
			Total for Degree 67 or 69

GEOGRAPHY
Associate of Science or One-Year GIS Certificate
(Continued)

Geography Electives - pick one from the following choices			Credits
GEOG	105	SPIN: Special Interest	1 - 4
GEOG	125	Weather and Climate	3
GEOG	130	Natural Hazards	3
GEOG	135	Energy and Natural Resources Geography	3
GEOG	140	Geography of the Four Corners	3
GEOG	230	Geographic Image Analysis	4
GEOL	110	Introduction to Geology	4
DRFT	150	Computer Aided Drafting (CAD)	4
COSC	214	Visual Basic I	3
COSC	118	Computer Programming Fundamentals I with C++	3
GEOG	295	*GIS Topics	1-6
GEOG	299	*GIS Special Problems	1-6
GEOG	285	*GIS Internship	3
GEOG	280	*Cooperative Education	3

GIS Certificate Requirements

1st Semester

GEOG	118	Introduction to Mapping Technologies OR	
GEOG	105	SPIN: Up to 4 credits of GIS short courses (SPIN) may be substituted for GEOG 118	4

GEOG	115	Map Use, Interpretation & Design	4
GEOG	112	World Regional Geography OR	
GEOG	145	Human Geography	3
COSC	125	Business Microcomputer Applications	3

Total 14

2nd Semester

GEOG	111	Introduction to Physical Geography	4
GEOG	120	GPS and Surveying Methods	4
GEOG	151	Geographic Information Systems I	4
COSC	185	Database Management Systems	3

Total 15

Total for Certificate 29

GEOLOGY

Associate of Science

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			Credits
Communications:			
ENGL	111	Freshman Composition	3
ENGL	211	Advanced Composition	3
SPCH	110	Public Speaking OR	3
SPCH	111	Interpersonal Communication	
Mathematics:			
MATH	188	Calculus I	4
Social and Behavioral Science: Select two.			6
Anthropology (ANTH 110, 210, 211 OR 255)			
Economics (ECON 251 OR 252)			
Human Geography (GEOG 145)			
Introduction to Psychology (PSYC 120)			
Political Science (POLS 110 OR 250)			
Sociology (SOCL 110, 210 OR 215)			
Humanities and Fine Arts: Select three.			9
Orientation in Arts (ARTS 110)			
History (HIST 121, 122, 211 OR 212)			
Humanities (HUMA 210 OR 211)			
Literature (ENGL 230, 235, 245, 251, 252, 261 OR 262)			
Music (MUSI 110, 111, 112, 114, 115, 130 OR 131)			
Philosophy (PHIL 110 OR 115)			
Theatre (THEA 110 or 120)			
Geology – Core classes:			
CHEM	111	General Chemistry I	4
CHEM	112	General Chemistry II	4
COSC	111	Computer Literacy OR higher computer course	3
GEOG	118	Introduction to Mapping Technology	4
GEOL	110	Introduction to Geology	4
GEOL	111	Historical Geology	4
GEOL	270	Mineralogy	4
GEOL	271	Petrology	4
PHYS	211	General Physics I OR	4
PHYS	215	Engineering Physics I	
PHYS	212	General Physics II OR	4
PHYS	216	Engineering Physics II	

Total credit hours required for this degree 67

MATHEMATICS

Associate of Science

The Associate of Science degree is intended for transfer to a four-year baccalaureate granting institution. Those wishing to transfer to a baccalaureate granting institution and pursue a degree program are strongly encouraged to check with their advisor and carefully coordinate their coursework at San Juan College with the requirements of the transfer institution. Prerequisite courses must be completed prior to the courses listed below (e.g., MATH 180 and 185 prior to MATH 188). In general, however, it is suggested that students complete the New Mexico Transfer Module as outlined below.

	Credits
Communications:	
ENGL 111 Freshman Composition	3
ENGL 211 Advanced Composition	3
SPCH 110 Public Speaking OR	3
SPCH 111 Interpersonal Communication	
Mathematics:	
MATH 188 Calculus I	4
MATH 189 Calculus II	4
MATH 268 Calculus III	4
Social and Behavioral Science: Select two.	6
Anthropology (ANTH 110, 210, 211, 255)	
Economics (ECON 251, 252)	
Human Geography (GEOG 145)	
Introduction to Psychology (PSYC 120)	
Political Science (POLS 110, 250)	
Sociology (SOC 110, 210, 215)	
Humanities and Fine Arts: Select three.	9
Orientation in Arts (ARTS 110)	
History (HIST 121, 122, 211, 212)	
Humanities (HUMA 210, 211)	
Literature (ENGL 230, 235, 245, 251, 252, 261, 262)	
Music (MUSI 110, 111, 112, 114, 115, 130 OR 131)	
Philosophy (PHIL 110, 115)	
Theatre (THEA 110, 120)	
Mathematics – Core classes:	
COSC 118 Computer Programming Fundamentals I with C++ OR	3
COSC 214 Visual Basics I	
MATH 231 Discrete Mathematics	3
MATH 251 Statistics	4
PHYS 215 Engineering Physics I	4
PHYS 216 Engineering Physics II	4
Approved Science OR mathematics elective*	3-4
Approved Science OR mathematics elective*	3-4
Approved Science Elective* (See Approved Science Elective below)	4

Total credit hours required for this degree 64-66

* Approved science and mathematics elective courses are:

- CHEM 111, 112
- CE 233, EE 201, ME 159, ME 234, ME 240
- GEOL 110, 111
- PHYS 217
- MATH 275, 282

PHYSICS

Associate of Science

The Associate of Science degree is intended for transfer to a four-year baccalaureate granting institution. Those wishing to transfer to a baccalaureate granting institution and pursue a degree program are strongly encouraged to check with their advisor and carefully coordinate their coursework at San Juan College with the requirements of the transfer institution. Prerequisite courses must be completed prior to the courses listed below (e.g., MATH 180 and 185 prior to MATH 188). In general, however, it is suggested that students complete the New Mexico Transfer Module as outlined below.

			Credits
Communications:			
ENGL	111	Freshman Composition	3
ENGL	211	Advanced Composition	3
SPCH	110	Public Speaking OR	
SPCH	111	Interpersonal Communication	3
Mathematics:			
MATH	188	Calculus I	4
MATH	189	Calculus II	
MATH	268	Calculus III	4
Social and Behavioral Science: Select one.			3
Anthropology (ANTH 110, 210, 211, 255)			
Political Science (POLS 110, 250)			
Human Geography (GEOG 145)			
Introduction to Psychology (PSYC 120)			
Sociology (SOCL 110, 210, 215)			
Humanities and Fine Arts: Select three.			9
Orientation in Arts (ARTS 110)			
History (HIST 121, 122, 211, 212)			
Humanities (HUMA 210, 211)			
Literature (ENGL 230, 235, 245, 251, 252, 261, 262)			
Music (MUSI 110, 111, 114, 115, 130, 131)			
Philosophy (PHIL 110, 115)			
Theatre (THEA 110, 120)			
Physics – Core classes:			
CHEM	111	General Chemistry I	4
CHEM	112	General Chemistry II	4
COSC	118	Computer Programming Fundamentals I with C++	3
EE	201	Engineering Circuit Analysis	3
ECON	251	Macroeconomics OR ECON 252 - Microeconomics	3
MATH	282	Differential Equations	4
ME	240	Thermodynamics	3
PHYS	215	Engineering Physics I	3
PHYS	215L	Engineering Physics Lab I	1
PHYS	216	Engineering Physics II	3
PHYS	216L	Engineering Physics Lab II	1
PHYS	217	Engineering Physics III	3

Total credit hours required for this degree 68

PRE-MEDICAL SCIENCE Associate of Science

The Associate of Science degree is intended for transfer to a four-year baccalaureate granting institution. Those wishing to transfer to a baccalaureate granting institution and pursue a degree program are strongly encouraged to check with their advisor and carefully coordinate their coursework at San Juan College with the requirements of the transfer institution. In general, however, it is suggested that students complete the New Mexico Transfer Module as outlined below. Prerequisite courses must be completed prior to the courses listed below (e.g., MATH 180 and 185 prior to MATH 188).

The following course outline is a guide not a prescription. Students transferring into such areas as medicine, veterinary medicine, dentistry, optometry, and pharmacy are strongly encouraged to check with their advisor. Students planning to apply to a post-baccalaureate medical education should major in biology, chemistry, or general science with a preponderance of courses in biology or chemistry.

Communications:	Credits
ENGL 111 Freshman Composition	3
ENGL 211 Advanced Composition	3
SPCH 110 Public Speaking OR	
SPCH 111 Interpersonal Communication	3

Mathematics:	
MATH 188 Calculus I	4

Social and Behavioral Science: Minimum of 9 credits	9
Anthropology (ANTH 110, 210, 211, 255)	
Economics (ECON 251, 252)	
Human Geography (GEOG 145)	
Introduction to Psychology (PSYC 120)	
Political Science (POLS 110, 250)	
Sociology (SOC 110, 210, 215)	

Humanities and Fine Arts: Minimum of 6 credits	6
Orientation in Arts (ARTS 110)	
History (HIST 121, 122, 211, 212)	
Humanities (HUMA 210, 211)	
Literature (ENGL 230, 235, 245, 251, 252, 261, 262)	
Music (MUSI 110, 111, 112, 114, 115, 130 OR 131)	
Philosophy (PHIL 110, 115)	
Theatre (THEA 110, 120)	

Pre-medical Science Core Courses:	
BIOL 121 General Biology I*	4
BIOL 122 General Biology II*	4
BIOL 255 Introduction to Genetics	4
CHEM 111 General Chemistry I*	4
CHEM 112 General Chemistry II*	4
COSC 111 Computer Literacy OR higher computer science	3
Science electives	12

Total credit hours required for this degree 63

Approved Science electives:	
BIOL 260 Cell Biology	4
CHEM 251 Organic Chemistry I*	4
CHEM 252 Organic Chemistry II*	4
BIOL 224 Microbiology	4
BIOL 299 Biochemistry	3
PHYS 211 General Physics I*	3
PHYS 211L General Physics I Lab	1
PHYS 212 General Physics II*	3
PHYS 212L General Physics II Lab	1

* Needed for MCAT

