

# COMPUTER TECHNOLOGY (NETWORKING) - ASSOCIATE OF APPLIED SCIENCE

## Doña Ana Community College 2022-2023 Catalog (60-64 credits)

Degree requires a minimum of 60 credits and a cumulative GPA of 2.0. If a student has no basic typing skills, OATS 101 Keyboarding Basics is a prerequisite for all CTEC, CSEC, and OECS courses.

NOTE: Students must earn a final grade of C- or better in all Major Requirements courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

The New Mexico General Education Requirements (<http://catalogs.nmsu.edu/dona-ana/general-education-and-transfer-options/transfer-new-mexico-institutions/>) can be found in the section titled, "Transfer Among New Mexico Institutions of Higher Education".

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 60 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
<b>General Education</b>		
<i>Select one course from four of the following six content areas for a total of 12-14 credits<sup>1,2</sup></i>		12-14
This degree requires courses from Areas I, III and IV; students must select one course from the remaining areas to complete General Education requirements.		
Area I: Communications		
ENGL 1110G	Composition I (grade of C- or better required) <sup>3</sup>	
Area II: Mathematics		
Area III: Laboratory Sciences		
Select one course from the following:		
C S 171G	Introduction to Computer Science <sup>3</sup>	
ASTR 1120G	The Planets Lecture & Laboratory <sup>3</sup>	
PHYS 1115G	Survey of Physics with Lab <sup>3</sup>	
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab <sup>3</sup>	
PHYS 1240G & PHYS 1240L	Algebra-Based Physics II and Algebra-Based Physics II Lab <sup>3</sup>	
Area IV: Social/Behavioral Sciences		
Select one course from the following:		
CJUS 1110G	Introduction to Criminal Justice <sup>3</sup>	
ECON 1110G	Survey of Economics <sup>3</sup>	
ECON 2110G	Macroeconomic Principles <sup>3</sup>	
ECON 2120G	Principles of Microeconomics <sup>3</sup>	
PSYC 1110G	Introduction to Psychology <sup>3</sup>	
SOCI 1110G	Introduction to Sociology <sup>3</sup>	
GNDR 2110G	Introduction to Women, Gender, and Sexuality Studies <sup>3</sup>	

GNDR 2120G	Representing Women Across Cultures <sup>3</sup>	
<i>General Education Elective</i>		
ENGL 2210G	Professional & Technical Communication <sup>3</sup>	3
or ENGL 2221G	Writing in the Humanities and Social Science	
<b>Core Requirements</b>		
Select one course from the following:		3-4
MATH 1215	Intermediate Algebra <sup>3</sup>	
MATH 1350G	Introduction to Statistics <sup>3</sup>	
OATS 106	Business Mathematics	
MATH 1220G	College Algebra <sup>3</sup>	
MATH 1250G	Trigonometry & Pre-Calculus <sup>3</sup>	
MATH 1430G	Applications of Calculus I <sup>3</sup>	
MATH 1511G	Calculus and Analytic Geometry I <sup>3</sup>	
MATH 1521G	Calculus and Analytic Geometry II <sup>3</sup>	
OR Appropriate Technology-Related Math Course		
<b>Major Requirements</b>		
<i>Technical Requirements</i>		
CTEC 120	IT Infrastructure Support I	3
or OECS 185	PC Maintenance and Repair I	
CTEC 130	Linux Workstation	3
or OECS 204	Linux Operating System	
CTEC 135	Windows Workstation	3
or OECS 207	Windows	
CTEC 140	Introduction to Database Design	3
or OECS 220	Database Application and Design	
CTEC 180	Introduction to Networking <sup>4</sup>	3-4
or OECS 261	Introduction to Networks	
or E T 153	Fundamentals of Networking Communications	
or E T 155	Network Operating Systems I	
or E T 273	Advanced Networking Communications	
CTEC 220	Internship	3
or OECS 221	Internship I	
CTEC 290	Network Security	3
or CTEC 285	Connecting Networks	
or OECS 269	Network Security	
Select one course from the following:		3-4
CTEC 145	Introduction to Database Management	
or OECS 235	Structured Query Language (SQL)	
CTEC 150	Mobile Application Programming	
or OECS 145	Mobile Application Development	
CTEC 152	JAVA Programming	
or OECS 195	Java Programming I	
or C S 152	Java Programming	
CTEC 154	C++ Programming	
or OECS 192	C++ Programming I	
or C S 151	C++ Programming	
CTEC 156	Python Programming	
CTEC 158	Visual Basic Programming	
CTEC 240	Fundamentals of Database Management	
CTEC 245	Fundamentals of Cloud Based Data Systems	
OR Any Appropriate C S Course (EXCLUDING C S 110/BCIS 1110 and courses used to fulfill Technical/Major Requirements.)		
<i>Concentration Coursework</i>		
Select 16 credits from the following (EXCLUDING courses used to fulfill Technical/Major Requirements.):		16
CTEC 145	Introduction to Database Management	
or OECS 235	Structured Query Language (SQL)	

CTEC 156	Python Programming
CTEC 185	Routing and Switching Essentials
or OECS 262	Essentials of Routing and Switching
CTEC 230	Introduction to Linux Server Administration
or OECS 234	Linux Server
CTEC 235	Introduction to Windows Server Administration
or OECS 237	Windows Server
CTEC 280	Scaling Networks
or OECS 263	Network Fundamentals
CTEC 285	Connecting Networks
or OECS 264	Network Routing Protocols
E T 253	Networking Operating Systems II <sup>4</sup>
OECS 230	Data Communications and Networks I
OECS 231	Data Communications and Networks II

**Total Credits** **60-63**

1

Each course selected must be from a different area and students cannot take multiple courses in the same area.

2

See the General Education (<http://catalogs.nmsu.edu/dona-ana/general-education-and-transfer-options/transfer-new-mexico-institutions/>) section of the catalog for a full list of courses.

3

Courses are identical to those offered at New Mexico State University Las Cruces (main) Campus.

4

Some courses not currently taught at DACC. Please refer to Class Schedule for a listing of courses taught at DACC.

**(60-64 credits)**

**A Suggested Plan of Study**

The contents of this roadmap may vary depending on initial student placement in mathematics and English. This is only a suggested plan of study for students, and is not intended as a contract. Individual student academic plans may vary. Please contact your academic advisor to create a plan that works for you. Course availability may vary from fall to spring semester and may be subject to modification or change.

Degree requires a minimum of 60 credits and a cumulative GPA of 2.0. If a student has no basic typing skills, OATS 101 Keyboarding Basics is a prerequisite for all CTEC, CSEC, and OECS courses.

NOTE: Students must earn a final grade of C- or better in all Major Requirements courses and achieve a cumulative grade-point average of at least 2.0. A grade of C- or better is required in ENGL 1110G Composition I and designated Mathematics courses.

Students must complete all University degree requirements, which include: General Education requirements and elective credits to total at least 63 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

<b>Semester 1</b>		<b>Credits</b>
Area I: Communications - English Composition Level 1		4
ENGL 1110G	Composition I	
Area IV: Social/Behavioral Sciences - Choose one from the following:		3
CJUS 1110G	Introduction to Criminal Justice	

ECON 1110G	Survey of Economics	
ECON 2110G	Macroeconomic Principles	
ECON 2120G	Principles of Microeconomics	
GNDR 2110G	Introduction to Women, Gender, and Sexuality Studies	
GNDR 2120G	Representing Women Across Cultures	
PSYC 1110G	Introduction to Psychology	
SOCI 1110G	Introduction to Sociology	
Choose one from the following:		3-4
MATH 1215	Intermediate Algebra	
MATH 1220G	College Algebra	
MATH 1250G	Trigonometry & Pre-Calculus	
MATH 1350G	Introduction to Statistics	
MATH 1430G	Applications of Calculus I	
MATH 1511G	Calculus and Analytic Geometry I	
MATH 1521G	Calculus and Analytic Geometry II	
OATS 106	Business Mathematics	
OR Appropriate Technology-Related Math Course		
CTEC 120	IT Infrastructure Support I	3
or OECS 185	or PC Maintenance and Repair I	
CTEC 135	Windows Workstation	3
or OECS 207	or Windows	

**Credits** **16-17**

**Semester 2**

General Education - Choose one course from different NM General Education Areas II, V, or VI in the NMSU/DACC Catalog. 3-4

Area III: Laboratory Sciences - Choose one from the following: 4

ASTR 1120G	The Planets Lecture & Laboratory	
C S 171G	Introduction to Computer Science	
PHYS 1115G	Survey of Physics with Lab	
PHYS 1230G	Algebra-Based Physics I	
or PHYS 1230L	or Algebra-Based Physics I Lab	
PHYS 1240G	Algebra-Based Physics II	
or PHYS 1240L	or Algebra-Based Physics II Lab	

CTEC 130	Linux Workstation	3
or OECS 204	or Linux Operating System	

CTEC 140	Introduction to Database Design	3
or OECS 220	or Database Application and Design	

Approved Computer-Related Elective - Choose one from the following: 3

CTEC 145	Introduction to Database Management	
or OECS 235	or Structured Query Language (SQL)	
CTEC 150	Mobile Application Programming	
or OECS 145	or Mobile Application Development	

CTEC 152	JAVA Programming	
or OECS 195	or Java Programming I	
or C S 152	or Java Programming	

CTEC 154	C++ Programming	
or OECS 192	or C++ Programming I	
or C S 151	or C++ Programming	

CTEC 156	Python Programming	
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CTEC 158	Visual Basic Programming	
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CTEC 240	Fundamentals of Database Management	
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CTEC 245	Fundamentals of Cloud Based Data Systems	
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OR Any Appropriate C S Course (EXCLUDING C S 110/BCIS 1110 and courses used to fulfill Technical/Major Requirements.)

**Credits** **16-17**

**Semester 3**

General Education Elective - Area I: Communications - English Composition Level 2 3

ENGL 2210G or ENGL 2221G	Professional & Technical Communication or Writing in the Humanities and Social Science	
Concentration Courses (choose three) - Select 9 credits from the following (EXCLUDING courses used to fulfill Technical/Major Requirements):		9
CTEC 145 or OECS 235	Introduction to Database Management or Structured Query Language (SQL)	
CTEC 156	Python Programming	
CTEC 185 or OECS 262	Routing and Switching Essentials or Essentials of Routing and Switching	
CTEC 230 or OECS 234	Introduction to Linux Server Administration or Linux Server	
CTEC 235 or OECS 237	Introduction to Windows Server Administration or Windows Server	
CTEC 280 or OECS 263	Scaling Networks or Network Fundamentals	
CTEC 285 or OECS 264	Connecting Networks or Network Routing Protocols	
E T 253	Networking Operating Systems II	
OECS 230	Data Communications and Networks I	
OECS 231	Data Communications and Networks II	
Choose one from the following:		3-4
CTEC 180	Introduction to Networking	
E T 153	Fundamentals of Networking Communications	
E T 155	Network Operating Systems I	
E T 273	Advanced Networking Communications	
OECS 261	Introduction to Networks	
<b>Credits</b>		<b>15-16</b>
<b>Semester 4</b>		
Concentration Courses (choose one) - Select 4 credits from the list of Concentration Courses in Semester 2.		4
CTEC 220 or OECS 221	Internship or Internship I	3
CTEC 290 or CTEC 285 or OECS 269	Network Security or Connecting Networks or Network Security	3-4
Approved Computer-Related Elective - A list of approved electives can be found in Semester 2.		3
<b>Credits</b>		<b>13-14</b>
<b>Total Credits</b>		<b>60-64</b>