



Academic Department and Program Review

2016-2017 Academic Year

The Academic Program Review process at UNM-Los Alamos has been developed to complement the on-going institutional effectiveness process and to become a vital part of institutional planning. The program review is a comprehensive, systematic method of evaluation and review of achievement conducted every 3 years within academic programs for the following purposes:

1. To improve teaching and learning
2. To evaluate and analyze current practices
3. To promote faculty discussion about curriculum within a program
4. To ensure that program planning is related to goals at the institutional, programmatic, and course levels
5. To evaluate program support in the areas of technology, equipment, supplies, facilities and staffing

The program review process at UNM-LA is comprehensive and cyclical and consists of the following components:

1. The development of a written report by program faculty and Department Chair
2. Submission to Institutional Effectiveness Committee
3. Recommendation report from the IE committee to the department
4. Submission to Dean of Instruction for review
5. Recommendation from the Dean of instruction to the department
6. Response from the department about planned changes as a result of the process

The following information will be considered during the review for each department and program.

- Overview of the department including disciplines and programs
- Mission of the department
- Mission of each program being reviewed
- Goals for each program being reviewed
- Curriculum
- Continuous improvement (Assessment)
- Students
- Faculty
- Resources and planning
- Facilities
- Program comparisons and articulation with UNM or other entities if appropriate
- Summary and future direction

I. Introduction, Background, and Mission

Provide a brief description of your department including disciplines and programs within the department by completing the areas below.

General Information

Date of submission

August 2017

Name and Description of Department. Please include names of all degree programs within the department.

Information Technology : Associate of Applied Science in Information Technology

History of Programs: Please provide information about each program being reviewed, including known history, date started, etc.

This is a new program, started in fall 2013. This is one of the youngest academic programs on campus. Our first graduate completed the program December 2016.

Please describe any advisory committees for programs being reviewed, and list names of members. Also indicate if there is no advisory committee and if one is planned.

NO Advisory committee. Arthur Nichols, a certified IT cyber security professional serves as our advisor for the program.

Do you have outside accreditations or do you plan to pursue them? If not please indicate that you do not have external accreditations.

Arthur Nichols, our Cyber security/IT expert has numerous outside certifications and will continue to maintain those credentials. We plan to pursue becoming a CISSP certified training Provider. Arthur will be our certified instructor.

Provide a summary of the last Academic Program Review for the department and each program being reviewed this year. Include the date it was conducted, a summary of the findings, and a summary of the action plan made as a result of the recommendations, as well as any actions you have taken.

A program review was conducted for the 2016-2017 AY. Recommendations from the Dean's office included: reviewing this program, consulting with LANL IT technicians on program design and program recruitment. Actions taken: a National Science foundation grant was written and submitted in December 2016. The purpose of the grant was recruitment for the program, development of a CISSP certified training site and furthering IT education in Northern New Mexico. The grant was not funded. We still plan to pursue the possibility of becoming a CISSP certified training site. We continue to work with Arthur Nichols, a LANL IT expert. Art has served as an advisor for this program and will continue to serve in that capacity.

Provide the mission and vision of both the department and each program being reviewed. How does this vision and mission support UNM-LA's mission and goals, as well as the mission and goals of UNM? How does the program benefit the students from the area? When the students complete the program, will they likely transfer or find a job? What types of jobs will they be prepared to find?

This program is designed to develop skills that will assist a student in gaining entry-level employment in an information technology field such as computer security technician, technical support, and network administration. Install and deploy operating systems to support an organization's IT infrastructure.

II. Program Goals

Complete for each Academic Degree program and certificate:

Program 1.

Full Official Name of Academic Program.

AAS Information Technology with Cybersecurity

List the learning goal(s) (measurable) for the Academic Program:

Demonstrate an understanding of introductory networking concepts and techniques
 Demonstrate an understanding of social and ethical issues and related crimes in information technology.
 Demonstrate an ability to select, install and deploy operating systems to support an organization's IT infrastructure.
 Demonstrate an understanding of the skills to assist others with computer related questions and working a help desk.

Explain the manner in which learning goals are communicated to students and provide specific examples.

Goals are communicated in the classroom with each course.

Provide examples of how satisfaction of the program goals serves constituents.

AS students achieve program goals, they develop job skills that allow them to enter the workforce as cybersecurity experts.

Provide examples of outreach and/or community activities offered by the program including any conferences, speakers, community service, and community participation at events. Provide an assessment of these outside activities.

Former department Chair, Dr. Hurley wrote an NSF grant designed to promote the program to surrounding Pueblos and area high schools. UNM Los Alamos plan to work with Jobs progress to help train graduates for entry into the workforce.

III. Teaching and Learning: Curriculum

Curriculum

In the first box, list all catalog courses which are service courses in the department. This would include courses taught by the department which are general education courses or other courses for general use, and not necessarily for a specific degree in the department. For areas such as Math and Communications, this would include most of the courses. In the remaining boxes, list courses which are specific to departmental degrees. Do not include courses taught by a different department. Indicate how many sections were successfully offered during each of the last six semesters (3 years); include courses that have not been taught at all. Please mark all general education core classes.

Department Service Courses: [Information Technology](#)

Course Number	2016-2017		2015-2016		2014-2015		2013-2014	
	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
CT 102	X	X	X	X	X	X	X	X
CT 103								
CT 106L		X		X		X		X
CT 111	X		X					X
CT 125								
CT 131L								
CT 140L								
CT 165				X				
CT 202		X				X		
CT 203						X		

DMA 101	X							
DMA 102								
DMA 165		X			X			
DMA 166			X					
DMA 175								
DMA 203						X		X
DMA 240								
DMA 250							X	
IT 109			X		X		X	
IT 111			X		X			
IT 119	X		X		X		X	
IT 124								
IT 126								
IT 130		X		X		X		
IT 131								
IT 132								
IT 141		X				X		X
IT 145								X
IT 147								
IT 148								
IT 152								
IT 165				X				
IT 193	X					X		
IT 225								
IT 226								X
IT 231				X				X
IT 235								
IT 237								
IT 238								
IT 242								
IT 244								
IT 246								
IT 250	X							
IT 260		X		X			X	X
IT 262			X					
IT 293							X	X

Program Name: AAS Information Technology with Cybersecurity

Course Number	2016-2017		2015-2016		2014-2015		2013-2014	
	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
ENGL 110	X	X	X	X	X	X		
ENGL 112				X	X	X		
ENGL 113	X	X	X	X	X			
ENGL 119								
CJ 130		X	X	X	X	X	X	X
MATH 121	X		X	X	X	X	X	X
MATH 129	X							
PHYC 102		X		X		X	X	X
PHYC 102L		X		X		X	X	X
PHYC 160	X		X		X		X	

PHYC 160L	X		X		X		X	
CS 101	X		X		X		X	
CS 152L		X		X		X		X
CS 220				X				X
CS 261	X		X					
CS 293		X		X		X		X
CT 241L		X		X				
IT 109	X		X		X		X	
IT 119	X		X		X		X	
IT 130		X		X		X		
IT 141		X				X		X
IT 231				X				X
IT 193	X							
IT 250	X							
IT 260		X		X			X	X
IT 262			X					
IT 265								
IT 271								
IT 293							X	X

Please describe the general education requirement for this program.

Sixteen credit hours of GE classes required for this degree. These include six hours in writing and speaking, three hours in math or statistics, four hours in natural and physical sciences, and three hours in fine arts, foreign language, humanities or social and behavioral sciences.

Please describe the delivery mode for delivering classes in this program.

Most of the IT classes are in person. A few classes are offered online, including IT 231 and part of IT 130.

IV. Teaching and Learning: Continuous Improvement

Has a Program Assessment Plan been created and submitted for each program in the department?

YES NO NA

If "YES", please give date of submission for each and explain any changes you have made or expect to make to each plan. **(Please attach all plans to the end of this review document.)**

August 7, 2017 Plan attached. Instructors did not comply with requests to complete course assessment. This made creating an accurate assessment report impossible. This academic year, emphasis will be placed on instructor compliance with requests for assessment.

If "NO", when do you expect to have each plan completed?

Has a Program Assessment Report been submitted for each program (currently being reviewed) in the department? **(Please attach the most current Assessment Report to the end of this review.)**

YES NO NA

If "YES", give the date of submission for each. **(Please attach the latest report to the end of this review document.)**

August 2017

If "NO", when do you expect to have each report completed?

What are the student Learning Outcomes for each program being reviewed?

n/a instructors did not comply with request. Will update if late reports are received.

How are the student Learning Outcomes for each program being reviewed communicated to faculty? To students?

n/a instructors did not comply with request. Will update if late reports are received.

What are the direct and indirect methods for assessing the student Learning Outcomes for each program being reviewed?

n/a instructors did not comply with request. Will update if late reports are received.

Does the use of assessment processes result in continuous improvement in the program/unit?

YES NO

If yes, describe any changes being planned as well as the recent improvements that have come about in response to needs identified through these evaluation processes:

Emphasis will be placed on instructor compliance with assessment and on building the program.

If no, outline your plans for incorporating needed improvements (as identified by your assessment) into your program.

Overall, how is the department/program engaged in a cohesive process of continuous improvement? How do you monitor the effects of the changes made?

Need instructor participation. All the instructors are adjunct faculty members, with full time jobs elsewhere. Getting adjunct faculty to understand the importance of assessment has proven to be very difficult. Efforts will continue to focus upon instructor assessment.

V. Students

Please answer these questions about each program within your department. **(Enrollment, Retention, Graduates and Licensing Exams)**

Degree Program Name:

Academic Year	Fall number of Majors	Spring number of majors	Number of Annual Graduates	Name of State or National Licensing/Certification Examinations, # of Students Taking Examinations, and % of Students Passing Examinations for each academic year IF APPLICABLE
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(At least Past Three Years)				Name of Examination	Number of students taking exam	Number of students passing exam
2016-2017	8	6	1 first graduate in the new IT Cyber program.			
2015-2016	15	18	0			
2014-2015	12	11	2 in old programs, technical support. And network admin. Phased out programs			
2013-2014	n/a	7	3 in old program, DMA. Phased out.			

Course Completion Rates

Please enter all courses taught by the department on excel spreadsheet. See excel spreadsheet labeled "Course Completion Rates" to enter and interpret Data. Include spreadsheet as part of your Program Review package.

Please describe any observed trends in the enrollment and retention of students in the program. Include your comments about the percentages of Dual Credit students (non-paying) in your observations.

We have very few dual credit students in this degree program. This is a very specific program designed for entry into the field of cyber security. The number of declared majors in the program has slightly declined, with six students indicating IT with cybersecurity as their major for fall 2016. The only dual credit students are those enrolled in CT 102 and 106 through the high school programs at LAHS and PVHS. The classes taught at the high schools have a combined enrollment of 61 students. The number of students enrolled in on campus dual credit classes is to be determined for this report.

Advisement and Support

Provide a description of program advisement for students.

Arthur Nichols, the program champion serves as an information advisor for students. Dr Hurley as well as student services also serve as advisors for students. Dr Hurley advises on transfer courses, course substitutions, scheduling and enrollment.

Describe any student support services that are provided by the program.

n/a

Describe any student success and retention initiatives in which the program participates.

We are considering updating this program to incorporate Friday classes as well as more online and possibly weekend classes to accommodate working individuals.

VI. Faculty

Please answer these questions about your department.

Number of Continuing Faculty:

0
For the degree program. Other classes offered in the IT department have continuing faculty. But the degree required courses do not have continuing faculty. If looking at all faculty in the department, we have 1 continuing/core faculty member.

Number of Part Time Faculty:

7 in the technical degree required courses

Do the programs in the department have a "champion?" This could be a department/program chair or a volunteer. YES NO

If Yes, please enter name(s) for each program.

Arthur Nichols serves as program champion.

Please list all existing support positions: (Example: Lab Tech)

none

Is the number of personnel adequate to support your department and program areas?

YES NO

If "NO", explain below.

Provide information about professional development activities of faculty within the department, particularly continuing faculty.

No continuing faculty in the IT program (as it relates to the degree). All the TPT faculty are experts in the field. WE do have 1 continuing faculty member, paid through the IT department. Greater than 1.2 of Dr. Beach's time is spent teaching Astronomy in the Science department. Dr. Beach also teaches CT 102 for the IT department. Enrollments in this class have steadily declined.

Does the evidence exist to show that faculty members teaching in this department have involved themselves with our in-service training (Faculty orientation and/or Faculty Assembly events) and other professional development?

YES NO

If "NO," please explain:

The only continuing faculty member is Tom Beach. Dr. Beach is active in astronomy programs and pursues professional development through those venues. He hosts faculty development seminars as part of our faculty assembly events. Also UNM LA hosts faculty orientation events with faculty development programs as part of those programs semi annually. All faculty are asked to attend. Additionally, our TPT faculty are experts in their field, and pursue continuing education as part of their work.

Provide information about any research/creative work activities of faculty within the department, particularly continuing faculty.

n/a

Please complete the faculty information in the following table, including faculty credentials and courses each faculty has taught.

Faculty Roster Form
Qualifications of Full-Time and Part-Time Faculty

Name of Department: **Information Technology**
 Academic Term(s) Included: **Fall 2013-Spring 2017**
 Date Form Completed:

Complete the following table with faculty names (both core and TPT) and highest degree for each. Are Academic credentialing forms and transcripts and/or copies of relevant certifications on file?

Faculty Name	C, TPT D, UN, UT List all that apply	Courses Taught for the last 3 academic years (Include term & course number) List all that apply	Academic degrees & graduate coursework (if needed to qualify to teach); Include certifications, work experience if needed to qualify to teach a course	Completed Academic Credentialing form	Transcripts on file
Beach, Tom	Core	CT 102, 165; IT 145, 165	PhD-Physics (Major: Astrophysics)(1990); BS-Physics; BS-Math; BS-Computer Science & Astronomy (1980)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Bailey, DeBray	TPT	DMA 101, 165; IT 141	No longer teaching	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Faulkner, James	TPT	CT 202	No longer teaching	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hudson, Marc	TPT	CT 111	Cert/Diploma-Construction, Design, Drafting (1975)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Keeney, Barry	TPT	IT 109, 130, 260, 262, 293	RedHat Certified Engineer (RHCE); Software Engineer/Unix Syst. Admin (1996-Present)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Kiscaden, Chris	TPT	CT 102, 106L, 202; IT 111	BBA-Management Information Systems & General Management (2003); MBA-Operations Science & Production Management (2006)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hurley, Sharon K		IT 109	Dean, No longer teaching	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Nichols, Arthur	TPT	IT 141, 119, 193	BS-Computer Science (1992); Program Manager (LANL)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Puljic, Marko	TPT	CS 102, 103.	PhD Computer Science	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Stafford, Brian	TPT	CS 293	MS Computer Science	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Lucan, Joan	TPT	CS 101	Phd Computer Science	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Williams, Lynne	TPT	IT 119, 130, 226, 231	BA-Fine Arts (1976); AAS-Computer Technology (2000); MS-Information Tech (2003); PhD-Information Tech & Security (2007)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

C, TPT: Core, Temporary Part-time (adjunct); D, UN, UT: Developmental, Undergraduate Nontransferable, Undergraduate Transferable

VII. Resources and Planning

Part of the program review is to determine how much the program costs the institution.

Financial Information

Is the budget/expense information available to department and program chairs?

YES NO

What was the total budget for the department including adjunct faculty (TPT) for the academic year?

	2016-2017	2015-2016	2014-2015	2013-2014
Amount budgeted for the year	37,235 Note: this amount includes salary for Dr. Tom Beach. Dr. Beach is .5 FTE, with greater than 50% of his class load being for the science department. This number should be adjusted to reflect that Dr. Beach teaches 8 out of 15 hours for science, not IT. IF this number is adjusted to reflect Dr. Beach's time allocated to IT, it would be reduced by \$12, 231 each year. REVISED: 24004	54,700 Note: this amount includes salary for Dr. Tom Beach. Dr. Beach is .5 FTE, with greater than 50% of his class load being for the science department. This number should be adjusted to reflect that Dr. Beach teaches 8 out of 15 hours for science, not IT. IF this number is adjusted to reflect Dr. Beach's time allocated to IT, it would be reduced by \$12, 231 each year. REVISED: 42469	49,850 Note: this amount includes salary for Dr. Tom Beach. Dr. Beach is .5 FTE, with greater than 50% of his class load being for the science department. This number should be adjusted to reflect that Dr. Beach teaches 8 out of 15 hours for science, not IT. IF this number is adjusted to reflect Dr. Beach's time allocated to IT, it would be reduced by \$12, 231 each year. REVISED: 37,619	39600 Note: this amount includes salary for Dr. Tom Beach. Dr. Beach is .5 FTE, with greater than 50% of his class load being for the science department. This number should be adjusted to reflect that Dr. Beach teaches 8 out of 15 hours for science, not IT. IF this number is adjusted to reflect Dr. Beach's time allocated to IT, it would be reduced by \$12, 231 each year. REVISED: 27,369

Indicate departmental (program courses and/or departmental support courses) enrollment for the past 4 years for fall and spring.

Numbers	2016-2017		2015-2016		2014-2015		2013-2014	
	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
Course Enrollments (number of students)	36	78	55	63	41	103	56	65
Total Course Enrollments for Academic year	114		118		144		121	
Percentage of students who were dual credit	64 DC students at the high school locations Cost to UNM LA is \$600 total. Total DC students		Data not available. Will revise when data is provided to OI.		Data not available. Will revise when data is provided to OI.		Data not available. Will revise when data is provided to OI.	

	enrolled in on-campus IT courses is:							
	2016-2017		2015-2016		2014-2015		2013-2014	
	Spring	Fall	Spring	Fall	Fall	Spring	Fall	Spring
Student Credit Hours for Department/Program	94	273	182	205	93	364	233	255
Total Student Credit hours for Academic year	367		387		457		488	
Percentage of students who were dual credit	56		Data not available. Will revise when data is provided to OI.		Data not available. Will revise when data is provided to OI.		Data not available. Will revise when data is provided to OI.	

Please give an approximate cost of the department per credit hour. (Amount expended ÷ number of credit hours generated) for each academic year.

	2016-2017*	2015-2016	2014-2015	2013-2014
Amount expended for the year	24004	42469	37619	27369
Cost per credit hour	65.40	109.73	82.32	56.08

*to date

Comments: Please discuss the cost per credit hour and how this could be affected by the percentage of dual credit students in the courses.

The only costs for dual credit classes are the CT classes taught at the high school. This is a cost to the program of approximately \$600 per year. The DC classes are not part of the actual degree program, but are taught as service classes.

Library Resources

Describe the library resources that support the program's academic and research initiatives.

n/a

Advisory Boards

Do any the programs under review have advisory boards?

YES NO

If yes, how are the boards utilized for planning purposes?

External Funding

Has the department pursued any external sources of funding such as grants?

YES NO

Please explain.

Yes. Applied for NSF cyber security education grant December 2016. Grant not funded.
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Does the department have any plans to pursue external sources of funding?

 YES NO

Please explain.

Will try again for future NSF cyber education grants.

Indicate the approximate amount of fee dollars generated for the last 3 years. **Includes Live and Online classes:**

Fall semester Course Number	2016	2015	2014	2013
CT 102	40=120	40 & 50=cannot determine with DC	50= 360	50=680
CT 111	30=330	30=240		
DMA 101	30=150			
DMA 166		30=120		
DMA 165			30=120	
IT 111		50=100	50=150	
IT 119	50=600	50=600	50=550	50=600
IT 193	30=210			
IT 250	30=120			
IT 262		30=90		
Spring Semester Course Number	2017	2016	2015	2014
CT 102	40=160	40 & 50= cannot determine with DC	40 & 50= cannot determine with DC	40 & 50= cannot determine with DC
CT 106L			50= cannot determine with DC	30=330
CT 111				30=120
CT 165		30=150		
CT 202		50=600	50=300	
CT 203			30=30	
DMA 203			30=150	30=150
IT 130	30=120	30=90	30=90	
IT 141	30=180		30=60	30=60
IT 165		30=30		
IT 193			30=180	
IT 231		50=200		50=100
IT 260	30=120	30=90		

Is adequate financial support available to meet the needs of this program?

 YES NO

If "NO", please explain.

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VIII. Facilities

Facilities and Equipment

Briefly describe the facilities occupied by your Department/Academic program. (i.e. classrooms, offices, labs, etc.)

Classrooms, primarily the computer classrooms, particularly 629, the remodeled IT cyber classroom. The dedicated server for cyber training is housed in the special server room in bu

Is the space adequate to support the mission of your program for day and evening classes, if applicable?

YES NO

If no, please explain

Briefly describe current types equipment (does not need to be extremely detailed) used by your Department/Academic program and indicate.

Computer classrooms and the stand alone server are adequate for the program needs.

Is the equipment adequate to support the mission of your program for day and evening classes, if applicable?

YES NO

If no, please explain

IX. Program Comparison and Articulation with UNM

When appropriate, describe how the program being reviewed aligns with program requirements at UNM.

n/a

Provide information on the distinguishing characteristics of the program being reviewed and discuss the program in comparison with other programs such as number of faculty, students, etc.

This program is unique in that is the only cyber program with a risk focus. We are in the process of incorporating "risk" as a common theme in all of the cyber security classes.

X. Summary and Future Direction

After completing the above review of your program, synthesize the data you have provided, focusing on both the program's strengths and weaknesses. Answer the following questions:

a. Is the program contributing to the mission/strategic plan?

These specific goals for information technology further the university's mission of preparing for transfer and pathways to careers. These goals focus on knowledge, skills and responsibility.

b. Is the program contributing to the general education of students?

This program is an AAS program, designed to prepare students to enter the workforce as IT technicians.

c. Describe the overall strengths of the program.

This program prepares students to enter the workforce with specific skills in cybersecurity. These skills will allow students to find employment in a well paying career.

d. Describe the overall weaknesses (opportunities for improvement) of the program.

The size of the program is the biggest weakness. We have excellent instructors but too few students.

e. Within existing resources, how can the program be improved, more students recruited, and obtain certification (if applicable)?

WE are working on obtaining CISSP certification. We are exploring the possibility of expanding to a weekend or online program.

f. Describe actions to be taken as a result of this review, including instructional resources and practices, and curricular changes to be made.

We are working on obtaining CISSP certification, and exploring the possibility of a weekend/evening or online program to allow working adults the opportunity to enroll in the program.

g. What is your vision for the future of this program?

This program is in one of the fastest growing occupations in the US. The need for Cyber experts is clear. We need to expand the program to recruit more participants.