UNM LOS ALAMOS

Academic Department and Program Review

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 3-5 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 Dean of Instruction for review*
3. *Submission to Institutional Effectiveness Committee*
4. *Recommendation report from the IE committee to the department*
5. *Response from the department about planned changes as a result of the process*

1. Academic Department and Program Information

Complete information regarding the Department

Full Official Name of Academic Department:

> **Applied Science**

Submission Date of Department/Program Review:

> June 10, 2016

Names of Chairperson or Coordinator and any participating faculty:

> Dr. Irina Alvestad (Department Chair)
> Donald Davis (Program Chair-Applied Technology)
> Steve Dawald (Program Chair-Fire Science/EMS)
> Joe Candelaria (Program Chair-Fire Science/EMS)

Purpose or Mission Statement for the Department

> The mission of the Applied Science Department is to provide educational experiences to Northern New Mexico students in the Applied Science areas and prepare them for careers.

List the goals/objectives (measurable) for the Academic Department:

1. Develop skills that will assist students in gaining employment as entry level technicians.
2. Provide quality training and career pathways in modern applied technologies.
3. Teach techniques, skills, and applied science tools necessary for professional practice in the chosen area of concentration.
4. Increase enrollment in the degree programs.
5. Staff the department sufficiently to sustain high instructional standards.

Explain How the Mission and Goals for the Academic Department Support UNM-LA's Mission and Goals:

> The goals of the department support the mission and goals of UNM-LA by preparing students for career pathways and by maintaining a commitment to excellence.

Complete for each Academic Degree program and certificate:

Program 1.

Full Official Name of Academic Program:

> Applied Technology AAS/Electro-mechanical Technology Certificate/Solar Technology Certificate

Names of Chairperson or Coordinator and any participating faculty:

> Donald Davis, Program Chair

Purpose or Mission Statement for the Academic Program:

> The mission of the degree program is to demonstrate a broad knowledge of the role and application of technological principles and applications.

List the goals/objectives (measurable) for the Academic Program:

> 1. Teach the basic elements of DC/AC electronic components, electronic devices, mechanical systems
> 2. Focus instruction on technologies and methods related to solar technology
> 3. Prepare students for careers in electronics and solar technologies.

Explain How the Mission and Goals for the Academic Program Support UNM-LA's Mission and Goals:

> The mission of the program is to prepare students for entry-level careers in applied technologies.

Program 2.

Full Official Name of Academic Program:

> Fire Science AAS

Names of Chairperson or Coordinator and any participating faculty:

> Steven Dawald, Program Chair

Purpose or Mission Statement for the Academic Program:

> The mission of the program is to provide broad knowledge of the role and application of fire science principles and procedures for a successful career in public fire departments, ambulance services, and fire protection manufacturing and research groups.

List the goals/objectives (measurable) for the Academic Program:

> 1. Define the principles of emergency services
> 2. Demonstrate the fire and emergency services safety and survival
> 3. Explain the processes of building construction for fire prevention

Explain How the Mission and Goals for the Academic Program Support UNM-LA's Mission and Goals:

> The mission of the program is to prepare students for entry-level careers in fire science fields.

Program 3.

Full Official Name of Academic Program:

> Emergency Medical Services AS

Names of Chairperson or Coordinator and any participating faculty:

Joseph Candelaria, Program Chair

Purpose or Mission Statement for the Academic Program:

The mission of the program is to provide broad knowledge of the role and application of emergency medical services principles and procedures to meet the professional educational needs of pre-hospital care providers.

List the goals/objectives (measurable) for the Academic Program:

1. Students will be qualified for New Mexico and National registry testing.
2. Students will be prepared to sit for the New Mexico EMT-Basic and EMT-1 licensing tests.
3. Students will demonstrate multicultural knowledge and competence.

Explain How the Mission and Goals for the Academic Program Support UNM-LA's Mission and Goals:

The mission of the program is to prepare students for entry-level careers in emergency medical services.

Program 4.

Full Official Name of Academic Program:

Robotics AAS

Names of Chairperson or Coordinator and any participating faculty:

Donald Davis, Program Chair

Purpose or Mission Statement for the Academic Program:

The mission of the program is to provide broad knowledge of the role and application of robotics principles and applications.

List the goals/objectives (measurable) for the Academic Program:

1. Integrate electromechanical skills into the design of robotic platforms.
2. Safely operate an industrial robot arm (jog, access programs, set-up End of Arm Of Tooling (EAOT).
3. Create a "teach pendant" program for a given robotically performed task.

Explain How the Mission and Goals for the Academic Program Support UNM-LA's Mission and Goals:

The mission of the program is to prepare students for entry-level careers in robotics fields.

2. Assessment

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 expect to make to each plan. **(Please attach all plans to the end of this report.)**

Program 1: 10/31/14 We do not expect to make any changes to the assessment plan until 2018.
Program 2: 10/31/14 We do not expect to make any changes to the assessment plan until 2018.

Program 3: 10/31/14 We do not expect to make any changes to the assessment plan until 2018.
Program 4: 5/12/15 We do not expect to make any changes to the assessment plan until 2018.

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

Has a Program Assessment Report been submitted for each program 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 and describe any changes being planned as a result of the assessment?

Program 1: 10/31/14.
Program 2: 10/31/14.
Program 3: 10/31/14.
Program 4: 5/12/15.

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

Does the use of assessment processes result in continuous improvement in the program/unit?
⊠ YES ☐ NO

If yes, describe some of the recent improvements that have come about in response to needs identified through these evaluation processes:

Instructors are using the results to make needed changes to the instruction and delivery of courses.

3. Personnel (Faculty)

Please answer these questions about your department.

Number of Core Faculty: | **3** | **Number of Part Time Faculty:** | **9**

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.

Applied Technologies: Irina Alvestad
Fire Science: Steve Dawald
EMS: Joe Candelaria
Robotics: Donald Davis

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

Shop Supervisor, Raymond Canfield

Is the number of personnel adequate to support your department and program areas?
☐ YES ⊠NO

If "NO", explain below.

> We need additional core faculty to support the mission and goals of the department and degree programs. We also need additional programmatic and course support for recruitment, retention, and sustainability of degree programs.

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 majority of faculty in the department are temporary part time faculty (adjunct) with full-time jobs at other institutions and teaching one or two courses a year. They don't usually participate in professional development activities.

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

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

Name of Department: **Applied Science**
Academic Term(s) Included: **Fall 2015-**
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	Copies of certifications on file IF APPLICABLE
Davis, Donald	C	ELCT 162, 163, 264; ROBO 201, 202, 204, 290; SLRT 162, 163, 264, 250	BA-Psychology, Physics; MS-Education	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No ☐ NA
Dawald, Steven	C	FISC 101, 102, 103, 104, 105, 106, 201, 202, 212, 225	AS-Liberal Arts; AAS-Fire Protection Tech; BA-Occupational Ed; MA-Public Administration	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No ☐ NA
Candelaria, Joe	C			☐ Yes ☒ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ NA
Trout, Richard	TPT			☐ Yes ☒ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ NA
Gioia, Jack	TPT			☐ Yes ☒ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ NA
Hand, David	TPT			☐ Yes ☒ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ NA
Bernardin, John	TPT			☐ Yes ☒ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ NA
Canfield, Raymond	TPT			☐ Yes ☒ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ NA
Holaday, Rene	TPT			☐ Yes ☒ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ NA
Stone, Benjamin	TPT			☐ Yes ☒ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ NA
McHenry, Donna	TPT			☐ Yes ☒ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ NA
McNiff, Aaron	TPT			☐ Yes ☒ No	☐ Yes ☐ No	☐ Yes ☐ No ☐ NA

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

4. Student Success and Achievement

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

Degree Program Name: AAS Applied Technologies

Academic Year (At least Past Three Years)	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 and % of Students Passing Examinations for each academic year IF APPLICABLE		
				Name of Examination	Number of students taking exam	Number of students passing exam
2014-2015	20	21	3			
2013-2014	24	23	1			
2012-2013	22	28	1			
2011-2012	19	24	1			

Degree Program Name: AAS Robotics

Year (At least Past Three Years)	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 and % of Students Passing Examinations for each academic year IF APPLICABLE		
				Name of Examination	Number of students taking exam	Number of students passing exam
2015-2016	9	8	3			
2014-2015	8	8	1			
2013-2014	2	6	0			

Degree Program Name: AAS Fire Science

Year (At least Past Three Years)	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 and % of Students Passing Examinations for each academic year IF APPLICABLE		
				Name of Examination	Number of students taking exam	Number of students passing exam
2015-2016	21	27	1			
2014-2015	19	20	3			

| 2013-2014 | 25 | 26 | 5 | | | |
| 2012-2013 | 10 | 25 | 8 | | | |

Degree Program Name: AS Emergency Medical Services LA

Year (At least Past Three Years)	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 and % of Students Passing Examinations for each academic year IF APPLICABLE		
				Name of Examination	Number of students taking exam	Number of students passing exam
2015-2016	31	33	0			
2014-2015	19	20	0			

Degree Program Name: CERT Electro-Mechanical Technology

Year (At least Past Three Years)	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 and % of Students Passing Examinations for each academic year IF APPLICABLE		
				Name of Examination	Number of students taking exam	Number of students passing exam
2015-2016	2	2	0			
2013-2014	2	2	0			
2010-2011	1	1	0			

Degree Program Name: CERT Solar Technology

Year (At least Past Three Years)	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 and % of Students Passing Examinations for each academic year IF APPLICABLE		
				Name of Examination	Number of students taking exam	Number of students passing exam
2015-2016	1	1	0			
2014-2015	1	1	0			
2013-2014	1	1	0			
2012-2013	1	1	0			
2011-2012	1	1	0			

Course Completion Rates

Please enter all courses taught by the department.

Face-to-Face courses

Course	ABC 2013-14 Fall	ABC 2013-14 Spring	ABC 2014-15 Fall	ABC 2014-15 Spring	ABC 2015-16 Fall	ABC 2015-16 Spring	DF 2013-14 Fall	DF 2013-14 Spring	DF 2014-15 Fall	DF 2014-15 Spring	DF 2015-16 Fall	DF 2015-16 Spring	WI 2013-14 Fall	WI 2013-14 Spring	WI 2014-15 Fall	WI 2014-15 Spring	WI 2015-16 Fall	WI 2015-16 Spring
DRFT 103 (3)		5-100%		8-80%		8-89%		0		0		0		0		2-20%		1-11%
DRFT 119 (3)			3-100%		4-100%			0		0						0	0	
ELCT 101L (4)	3-60%		3-75%	3-60%		3-75%	0		1-25%	0		0	2-40%		0	2-40%		1-25%
ELCT 102L (4)		1-50%			2-50%			0			0			1-50%			2-50%	
ELCT 103 (3)		2-50%			7-100%			1-25%			0			1-25%			0	
ELCT 105L (3)	5-83%		7-100%		4-100%		0		0		0		1-17%		0		0	
ELCT 137 (3)		2-67%						1-33%						0				
ELCT 162 (3)	2-100%	57-98%	7-78%	86-94%	4-80%	73-99%	0	1-2%	2-22%	2-2%	0	1-1%	0	0	0	4-4%	1-20%	0
ELCT 163 (3)	1-50%	4-100%	5-100%	5-83%	11-100%	7-88%	0	0	0	0	0	0	1-50%	0	0	1-17%	0	1-12%
ELCT 193 (3)					1-100%					0							0	
ELCT 203L (4)			1-50%						0						1-50%			
ELCT 204L (2)		2-50%	1-50%					1-25%	0					1-25%	1-50%			
ELCT 264 (3)	2-100%	2-100%	2-100%	2-67%	3-75%	5-83%	0	0	0	1-33%	0	1-17%	0	0	0	0	1-25%	0
EMS 113 (8)	10-77%	13-93%	11-85%	14-100%	25-86%	14-82%	0	0	0	0	0	2-12%	3-13%	1-7%	2-15%	0	4-14%	1-6%
EMS 142 (2)	10-77%	13-93%	11-85%	14-100%	25-86%	14-82%	0	0	0	0	0	2-12%	3-23%	1-7%	2-15%	0	4-14%	1-6%
EMS 143 (1)	10-100%	15-100%	4-100%		12-80%		0	0	0		1-7%		0	0	0		2-13%	
EMS 151 (2)	10-100%	11-79%	4-100%			7-100%	0	0	0			0	0	3-21%	0			0
EMS 180 (5)	10-100%	15-100%	4-100%		11-74%		0	0	0		2-13%		0	0	0		2-13%	
EMS 193 (1)	9-82%			4-100%			0			0			2-18%			0		
FISC 101 (3)	9-60%					2-50%	4-27%					1-25%	2-13%					1-25%
FISC 102 (3)		7-78%						2-22%						0				
FISC 106 (3)	3-100%						0						0					
FISC 201 (3)			4-							0						0		

Course	A,B,C 2013-14 Fall	Spring	2014-15 Fall	Spring	2015-16 Fall	Spring	D,F 2013-14 Fall	Spring	2014-15 Fall	Spring	2015-16 Fall	Spring	W,I 2013-14 Fall	Spring	2014-15 Fall	Spring	2015-16 Fall	Spring
				100%														
FISC 210 (3)				1-100%						0						0		
FISC 212 (3)			5-100%						0						0			
FISC 220 (3)		4-100%				3-75%		0				1-25%		0				0
FISC 225 (3)					5-100%						0						0	
MCHT 101L (4)	8-100%	16-94%	18-95%	15-94%	18-100%	16-88%	0	0	0	1-6%	0	1-6%	0	1-6%	1-5%	0	0	1-6%
MFGT 101 (1)	7-88%						1-12%						0					
ROBO 201 (3)	1-50%	2-100%	1-100%	1-100%	5-71%		1-50%	0	0	0	2-29%		0	0	0	0	0	
ROBO 202 (3)		2-67%	1-100%	1-100%	5-100%			0	0	0	0			1-33%	0	0	0	
ROBO 204 (3)			4-100%		2-100%				0		0				0		0	
ROBO 290 (3)		1-100%	2-100%	1-100%				0	0	0				0	0	0		
SLRT 162 (3)	4-67%				5-100%		0				0		2-33%				0	
SLRT 163 (3)		5-100%						0						0				
SLRT 250 (4)			4-100%						0						0			

Online Instruction, if applicable

Course	Number and % of Students with A, B, C						Number and % of Students with D, F						Number and % of Students with W or I					
	2013-2014		2014-2015		2015-2016		2013-2014		2014-2015		2015-2016		2013-2014		2014-2015		2015-2016	
	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
EMS 120 (3)	10-91%			7-58%	11-69%	8-53%	1-9%			4-33%	5-31%	3-20%	0			1-9%	0	4-27%
FISC 101 (3)			27-66%		17-49%				10-24%		7-20%				4-10%		11-31%	
FISC 102 (3)			12-63%						1-5%						6-32%			
FISC 104 (3)						13-46%						8-29%						7-25%
FISC 105 (3)		11-73%	9-43%					3-20%	2-14%					1-7%	9-43%			
FISC 106 (3)				7-50%						2-14%						5-36%		
FISC 201 (3)	9-100%					9-75%	0					1-8%	0					2-17%
FISC 202 (3)		8-80%			3-100%			2-20%			0			0			0	

Please describe any observed trends in the enrollment and retention of students in the program.

Enrollment in AAS Applied Technologies is fairly constant and retention is OK. However, the number of graduates is very low. This indicates that the cohort is changing every semester and students drop out or move to other majors or to other institutions before graduating.
Enrollment in AAS Robotics is very low, although it seems we are retaining the students from fall to spring. However, the number of graduates is very low. This indicates that the cohort is changing every semester and students drop out or move to other majors or to other institutions before graduating.
Enrollment in AAS Fire Science is robust, and retention seems Ok. However, the number of graduates is very low. This indicates that the cohort is changing every semester and students drop out or move to other majors or to other institutions before graduating.
Enrollment in AAS EMS is robust, and retention seems Ok. However, there are NO graduates! This indicates that the cohort is changing every semester and students drop out or move to other majors or to other institutions before graduating.
Enrollment in the CERT Electromechanical and CERT Solar Tech is very low. Retention is OK.

5. Curriculum, Facilities, Equipment, and Financials

Curriculum

In the first box, list all catalog courses which are service courses in the department. This would include course 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.

Department Service Courses:

Course Number	Fall Semester			Spring Semester		
	2015	2014	2013	2016	2015	2014

Program Name: Applied Technologies

Course Number	Fall Semester			Spring Semester		
	2015	2014	2013	2016	2015	2014
DRFT 103	1			1	1	1
DRFT 119						
ELCT 101		1	1		1	
ELCT 102	1					1
ELCT 103	1					1
ELCT 105L	1	1	1			
ELCT 137						1
ELCT 203			1			1
ELCT 204			1			1
SLRT 162	1		1	1	1	
SLRT 163				1		1
SLRT 210						
SLRT 250		1				
MCHT 101L	2	2	1	2	2	2
MCHT 120L			1			
ELCT 162	1	1	1		1	1
ELCT 163	1	1	1		1	1
ELCT 264	1	1	1	1	1	1

Program Name: Fire Science

Course Number	Fall Semester			Spring Semester		
	2015	2014	2013	2016	2015	2014
FISC 101	1	1	2	1		
FISC 102					1	1
FISC 105		1				1
FISC 106			1		1	
FISC 201			1	1	1	
FISC 212		1		1		

Course Number	Fall 2015	Fall 2014	Fall 2013	Spring 2016	Spring 2015	Spring 2014
FISC 103						
FISC 104				1		
FISC 202	1					1
FISC 210						
FISC 220				1		1
FISC 225	1					

Program Name: EMS

Course Number	Fall Semester			Spring Semester		
	2015	2014	2013	2016	2015	2014
EMS 113	2	1	1		1	1
EMS 120	1		1		1	
EMS 142	2	1	1		1	1
EMS 180	1	1				1
EMS 143	1	1				1
EMS 151		1				
EMS 200						

Program Name: Robotics

Course Number	Fall Semester			Spring Semester		
	2015	2014	2013	2016	2015	2014
ROBO 201	1	1			1	1
ROBO 202	1	1		1	1	1
ROBO 204	1	1				
ROBO 290	1	1			1	1
ROBO 293						

Facilities and Equipment

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

Office Space: 623E (Irina Alvestad), 411 (Don Davis), B16 (Raymond Canfield)
Labs: 406 (Electronics/Robotics), B16 (Machine Shop/Welding), 612-614 (Fire Science/EMS)

Is the space adequate to support the mission of your program for day and evening classes, if applicable?
☐ YES   ☒ NO

If no, please explain

More office space for faculty and more lab space so that tech areas don't share the same room.

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

Electronics Equipment/hydraulics cart/pneumatics cart
Mills/lathes/welders
EMS dummies/ambulance simulator
Robotics arm/3D printer

Is the equipment adequate to support the mission of your program for day and evening classes, if applicable?
☒ YES   ☐ NO

If no, please explain

Financial Information

Is the budget information available to department and program chairs?

⊠ YES ☐ NO

What is the total budget for the department including adjunct faculty (TPT)for the last academic year (2015-2016)?

Applied Science $57,582
EMS/Fire Science $55,377

Indicate departmental (program courses and/or departmental support courses) enrollment for the past 5 years for fall and spring.

Applied Science

Numbers	2013-2014		2014-2015		2015-2016	
	Fall	Spring	Fall	Spring	Fall	Spring
Course Enrollments (number of students)	41	110	65	135	72	124
Total Course Enrollments for Academic year	151		200		196	
	2013-2014		2014-2015		2015-2016	
	Fall	Spring	Fall	Spring	Fall	Spring
Student Credit Hours for Department/Program	120	348	222	429	241	397
Total Student Credit hours for Academic year	468		651		638	

EMS

Numbers	2013-2014		2014-2015		2015-2016	
	Fall	Spring	Fall	Spring	Fall	Spring
Course Enrollments (number of students)	105	109	104	78	147	105
Total Course Enrollments for Academic year	214		182		252	
	2013-2014		2014-2015		2015-2016	
	Fall	Spring	Fall	Spring	Fall	Spring
Student Credit Hours for Department/Program	335	366	360	294	557	373
Total Student Credit hours for Academic year	701		654		930	

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

	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Amount expended for year	$60,005.89	$97,510.62	$75,479.06 (grant funds paid for some faculty)	$59,223.11	$61,179.91
Cost per credit hr			$64.58	$90.97	$95.89

Note: FY 2012, 2013, 2014 had EMS and Fire Science included

EMS/Fire Science:

	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Amount expended for year	NA	NA	NA	$59,269.44	$60,773.62
Cost per credit hr				$90.63	$65.35*

*This price includes payment for 2 years of invoices from the EMS Academy.

Has the department pursued any external sources of funding such as grants?
      ☒ YES ☐ NO
    Please explain.

The department had a LANS Grant (2008-2012), an NSF ATE grant (2011-2014), also funding from an HSI grant.

Does the department have any plans to pursue external sources of funding?
      ☐ YES ☒ NO
    Please explain.

Indicate the approximate amount of fee dollars generated for the last 3 years.

Course Fees collected	2013-2014	2014-2015	2015-2016
DRFT	$150	$390	$390
ELCT	$2,800	$4,080	$4620
EMS	$5,800	$3,820	$7605
FISC	$0	$0	$0
MCHT	$3,000	$4,200	$4320
MFGT	$0	$0	$0
ROBO	$800	$1,450	$1650
SLRT	$0	$0	$0

Rather than by course-by-course, we will total by budget area.

Totals for Applied Science

Course Fees collected	2013-2014	2014-2015	2015-2016
Applied Science	$6750	$10120	$10980

Totals for EMS

Course Fees collected	2013-2014	2014-2015	2015-2016
EMS	$5800	$3820	$7605

Is adequate financial support available to meet the needs of this program?
      ☐ YES ☒ NO

If "NO", please explain.

The programs in Applied Science (AAS Applied Tech, AAS Robotics, CERT Electromechanical, CERT Solar) need to be supported by core faculty who dedicate time & effort to the cohort and its needs. I believe that the programs have sufficient equipment to deliver the curriculum for some time. The EMS program, although it is supported by a core faculty and program chair, lacks graduates. More needs to be done to formally enroll students in the program and help them graduate. The Fire Science program, although it is supported by a core faculty and program chair, lacks graduates. More needs to be done to formally enroll students in the program and help them graduate.

6. SUMMARY

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?**
    b. **Is the program contributing to the general education of students?**
    c. **Describe the overall strengths of the program.**
    d. **Describe the overall weaknesses (opportunities for improvement) of the program.**
    e. **Within existing resources, how can the program be improved, more students recruited, obtain certification (if applicable)?**
    f. **Describe actions to be taken as a result of this review, including instructional resource and practices, and curricular changes to be made.**

> a. All programs are contributing to the Career Pathways and Preparation for Transfer portions of our mission.
> b. Although the programs provide rigorous work for students who have an ultimate goal of an CERT, AS or AAS degree, they do not directly contribute to the general education of students.
> c. We have well-qualified adjunct faculty who truly care about educating their students.
> d. We rely too much on adjunct faculty.
> e. We need more cooperation from Business administrators to collect fees for the program and increase in other ways the budget for the department. The University needs to demonstrate that it also has skin in the game when proving that the programs are important.
> f. We will continue to request funding to hire core faculty in all areas in which degree programs are offered and mentor the new faculty in providing high quality support for current and prospective students.

7. Subsequent reviews

After completing the above template, compare it to your most recent past review and answer the following questions

1. **Describe and evaluate any major changes in the program (a. changes in the overall discipline or field; (b) student demand; (c) societal need: (d) institutional reason for offering the degree; (e) other elements appropriate to the discipline in questions; and (f) other)**

>

2. **Describe actions taken since the last review, including instructional resources and practices, and any curricular changes.**