



**Arab Fire Safety and Security Academy**

**(AFSSAC)**

**Fire Science Technology**

**Student Program Outcomes and  
Achievements**

# Program Data

## Student profile

The Associate Degree in Fire Science Technology is designed to give students the essential education and Hands-on training needed for entering the fields of firefighting and fire prevention and provides opportunities for professional fire service personnel to advance their knowledge and skills.

Students will receive training in the basic concepts of firefighting and will participate in actual hands-on Evolutions that will give them real experience in the firefighting career field.

Completion of this two-year program will qualify students for the Associate of Applied Science (AAS) in Fire Science Technology. Since the degree program is designed to meet the needs of the part-time student, the program will normally take a minimum of three years to complete. All Fire Science course will be offer in the evening.

## Program Outcomes

*Upon successful completion of this program, the Fire Science Technology graduate should be able to:*

- **Perform fire suppression functions;**

- 1- Define offensive operations versus defensive operations.
- 2- Attack an interior structure fire.
- 3- Operate hose lines.
- 4- Perform exposure protection.
- 5- Attack a vehicle fire.
- 6- Extinguish all classes of fire.
- 7- Attack fires involving electricity.

- **Perform fire prevention functions;**
  - 1-Identify elements of fire safety education programs covering stop, drop, and roll; exit drills in the buildings; and installation and maintenance of smoke alarms.
  - 2-Recognize hazards during a fire safety survey of a residential occupancy.
  - 3-Perform engine company inspection.
- **Perform hazardous materials control functions;**
  - 1- Wear personal protective equipment (PPE) used for hazardous materials incidents.
  - 2- Identify the purpose, advantages, and limitations of structure firefighting, high temperature, chemical, liquid flash, and vapor – protective clothing.
  - 3- Identify respiratory protection in hazard materials incident.
  - 4- Apply techniques used to isolate hazard areas and deny entry.
  - 5- Implement buddy system and back up.
- **Provide emergency care;**
  - 1- Define how the delivery of Emergency Medical Services (EMS) fits into the mission of the fire department.
  - 2- Distinguish between basic life support and advanced life support.
  - 3- Differentiate a combination EMS system from a fire department EMS system.
- **Communicate effectively;**
  - 1- Receive emergency calls.
  - 2- Define fire department radio communication.
  - 3- Use radio codes.
- **Practice safety in the performance of all tasks.**
- **Demonstrate the importance of communication, human relation, professionalism and technical skills in achieving operational results in organizations.**

## Courses

Course Number	Course Title	Credits	Prerequisite
<b>General Education Courses</b>			
ENGL101	General English Language	4	
ISL101	Islamic culture -1	2	
MAT121	Mathematics -1	3	
PHY 101	General Physics	3	
COM101	Introduction to Computer	3	
ENGL177	Specialized English Language-1	4	ENGL101
MATH222	Mathematics -2	2	MAT121
RAB101	Arabic Language	2	
COM102	Advanced Computer Applications	3	COM101
ENGL277	Specialized English Language-2 (Fire Terminology)	3	ENGL177
ISL102	Islamic culture -2	2	ISL101
ETH101	Professional Ethics and Communications Skills	2	
	<b>Subtotal Credit Hours</b>	<b>33</b>	
<b>Required Core Courses</b>			
EXT131	Fire Chemistry	2	
EXT132	Hazardous Materials /Awareness	2	
SAFE104	Vocational and industrial safety	3	
EXT134	Firefighter Skills-I	2	EXT132
EXT136	Fire protection systems	3	
EXT135	Car Accidents Rescue	3	
EXT137	Plans of constructing buildings	3	
EXT241	hazardous materials (operations)	4	EXT132
EXT242	Firefighting Vehicles Operator (Driver/Operator Pumper)	3	EXT134
EXT243	hydraulics Firefighting (Fire hydraulics)	3	MATH222
EXT244	Designing by Computer (Computer designs)	3	COM102
EXT245	Fire protection Inspector (Fire Inspector I)	4	EXT137
EXT246	Accidents Technical Investigator (Fire Investigator)	3	EXT134
EXT247	Firefighter Skills-II	4	EXT134
EXT248	Training methods	2	EXT245
EXT249	Firefighting Service Instructor (Fire Service Instructor I)	3	EXT247
EXT250	Firefighting Management (Fire Administration)	3	
EXT251	Graduation Project	2	
EXT299	Co-operative Training (Internship)	4	
	<b>Subtotal Credit Hours</b>	<b>56</b>	
<b>Total Credits for A.A.S. Degree</b>		<b>89</b>	

**Study Schedule**  
**Associate degree in Fire science (Fire Specialist)**

	NO.	Course Code	Course Name	Prerequisites	Equivalent	No. Of Units							
						CRH	L	P	T	CTH			
<b>1<sup>st</sup> Semester</b>	Part 1	1	AENGL101	General English Language		ENGL101	4	8	0	2	10		
		2	AISL101	Islamic culture -1		ISL101	2	4	0	0	4		
		3	AMAT121	Mathematics		MAT121	3	6	0	2	8		
		4	AEXT131	Fire Chemistry		EXT131	2	2	4	0	6		
<b>Total Number of Units of part 1</b>						<b>11</b>	<b>20</b>	<b>4</b>	<b>4</b>	<b>28</b>			
<b>1<sup>st</sup> Semester</b>	Part 2	1	AEXT132	Hazardous Materials /Awareness		EXT132	2	2	4	0	6		
		2	APHY101	General Physics		PHY 101	3	2	4	0	6		
		3	ACOM101	Introduction to Computer		COM101	3	4	4	0	8		
		4	ASAF104	Vocational and industrial safety		SAFE104	3	4	4	0	8		
<b>Total Number of Units of part 2</b>						<b>11</b>	<b>12</b>	<b>16</b>	<b>0</b>	<b>28</b>			
<b>Total Number of Units of 1<sup>st</sup> Semester</b>						<b>22</b>	<b>32</b>	<b>20</b>	<b>4</b>	<b>56</b>			
<b>CRH: Credit Hours</b>						<b>L: Lecture</b>		<b>P: Practical</b>		<b>T: Tutorial</b>		<b>CTH: Contact Hours</b>	

	NO.	Course Code	Course Name	Prerequisites	Equivalent	No. Of Units							
						CRH	L	P	T	CTH			
<b>2<sup>nd</sup> Semester</b>	Part 1	1	AENG102	Specilised English Language1	AENG 101	ENGL177	4	8	0	2	10		
		2	AMAT114	Specialised Mathematics 1	AMATH121	MATH222	2	4	0	0	4		
		3	AEXT134	Firefighter Skills-1	AEXT132	EXT134	2	4	0	4	8		
		4	AEXT136	Fire protection systems		EXT136	3	4	2	0	6		
<b>Total Number of Units of part 1</b>						<b>11</b>	<b>20</b>	<b>2</b>	<b>6</b>	<b>28</b>			
<b>2<sup>nd</sup> Semester</b>	Part 2	1	ARAB101	Arabic Language		RAB101	2	4	0	0	4		
		2	AEXT135	Car Accidents Rescue		EXT135	3	4	4	2	10		
		3	ACOM102	Advanced Computer Applications	ACOM 101	COM102	3	2	8	0	10		
		4	AEXT137	Plans of buildings construction		EXT137	3	4	0	2	6		
<b>Total Number of Units of part 2</b>						<b>11</b>	<b>14</b>	<b>12</b>	<b>4</b>	<b>30</b>			
<b>Total Number of Units of 2<sup>nd</sup> Semester</b>						<b>22</b>	<b>34</b>	<b>14</b>	<b>10</b>	<b>58</b>			
<b>CRH: Credit Hours</b>						<b>L: Lecture</b>		<b>P: Practical</b>		<b>T: Tutorial</b>		<b>CTH: Contact Hours</b>	

3rd Semester	NO.	Course Code	Course Name	Prerequisites	Equivalent	No. Of Units							
						CRH	L	P	T	CTH			
	Part 1	1	EXT137	Specilised English Language2	AENG 102	ENGL277	3	6	0	0	6		
		2	AEXT241	Hazardous Materials (Operations)	AEXT132	EXT241	4	8	0	2	10		
		3	AISI102	Islamic Culture 2	AISL101	ISI102	2	4	0	0	4		
		4	AETH 101	Professional Ethics & Comm. Skills		ETH101	2	4	0	2	6		
	Total Number of Units of part 1						11	22	0	4	26		
	Part 2	1	AEXT242	Firefighting Vehicles Operator	AEXT134	EXT242	3	4	4	0	8		
		2	AEXT243	Hydraulics firefighting	AMAT114	EXT243	3	4	4	0	8		
		3	AEXT244	Designing by Computer	ACOM102	EXT244	3	4	4	0	8		
Total Number of Units of part 2						9	12	12	0	24			
Total Number of Units of 3rd Semester						20	34	12	4	50			
CRH: Credit Hours						L: Lecture		P: Practical		T: Tutorial		CTH: Contact Hours	

4th Semester	NO.	Course Code	Course Name	Prerequisites	Equivalent	No. Of Units							
						CRH	L	P	T	CTH			
	Part 1	1	AEXT245	Fire protection Inspector (Fire Inspector I)	AEXT137	EXT245	4	6	4	0	10		
		2	AEXT246	Accidents Technical Investigator (Fire Investigator)	AEXT134	EXT246	3	4	4	0	8		
		3	AEXT247	Firefighter Skills-II	AEXT134	EXT247	4	6	4	0	10		
	Total Number of Units of part 1						11	16	12	0	28		
	Part 2	1	AEXT248	Training methods	AEXT245	EXT248	2	4	2	0	6		
		2	AEXT249	Firefighting Service Instructor (Fire Service Instructor I)	AEXT247	EXT249	3	4	4	0	8		
		3	AEXT250	Firefighting Management (Fire Administration)		EXT250	3	4	4	0	8		
		4	AEXT251	Graduation Project		EXT251	2	0	8	0	8		
Total Number of Units of part 2						10	12	18	0	30			
Total Number of Units of 4th Semester						21	28	30	0	58			
CRH: Credit Hours						L: Lecture		P: Practical		T: Tutorial		CTH: Contact Hours	

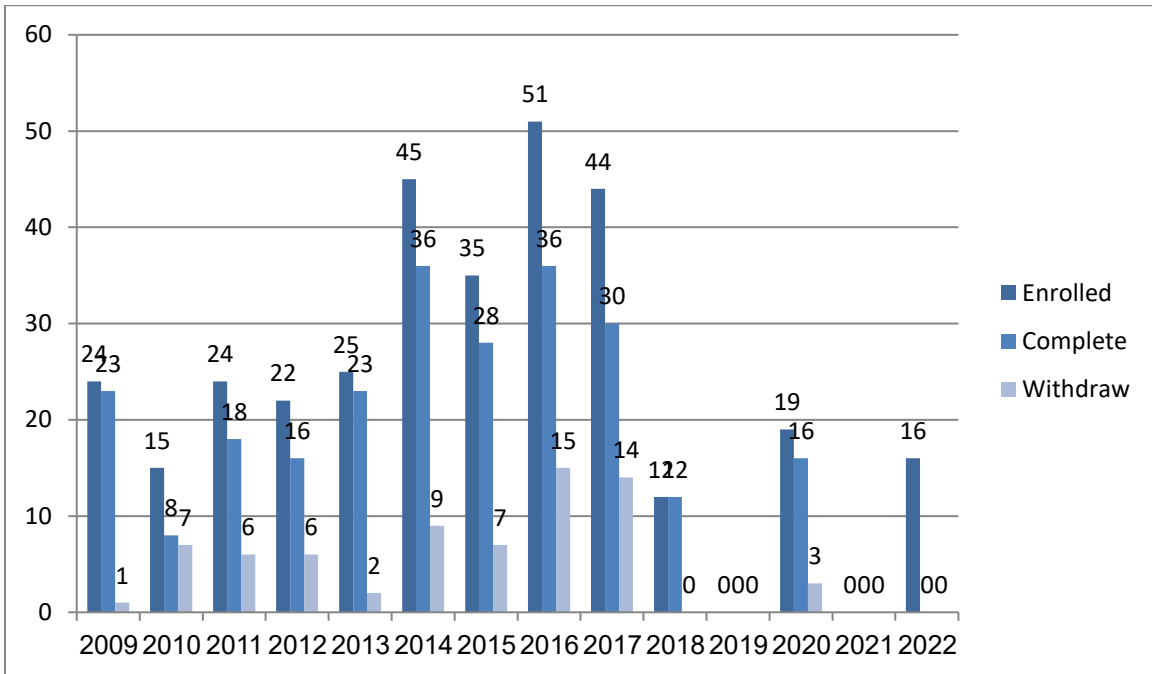
5 <sup>th</sup> Semester	NO.	Course Code	Course Name	No. Of Units	
				CRH	
	1	AEXT299	Co-operative Training (Internship)	4	
<b>Total Number of Units of 5th Semester</b>			<b>4</b>		
CRH: Credit Hours		L: Lecture	P: Practical	T: Tutorial	CTH: Contact Hours

Total Number of Semesters Credit Units	89	128	76	18	222
<b>Total of training Hours (8 x 222)= 1776 + Co-operative Training Hours (360)</b>	<b>2136</b>				

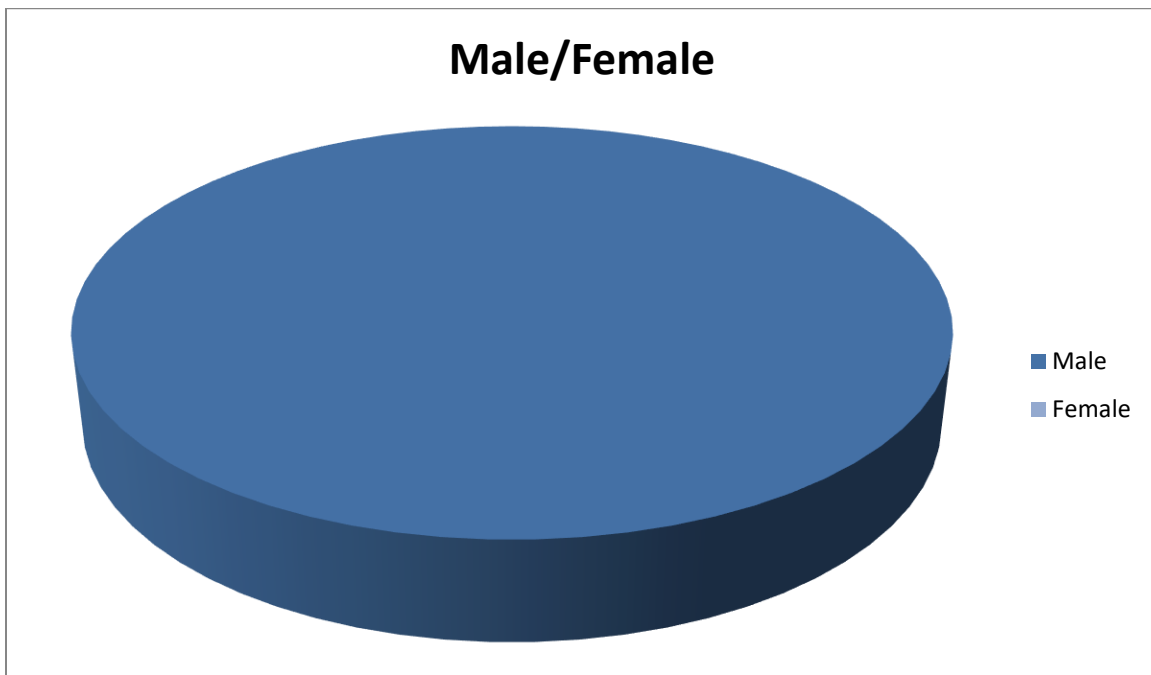
**A. Grading scale:**

- **Excellent ( 90 % – 100 % )**
- **Very good ( 80 % – 89 % )**
- **Good ( 70 % – 79 % )**
- **Pass ( 60% – 69 % )**
- **Fail ( 59 % or less )**

## Student Demographic

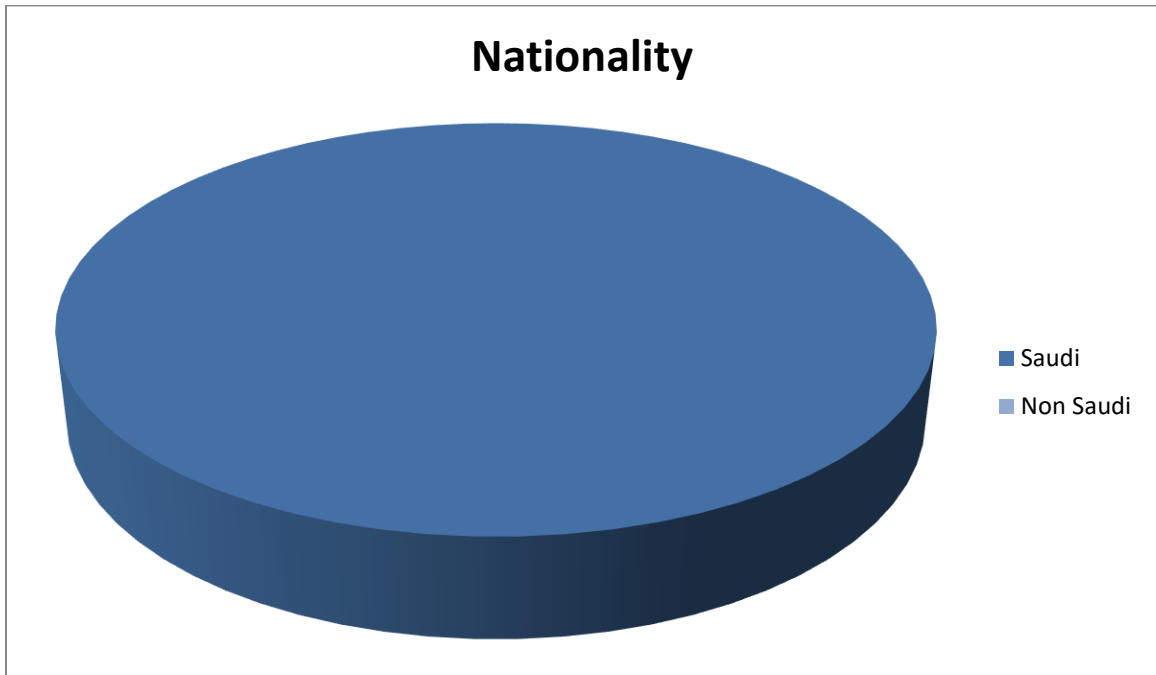


## Demographic Trends

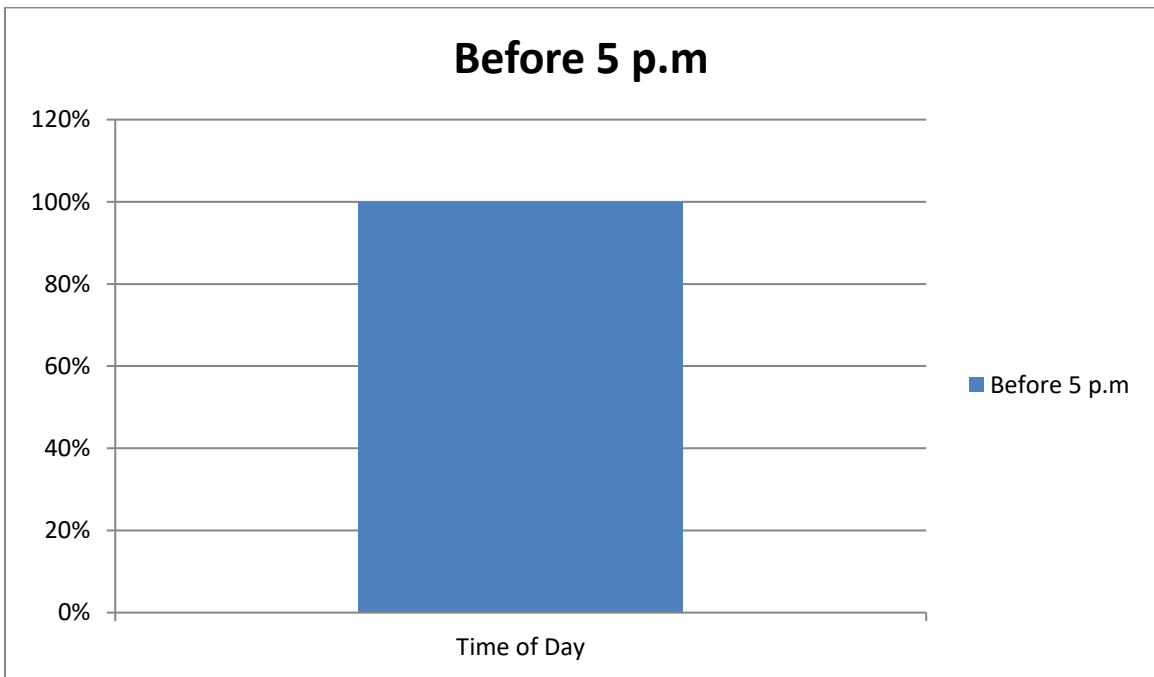




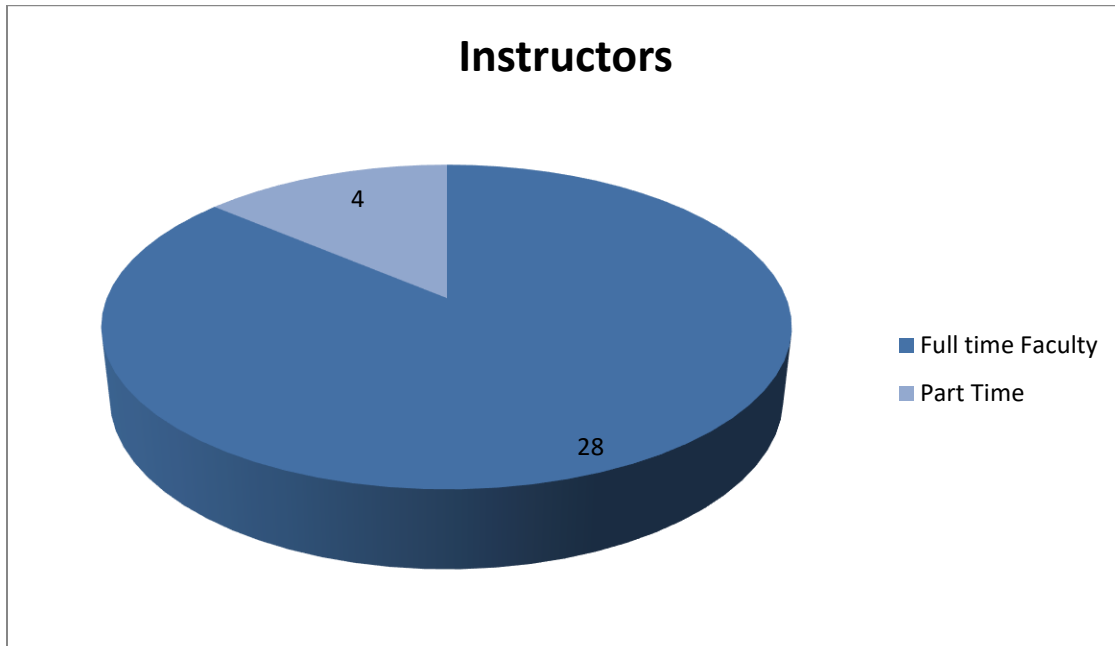
## Nationality



## Schedule



## Instructors



## Placement

<b>Class of 2009</b> Related placement.....100%	<b>Class of 2014</b> Related placement.....100%
<b>Class of 2010</b> Related placement.....100%	<b>Class of 2015</b> Related placement.....100%
<b>Class of 2011</b> Related placement.....100%	<b>Class of 2016</b> Related placement.....100%
<b>Class of 2012</b> Related placement.....100%	<b>Class of 2017</b> Related placement.....100%
<b>Class of 2013</b> Related placement.....100%	<b>Class of 2018</b> Related placement.....(100%)
<b>Class of 2019</b> <b>NO classes in 2019</b>	<b>Class of 2020</b> Related placement.....(94%)
<b>Class of 2021</b> <b>NO classes in 2019</b>	<b>Class of 2022</b> Related placement.....(TBA)

## **Sample of Employers For Graduates**

- King Abd Allah University For Science and Technology (KAUST)
- King Abd Allah Economic city (KAEC)
- King Abd Allah Medical city (KAMC)
- Royal Saudi Navy Forces
- Royal Saudi Air Force
- Ministry of National Guard (KSA)
- Civil Aviation (Domestic Airports KSA)
- Saudi Electricity Company (SEC)
- Saudi Sicli Company (KSA)
- United Cement Industrial Company (KSA)
- Petro Rabigh
- Halwani Bros
- Rajhi Steel
- Saudi Advanced Industries Company (SAIC) (Ibn Rushd petrochemicals)

## **Career Choices**

- Opportunities for employment based on completion level
  - a. Firefighter
  - b. Driver Operator
  - c. Fire Inspector
  - d. Fire Investigator
- Higher level positions, requiring experience and exams, are:
  - a. Lieutenant
  - b. Captain
  - c. District Chief
  - d. Deputy Chief
  - e. Assistant Chief
  - f. Fire Service Instructor

**Program outcomes  
14 years Average  
(TVTC\* Comprehensive Exams)**

<b>Program Outcomes</b>	<b>Measurement 100% of the students enrolled successfully complete:</b>	<b>Student Enrolled</b>	<b>Student that Passed</b>	<b>Student that Withdrew</b>	<b>Student that Failed</b>	<b>Meets Criteria Yes/NO</b>
1- Graduates will understand and be able to play their role in the career of firefighter.	EXT 131 EXT 134 EXT 135 EXT 247	297	255 (85.9%)	42	11	Yes
2- Graduates will understand and be able to play their role in Hazardous material accidents.	EXT 132 EXT 241	297	255 (85.9%)	42	11	Yes
3- Graduates will successfully demonstrate communication skills.	ETH 101	297	255 (85.9%)	42	11	Yes
4- Graduates will be able to manage an emergency incident using appropriate strategies and tactics.	EXT 250	297	255 (85.9%)	42	11	Yes
5- Graduates will demonstrate a working knowledge of fire apparatus maintenance, fire pump operations, and mobile water supply.	EXT 242 EXT 243	297	255 (85.9%)	42	11	Yes
6- Graduates will demonstrate the ability to conduct a basic fire investigation.	EXT 246	297	255 (85.9%)	42	11	Yes
7- Graduates will be able to explain and demonstrate fire inspection practices.	EXT 136 EXT 137 EXT 244 EXT 245	297	255 (85.9%)	42	11	Yes
8- Graduates will be able to play his role as fire service instructor.	EXT 248 EXT 249	297	255 (85.9%)	42	11	Yes

\*TVTC (Technical Vocational Training Corporation)

(Students who withdrew or failed have been retested and passed)

**Award Types Available**

- A.A.S. Fire Science Technology Certificate.
- Courses Transcript.