



WAUBONSEE
COMMUNITY COLLEGE

Where futures take shape

**Fire Science Technology
Handbook**

2016-2017

TABLE OF CONTENTS:

Program Description	4
Goal Statement	4
Degree	5-6
Before Starting the Program.	7
Prior OSFM Certification.	7
Special Requirements to Attend FSC105, FSC115, FSC118, FSC125.	7
Contact information for the Fire Science Technology Program..	8
Application Checklist for Non-Rostered Persons in FSC105, FSC115, FSC118, FSC125.	9
Application Checklist for Rostered Persons in FSC105, FSC115, FSC118, FSC125.	10
Acknowledgement of Conditions and Release of Claims by Fire Science Technology Students.	11
Acknowledgement of Ineligibility for State Exam by Non-Rostered Persons	11
Equipment and Supplies for Fire Science Technology Students in FSC105, FSC115, FSC118, FSC125.	13
Required Gear	13
Program Uniform Requirements	14
Fit Testing and Use of SCBA.	14
Health Requirements for Participating in FSC105, FSC115, FSC118, FSC125	15
Respiratory Fit Testing.	17
Respiratory Fit Questionnaire	17
Physical Exam Form.....	20

Welcome to the Fire Science Technology program at Waubonsee Community College. In this handbook, you will find information that will help you complete your goals to complete the Fire Science Technology Program. The primary goal of this handbook is to orient students to the FSC105, FSC115, FSC118 and FSC125 courses.

PROGRAM DESCRIPTION:

This degree is designed for rostered and non-rostered individuals seeking a career in the fire science industry. The program includes course work toward the Office of the State Fire Marshal Certifications as a Basic Operations Firefighter, Advanced Technician Firefighter, Instructor I, Hazardous Materials First Responder - Operations, Hazardous Materials Awareness, Technical Rescue Awareness, Fire Service Vehicle Operator, Vehicle and Machinery Operations, Fire Apparatus Engineer and Officer I. Students may also acquire Department of Public Health certification as an Emergency Medical Technician Assistant. All fire science courses at Waubonsee are approved by the Office of the Illinois State Fire Marshal.

GOAL STATEMENT:

The goal of the Fire Science Technology program at Waubonsee Community College is to produce competent firefighters to serve in volunteer and/or professional career positions in the State of Illinois and area communities.

Waubonsee Community College's Fire Science Technology program is fully certified by the Illinois Office of State Fire Marshall (OSFM). Graduates of this program are eligible to take OSFM certification tests after they have received the appropriate experience or other requirements as stated by the OSFM.

The courses that are required to earn an Associates of Applied Science Fire Science Technology degree are:

FIRE SCIENCE TECHNOLOGY
Associate in Applied Science A.A.S.
Major Code 610A

General Education Requirements		15 sem hrs
COM100	Fundamentals of Speech Communication	3
	or	
COM121	Communication in the Workplace	3
ENG101	First-Year Composition I	3
	or	
ENG152	Business Communication	3
ENG102	First-Year Composition II	3
	or	
ENG153	Technical Writing	3
Mathematics Elective		3
Psychology or Sociology Elective, PSY100 Recommended		3
Fire Science Technology Major Program Requirements		27 sem hrs
FSC105 m	Basic Operations Firefighter Module A	4
FSC115 m	Basic Operations Firefighter Module B	4
FSC118 m	Basic Operations Firefighter Module C	4
FSC120 m	Hazardous Materials Operations	3
FSC140 m	Fire Apparatus Engineer	4
FSC215 m	Technical Rescue and Vehicle Operations	1
FSC125 m	Advanced Technician Firefighter	4
FSC150 m	Vehicle and Machinery Operations	3
Electives		25 sem hrs
Select electives from the courses listed.		
EMT120	Emergency Medical Technician - Basic	9
FSC160 m	Tactics and Strategy I	3
FSC170 m	Fire Science Instructor I	3
FSC220 m	Fire Inspection and Prevention	3
FSC231 m	Fire Science Administration I	3
FSC232 m	Fire Science Administration II	3

FSC233 m	Fire Science Administration III	3
FSC234 m	Fire Science Administration IV	3
FSC260 m	Tactics and Strategy II	3
FSC270 m	Fire Science Instructor II	3
ITS297	Internship	1
ITS298	Internship	2
ITS298	Internship	3
PROGRAM TOTAL		60 sem hrs
Program Notes		
m Major course requires minimum grade of C.		

BEFORE STARTING THE PROGRAM

If you have not already done so, you should meet with a Waubonsee Community College counselor in order to create an educational development plan and to obtain vital information about the program and about becoming a firefighter. You may contact the counseling department at phone: (630) 466-7900, ext. 2361, or you can meet with a counselor at any of Waubonsee's four campuses.

PRIOR OFFICE OF STATE MARSHAL (OSFM) CERTIFICATION

Waubonsee Community College may accept certifications that you have received from the OSFM. In order to find out how many of your OSFM certificates may be accepted by the college, please contact the Health Professions and Public Service office at 630-585-7900 x3900 or firescience@waubonsee.edu. Additionally, if you are licensed as an Emergency Medical Technician-Basic in the State of Illinois, but have taken the class elsewhere, Waubonsee may be able to accept this license and provide you with college credit toward your fire science degree.

SPECIAL REQUIREMENTS TO ATTEND FSC105, FSC115, FSC118 and FSC125

Four of the courses in the fire science program require live fire and practical exercises which have additional requirements for the student to meet in order for them to be successful. The following pages will discuss the requirements for these courses.

Students who plan to take FSC105 Basic Operations Module A, FSC115 Basic Operations Module B, FSC118 Basic Operations Module C, and FSC125 Advanced Technician Firefighter will be required to complete the following documentation and meet the following expectations. These courses also require that the student wear certified turn out gear, and they will require a physical examination or rostered status with a fire department, and they will need medical insurance.

The instructor reserves the right to inspect any gear that is brought to class by the student in order to insure that it meets NFPA requirements. Gear that does not pass this inspection will not be permitted to be used in class.

CONTACT INFORMATION FOR THE FIRE SCIENCE TECHNOLOGY PROGRAM

Andrea Montgomery, BA

Fire Science/EMT-B Instructor

630-585-7900 ext. 3910

Fox Valley Campus, Room 122

amontgomery@waubonsee.edu

Health Professions and Public Service Administration

630-585-7900 ext. 3900

Fox Valley Campus, Room 107

firescience@waubonsee.edu

Mailing Address

Waubonsee Community College

Health Professions and Public Service

Rt. 47 at Waubonsee Drive

Sugar Grove, IL 60554

Fax: 630-966-4860

APPLICATION CHECKLIST

Each student must submit the appropriate documentation to the Health Professions and Public Service Office based on their rostered status.

Application Checklist for Non-Rostered Persons
For Individuals Enrolled in FSC105, FSC115, FSC118, or FSC125
(Application Checklist for Rostered Persons is on the next page)

_____ Submit the Acknowledgement of Conditions and Release of Claims by Students

_____ Submit the Acknowledgement of Ineligibility for State Exam by Non-Rostered Persons

_____ Submit the Medical Exam Requirements for Practical Skills including proof of ability to wear a respirator

_____ Submit Proof of major medical/health insurance

_____ Submit the OSHA Respirator Medical Evaluation Questionnaire and Physical signed by Physician

_____ Insure you have purchased appropriate equipment, supplies and Apparel Required for Practical Skills as listed in the handbook

All documents are to be submitted to the Health Professions and Public Service office. Students can mail or bring their documentation to:

Waubonsee Community College

Health Professions and Public Service

Fox Valley Campus

2060 Ogden Ave

Aurora, IL 60503

Please call 630-585-7900 ext.3903 or firescience@waubonsee.edu with any questions. Failure to turn in these documents by the first day of the course will result in automatic withdrawal from the course.

Application Checklist for Rostered Persons

_____ Acknowledgement of Conditions and Release of Claims by Students

_____ Proof of major medical/health insurance or liability insurance

_____ Fit test record for SCBA

_____ Letter from Fire Chief attesting to rostered status

_____ Insure you have appropriate Equipment, Supplies and Apparel for Practical Skills as listed in the handbook. Contact the instructor of the course if you have any questions.

All documents are to be submitted to the Health Professions and Public Service office in Room 107 on the Fox Valley Campus. Students can mail their documentation to:

Waubonsee Community College

Health Professions and Public Service

Fox Valley Campus

2060 Ogden Ave. Room 107

Aurora, IL 60503

Please call 630-585-7900 ext. 3900 or firescience@waubonsee.edu with any questions.

Failure to turn in these documents by the first day of the course will result in automatic withdrawal from the course.

Acknowledgement of Conditions and Release of Claims by Fire Science Technology Students

Waubonsee Community College (WCC) takes all precautions to provide safe training experiences for all students. However, it is not possible to eliminate all possible hazards to participant safety. Before any individual participates in a training program involving live fire or practical skills instruction, he or she should be familiar with the physical stress and hazards involved.

Waubonsee Community College fire science students are required to read the following explanations of the physical and mental effects of this training. Students who cannot comply with these requirements will not be allowed to participate in any training that involves physical exertion or the use of personal protective equipment. This is necessary to provide for the personal well-being and safety of all participants.

The undersigned individual acknowledges:

1. Firefighter training is a physically and mentally stressful activity that involves: physical exertion; exposure to toxic atmospheres, high temperatures, and humidity levels; working at heights and in confined spaces; elevated body temperatures; increased pulse rates, respiration, and blood pressures; and, reactions to emergency situations.
2. Participants who are pregnant or have heart disease, lung disease, hypertension, or other medical or mental conditions that may affect their health and safety under live fire conditions are required to consult with a physician before participating in any live fire training activity at Waubonsee Community College. Evidence of the ability to meet the Illinois Department of Labor Respirator Wearers physical evaluation may be required.
3. Participants must utilize protective clothing and self-contained breathing apparatus that satisfy National Fire Protection Association standards.
4. Participants with facial hair, jewelry, or any other impediment to the proper seal of the face-piece on self-contained breathing apparatus will not be allowed to participate in training evolutions where the atmosphere is toxic or may become so.
5. Participant use of alcohol or any other drug that affects mental or physical reactions immediately preceding, or during, training is prohibited.
6. Waubonsee Community College may use the image or likeness of any participant, as contained in a photograph or digital format, in advertising, promotional, or instructional materials without compensation.

Participants agree that the work to be performed under this Agreement will be performed entirely at their own risk. Furthermore, participants agree to indemnify and hold harmless Waubonsee Community College and its

I certify that I have read and understand this Acknowledgement of Conditions and Release of Claims, as stated in the 2016-2017 Fire Science Handbook. .

Signature

Date

members, including the Board of Trustees, for any and all injury, liability or loss arising in any way out of the performance of this agreement.

Acknowledgement of Ineligibility for State Exam by Non-Rostered Persons

Pursuant to guidelines that govern the Office of the Illinois State Fire Marshal (OSFM), a candidate for State examination must be engaged in firefighting in an organized Illinois fire department as a fire protection person or trainee as attested to by the employing Illinois fire chief of the individual seeking firefighter certification.

Therefore, non-rostered persons who successfully complete the Waubonsee Community College's fire science technology courses are not eligible as candidates for state examination. If an individual becomes rostered within one year of the completion of practical exercises, and they meet all other requirements set by the OSFM, they then will become eligible as candidates for state examination.

Non-rostered persons will receive the following upon the completion of the course:

- A Certificate of Completion
- Documentation of successful completion of practical skills exercises completed in the Waubonsee Community College Fire Science Technology program.

The documentation listed above will enable a non-rostered person who subsequently becomes engaged in firefighting in an organized Illinois fire department, as attested to by the employing Illinois fire chief, to seek firefighter certification, pursuant to the guidelines that govern the Office of the Illinois State Fire Marshal. It is the students' responsibility to contact Waubonsee Community College in order to have their transcript sent to the OSFM.

I certify that I have read and understand this Acknowledgement of Ineligibility for State Exam by Non-Rostered Persons, as stated in the 2016-2017 Fire Science Handbook. Furthermore, I understand that my status as a non-rostered person who successfully completes Waubonsee Community College fire science courses does not make me eligible as a candidate for State examination.

Signature

Date

Equipment and Supplies for Fire Science Technology Students

These supplies are necessary for students taking FSC105, FSC115, FSC118, and FSC125. A student without the following items will not be allowed to participate in practical skills, and thus will not be able to pass the course.

Personal Protective Equipment

*These items are loaned to students through the college.

- Firefighter helmet with eye protection*
- Fire-resistant hood*
- Fire-resistant coat*
- Fire-resistant pants*
- Firefighter boots*
- Firefighter gloves*
- Safety glasses* (Must meet ANSI standards)
- Ear plugs*

Training Supplies

- Flashlight
- Nylon webbing*
- Gear bag*

All equipment, supplies, and apparel shall be in compliance as may be prescribed by the National Fire Protection Association (NFPA). Non-rostered persons are responsible for maintaining these items in proper working condition, and reporting any defects or malfunctions immediately to the instructor so that proper safety precautions are taken.

PROGRAM UNIFORM REQUIREMENTS

Each student is required to dress appropriately for each class. You must wear to **each** class, including lecture and practical classes:

Belt (black, leather with plain buckle)

Navy blue work pants

Shoes or boots (black, public safety style)

Socks (black or navy blue without logos or markings)

Waubonsee logo T-shirt “True Red” available at the Bookstore. Or Red T-shirt, plain, no logo, no pocket



FIT TESTING AND USE OF SCBA

If you are on a roster, you need to bring your own SCBA gear, however, you will also need to bring proof of fit testing. If you are not on a roster, SCBA gear will be provided to you, and you will be fit tested on the first day of class. You will need to complete a physical with proof of ability to use a respirator (see required documents).

The instructor reserves the right to inspect any SCBA gear that is brought to class by the student. Any SCBA equipment must have current hydrostatic testing and meet NFPA requirements. Gear that does not pass this inspection will not be permitted to be used in class.

SCBA gear will be provided to students who rent gear through Turnout Management.

HEALTH REQUIREMENTS FOR PARTICIPATING IN FSC105, FSC115, FSC118, FSC125

Waubonsee Community College (WCC) takes all precautions to provide safe training experiences for all students. However, it is not possible to eliminate all possible hazards to participant safety. Before any individual participates in a training program involving live fire or practical skills he or she must have a medical clearance in order to insure that they are sufficiently healthy to participate in these exercises.

DOCUMENTS REQUIRED TO TURN IN BY THE FIRST DAY OF CLASS FOR NON ROSTERED STUDENTS

The following documents must be turned in to the Health Professions and Public Service office by the first day of class. If you do not turn these items in, you will be automatically withdrawn from the class.

○ **MEDICAL INSURANCE CARD**

Students are responsible to submit evidence of health insurance to the Health Professions and Public Service office by the first day of class.

○ **RESPIRATORY FIT TESTING QUESTIONNAIRE AND LETTER OF PHYSICAL HEALTH**

The student accepts the responsibility to go to his or her physician and have a physical examination in order to prove ability to use a respirator, and sufficient health to participate in live fire exercises. You must turn in a letter from your physician stating that you are sufficiently healthy to participate in training and sufficiently healthy to wear a respirator. The student must also turn in a copy of the OSHA Respirator Medical Evaluation Questionnaire.

Students who are not able to produce a letter from their physician stating that they are in sufficient health to perform training or wear a respirator will not be permitted to complete the course.

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is required during the fire science program. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your Instructor provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.



Respiratory Protection Program

Appendix C to Sec. 1910.134: OSHA Respirator Medical Evaluation Questionnaire (Mandatory)

To the Physician:

The answers to these questions should guide your physical exam for this individual. They will be challenged physically and mentally during Waubonsee Community College's Fire Science Technology Program. They will be required to lift and carry bodies; lift and carry ladders; lift and carry auto extrication equipment; work in an environment over 300F; rain; cold; wind; snow; and ice. They will be required to do this work with approximately 75lbs of equipment on them for up to 4 hours each day.

To the student:

You must bring this form to your primary care physician or other Licensed Health Care Professional to review with you. You must return this form to the Fire Science Technology Program office with the Physical Examination Form.

Part A. Section 1. (Mandatory) The following information must be provided by every student who has been selected to use any type of respirator (please print).

1. Today's date: _____

2. Your name: _____

3. Your age (to nearest year): _____

4. Sex (circle one): Male/Female

5. Your height: _____ ft. _____ in.

6. Your weight: _____ lbs.

7. Your job title: _____

8. A phone number where you can be reached by the health care professional who reviews this questionnaire (include the Area Code): _____

9. The best time to phone you at this number: _____

10. Has your Instructor told you how to contact the health care professional who will review this questionnaire (circle one): Yes/No

11. Check the type of respirator you will use (you can check more than one category):

a. _____ N, R, or P disposable respirator (filter-mask, non-cartridge type only).

b. Other type (for example, half- or full-facepiece type, powered-air purifying, supplied-air, **self-contained breathing apparatus**).

12. Have you worn a respirator (circle one): Yes/No

If "yes," what type(s): _____

Part A. Section 2. (Mandatory) Questions 1 through 9 below must be answered by every student who has been selected to use any type of respirator (please circle "yes" or "no").

1. Do you *currently* smoke tobacco, or have you smoked tobacco in the last month: Yes/No

2. Have you *ever had* any of the following conditions?

- a. Seizures: Yes/No
- b. Diabetes (sugar disease): Yes/No
- c. Allergic reactions that interfere with your breathing: Yes/No
- d. Claustrophobia (fear of closed-in places): Yes/No
- e. Trouble smelling odors: Yes/No

3. Have you *ever had* any of the following pulmonary or lung problems?

- a. Asbestosis: Yes/No
- b. Asthma: Yes/No
- c. Chronic bronchitis: Yes/No
- d. Emphysema: Yes/No
- e. Pneumonia: Yes/No
- f. Tuberculosis: Yes/No
- g. Silicosis: Yes/No
- h. Pneumothorax (collapsed lung): Yes/No
- i. Lung cancer: Yes/No
- j. Broken ribs: Yes/No
- k. Any chest injuries or surgeries: Yes/No
- l. Any other lung problem that you've been told about: Yes/No

4. Do you *currently* have any of the following symptoms of pulmonary or lung illness?

- a. Shortness of breath: Yes/No
- b. Shortness of breath when walking fast on level ground or walking up a slight hill or incline: Yes/No
- c. Shortness of breath when walking with other people at an ordinary pace on level ground: Yes/No
- d. Have to stop for breath when walking at your own pace on level ground: Yes/No
- e. Shortness of breath when washing or dressing yourself: Yes/No
- f. Shortness of breath that interferes with your job: Yes/No
- g. Coughing that produces phlegm (thick sputum): Yes/No
- h. Coughing that wakes you early in the morning: Yes/No
- i. Coughing that occurs mostly when you are lying down: Yes/No
- j. Coughing up blood in the last month: Yes/No
- k. Wheezing: Yes/No
- l. Wheezing that interferes with your job: Yes/No
- m. Chest pain when you breathe deeply: Yes/No
- n. Any other symptoms that you think may be related to lung problems: Yes/No

5. Have you *ever had* any of the following cardiovascular or heart problems?
- Heart attack: Yes/No
 - Stroke: Yes/No
 - Angina: Yes/No
 - Heart failure: Yes/No
 - Swelling in your legs or feet (not caused by walking): Yes/No
 - Heart arrhythmia (heart beating irregularly): Yes/No
 - High blood pressure: Yes/No
 - Any other heart problem that you've been told about: Yes/No
6. Have you *ever had* any of the following cardiovascular or heart symptoms?
- Frequent pain or tightness in your chest: Yes/No
 - Pain or tightness in your chest during physical activity: Yes/No
 - Pain or tightness in your chest that interferes with your job: Yes/No
 - In the past two years, have you noticed your heart skipping or missing a beat: Yes/No
 - Heartburn or indigestion that is not related to eating: Yes/No
 - Any other symptoms that you think may be related to heart or circulation problems: Yes/No
7. Do you *currently* take medication for any of the following problems?
- Breathing or lung problems: Yes/No
 - Heart trouble: Yes/No
 - Blood pressure: Yes/No
 - Seizures: Yes/No
8. If you've used a respirator, have you *ever had* any of the following problems? (If you've never used a respirator, check the following space and go to question 9:)
- Eye irritation: Yes/No
 - Skin allergies or rashes: Yes/No
 - Anxiety: Yes/No
 - General weakness or fatigue: Yes/No
 - Any other problem that interferes with your use of a respirator: Yes/No
9. Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire? Yes/No
- Questions 10 to 15 below must be answered by every student who has been selected to use either a full-face piece respirator or a **self-contained breathing apparatus (SCBA)**. For students who have been selected to use other types of respirators, answering these questions is voluntary.
10. Have you *ever lost* vision in either eye (temporarily or permanently): Yes/No
11. Do you *currently* have any of the following vision problems?
- Wear contact lenses: Yes/No
 - Wear glasses: Yes/No
 - Color blind: Yes/No
 - Any other eye or vision problem: Yes/No
12. Have you *ever had* an injury to your ears, including a broken ear drum? Yes/No

13. Do you *currently* have any of the following hearing problems?
- a. Difficulty hearing: Yes/No
 - b. Wear a hearing aid: Yes/No
 - c. Any other hearing or ear problem: Yes/No
14. Have you *ever had* a back injury: Yes/No
15. Do you *currently* have any of the following musculoskeletal problems?
- a. Weakness in any of your arms, hands, legs, or feet: Yes/No
 - b. Back pain: Yes/No
 - c. Difficulty fully moving your arms and legs: Yes/No
 - d. Pain or stiffness when you lean forward or backward at the waist: Yes/No
 - e. Difficulty fully moving your head up or down: Yes/No
 - f. Difficulty fully moving your head side to side: Yes/No
 - g. Difficulty bending at your knees: Yes/No
 - h. Difficulty squatting to the ground: Yes/No
 - i. Climbing a flight of stairs or a ladder carrying more than 25 lbs: Yes/No
 - j. Any other muscle or skeletal problem that interferes with using a respirator: Yes/No



WAUBONSEE
COMMUNITY COLLEGE

FIRE SCIENCE TECHNOLOGY
PHYSICAL EXAMINATION FORM

Student _____ is preparing to attend fire science technology courses at Waubonsee Community College. These courses are designed to expose the applicant to all of the rigors of fire suppression. The student will be involved in, but not limited to, the following examples of severe physical exertion:

- A. Physical Training consisting of running, sit-ups, pushups, etc.
- B. Carrying heavy weights including hose, vent fans, 150lb mannequins
- C. Climbing 100' ladders, Confined Space Entry
- D. Extensive use of self-contained breathing apparatus
- E. Entry into and working in encapsulating suits
- F. Similar forms of physical exertion

The student must be in physical condition to accomplish and sustain this type of physical rigor throughout the course.

In my medical opinion, the student _____

_____ IS MEDICALLY/PHYSICALLY CAPABLE

_____ IS NOT MEDICALLY/PHYSICALLY CAPABLE

Of attending and participating in the rigorous physical activity of the Fire Science Technology program.

Physician Date

Office address: _____

Office Phone; _____

If further information is desired concerning Medical Requirements for Firefighters, please refer to the National Fire Protection Association Standard 1582, or contact the Waubonsee Community College Fire Science Department at 630-466-2350.