COURSE TITLE: Fire Service Hydraulics  
COURSE NUMBER: FFP 1301

COURSE DESCRIPTION (with prerequisites):
A study of pertinent properties of water, distribution of pressures in dynamic and static systems, friction loss in hoses and pipes and factors which influence it. Approximation methods for quick calculation are given, as well as the more technical computations. Effort is directed toward giving an understanding of how good fire streams are developed. 3 semester hours credit

NAME(S) OF INSTRUCTORS:
Program Availability

EFFECTIVE ACADEMIC YEAR:
2014-2015

REQUIRED TEXTBOOKS AND INSTRUCTIONAL SUPPLIES:

GRADING POLICY:
The standing of a student in each course is expressed by one of the following letters and corresponding grading system:
A – 90 – 100
B – 80 – 89
C – 70 – 79
D – 60 – 69
F – 59 or less
The Chipola Catalog provides policies and procedures regarding the grading system. A student’s Grade Point Average is derived from the grading system/quality point scale.

ATTENDANCE AND WITHDRAWAL POLICIES:
Chipola College expects regular attendance of all students. Students who are absent from classes for any reason other than official college activities must satisfy the instructor concerned that the absence was due to illness or other clearly unavoidable reasons. Otherwise, the student may suffer grade loss at the discretion of the instructor. Chipola policy allows each instructor to specify in the Instructor First Day Handout whether or not an absence is excusable and what affect the absence or tardy may have on the grade.
A student is allowed to repeat a course a maximum of three (3) times. **On the third attempt a student (1) must bear the full cost of instruction (unless waived by Student Services), (2) cannot withdraw, and (3) must receive a grade.**

**MAKE-UP POLICY:**
Chipola allows each instructor to specify in the Instructor First Day Handout the makeup policy.

**ACADEMIC HONOR CODE POLICY:**
Students are expected to uphold the Academic Honor Code. Chipola College’s Honor Code is based on the premise that each student has the responsibility to (1) uphold the highest standards of academic honesty in his/her own work; (2) refuse to tolerate academic dishonesty in the college community; and (3) foster a high sense of honor and social responsibility on the part of students. Further information regarding the Academic Honor Code may be found in the Chipola Catalog, Student Governance section.

**STUDENTS WITH DISABILITIES POLICY:**
Chipola College is committed to making all programs and facilities accessible to anyone with a disability. Chipola’s goal is for students to obtain maximum benefit from their educational experience and to effectively transition into the college environment. Students with disabilities are requested to voluntarily contact the Office of Students with Disabilities to complete the intake process and determine their eligibility for reasonable accommodations.

**LIBRARY AND ON-LINE REFERENCE MATERIALS:**
The library is a comprehensive learning resource center providing information in print, electronic, and multimedia format to support the educational objectives of the College. On-line catalogs, e-books and electronic databases can be accessed by using the LINCCWeb icon on the Chipola Library website at [www.chipola.edu/library](http://www.chipola.edu/library). If you have questions about database usage consult the “How to Use the Chipola Databases” on the Library website or call the Library at 850/718-2274 during regular hours. Library hours are posted each semester at the building entrance and on the Library website. See your Instructor First Day Handout for individual instructor recommendations and resources.

**TECHNOLOGY RESOURCES:**
The college’s learning management system is Canvas. Classes become available on Canvas on the first day of the semester. It is the student’s responsibility to log onto the Canvas system the first day of class to establish the first day of attendance and to check announcements. All official class communication must be through Canvas. For further information, contact your instructor or the Director of eLearning. The Canvas support hotline is available online in live chat and on the phone, toll-free, at 855-308-2812 for any issues in accessing or utilizing Canvas. The Information Technology Center, located in the library, is equipped with computer workstations. Lab hours are posted each semester at the building entrance and on the Library website.
**TUTORING RESOURCES:**
Chipola College has contracted Smarthinking, a Pearson Company, for online tutoring services, accessible especially from 5 p.m. to 8 a.m. It can be accessed through Canvas. Additionally, the Academic Center for Excellence (ACE) Lab, located in Building L, offers free tutoring from 8 a.m. to 5 p.m. and is equipped with computer workstations. Lab hours are posted each semester at the room entrance.

**ELECTRONIC DEVICE USAGE:**
All electronic devices such as cell phones, beepers, pagers, and related devices are to be silenced prior to entering classrooms and/or laboratories to avoid disruption. Should it become necessary for a student to leave his/her “device” on to send or receive an emergency call and/or text message, the student must inform the instructor prior to class. If the student finds it necessary to send and/or receive an emergency call and/or text message during class/lab time, he/she is instructed to take all books and belongings and step outside the classroom to deal with the situation. To minimize classroom disruption and the distraction to classmates, the student will not be permitted to reenter the classroom during that class period. Any time a test is being administered, all such devices must be turned off and put away. If a device is seen or heard during an exam, a score of zero will be given for that exam. Initial and repeated infractions may result in disciplinary action.

**DISCIPLINE SPECIFIC COMPETENCIES / LEARNING OUTCOMES:**
FFP 1301 is not a general education core course, but is a core Fire Science Course in the area of Fire Science Technology.

This course is designed to provide advanced training to certified firefighters and persons in the field of Fire Science.

1. The student will know how the basic principles of fire hydraulics.
2. The student will know various hose lay operations.
3. The student will define a “Fire Stream”.
4. The student will know other definitions relating to fire streams.
5. The student will know how weights, measures and terms relate to each other.
6. The student will know the mechanics of figuring volume and friction loss.
7. The student will know limitations of fire department pumpers which produce fire streams.
8. The student will know how to figure friction by “Rule of Thumb”.
9. Students will know the characteristics of water as they relate to fire streams.
### LINKING COURSE-LEVEL STUDENT LEARNING OUTCOMES WITH DISCIPLINE-SPECIFIC COMPETENCIES, ASSESSMENT METHODS, AND ARTIFACTS

**COURSE-LEVEL STUDENT LEARNING OUTCOMES FOR FFP 1301**

<table>
<thead>
<tr>
<th>1. The student will know how the basic principles of fire hydraulics.</th>
<th>FF Outcome 1: Demonstrate mastery of Firefighter knowledge and skills.</th>
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<tr>
<td>2. The student will know various hose lay operations.</td>
<td>FF Outcome 2: Demonstrate safety skills appropriate for Firefighters.</td>
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<tr>
<td>3. The student will define a “Fire Stream”.</td>
<td>FF Outcome 3: Apply critical thinking/problem-solving and diagnostic skills proficiency as appropriate for employees in a Firefighter’s work setting.</td>
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<tr>
<td>4. The student will know other definitions relating to fire streams.</td>
<td>FF Outcome 4: Exhibit leadership through team building, and professional skills appropriate for employees in a Firefighter’s work setting.</td>
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<tr>
<td>5. The student will know how weights, measures and terms relate to each other.</td>
<td>FF Outcome 5: Demonstrate skills required to become certified and employed as Firefighters.</td>
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<tr>
<td>6. The student will know the mechanics of figuring volume and friction loss.</td>
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<td>7. The student will know limitations of fire department pumps which produce fire streams.</td>
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**Program-Level Learning Outcomes: AS Fire Science Technology / Firefighter II Certificate**

**Assessment Methods for Student Learning Outcomes**

**Assessment Codes**

- T = Tests
- Pre/Post = Pre- and Post-Tests
- OT = Objective Tests
- UT = Unit Tests
- Q = Quizzes
- F = Final Examination
- CF = Cumulative Final Exam
- SP = Skills Performance
- SD = Skills Demonstration
- W = Writing Assignments
- E = Essays
- DE = Documented Essays
- RP = Research Papers
- J = Jury
- R = Recital
- RPT = Report/Presentation
- Proj = Projects
- Exp = Experiments
- Cap. Proj. = Capstone Project
- Cap. Course = Capstone Course
- Prac. = Practicum
- Intern. = Internship
- H = Homework
- PS = Problem Solving
- DB = Discussion Board
- BO = Behavioral Observation
- Clin. = Clinicals
- CS = Case Study
- CP = Case Plan
- Port. = Portfolio
- Obs. = Teacher Observation
- Sk. Check = Skills Check-off
- Curriculum Frameworks
- JP = Judged
- Performance/Exhibition

### MEANS OF ACCOMPLISHING STUDENT LEARNING OUTCOMES:

- Lecture
- PowerPoint presentation
- Role Play
- Demonstrations
- Hands on applications

### ASSIGNMENT AND/OR COURSE OUTLINE

See your Instructor First Day Handout for individual instructor assignment schedule.