

MONTGOMERY COLLEGE

Fire Science Program

Rockville Campus

SYLLABUS

Fall 2018

FIRE202: Fire Protection Hydraulics and Water Supply

I. Instructor Information

Instructor: Mark Bird
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Office Hrs: by appointment

II. General Course Information

FIRE202 Catalog Description:

Provides a foundation of theoretical knowledge in order to understand the principles of the use of water in fire protection and to apply hydraulic principles to analyze and to solve water supply problems. Assessment levels: ENGL101/101A, READ120 or consent of department. Three hours each week.

III. Specific Outcomes

By the end of the course, the student will be able to:

- Apply the application of mathematics and physics to the movement of water in fire suppression activities.
- Comprehend the design principles of fire service pumping apparatus.
- Analyze community fire flow demand criteria.
- Demonstrate, through problem solving, a thorough understanding of the principles of forces that affect water at rest and in motion.

IV. Texts and Supplies

Required texts:

- Fire Service Hydraulics and Water Supply, 2nd ed. (2010) Weider, Fire Protection Publications, (www.ifsta.org), ISBN 9780132622745
- Calculator that will do exponent calculations: Ex. Casio fx-300MS S-V.P.^M.

Required: Internet access for emails and coursework. Montgomery College computer labs are available. This course utilizes a Blackboard supplemental site available through MyMC.

V. Grading

A. Requirements

This is a comprehensive course; in order for the student to pass the course, regardless of the student's grade average in the course, the **student must submit the research assignment** and have no more than **ONE** absence.

B. Course Grading

Chapter Assignments	375
Pump Panel Drawing	50
Midterm Exam	100
Final Exam	100
Research Assignment	150
Supply my Sprinkler	100
Final Grade	875

Chapter Assignments

There are fifteen (15) assignments that follow the chapters in the textbooks. Assignments consist of short-answer questions.

Exams

There will be 2 written tests (midterm and final). Each test will consist of essay, multiple choice, and/or short answer questions. Tests will cover all material covered in class (lecture, discussions, videos) and most importantly, reading from textbook.

Research Paper - Build the Perfect Pumper

Refer to assignment in Blackboard. Additional information will be given in class.

Hydraulic Calculations - Supply My Sprinkler Systems

You will be given 5 - 8 buildings with sprinkler systems designed for their use. You will be given a water tank and underground pipe sizes. With these items you will construct a water supply system that will adequately supply water to all the systems described and be the most cost effective.

Additional information will be given in class.

C. Standards

Final grades will be based on percentage:

90% - 100%	A
80% - 89%	B
70% - 79%	C
60% - 69%	D
0% - 59%	F

D. Make-up Policy

If a student knows that he/she will need to miss a test ahead of time, the student must notify the Instructor **at least one week before the scheduled exam**; otherwise no make up test will be given. If an emergency occurs, you must contact the Instructor within 24 hours of the exam (via phone or email). You must have documentation for your absence (car repair bill, police report, proof of major illness, etc). No make up tests will be given without the proper documentation or approval of instructor. In addition, please see attendance requirement, as it still applies to test dates.

E. Late Policy

Students are expected to arrive for class on time. Arriving late is distracting to other students and the instructor. Three (3) late arrivals, as documented by the instructor, will constitute (1) full absence and will apply to attendance policy.

Late assignments will not be accepted.

F. Audit Policy

If you are auditing the class, you are exempted from tests. However, students are required to attend all classes and participate in the class discussions.

VI. Classroom policies

A. Attendance/Class Discussion

Class discussion and attendance is required. All lecture material is essential, and a major portion of this course involves student participation in discussions.

Students are expected to attend class on time. If you have excessive absences (more than **ONE**), as defined in the Student Handbook and College Catalog, you may be dropped from the course. *Withdrawal from the course is the responsibility of the student.* If the course is not dropped, a grade of 'F' will be awarded at the end of the semester. In addition, this class is designed to be interactive and you must be willing and able to express your views on the topics discussed in class and willing to interact with other students in a close environment.

Attendance will be taken at the beginning of each class period. It is the student's responsibility to see the instructor immediately following class if they arrived after the attendance check to have their attendance record corrected.

B. Academic Honesty

All students are expected to achieve their goals with academic honesty. Cheating, plagiarism, and/or other forms of academic dishonesty or misconduct, examples of which are to be found in the Student Code of Conduct in the Student Handbook, are not tolerated. Students caught violating the code of conduct will receive a grade of zero for that assignment/test. A second incident will result in a failing grade for the class and referral to the Dean of Students.

The Student Code of Conduct is a document that outlines the principles, policies and procedures that govern student life and encourages responsibility and respect for the rights and viewpoints of others. The Student Code of Conduct describes acceptable standards of student behavior and academic integrity, disciplinary procedures, and possible sanctions when the Code of Conduct is not followed. Academic dishonesty can result in an "F" on the assignment or test, or "F" in the course. Sanctions for non-academic misconduct and more serious academic dishonesty can include probation, suspension, or dismissal. Student disciplinary records are maintained in the Office of the Dean of Student Development and are kept for five years. They will be disclosed only in accordance with applicable federal and state law.

C. Classroom Conduct

Please refer to the Student Handbook. The instructor reserves the right to remove any student who is disruptive. In addition to the requirements listed in the Student Code of Conduct, the following behaviors will not be tolerated in class:

- ◆ Threatening speech, behavior, or tone directed at professor or fellow students
- ◆ Profanity or name calling directed at professor or fellow students
- ◆ Leaving seat during class discussion unless otherwise directed
- ◆ Interrupting professor or fellow students during lecture or class discussion
- ◆ Extraneous conversation during lecture or other class activities
- ◆ Use of cell phones, pagers, or other electronic devices during class. As a courtesy to others, please turn off cell phones and beepers prior to class
- ◆ Refusal to leave class if directed by the professor

All infractions will be reported to the Department Chair and the Dean of Students so that an appropriate response can be made. In short, no student will be permitted to disrupt the educational experience for the rest of the class. Academic freedom refers to the right of the individual to express an opinion that may or may not be held by the majority. However, it is each student's responsibility to express opinions respectfully and without infringing on the safety or rights of others.

D. Support Services

Any student who may need an accommodation due to a disability, please make an appointment to see the instructor. A letter from Disability Support Services authorizing your accommodations will be needed. Any student who may need assistance in the event of an emergency evacuation must identify to the Disability Support Services Office; guidelines for emergency evacuations for individuals with disabilities are found at:

www.montgomerycollege.edu/Departments/dispsvc/evacprocedures.htm

E. Cancellation of Classes/Delay of Classes

If classes are cancelled due to inclement weather, you are still responsible for the material from the textbook, and should continue to follow the schedule provided in the syllabus for reference. If there are any foreseeable changes in the schedule it will be announced in class or on Blackboard. Note: Montgomery College does NOT follow Montgomery County Public Schools closures.

If the college opens late:

- ◆ If a class can meet for 50% or more of its regularly scheduled meeting time OR if the class can meet for 50 minutes or more, it will meet.
- ◆ Montgomery College will always operate on its regular schedule unless otherwise announced. Depending on the nature of the incident, notifications of emergencies and changes to the College's operational status will be communicated through one or more communication methods including the College's web page <http://montgomerycollege.edu>.
- ◆ For the most up-to-date information regarding College openings, closings, or emergencies, all students are encouraged to sign up for email and text alerts via Montgomery College ALERT. Registration information is available at www.montgomerycollege.edu/emergency.

F. Tobacco Use Policy

Montgomery College has a Smoke and Tobacco Free Policy which prohibits smoking or the use of other tobacco products (including electronic cigarettes) on any of its campuses or other property. Students who smoke or use tobacco products will be considered in violation of the student conduct code and their behavior will be reported to the Dean of Student Development's office for the appropriate disciplinary action including probation, suspension, or dismissal. If you have any questions about this new policy, please contact the Vice President and Provost's Office, the Office of the Dean of Student Development or the Campus Security Office."

G. Incomplete Grades

A grade of I (incomplete) may be assigned only upon request of the student and agreement of the course instructor.

To receive an "I" (incomplete) grade, students must obtain a contract form from the instructor and negotiate a formal agreement with the course instructor specifying the work done and the remaining work needed to complete the course and earn a grade. Normally, the use of an "I" grade is limited to bona fide emergency situations that occur at the end of a semester and that prevent students from completing all course requirements in a timely fashion to meet the final grade submission requirements of the Office of Admissions and Records. It is the responsibility of the instructor to specify the exact work to be completed to meet course requirements. The instructor and the student should hold a reasonable expectation that course requirements can be completed within the four weeks following the beginning of the next full semester. If a final grade has not been submitted after four weeks into the next semester, the "I" automatically reverts to a failing grade (F).

VII. Additional Information

It is expected that the student will:

- ◆ be responsible for obtaining any information and class notes from another classmate if he/she missed class
- ◆ be prepared to discuss the assigned readings and participate in the discussion
- ◆ be respectful of the instructor and other students
- ◆ be open to new ideas and concepts
- ◆ do his/her best in this class

Contacting Your Instructor

Preferred communication is through email (listed at top of syllabus). Please ensure that you have a working email address and in the "Subject" line you reference FIRE202 Class. Unknown emails will be automatically deleted.

Student Email

All Montgomery College students have been assigned an email address. Students can check their email through MyMC. The format for your email address is: MyMCID@montgomerycollege.edu. Your email password will be the same as your My MC password. It can be changed within My MC.

Your email account will be an official means of communication between you and Montgomery College. It is recommended that you check this account several times a week for official communication from the college.

You can auto forward e-mail to an external account. Click on the "help" link in your email window for more information on account forwarding. Just make sure that you log back into the MC email system when replying to any emails.

Blackboard – Technical Issues:

If during the course you experience a technological problem with Blackboard, you need to follow the procedures below. Following these procedures **may** allow you to re-submit an online assessment or be granted an extension to a course deadline (if necessary) depending on the circumstances and approval of your professor.

1. Call the IT Service Desk at 240-567-7222 to report your problem.
2. Write down the work order number received from the IT Service Desk.
3. Send an email to your professor identifying: the date and time of the phone call, the work order number, the nature of the problem, the steps to resolution suggested by Blackboard and the outcome of the phone call. This email must be sent within 1 hour of contacting the IT Service Desk.

*If in doubt, contact the IT Service Desk if you are experiencing a problem. Students who do not follow the instructions above will not be able to resubmit work due to technical errors.

Important Student Information Link

In addition to course requirements and objectives that are in this syllabus, Montgomery College has information on its web site (see link below) to assist you in having a successful experience both inside and outside of the classroom. It is important that you read and understand this information. The link below provides information and other resources to areas that pertain to the following: student behavior (student code of conduct), student e-mail, the tobacco free policy, withdraw and refund dates, disability support services, veteran services, how to access information on delayed openings and closings, how to register for the Montgomery College Alert System, and finally, how closings and delays can impact your classes. If you have any questions please bring them to your professor. As rules and regulations change they will be updated and you will be able to access them through the link. If any student would like a written copy of these policies and procedures, the professor would be happy to provide them.

By registering for this class and staying in this class, you are indicating that you acknowledge and accept these policies.

<http://cms.montgomerycollege.edu/mcsyllabus/>

FIRE202
Course Schedule
Fall 2018

Class Date	Class Discussion/Instruction	Assignment	Assignment Due (by 2355 on Bb except if noted)
9/4	Introductions Administrative Details	Introductory Essay Pump Panel Drawing	Intro Essay Online 9/10 PP Drawing 9/11 in class
9/11	Chapter 1 – Water as an Extinguishing Agent Chapter 2 – Water at Rest	Chapter 1 Assignment Chapter 2 Assignment	9/17
9/18	Chapter 3 – Water in Motion	Chapter 3 Assignment	9/24
9/25	Chapter 4 – Water Distribution System Chapter 5 – Water Flow Analysis Chapter 6 – Calculate Required Fire Flow	Chapter 4 Assignment Chapter 5 Assignment Chapter 6 Assignment	10/1
10/2	Chapter 7 – Apparatus Equipped with a Fire Pump Chapter 8 – Fire Service Pump Design	Chapter 7 Assignment Chapter 8 Assignment	10/8
10/9	Review for Midterm		
10/16	Midterm Exam - Chapters 1 – 8		
10/23	Review of Midterm Chapter 9 – Fire Department Pumper Testing Chapter 10 – Types of Fire Streams Chapter 11 – Fire Hose Nozzles	Chapter 9 Assignment Chapter 10 Assignment Chapter 11 Assignment	10/29
10/30	Chapter 12 – Principles of Fire Service Pressure Loss Calculations	Chapter 12 Assignment	11/5
11/6	Chapter 13 - Determining Pump Discharge Pressure	Chapter 13 Assignment	11/12
11/13	Chapter 14 - Relay Pumping	Chapter 14 Assignment	11/26
11/20	No Class – Thanksgiving break	Build the Perfect Pumper Project	11/28 in class
11/27	Chapter 15 – Supporting Sprinkler and Standpipe Systems	Chapter 15 Assignment	12/3
12/4	Presentations / Review for Final Exam	Supply my Sprinkler System assignment	12/11 in class
12/11	Final Exam		

Note: This schedule is subject to change and any changes will be announced in class.