



A. JAMES CLARK SCHOOL OF ENGINEERING

Course: ENPM 625 – Heating, Ventilation and Air Conditioning
Semester: Fall 2018
Day(s): Thursday
Time: 7:00pm to 9:40pm
Location: TBA
Instructor: Karim Amrane, Ph.D.
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Course Description

This course focuses on developing fundamentals necessary for HVAC analysis and design, and should be useful for students interested in design and project management, including mechanical, environmental and facilities engineers. The appropriate thermodynamic, heat transfer, and digital control principles are applied to problems encountered in this field. Quantitative analyses (i.e., numerical problems) are stressed through homework and examination. The topics that will be covered are listed below. A particular emphasis will be placed on the latest computer methods for building energy analysis and case studies.

Required/Recommended Textbooks

McQuiston, F. C., Parker, J. D., and Spitler, J. D., *Heating, Ventilating, and Air Conditioning: Analysis and Design*; 6th Edition, John Wiley & Sons. ISBN 0-471-47015-5

-Required? (Y)

Course Evaluation

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| Semester project | 20% |
| Mid-term exam | 40% |
| Final exam | 40% |

Course Outline

HVAC System Design
Moist Air Properties
Heat Transmission
Solar Radiation Heating
Load
Cooling Load
Pumps
Fans
Duct Design
Direct Contact Heat and Mass Transfer
Heat Exchangers
Refrigeration

Code of Academic Integrity

The University of Maryland, College Park has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student you are responsible for upholding these standards for this course. It is very important for you to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information on the Code of Academic Integrity of the Student Honor Council, please visit <http://shc.umd.edu/SHC/HonorPledgeInformation.aspx> .