Office Hours: 12:30-2:30 on Tuesdays and Fridays and by appointments  
Office: FOB N7  
Phone: 257-3574  
E-mail: phamh@newpaltz.edu  
Course Website: at Blackboard https://bbnewpaltz.sln.suny.edu

 Description: advanced data structures including strings, different kinds of trees, graphs and their processing mechanisms such as upward and downward heapifications, advanced hashing, breath-first search, depth-first search, Dijkstra's shortest path algorithm, algorithms for searching and sorting. Schedule and topics in details are posted on our course website.

 Objectives, Outcomes, and Topics:
1) Understand string data structures and their applications.
2) Enhance the knowledge of binary tree structures, tree traversals.
3) Know how to create, modify and process binary search trees, heap, and B-trees.
4) Master the serial and binary search, and advanced hashing.
5) Know quadratic sort, recursive sort: divide-and-conquer, mergesort, quicksort, and heap sort.
6) Be familiar with graph structures, implementation, traversals, Dijkstra's and other algorithms.

 Pre-requisites: passing of “Programming and Data Structures”

 Textbooks:
• Data Structures and Other Objects Using Java, 4th or newer edition, Michael Main (required)
• Optional additional texts and reading materials may be provided later during the semester.

 Assignments and Examinations: Students will have:
• Homework: requirements and deadlines will be given later.
• Midterm exam: will be announced later.
• Final exam: TUESDAY, 12/20/16, 10:15 AM 12:15 PM

 Grading Policy:
100% = 35%(Midterm Exam) + 20%(Homework) + 45%(Final Exam)  
[100-90] get A; (90-85] get A-; (85,80] get B+; (80,75] get B; (75,70] get B-; (70,65] get C+; (65,60] get C; (60-55] get C-; (55-50] get D; (50-0] get F.

 Academic Integrity & Attendance:
+ Each assignment must be done individually from the start. Working in groups is not allowed. Submissions which are identical or contain identical parts will get 0 and may face further penalties. More details are at: http://www.newpaltz.edu/ugc/policies_integrity.html  
+ Student must attend all lectures. 2% will be deducted for each lecture missed without documented excuse. If a student misses a class it is his/her responsibility to learn what he/she missed.

 Important Notes:
• Talking and texting on phones, chatting, IM, email on PC, recording lectures, all are not allowed during class time.
• There will be no make-up exams for exams missed during the semester, regardless of the reasons. All deadlines are strict. Late works will not be graded nor counted.
• Last day for course withdrawal and for Satisfactory/Unsatisfactory option is October 30.
• SEI will be online in December.
• The College’s Disability Resource Center (DRC) coordinates reasonable accommodations for students with documented physical, learning, or other disabilities.