CSE 548 Analysis of Algorithms

Class Description

Flipped learning course for learning techniques for designing efficient algorithms, including choice of data structures, recursion, branch and bound, divide and conquer, and dynamic programming. Complexity analysis of searching, sorting, matrix multiplication, and graph algorithms. Standard NP-complete problems and polynomial transformation techniques.

Instructor

Assistant Professor Sael Lee
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Meeting time: Mon/Wed 15:30~16:50 Academic Bldg. A117

Office Hours: Mon/Wed 17:00-18:00 at B422

Course webpage: http://www.cs.sunysb.edu/~sael/teaching/cse548/

Prerequisites: NA

TextBook

Required:
- **Introduction to Algorithms, Third Edition by Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, and Clifford Stein**

Reference:
- Algorithms by Sanjoy Dasgupta, Christos H. Papadimitriou, and Umesh Vazirani.
- The Algorithm Design Manual by Steven S Skiena (Nov 5, 2010)
- An Introduction to the Analysis of Algorithms (2nd Edition) by Robert Sedgewick and Philippe Flajolet
- Randomized Algorithms by Rajeev Motwani, and P. Raghavan. Cambridge University Press, New York (NY), 1995

Grading
- **Homework** will be 15% of your grade and will cover reading and viewing online lectures prior to class checked by a short quiz at the start of class.
- **Presentation** will be 15% of your grade on an algorithm topic of your choice from Selected Topics chapters of the book.
- **Midterms I & II** will be worth 20% of your grade each.
- **Final (cumulative)** will be worth 30% of your grade.

Assignments

Since this is a flipped class, we will do assignment in class.

Class Policies

Attendance policy

Everyone is strongly urged to attend class regularly and actively participate. You will be responsible for learning all the materials covered in class. Lecture slides and supplementary handouts will cover most of the material; however, in-class participation through engaging in discussions and asking questions should be valued learning activity.

Academic misconduct policy

There is no excuse in cheating. Cheating will be considered as an academic misconduct and handled according to the Stony Brook regulations. If cheating has occurred during exam or is evident in submitted assignments, your will get a grad of F. Discussion of assignments is acceptable, however, returned assignments must show originality. This means near duplicate assignments with your peers or duplications of materials found on the web will be considered cheating. All involved personals in cheating will be penalized.

University Policies

Americans with Disabilities Act

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC(Educational Communications Center) Building, Room 128, (631)632-6748. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential.https://web.stonybrook.edu/newfaculty/StudentResources/Pages/DisabilitySupportServices.aspx.

Academic Integrity

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty is required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty please refer to the academic judiciary website athttp://www.stonybrook.edu/uaa/academicjudiciary/

Critical Incident Management

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of University Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures. Further information about most academic matters can be found in the Undergraduate Bulletin, the Undergraduate Class Schedule, and the Faculty-Employee Handbook.