CS204 SYLLABUS

Prerequisite: CS201

Description and objectives

- This course aims to provide programming experience and to give advanced programming techniques. In this way, students would be more prepared to data structures and several other junior and senior level CS courses. CS204 is a prerequisite course for several CS courses including data structures. Thus, it is a must course for CS students and students who will take advanced CS courses.
- The programming language that will be used in this course is C++; we will use Microsoft Visual C++ as the main development environment. CS204 heavily depends on CS201. Thus a good CS201 background is needed.

Topics planned to be covered

- Introduction (overview of basic concepts, Visual C++ environment, preprocessor directives, compiler, compiler options, linker, libraries, debugging)
- Pointers and dynamic memory allocation
- Linked lists and basic trees
- Stacks and queues
- Templates, templated classes and functions
- Advanced issues on classes and object oriented programming
- Data representation, bitwise operations
- Inheritance, polymorphism and advanced object oriented design
- Exception handling
- Programming with threads and concurrency in C++
- Visual programming and graphical user interfaces with Qt
- Efficient programming - (if time permits)

Instructor:

- Dr. Kamer Kaya, FENS G012, ext. 9566.
- Office Hour: by appointment
- E-mail: kaya@sabanciuniv.edu

TAs, Emails and Zoom Links (to be used for Office Hours - Labs will be physical):

- Ali Enver Bilecen, bilecen@sabanciuniv.edu, Zoom
- Baturay Birinci, baturaybirinci@sabanciuniv.edu, Zoom
- Berke Bakar, berkebakar@sabanciuniv.edu, Zoom
- Ekin Marlalı, ekinmarlali@sabanciuniv.edu, Zoom
- Fatih Taşyaran, fatihtasyaran@sabanciuniv.edu, Zoom
- Muhammed Orhun Gale, morhun@sabanciuniv.edu, Zoom
- Serhat Demirkıran, serhat.demirkiran@sabanciuniv.edu, Zoom

LAs and, Emails and Zoom Links (to be used for Office Hours - Labs will be physical):

- Arif Kemal Sari, arifkemal@sabanciuniv.edu, Zoom
- Osman Kaan Demirbaş, osmankaan@sabanciuniv.edu, Zoom
Textbook(s):

- **Main texts**
  - "A Computer Science Tapestry" (CS201 book)
- **Reference books** (We will not stick to the textbooks; you are responsible material covered in class too. Thus it is very important to attend to classes)
  - "Starting out with C++ Early Objects", 7th edition, by T. Gaddis, J. Walters and G. Muganda
  - "Objects, Abstraction, Data Structures and Design using C++" by Koffman and Wolfgang.

Schedule:

**Lectures:**

- Monday, 16:40-18:30, FMAN 1099
- Wednesday, 12:40-13:30, FMAN 1099

**Labs:**

- A1: Friday, 10:40 - 12:30, FENS G035, (Ekin Marlali)
- A2: Friday, 10:40 - 12:30, FENS L029, (Serhat Demirkiran)
- A3: Friday, 10:40 - 12:30, FENS L035, (Berke Bakar)
- B1: Friday, 12:40 - 14:30, FENS L027, (Serhat Demirkiran)
- B2: Friday, 12:40 - 14:30, FENS L029, (Berke Bakar)
- C1: Friday, 14:40 - 16:30, FENS L029, (Ekin Marlali)
- C2: Friday, 14:40 - 16:30, FENS L027, (Muhammed Orhun Gale)

**Office Hours (online: see the links above):**

- 01: Monday, 10:40-11:30 *(Arif K. Sarı, Ali E. Bilecen, Serhat Demirkiran)*
- 02: Monday, 11:40-12:30 *(Osman K. Demirbaş, Muhammed Orhun Gale, Arif K. Sarı)*
- 04: Tuesday, 09:40-10:30 *(Arif Kemal Sarı, Berke Bakar)*
- 05: Tuesday, 11:40-12:30 *(Osman Kaan Demirbaş, Ali Enver Bilecen, Ekin Marlali)*
- 06: Tuesday, 15:40-16:30 *(Ekin Marlali)*
- 07: Tuesday, 17:40-18:30 *(Ekin Marlali, Serhat Demirkiran)*
- 08: Wednesday, 13:40-14:30 *(O.K. Demirbaş, A.E. Bilecen, B. Bakar, E. Marlali)*
- 09: Wednesday, 15:40-16:30 *(Arif Kemal Sarı, Berke Bakar)*
- 10: Wednesday, 17:40-18:30 *(Ali Enver Bilecen, Berke Bakar, Serhat Demirkiran)*
- 11: Thursday, 09:40-10:30 *(Osman Kaan Demirbaş, Arif Kemal Sarı)*
- 12: Thursday, 16:40-17:30 *(Ali Enver Bilecen)*
- 14: Friday, 09:40-10:30 *(Osman Kaan Demirbaş, Muhammed Orhun Gale)*
- 15: Friday, 17:40-18:30 *(Ali Enver Bilecen, Muhammed Orhun Gale)*
Exams:

- 1st MT: Friday, November 17 - 19:40 - 22:30
- 2nd MT: Friday, December 22 - 19:40 - 22:30
- Final: TBA

We highly recommend SUCourse+ webpage for your questions. The TAs and LAs will respond as soon as possible.

Homeworks: There will be 8 (plus/minus 1) programming homework assignments. Late submissions are not allowed! You have to submit your own work!

Grading:

- Midterm 1 (20%): TBA, will be scheduled by the Scheduling Committee
- Midterm 2 (30 %): TBA, will be scheduled by the Scheduling Committee
- Final (35%) – TBA, will be scheduled by the Scheduling Committee
- Homework assignments (15%) – The homework assignments are NOT of equal weight. Homework grading will mostly be based on correctness of the execution. No debugging will be done during grading. See website for detailed homework grading criteria.
- **IF YOUR HW AVERAGE IS MORE THAN 3X OF YOUR EXAM AVERAGE, YOUR EXAM AVERAGE WILL BE USED AS YOUR HW AVERAGE**
- Exams will be OFFLINE

Other Rules and Remarks:

- We are not planning to give any quizzes, but depending on your attendance, we may start quizzes with prior notice.
- Weighted average is not the only criterion in letter grading; exam average may also be taken into consideration.
- We have a strict make-up policy. Check the slides of the first week to understand the rules and to see whether you are eligible or not.

See SUCourse+ for updated information, but this is important:

Plagiarism, Homework Trading and Cheating will not be tolerated.