NJIT

New Jersey's Science & Technology University

A. V. GERBESSIOTIS
CS332
Spring 2021   December 28, 2020
Course Syllabus: **General Information**
Page 1   **Document 1**

1.1 CONTACT INFORMATION

Instructor:	Alex Gerbessiotis	**E-mail:**	alexg+cs332@njit.edu
Office:	GITC 4213, 4th floor	**Tel:**	(973)-596-3244
@NJIT Hours:	Wed 16:00-17:20	Room: See Course Web-page	
Webex Hours:	Thu 11:00-12:20	Thu 16:00-17:20	
Assistant:	Check course web-page		
Class Hours:	Wed 11:00-13:50	converged online with Webex	CKB 217
Web-Page:	http://www.cs.njit.edu/~alexg/courses/cs332/index.html		
Web-Page:	http://web.njit.edu/~alexg/courses/cs332/index.html		

1.2 COURSE ADMINISTRATION

CourseWork: 3 exams ; 5 Homeworks (HW) .

Points: 1000 points = Ex1(250) + Ex2(250) + Ex3(350) + HW(150)

HW: Five homeworks due before noon on a Thursday. Submission through canvas.njit.edu.

Exams: Dates in Course Calendar and on a class day starting at 12:30pm (this is half an hour past 12 o'clock noon, not midnight!) for Exam 1 and Exam 2. Exam 1, Exam 2 each 75min. Exam 3 is the final: 120min date/time as determined by the Registrar inside a registrar's 2hr30min slot. Exams on canvas using ProctorU Record+ (formerly known as ProctorU Review+). Follow Document 2 for details; you need to create a ProctorU account early, at least three FULL weeks before the first exam, if you don't have already an NJIT-linked one (eg Rutgers student). All Exams are closed everything. Exam 1 and Exam 3 are cumulative.

1.3 BASELINE COURSE SYLLABUS

Course: CS332. Principles of Operating Systems.

Credits: 3 credits.

Prerequisites: CS 114 or CS 116 or IT 114.

Description: Organization of operating systems covering structure, process management and scheduling; interaction of concurrent processes; interrupts; I/O, device handling; memory and virtual memory management and file management.

Textbook: [Required/Recommended, designated] Operating Systems: Internals and Design Principles 9th edition, William Stallings, Pearson. ISBN-13: 978-0-13-467095-9, ISBN-10: 0134670957

NJIT

New Jersey's Science &
Technology University

A. V. GERBESSIOTIS
CS332
Spring 2021   December 28, 2020
Course Syllabus: **Learning Outcomes**
Page 2   **Document 1**

Learning Outcomes:

1. Be able to describe and discuss the basic components of a modern computer-based operating system.

2. Be able to define and explain the operating systems concepts of process, thread, deadlocks, synchronization, systems calls.

3. Be able to explain file systems, and file structure and organization in an operating system.

4. Learn how different CPU scheduling algorithms work, compare and explain their relative merits.

5. Understand memory organization, physical and virtual memory, and differences between segmented and paged memory, and be able to describe their usage and relative merits.

6. Understand I/O and I/O device behavior and be able to compare and explain the merits of interrupt-driven vs DMA access.

7. Describe and reason about the interactions among the various basic components of a computer-based operating system.

Topics (with references to chapters of the designated textbook):

T01. Computer system overview (chap 1)

T02. Operating system overview (chap 2)

T03. Processes (chap 3)

T04. Threads (chap 4)

T05. Scheduling (chap 9)

T06. Multiprocessor scheduling (chap 10)

T07. Memory management (chap 7)

T08. Virtual memory (chap 8)

T09. I/O Management and disk scheduling (chap 11)

T10. File management (chap 12)

T11. Process Synchronization (chap 5)

T12. Concurrency and deadlocks (chap 6)

T13. OS security (chap 13)

NJIT
New Jersey's Science & Technology University

A. V. GERBESSIOTIS
CS332
December 28, 2020
Spring 2021
Course Syllabus: **Calendar**
Page 3 **Document 1**

1.4 CALENDAR

Spring 2021		
Week-Wednesday	Item Out	Item In
W01-01/20	HW1 out on 1/20	
W02-01/27		HW1 in on 1/28 before noon
W03-02/03	HW2 out on 2/03	
W04-02/10		HW2 in on 2/11 before noon
W05-02/17	Exam @12:30pm	**Exam 1 is on Feb 17;ProctorU**
W06-02/24	HW3 out on 2/24	
W07-03/03		HW3 in on 3/4 before noon
W08-03/10	HW4 out on 3/10	
W09-03/24		HW4 in on 3/25
W10-03/31		**Exam 2 is on Mar 31;ProctorU**
W11-04/07		
W12-04/14	HW5 out on 4/14	
W13-04/21		
W14-04/28		HW5 in on 4/29
W15	Check Registrar for	**Exam 3 date and time; ProctorU**

Any modification/deviation from the calendar and its items will be done in consultation with the attending a class students and be posted on the course web-page. It is imperative that students check the course web-page regularly and frequently. Exceptions are as announced by the Provost's Office.

1.5 COURSE POLICIES

OARS: If you need special accommodations, contact the Office of Accessibility Resources and Services, KUPF 201, to discuss your specific needs. A Letter of Accommodation Eligibility from OARS authorizing your accommodations will be required and should be received by us at least two weeks plus two days before the first exam, if it also relates to a ProctorU exam, otherwise seven days before the first non ProctorU exam.

MISSING: If you miss a class, you make up for lost time. No HW extensions for any reason, medical or otherwise; submit early. If you miss an exam you MUST CONTACT the Dean of Students (DOS) within 2 working days from the day the reason for the absence is lifted with all necessary documentation and email the instructor of your intent and absence. Do not submit documentation to the instructor: it is a private matter between you and the Dean of Students. The maximum accommodation period will be the number of missing days to the exam date: it is imperative then that you contact DOS even before the 2 working day period has expired if the accommodation period would be shorter. For Exam1, a DOS approval will get you a scaled (Exam2 plus Exam3) grade for Exam1. For Exam 2 a scaled Exam3 grade will be used. No makeup exam for a ProctorU exam.

NJIT
New Jersey's Science &
Technology University

A. V. GERBESSIOTIS
CS332
Spring 2021   December 28, 2020
Course Syllabus: **Course Policies**
Page 4   **Document 1**

1.5 COURSE POLICIES (continued)

Grading: For paper exams, if any, do not use pencils to write down your answers. If you do use a pencil do not complain about grading after an exam. Scratch paper is forbidden; allowed in an online ProctorU exam only. Work submitted will be graded for conciseness and correctness; be brief and to the point and write clearly. Material covered in class and appearing in the relevant notes and chapters of the designated textbook can be used without proof. Everything else requires a proof (justification) of solution.

Grades: Check marks and report errors promptly. **Resolve any issues WITHIN 2 CALENDAR WEEKS and before the first Reading Day** starting from the day an exam is returned/released, or homework graded. For the Final exam, within 5 calendar days from the day grades are posted on canvas or Banner, as applicable. Talk to the grader first, and then to the instructor (if different). The final grade is decided on a 0 to 1000 point scale. If you get less than 500 points in the class, expect an F or D. If you collect at least 500 points you should expect a C or better. 850 points or more are usually needed for an A but this threshold can be lower. (All these assuming no violation of the Collaboration policy.)

Incomplete: A grade of I(incomplete) is given in rare cases where work cannot be completed during the semester due to documented long-term illness or absence (e.g. unexpected national guard duty). A student needs to be in good standing (i.e. passing the course before the absence). An email (in lieu of a written letter) with a timeline of what is needed to be done will be sent to the student and the Department Chairperson. Not showing up in the final will probably get you an F rather than an I.

Collaboration: Collaboration of any kind (in HW, Exams) is PROHIBITED. Students must turn in work that has fully been composed and written by them and no-one else. Finding an answer on the Internet, Web, or otherwise, or it is product of someone else's work, or it is common with another student submission, in the same or other section/course risks punishment as outlined by the University. All parties of such interaction receive a 0 and letter grade is lowered by one or two levels. The work you submit must be the result of your own mental effort.

Devices: Power down and switch off (not just silence) mobile and other devices and place them in a bag or backpack or on the floor, screen facing down. **IF A STUDENT GETS CAUGHT HAVING A DEVICE (on or off) ON HIM/HER, the exam receives a 0. DEVICES MUST BE OFF and NOT ON YOU. For ProctorU exams "ON YOU" means anywhere viewable including at a distance of less than 6ft. A not completely powered down device of yours is assumed to be "ON YOU" independently of proximity.**

Email/SPAM: Use an NJIT email address or your email might not reach us. Send email to the designated course email address per FAQ (Document 0) instructions!

The NJIT Academic Integrity (Honor) Code will be upheld; violations will be reported to the Dean of Students (DOS). Read this handout carefully! ∎