

OBJECTIVE:

The student will understand the need for an operating system and trace the evolution into the systems we know today. The student will understand the basic components of an operating system and how they work together as a complex system.

We will learn by doing: we will interact with operating systems from the typical user perspective and from the system programmer's perspective. I will present material, set goals and evaluate achievement. I will recognize and attempt to match extra effort, but will not shoulder the responsibility for lack of effort. **You** are responsible for your performance.

TOPICS / SCHEDULE (42 classes) (<http://jbwyatt.com/355/>)

First third (14 classes): 08/31 09/02 09/04 09/09 09/11 09/14 09/16 09/18 09/21 09/23 09/25 09/28 09/30 **10/05**

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|---|----|
| 1. intro, computing needs & 355 topics | 1 |
| 2. putty, unix, pico, program! (review) | |
| 3. computer review | |
| 4. unix bash shell | 13 |
| 5. operating systems intro | 2 |
| 6. early memory: fixed & dynamic partitions | 2 |
| 7. modern memory: paging | 3 |
| » Test 1: web notes, lectures, reading | |

Second third (14 classes): 10/07 10/09 10/12 10/14 10/16 10/19 10/21 10/23 10/26 10/28 10/30 11/02 11/04 **11/06**

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|---|---|
| 1. processes and scheduling | 4 |
| 2. .profile | |
| 3. process creation in vms, windows, unix | |
| 4. creating processes with fork | |
| 5. command line args | |
| 6. wait and waitpid | 5 |
| 7. thread vs. processes | |
| » Test 2: web notes, lectures, reading | |

Last third (14 classes+1): 11/09 11/11 11/13 11/16 11/18 11/20 11/23 11/24 11/30 12/02 12/04 12/07 12/09 12/11 **[12/14]**

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|--|---|
| 1. semaphores and critical sections | 5 |
| 2. process deadlock, timing and kill() | |
| 3. IPC with pipes | 6 |
| 4. process creation and exec | |
| 5. device management | 7 |
| 6. file management | 8 |
| » Test 3: web notes, lectures, reading, (cumulative final) | |

TEXT & MATERIALS:

"Understanding Operating Systems" by Flynn & McHoes, 5th edition, Cengage, 2007.

You will need a Unix account (jupiter.clarion.edu), telnet software (puTTY) to access the Unix account and web drive software (free download). Visual C++ may be useful, but most code will be written on the Unix machine. A thumb drive can also be very useful.

OFFICE INFORMATION:

My office is in **141** Becker Hall. My office telephone is (814) 393-2643. I have an answering machine - feel free to leave a message. Office hours are as posted (<http://jbwyatt.com/sched.html>) but other hours can be arranged.

Come see me!

ELECTRONIC ACCESS:

My E-mail address is wyatt@clarion.edu or wyattwyatt@gmail.com .

I check my E-mail every day. I encourage you to ask about or discuss any point that comes up in class or anything concerning school in general. I'll try to respond in a timely manner.

My Web URL is <http://jbwyatt.com/>

Become familiar with the web page - it has a LOT of relevant information.

GRADES:

Grades are determined by your % score at the end of the course. A score of 90% is an "A"; 80% a "B"; 70% a "C" and 60% a "D".

Grades are determined as follows: (<http://jbwyatt.com/grades.htm>)

60%: TQ (tests and quizzes)

three 100 point tests (includes final), make-up only with prior notice and excuse
various 5-10 point quizzes: unannounced, no make-up

30%: AS (assignments)

6 - 8 programs - programs are worth between 5 and 20 points

10%: APE (attendance, participation, effort) come to class, bring book, notebook, pen, take notes

0 = excused absence, unprepared attendance

+1 = attend class, bring text, bring notebook, take notes

-1 = unexcused absence (MAX unexcused absences: 6 in fall/spring, then APE grade = 0)

Copying code is cheating. Allowing others to copy your code is cheating. You must protect your intellectual property as you protect your personal property - with all reasonable measures.

You must *write your code on your own*, not as part of a group. Make efforts to avoid even the *appearance* of impropriety. Penalties will be severe: a grade of zero for all conspirators.

ATTENDANCE:

There is a high positive correlation between good attendance and good grades.

You are expected to attend class. Students are responsible for all material from missed classes. I can not repeat material for each student on an individual basis. Attendance will be recorded and graded (see above).

While in class you are expected to be attentive and to participate. Participation means constructive and informed (by way of doing the assignments and reading) discussion about the subject material.

Please defer personal conversations and smalltalk until after class as it annoys other students and bugs the heck out of me.

SPECIAL NEEDS and CONSIDERATIONS:

Any special circumstances that may affect your performance in the class should be brought to my attention. Any student requiring accommodations for taking notes or tests should make arrangements to discuss their needs with me after the first class. Anything that's bothering you may affect your performance in class - please approach me and I'll try to help.