## UCLA

## General Assignment Classroom Scheduling

April 19, 2010



## UCLA <br> How many GA classrooms?

| Room <br> Capacity | Number of <br> Rooms | North <br> Campus | South <br> Campus |
| :--- | :---: | :---: | :---: |
| $10-19$ | 23 | 21 | 2 |
| $20-39$ | 79 | 53 | 26 |
| $40-59$ | 39 | 21 | 18 |
| $60-99$ | 21 | 11 | 10 |
| $100-149$ | 17 | 13 | 4 |
| $150-199$ | 6 | 3 | 3 |
| $200-299$ | 6 | 2 | 4 |
| $300+$ | 7 | 5 | 2 |
|  | 198 | 129 | 69 |


| Room <br> Capacity | Percent | North <br> Campus | South <br> Campus |
| :--- | :---: | :---: | :---: |
| $10-19$ | $12 \%$ | $11 \%$ | $1 \%$ |
| $20-39$ | $40 \%$ | $27 \%$ | $13 \%$ |
| $40-59$ | $20 \%$ | $11 \%$ | $9 \%$ |
| $60-99$ | $11 \%$ | $6 \%$ | $5 \%$ |
| $100-149$ | $9 \%$ | $7 \%$ | $2 \%$ |
| $150-199$ | $3 \%$ | $2 \%$ | $2 \%$ |
| $200-299$ | $3 \%$ | $1 \%$ | $2 \%$ |
| $300+$ | $4 \%$ | $3 \%$ | $1 \%$ |
|  | $100 \%$ | $65 \%$ | $35 \%$ |

- 198 GA Rooms
- Housed in 22 Buildings
- $85 \%$ used by College
-15\% used by Schools
- 65\% on North Campus
- $35 \%$ on South Campus
(47 Department Classrooms)


## UCLA What media are installed?

- 100\% have network and internet access
- $96 \%$ have video playback equipment
- 65\% have installed data projectors
- $52 \%$ have voice amplification capability
- $42 \%$ have installed classroom computers
- 32\% have streaming or podcasting capability
- $11 \%$ have installed 35 mm slide projectors
- 5\% have installed document cameras (4 out of 7 in classrooms >300)


## UCLA What plans are in the works?

- Optimize 3 or 4 small- to medium-sized rooms for distance learning
- Expand built-in BruinCast capabilities in many rooms
- Upgrade the largest rooms with multiple projectors and screens
- Expand the number of document cameras to eventually replace overhead projectors


## UCLA How is the Schedule built?

- Term schedules built based on information from faculty
- Data is entered into OASIS (mainframe) by schedulers
- CASA (Computer Assisted Space Assignment) algorithm is run to place classes
- Infeasibles are rejected
- Schedulers check department proofs for unplaced classes
- Schedulers search for open rooms and times
- Classes without rooms by publication are changed to TBA
- Schedulers continue to search for open rooms


## UCLA What are the standard time blocks?

| $\begin{array}{r} \text { MV } \\ \text { Stand } \end{array}$ | and MTWRF dime Patterns | Standard Time Patterns |  | TR, MW, MF, WF Non-Standard Time Patterns |
| :---: | :---: | :---: | :---: | :---: |
| 8:00 | - $8: 50$ | 8:00 | - 9:15 | $8: 00-9.50$ |
| 9:00 | - 9:50 | 9:30 | - 10:45 | 2:00-3:50 |
| 10:00 | - 10:50 | 11:00 | - 12:15 | 4:00-5:50 |
| 11:00 | - 11:50 | 12:30 | - 1:45 |  |
| 12:00 | - 12:50 | 2:00 | - 3:15 | Note: Two-hour patterns do not have |
| 1:00 | - 1:50 | 3:30 | - 4:45 | priority placement in CASA. |
| 2:00 | - 2:50 |  |  | If two-hour, two-day patterns are |
| 3:00 | - 3:50 |  |  | used, these are the times most likely |
| 4:00 | - $4: 50$ |  |  | to be scheduled. |

Questions? Call the Scheduling Coordinators, Doug Thomson and Janet Bartholomew (51441) or e-mail schedule@registrar.ucla.edu

## Primary classes such as lecture sections are placed first.

## Secondary discussion sections placed after primaries.

CASA gives priority to standard time blocks.

## UCLA What is the department Proof?

## Schedule of Classes Department Proof



## Classes without rooms by publication are changed to TBA


http://web.registrar.ucla.edu/socproof/

## UCLA What are the deadlines?

| Schedule of Classes | Winter <br> 2010 <br> Issue | Spring <br> 2010 <br> Issue | Fall <br> Issue |
| :--- | :--- | :--- | :--- |
| Deadline to receive approved course forms | Oct. 2 | Jan. 8, 2010 | May 14 |
| Deadline to return updated Schedule text | Oct. 2 | Jan. 8 | May 14 |
| Editing of Schedule text | Oct. 5-16 | Jan. 11-22 | May 17-28 |
| Proofing of class listings by departments | Oct. 8-9 | Jan. 14-15 | May 20-21 |
| Deadline for departments to e-mail course notes <br> (placement exams \& mandatory midterm dates) | Oct. 12 | Jan. 19 | May 24 |
| Course changes entered by depts \& scheduling | Oct. 12-14 | Jan. 19 | May 24-25 |
| Department access cutoff | Oct. 16 | Jan. 22 | May 28 |
| Resolve class conflicts | Oct. 16 | Jan. 22 | May 28 |
| Deadline to receive approval memo for course- <br> based fees (e.g., Course Materials fees, IEl fees) | Oct. 16 | Jan. 22 | May 28 |
| Unplaced classes changed to TBA | Oct. 19 | Jan. 25 | Jun. 1 |
| Download class listings for PDF Schedule (noon) | Oct. 21 | Jan. 27 | Jun. 2 |
| Conversion of Schedule to PDF | Oct. 22 - 23 | Jan. 28-29 | Jun. 3-4 |
| Schedule on web (HTML \& PDF) 8 a.m. | Wed. Oct. 28, 2009 | Mon. Feb. 1, 2010 | Mon. Jun. 7, 2010 |
| Enrollment appointment times available URSA | Oct. 28 | Feb. 3 | Jun. 9 |
| URSA enrollment begins | Nov. 10, 2009 | Feb. 16, 2010 | June 21, 2010 |

http://www.registrar.ucla.edu/facultystaff/productioncal.pdf

## UCLA <br> What are priority rooms?



Some departments are given priority to scheduling a room if they have a large number of courses, agree to use standard time blocks, and schedule throughout the day.

Scheduling is then opened for CASA placement.

## UCLA <br> What's the pattern in small priority rooms?

South Campus


## North Campus

| Fall 2009 |  |  |  | Brekis Seurch 7 mpe |
| :---: | :---: | :---: | :---: | :---: |
| PUB AFF 1264 Capacity: 32 Room Use (8:00A-5:00P): 92\% General Assignment Classroom |  |  |  |  |
| Characteristics! | a. Dralbcars, atellid Overtmas bia. Movitio tibl | mp projecto poost rajecta-matallad, and ctarit via | 아capatle Guar mpector tarme sombiled | -hacksornhooks Mow anina arting Tistr aide |
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|  | 554N 3 <br> DCS 2 <br> Dr 2 고 of 0 <br> Do01-9301 <br> $574 N 3$ <br> Des |  | SPMK. 3 <br> Dis 2 <br> E- 25 ct 0 <br> Doch- Psod <br> SPAK 3 <br> Dis 3 |  |
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|  |  |  |  | $\begin{aligned} & 055 \\ & \ln : 25010 \\ & 1000-1500 \end{aligned}$ |
|  | $\begin{aligned} & \text { Dro } 015 \\ & 2000 . \angle 500 \end{aligned}$ | $\begin{aligned} & \mathrm{Hr} 20 \mathrm{of} \text { 20 } \\ & 2000-4500 \end{aligned}$ | $\begin{aligned} & 1-26 \text { of } 2 x \\ & 2005-315 p \end{aligned}$ |  |
|  |  |  | HIST 13A DEIE Erelesto 4008P-5.52p |  |
|  |  |  |  |  |

Holding Space with Zero Enrollment
Good Fill Rate

## UCLA How does north and south campus scheduling differ?

## Large Auditoria

## South Campus

| Fall 2009 |  |  |  |  | Back to Search Page |
| :---: | :---: | :---: | :---: | :---: | :---: |
| WGYOUNG CS50 Capacity: 352 Room Use (8:00A-5:00P): 89\% General Assignment Classroom |  |  |  |  |  |
|  |  |  |  |  |  |
| 8:00A | Monday | Tuesday | Wednesday | Thursday | rid |
|  | CHEM 14D | $\begin{aligned} & \text { CHEM 14BL } \\ & \text { LEC } 1 \end{aligned}$ | $\begin{aligned} & \text { CHEM 14D } \\ & \text { LEC } 1 \end{aligned}$ | $\begin{aligned} & \text { CHEM } 14 \mathrm{CL} \\ & \text { LEC } 1 \end{aligned}$ | $\begin{aligned} & \text { CHEM 14D } \\ & \text { LEC } 1 \end{aligned}$ |
| $8: 30 \mathrm{~A}$ | Enr: 318 of 350 8:00A - 5 :50A | $\begin{aligned} & \text { Enr:208 of 0 } \\ & \text { 8:00A }-8: 50 \mathrm{~A} \end{aligned}$ | $\begin{aligned} & \text { Enr: } 318 \text { of } 350 \\ & \text { 8:00A }-8: 50 \mathrm{~A} \end{aligned}$ | $\begin{aligned} & \text { Enr:212 of } 0 \\ & \text { 8:00A }-8: 50 \mathrm{~A} \end{aligned}$ | $\begin{aligned} & \text { Enr: } 318 \text { of } 350 \\ & \text { 8:00A - }: 50 \mathrm{~A} \end{aligned}$ |
| 9:00A | CHEM 14 CEC |  | CHEM 14C LEC 1 |  | CHEM 14C LEC 1 |
| 9:30A | Enr:381 of 0 | PSYCH 127 | Enr:381 of 0 | PSYCH 127 | Enr:381 of 0 |
|  | 9:00A $9: 50 \mathrm{~A}$ | LEC 1 | 9:00A - 9:50A | LEC 1 | 9:00A -9:50A |
|  | CHEM 14A | Enr: 343 of 0 | CHEM 14A | Enr: 343 of 0 | CHEM 14A |
| 10:30A | LEC 1 | 9:30A-10:45A | LEC 1 <br> Enr:355 of 389 | 9:30A-10:45A | LEC 1 Enr:355 of 389 |
|  | 10:00A - 10:50A |  | 10:00A-10:50A |  | 10:00A - 10:50A |
| 11:00A | MATH 33A | CHEM 153L | MATH 33A | CHEM 153L | MATH 33A |
|  | LEC 2 | LEC 1 | LEC 2 | LEC 1 | LEC 2 |
|  | Enr:199 of 180 | Enr: 285 of 0 | Enr:199 of 180 | Enr: 285 of 0 | Enr:199 of 180 |
|  | 11:00A-11:50A | -11:00A - 11:50A | 11:00A - 11:50A | 11:00A - 11:50A | 11:00A-11:50A |
| 12:00P | CHEM 14A |  | CHEM 14A |  | CHEM 14A |
|  | LEC 2 |  | LEC 2 |  | LEC 2 |
| 12:30P | $\begin{aligned} & \text { Enr:364 of } 389 \\ & \text { 12:00P - 12:50P } \end{aligned}$ | PSYCH 129E LEC 1 | $\begin{aligned} & \text { Enr:364 of } 389 \\ & \text { 12:00P - 12:50P } \end{aligned}$ | PSYCH 129 E LEC 1 | $\begin{aligned} & \text { Enr:364 of } 389 \\ & \text { 12:00P - 12:50P } \end{aligned}$ |
| 1:00P | CHEM 20A LEC 3 | $\begin{aligned} & \text { Enr: } 336 \text { of } 0 \\ & \text { 12:30P - 1:45P } \end{aligned}$ | CHEM 20A LEC 3 | $\begin{aligned} & \text { Enr: } 336 \text { of } 0 \\ & 12: 30 \mathrm{P}-1: 45 \mathrm{P} \end{aligned}$ | CHEM 20A $\text { LEC } 3$ |
| 1:30P | Enr: 330 of 350 |  | Enr: 330 of 350 |  | Enr: 330 of 350 |
|  | 1:00P-1:50P |  | 1:00P - 1:50P |  | 1:00P-1:50P |
| 2:00P | CHEM 14A | PHY SCI 107 | CHEM 14A | PHY SCI 107 | CHEM 14A |
|  | LEC 3 | LEC 1 | LEC 3 |  | LEC 3 |
| 2:30P | Enr:363 of 389 | Enr: 283 of 220 | Enr:363 of 389 | Enr: 283 of 220 | Enr:363 of 389 |
|  | 2:00P-2:50P | 2:00P - 3:50P | 2:00P - 2:50P | 2:00P - 3:50P | 2:00P - 2:50P |
| 3:00P | CHEM 171 |  | CHEM 171 |  | CHEM 171 |
| 3:30P | LEC 1 |  | LEC ${ }_{\text {Enr:212 }}$ of 200 |  | LEC 1 ${ }_{\text {Enr:212 }}$ of 200 |
|  | 3:00P - 3:50P |  | 3:00P-3:50P |  | 3:00P-3:50P |
| 4:00P | CHEM 189 |  |  |  | CHEM 189 |
|  | SEM 1 |  |  |  | SEM 1 |
| 4:30P | Enr:41 of 20 |  |  |  | Enr:41 of 20 |
| 5:00P |  |  |  |  |  |
| 5:30P |  |  |  |  |  |

## North Campus

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DODD 147 Capacity: 366 Room Use (8:00A-5:00P): 71\%



8:30A
9:00A ${ }^{\text {- CLASSI }} 20$


When standard time blocks are used, more classes can be scheduled in prime time.

## UCLA <br> How was Fall 09 scheduling affected by the budget cuts?

- Departments got bridge funding decisions late
- Scramble to get enough "gateway" class for Orientation
- Classes were cancelled or added late
- Classes became larger and room switches were difficult for already published rooms and times
- Some schedulers couldn’t get data from faculty by deadlines
- Some schedulers couldn't meet the deadlines because of workload issues
- Too many cluster courses scheduled on main campus


## UCLA what factors affect scheduling?

* Increased admissions
* North/South teaching patterns (Single day, MWF, MW, TTh)
* Afternoon graduate classes (conflicts with TA discussion sections)
* Afternoon South Campus labs
* Late addition of classes
- Remote location (Clusters)
* Prerequisites and co-requisites
* Offerings in the major
* New courses \& requirements (capstones, Clusters, seminars)
* Review sessions and midterm scheduling outside class hours
* Faculty colloquia and department meetings
* Room switches
* Media needs and room capability
- Classroom maintenance
- Commuting in a metro area
* Child/Elder care issues
- Student outside job obligations
* Concurrent UNEX students (1,200 students per term not counted in class enrollment data)


## UCLA Tips for scheduling

Plan classes for the year
Use standard time blocks
Don't bunch classes in prime time
Get data to schedulers by deadlines
Don't over-enroll classes beyond room capacity
Coordinate midterm scheduling among departments

## UCLA How many undergraduates?

Undergraduate Headcount by Quarter -- Fall 2005 to Estimated Spring 2010

| TERM | COLLEGE | SEAS | SOAA | TFT | NURS | TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 05F | 21,359 | 2,269 | 836 | 310 | 37 | 24,811 |
| 06F | 21,866 | 2,313 | 844 | 314 | 94 | 25,431 |
| 07F | 21,745 | 2,784 | 890 | 361 | 148 | 25,928 |
| 08F | 22,008 | 3,013 | 945 | 368 | 202 | 26,536 |
| 09F | 21,916 | 3,205 | 951 | 370 | 245 | 26,687 |
| Increase | 3\% | 41\% | 14\% | 19\% | 562\%) | 8\% |
| Students | 557 | 936 | 115 | 60 | 208 | 1,876 |

## UCLA How many enrollments?

Third Week Enrollment GA Rooms


## UCLA What's the daily spread?



## UCLA What's the hourly spread?

## Class Scheduling by Hour: Fall 2007



## UCLA What are the daily patterns in GA rooms?

## Predominant Teaching Patterns: Fall 2006 vs. 2009



## UCLA How many minutes per class?



## UCLA How many GA rooms are used?

## Fall 2007 Room Use by Hour in All GA Rooms

|  | Monday | Tuesday | Wednesday | Thursday | Friday |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{8 : 0 0}$ | $17 \%$ | $27 \%$ | $21 \%$ | $29 \%$ | $17 \%$ |
| $\mathbf{9 : 0 0}$ | $48 \%$ | $60 \%$ | $59 \%$ | $61 \%$ | $60 \%$ |
| $\mathbf{1 0 : 0 0}$ | $80 \%$ | $77 \%$ | $85 \%$ | $77 \%$ | $75 \%$ |
| $\mathbf{1 1 : 0 0}$ | $77 \%$ | $75 \%$ | $81 \%$ | $75 \%$ | $81 \%$ |
| $\mathbf{1 2 : 0 0}$ | $69 \%$ | $70 \%$ | $71 \%$ | $66 \%$ | $70 \%$ |
| $\mathbf{1 : 0 0}$ | $63 \%$ | $73 \%$ | $64 \%$ | $76 \%$ | $63 \%$ |
| $\mathbf{2 : 0 0}$ | $74 \%$ | $73 \%$ | $77 \%$ | $79 \%$ | $48 \%$ |
| $\mathbf{3 : 0 0}$ | $57 \%$ | $66 \%$ | $61 \%$ | $71 \%$ | $28 \%$ |
| $\mathbf{4 : 0 0}$ | $49 \%$ | $58 \%$ | $64 \%$ | $68 \%$ | $12 \%$ |
| $\mathbf{5 : 0 0}$ | $33 \%$ | $27 \%$ | $43 \%$ | $32 \%$ | $5 \%$ |

## UCLA What are the measures?

## Efficiency Standards

How much of a room's capacity is used (\% of fill)

Use Measures
Whether a room is in use at a particular time and day

50 hours per week (8a.m. - 6p.m.)
Monday - Friday

## UCLA Do we meet efficiency standards?

## CPEC standard is $70 \%$ fill in $100 \%$ classrooms

 $\sqrt{ }$ AACRAO standard is $66 \%$ fill in $70 \%$ of classroomsFall 2007: \% of Seats Filled

| Room <br> Capacity | 03F | 04F | 05F | 06F | 07F |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{1}$ to $\mathbf{1 5}$ | $49 \%$ | $44 \%$ | $44 \%$ | $47 \%$ | $46 \%$ |
| 16 to $\mathbf{2 5}$ | $78 \%$ | $82 \%$ | $71 \%$ | $76 \%$ | $74 \%$ |
| 26 to 50 | $68 \%$ | $66 \%$ | $60 \%$ | $62 \%$ | $62 \%$ |
| 51 to $\mathbf{1 0 0}$ | $64 \%$ | $63 \%$ | $59 \%$ | $59 \%$ | $56 \%$ |
| 101 to $\mathbf{2 0 0}$ | $70 \%$ | $73 \%$ | $69 \%$ | $64 \%$ | $68 \%$ |
| 201 to $\mathbf{3 0 0}$ | $81 \%$ | $76 \%$ | $75 \%$ | $68 \%$ | $71 \%$ |
| 301+ | $78 \%$ | $83 \%$ | $71 \%$ | $71 \%$ | $65 \%$ |
|  | $\mathbf{7 1 \%}$ | $\mathbf{7 2 \%}$ | $\mathbf{6 6 \%}$ | $\mathbf{6 5 \%}$ | $\mathbf{6 5 \%}$ |

## UCLA

## General Assignment Classroom Scheduling

Questions?<br>Contact: Kathleen Copenhaver<br>kcopenhaver@registrar.ucla.edu

Scheduling Reports
http://www.registrar.ucla.edu/facultystaff/rooms
Scheduling Policies
http://www.adminpolicies.ucla.edu/pdf/870.pdf

