

THE GEORGE WASHINGTON UNIVERSITY
Washington, DC

The Faculty Senate

November 2, 2005

The Faculty Senate will meet on Friday, November 11, 2005, at 2:10 p.m. in the Alumni House, 1925 F Street, NW, First Floor

AGENDA

1. Call to order
2. IN MEMORIAM

Philip Robbins, Professor Emeritus of Journalism
3. Approval of the minutes of the regular meeting of September 9, 2005, as distributed
4. Introduction of Resolutions
5. Update on Class Scheduling and the Availability of Classrooms:
Associate Vice President Craig W. Linebaugh
6. Update on the Graduate School of Education and Human Development:
Dean Mary H. Futrell
7. Report on FY 05-06 Operating and Capital Budgets: Professor William B. Griffith,
Chair, Fiscal Planning and Budgeting Committee
8. Report on FY '07 Budget Assumptions: Professor Griffith
9. General Business:
 - a) Nomination for election of the following faculty to Senate Standing Committees: Appointment, Salary, and Promotion Policies: Eugene Abravanel; Educational Policy: Barbara von Barghahn
 - b) Nomination for appointment by the President to the following Administrative Committee: Joint Committee of Faculty and Students: Harry Yeide
 - c) Report of the Executive Committee: Lilien F. Robinson, Chair
10. Brief Statements (and Questions)
11. Adjournment

Elizabeth A. Amundson
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Secretary

**REPORT OF THE UNIVERSITY TASK FORCE
ON CLASS SCHEDULING AND
AVAILABILITY OF CLASSROOMS**

Executive Summary

In November, 2004, the Faculty Senate of The George Washington University requested that the President direct “a high-level review of the recent classroom shortage and of plans to remedy this situation no later than Fall 2005.” In January, 2005, at the request of President Stephen Joel Trachtenberg, Donald R. Lehman, Executive Vice-President for Academic Affairs, convened a group of faculty and administrators to

- Review the registration process for the 2004-2005 academic year.
- Project course sections and classrooms needed for the next three to five years.

The Task Force concluded that

1) Serious problems existed in the Scheduling Process for the 2004-2005 academic year and some of these will continue unless corrective measures are taken. The Task Force recommends centralization of scheduling, implementation of a new level of School responsibility, and a more complete utilization of the University’s scheduling software.

2) Certain specialized classroom needs, such as space for the teaching of science, are critical. However, a final determination of whether enough general purpose classrooms of appropriate size exist to sustain the University’s planned growth during the next five years cannot be made until the Scheduling Process is revised and it is determined to what extent it contributed to the homeless class situation.

3) The problem goes beyond whether all scheduled courses can be placed into classrooms. Already in 2002, approximately half of all undergraduate sections closed before classes began. Given the increased burden on smaller, upper level classes, students likely will have difficulty completing their academic programs as planned. This is a serious situation that cannot be ignored by a private university in the tuition niche GW occupies. If course sections are added to alleviate this problem, there will be an increased strain on classroom availability.

The Task Force makes the following major recommendations:

- **Solve short-term classroom reduction.** Because of building renovation, the University faces a reduction of at least nine classrooms for Spring and Fall of 2006 and Spring of 2007. The Task Force recommends that at least nine spaces be released for classroom use for this three-semester short-term shortfall. These spaces will need to come from the Marvin Center, from the Law School, from the Medical Center, or from other non-academic University spaces. Departmental spaces are already heavily burdened and should be used judiciously and temporarily.
- **Centralize Scheduling.** Currently schedulers in the schools have access to Banner to place classes into classrooms before scheduling software is applied to the schedule as a whole. Under this system, school schedulers can appropriate classrooms that may be highly desirable for that school’s faculty but that disadvantage the faculty at large and do not best serve the needs of the University. Centralizing scheduling in the Academic Scheduling Office will create an equal—

and efficient—playing field. The Task Force recommends that centralization be implemented during Summer 2005 so that it can be fully implemented when the call for the schedule of Fall 2006 is distributed in October, 2005.

- **Improve Compliance** with scheduling guidelines by implementing School responsibility at the Assistant or Associate Dean level.
- **Innovate.** Under the current system, rooms are assigned to courses prior to registration. This ensures that each course has a physical place in which to meet. However, once registration has begun, the Academic Scheduling Office should have the authority to adjust room assignments to better match actual class size rather than having to negotiate among professors.
- **Re-evaluate.** Because it is impossible to determine whether classroom space is adequate until certain efficiencies are achieved in the scheduling process, it is important that this issue be revisited in Spring, 2007. At that time, a study of the rate at which classes close, the effectiveness of current time bands, and an evaluation of available classroom space should be conducted. Capacity for scheduling graduate sections should be paid special attention. An ongoing University-wide Committee to regularly evaluate classroom space in conjunction with the University's pedagogical directions and building program is essential.

It is important to note that some actions or strategies are not solutions to the problem. These include canceling classes, increasing class size, making classes or registrations unavailable to any of our constituencies and otherwise reducing the quality of instruction for GW students. GW cannot afford to decrease the quality of its education and compete in today's educational marketplace.

UNIVERSITY TASK FORCE ON CLASS SCHEDULING
AND
AVAILABILITY OF CLASSROOMS

In November, 2004, the Faculty Senate of The George Washington University requested through resolution that the President direct, “a high-level review of the recent classroom shortage and of plans to remedy this situation no later than Fall 2005.” The Senate requested that Senate members be involved in the review and that the results be reported before the Fall 2005 schedule was established. The Senate’s resolution was passed after a significant number of classes could not be included in the Spring, 2005 schedule because of an apparent lack of classroom space. The problem was so severe that pre-registration was delayed.

In January, 2005, at the request of President Stephen Joel Trachtenberg, Donald R. Lehman, Executive Vice-President for Academic Affairs, convened a group of faculty and administrators to discuss the class scheduling problems that occurred during the Spring, 2005 scheduling process. The committee was charged with:

- Understanding what took place in registering students for both the Fall and Spring terms of the 2004-2005 academic year. This includes an explanation of all facets of the scheduling process, the inventory of classrooms, and the utilization of classrooms and time bands on both the Foggy Bottom and Mount Vernon Campuses.
- Developing a full understanding of what is expected with respect to scheduling general purpose classrooms over the next 3 to 5 years, the anticipated enrollments at both the undergraduate and graduate levels over the next 3 to 5 years, and the number of course sections needed over the next 3 to 5 years projected from the history of the last two years.

WHAT TOOK PLACE?

The greatest difficulty in the scheduling process took place during Spring, 2005, in which 191 classes were left homeless following the initial run of the scheduling software. As departments made changes in their class schedules for reasons other than space, some classrooms became available and many of the homeless classes were scheduled during the requested time bands. Other homeless classes had enrollment caps reduced in order to be accommodated in available classroom space, some were moved to 8 a.m. time bands, and some classes were cancelled. Others were moved to the Mount Vernon campus. The factors that contributed to the problem included the following:

- Time bands overloaded. The schedules submitted by many academic departments overloaded several time bands, particularly for classrooms with capacities of 50 or more.
- Fungler Hall being off-line, eliminating 13 classrooms.
- Pre-assignments. Pre-assignments are manual entries made before the scheduling software is run. In theory, pre-assignments are designed to accommodate requests for certain technologies or for rooms that meet specific pedagogical needs. However, in practice, scheduling data show that school schedulers also use pre-assignments strategically to gain prime spaces for their school faculty regardless of pedagogy or technology use.

- Departmental space not assigned. Some departments schedule many of their own classes into dedicated spaces. This applies to labs, studios and other spaces specifically designed for certain activities. In Spring, 2005, these spaces were not pre-assigned, which meant they were assigned to general purpose classrooms—displacing other classes-- and the dedicated spaces were not utilized. It was not determined exactly what office/individual was responsible for this oversight.
- Software License Key Problem. The vendor for the scheduling program provided Information Systems and Services (ISS) an incorrect “license key,” which delayed scheduling for three days.
- Staffing. A staff member left the Academic Scheduling Office in late October and the replacement was not fully trained in time for the scheduling process.

Fall, 2005

The Task Force believes that the scheduling problems are best demonstrated by studying Fall 2005 data. The number of homeless classes in Spring 2005 is thought to be an anomaly because of the incorrect license key and unassigned departmental spaces. The number of homeless classes for Fall 2005 is less severe.

A new University Registrar assumed responsibility for the Registrar’s Office in Fall, 2004. She reviewed and eliminated errant data before running Schedule25 (S25), the University’s scheduling program, to place classes for Fall, 2005. After the initial S25 run, a total of 116 courses were homeless. Twenty-one of the courses, created in Banner by schedulers in SEAS weeks after the deadline, were not included in the initial run. Of the 116 original homeless courses, 11 were capped over 100. Sixty-eight of the courses were capped at 20 or lower.

The Registrar’s Office schedulers manually processed schedule changes received after the deadline and re-assigned rooms to accommodate as many of the 116 homeless classes as possible. The Office then asked the Schools to consider changing days and times of offerings, adjusting caps, and relocating classes to the Mount Vernon Campus (MVC). These options have significant consequences. For example, changing the cap of a class because of room availability rather than for pedagogical reasons is less than ideal. By the first day of priority registration, 23 classes still were homeless and were deactivated to prevent students from enrolling in classes with no identified location in which to meet.

THE SCHEDULING PROCESS

The scheduling for each semester begins with the Office of the Registrar. A “term roll,” that is, a copy of the same semester from the previous year, is provided to the Schools by the Registrar. For the past several semesters, the Registrar’s Office did not deliver this information to the Schools according to the accepted schedule, reducing the time for Deans, Department Chairs, and Academic Schedulers to process necessary changes. This issue has already been addressed, and Spring 2006 scheduling material was delivered on time to the Schools in March, 2005.

Scheduling Software Limitations and Capabilities

The University purchased CollegeNet's scheduling software, Resource25 (R25) and Schedule25 (S25), about three years ago. S25 is a stand-alone scheduling tool which the university has used for many years. S25 matches class sections with appropriate classroom space more efficiently than can be accomplished manually. R25 is an event scheduling tool, with capabilities to schedule physical space and resources such as technology and support personnel. The Web Viewer module of R25 allows individuals with classroom needs to search for and request use of available space.

GW has not used either of these tools to their full capabilities. For example, manual pre-assignment of general purpose classroom space has been the sole means for accommodating specific technology and classroom configuration requests. In addition, the Academic Scheduling Office has assigned manually all Mount Vernon classrooms. S25 has the ability to match specific requests with classrooms, thereby reducing the number of manual assignments, which are labor intensive and which reduce efficiency.

The Office of the Registrar, in conjunction with ISS and Academic Technologies, began a product upgrade and implementation project for the Series 25 software in January 2005. Completion is scheduled for Fall 2005. Beginning in Spring 2006, all Foggy Bottom and Mount Vernon general purpose space will be scheduled using S25 software. An interface between the scheduling software and Banner student information will automatically update room assignment information every ten minutes.

Pre-assignments and Technology

Most technology-enhanced classrooms, which vary in quality, are located in Funger, Bell, Corcoran, Gelman, MPA, Phillips, Rome, 2020 K St. and 1957 E Street. The demand for technology equipped rooms has increased dramatically in the last three years. There are seven levels of technology classrooms and six general purpose computer classrooms (not maintained by academic departments). These six computer classrooms meet current demand for scheduling classes that must meet regularly in a computer lab. However, there is little capacity for scheduling classes requiring only a few computer sessions. This is also a "system" issue – i.e., the scheduling system is not flexible enough to make assignments for "partial" term or specific class periods. In addition, the largest of the computer labs (Monroe 102B) will be unavailable during the renovation of Government and Monroe (January 2006 – August 2007).

The method for matching classes with technology and other pedagogical needs has been through pre-assignments, which are manually scheduled and which reduce the efficiency of scheduling software. For example, several years ago (when fewer classrooms were available and fewer classes were taught), an S25 run BEFORE any pre-assignments to general purpose space would place virtually every class needing a room. After the pre-assignments were entered, the S25 run would generally result in a list of about 150 homeless classes.

The ability of school schedulers to assign classes into rooms before the scheduling software has been run has sometimes resulted in abuse. In Fall 2004, 296 requests for technology equipped rooms were processed, along with 85 requests that reflected other

pedagogical needs. In Spring 2005, there were 349 requests for technology and 140 requests for specific configurations. These requests may reflect an increased demand for technology but we believe they also reflect the ability of School Schedulers to place faculty in the most desirable rooms rather than submit them to the randomness of scheduling software. Data in the Academic Scheduling Office support this conclusion. Other pre-assignments are related to departmental space. (See above under Spring 2005 details.)

With full implementation of S25 and R25, room attributes can be assigned to classrooms, enabling S25 to match requests with rooms and improving scheduling efficiency. However, there are some dangers inherent in using room attributes. For example, any class which has a required attribute will be matched only to a classroom that carries that needed feature. If a faculty member requests a DVD player and an overhead projector, that class will only be assigned to a room that carries the combination of those two pieces of technology. The efficiency of the software will be at its highest if faculty request only the essential specific pieces of equipment. In assigning technology-related attributes to classrooms, it will be important to deal with the issue of portable equipment. Although portable equipment can be useful, particularly when it is needed for only a few class sessions, faculty on the Task Force do not feel that provision of portable equipment is reliable or accessible enough for faculty to depend on it in the same way they can depend on a technology-equipped classroom.

SCHOOL COMPLIANCE ISSUES

Each School has been charged with ensuring compliance with requirements for scheduling classes across days of the week and in different time bands. These requirements are issued by the Associate Vice President for Academic Planning and Development, to whom the Registrar's Office reports. Classes taught in non-standard time bands must 1) meet in departmental space and 2) be approved by the Academic Scheduling Office.

Currently, seventeen individuals can schedule classes through Banner and into classrooms. These include the Registrar and three staff in the Academic Scheduling Office, two in the College of Professional Studies, two in the School of Engineering, three in the School of Business, one in the Elliott School of International Affairs, four in Education, and one in the Music Department of CCAS. Most of the individuals in the Schools are not full-time schedulers but have other duties as well. The Scheduler in the Music Department only schedules individual music instruction. In some schools, scheduling is done by executive associates or other administrative staff who are subject to pressure by faculty and/or department chairs who seek to maintain schedules favorable to their particular ways of working. This does not always result in the best scheduling practice for the University.

Types and degrees of compliance and non-compliance vary among departments and Schools. Overall, compliance across time bands is not as serious an issue as compliance across days of the week. The compliance figures below are taken from the third week of actuals during Spring 2005—these levels of compliance were achieved after considerable pressure being applied by the Registrar's Office to redistribute courses

into 8 a.m. time bands, into locations at Mount Vernon and across different days of the week. At present, there are no direct penalties for non-compliance.

A look at twice-weekly, 75-minute time bands shows that compliance across days of the week is a serious problem. Tuesday and Thursday remain overscheduled, with the bulk of the over-scheduling occurring between 11:10 and 3:35. Although 43 classes are scheduled on MF, the target was set at 20% of all classes, with only 7% of classes being scheduled in these time bands. Fifty-two classes are scheduled on WF, with similar lack of compliance (8.5% scheduled with a target of 20%). MW classes also are overscheduled (33.5% scheduled with a target of 20%).

**Compliance check for distribution of twice weekly 75-minute classes across days of week
Spring 2005 – 3rd week actual**

Time band	% required in time band of given day	# scheduled in time band	% scheduled in time band of given day	% by days
TR 8:00-9:15	18	34	10.9	40 max allowed
TR 9:35-10:50	18	18	5.8	
TR 11:10-12:25	18	99	31.7	
TR 2:20-3:35	18	91	29.2	
TR 3:55-5:10	18	51	16.3	
TR 5:00-6:15	<=10	19	6.1	51.0 scheduled
MF 11:10-12:25	33	26	60.5	20 required
MF 3:55-5:10	33	14	32.5	7.0 scheduled
M 9:35-10:50 F 8-9:15	33	3	7.0	
WF 9:35-10:50	33	12	23.1	20 required
WF 2:20-3:35	33	32	61.5	8.5 scheduled
W11:10-12:25 F 12:45-2	33	8	15.4	
MW 8-9:15	30	46	22.5	20 required
MW 12:45-2	30	104	50.7	33.5 scheduled
M2:20-3:35 W3:55-5:10	30	24	11.7	
MW 5-6:15	<=10	31	15.1	

Impact of Departmental Behaviors

While most departments attempt to approach compliance in scheduling their classes, others are habitual non-compliers. Behaviors that adversely impact the scheduling process include:

- Overscheduling classes that later are cancelled (rooms overscheduled).
- Overscheduling during TR and MW time bands, especially from 11 a.m. until 3 p.m. Overscheduling during these hours creates a shortage of classrooms and restricts class selection for students.
- Setting caps too low. When student numbers exceed assigned classroom space, the Academic Scheduling Office staff attempts to negotiate a room

exchange. The options for such exchanges are limited, resulting in a compromised learning environment.

- Setting caps too high. Classes are scheduled into larger rooms unnecessarily. Larger rooms are more scarce and removed needlessly from the classroom pool.
- Requesting special rooms. These requests must be entered by hand before the scheduling software can be run for the remaining classes. Such requests also may be attempts to circumvent the room assignment assigned by scheduling software.

Setting of Caps

The scheduling software assigns rooms by matching seating capacity with the enrollment cap. Enrollment caps that do not accurately reflect anticipated enrollment decrease scheduling efficiency. Enrollment caps may be inflated by a department for a variety of reasons:

- Not adjusted to reflect downward enrollment trends for a course;
- Results in assignment to a larger (typically better) room;
- Prevents potential students from getting closed out of the course.

A review of enrollment caps vs. actual enrollments for Spring 2005 highlights inflated caps:

ACCY 266.10	cap = 50	room seats = 88	enrollment = 27
APSC 058.10	cap = 48	room seats = 48	enrollment = 24
BADM 115.13	cap = 100	room seats = 296	enrollment = 69
CE 120.10	cap = 45	room seats = 48	enrollment = 14
CHEM 012.12	cap = 120	room seats = 142	enrollment = 73
CSCI 147.10	cap = 80	room seats = 136	enrollment = 37
ECON 237.10	cap = 40	room seats = 50	enrollment = 20
ENGL 174.11	cap = 35	room seats = 48	enrollment = 13
FINA 123.10	cap = 44	room seats = 44	enrollment = 27
FINA 223.10	cap = 33	room seats = 45	enrollment = 7
FINA 278.11	cap = 45	room seats = 58	enrollment = 20
MAE 226.10	cap = 25	room seats = 25	enrollment = 7
MBAD 250.12	cap = 40	room seats = 50	enrollment = 7
SPED 290.11	cap = 40	room seats = 45	enrollment = 17
STAT 118.10	cap = 125	room seats = 293	enrollment = 73
STAT 129.10	cap = 25	room seats = 25	enrollment = 9
TRED 235.12	cap = 25	room seats = 45	enrollment = 7
TSTD 290.10	cap = 30	room seats = 44	enrollment = 9

Similarly, caps need to be adjusted upward if trends in enrollment warrant such actions. A review of enrollment caps versus actual enrollments for Spring 2005 highlights low caps:

BADM 066.32	cap = 25	room seats = 25	enrollment = 29
BISC 004.12	cap = 45	room seats = ?	enrollment = 57
ECON 012.46	cap = 30	room seats = 30	enrollment = 35
EXSC 125.11	cap = 55	room seats = 58	enrollment = 65
EXSC 135.10	cap = 32	room seats = 37	enrollment = 44
HIST 040.31	cap = 25	room seats = 25	enrollment = 32
HIST 187.40	cap = 25	room seats = 25	enrollment = 31
IAFF 190.17	cap = 40	room seats = 40	enrollment = 43
JOUR 100.11	cap = 35	room seats = 38	enrollment = 40
PSC 184.10	cap = 50	room seats = 50	enrollment = 55
PSC 192.10	cap = 10	room seats = 10	enrollment = 17
PSYC 121.10	cap = 50	room seats = 50	enrollment = 55
PSYC 125.10	cap = 35	room seats = 36	enrollment = 41
SOC 135.10	cap = 90	room seats = 91	enrollment = 125
SOC 136.10	cap = 100	room seats = 136	enrollment = 204
SOC 181.10	cap = 60	room seats = 60	enrollment = 86
TSTD 136.10	cap = 34	room seats = 36	enrollment = 41

Faculty and Registration Transaction Forms (RTF)

Faculty are allowed to sign students into a class using a paper registration form. However, such practices often overload a classroom; faculty assume some students will drop or that a class can be moved. For a variety of reasons, classrooms should not be overcrowded. The main reason is to provide proper egress. Also, students and their parents often—rightfully—complain if students do not have a place to sit. Despite the importance of maintaining flexibility for faculty and students, using RTFs to admit students to a class can disrupt the normal scheduling and teaching process and are not adequate to preserve necessary flexibility.

Frequency and Impact Of Late Changes

Adding or deleting classes or changing the times that classes meet after the scheduling software has been run severely limits the University's capacity to efficiently use classroom space. For each class that is canceled, a vacant space is created that could have accommodated a class in the original software run. This classroom may never be utilized. If the class is canceled late in the cycle (shortly before registration), homeless classes will already have been cancelled or accommodated in another way.

For example, during the 3rd week of classes in Spring 2005, classrooms were available during popular time bands. Nineteen classrooms were available from 9:35 to 10:50 on Tuesday/Thursday mornings; the seating capacity of the available rooms ranged from 10 to 42 students. Although 61 classrooms were available for the M 9:35-10:50 a.m./Friday 8-9:15, and a number were available for WF, these vacancies probably were less due to class cancellation than to unwillingness of faculty and department chairs to schedule during this unusual time band. If one reviews the compliance data reported above, it is apparent that schools and/or faculty are unwilling to schedule classes heavily into the WF time bands and are even more reluctant to schedule classes into the MF time bands.

However, room availability does not indicate the entire picture. Cancellation and rescheduling must be done by hand, which increases the labor costs within the dean's offices and the Registrar's scheduling office.

Some departments routinely and excessively cancel classes. For example, chronic excessive cancellers include the departments of Computer Science (Fall 2004, 23; Spring, 2005, 19) and EMSE (Fall 2004, 28; Spring 2005, 29), compared with one to five courses cancelled each semester by most departments.

The impact of these behaviors on the rest of the university community may not be fully understood by the departments.

GROWTH IN ENROLLMENT AND CLASSROOM CAPACITY

The following chart shows growth in enrollments, changes in numbers of sections, and changes in class size. The largest growth in class size has been at the upper division, undergraduate level.

See Chart Next Page

The problem goes beyond whether all scheduled courses can be placed into classrooms. Already in 2002, approximately half of all undergraduate sections closed before classes began. Given the increased burden on smaller, upper level classes, students likely will have difficulty completing their academic programs as planned. The best should be offered to students by any institution of higher learning no matter the tuition. If course sections are added to alleviate this problem, there will be an increased strain on classroom availability and available faculty.

Classroom Inventory

The table below displays the evolution of the Foggy Bottom General Purpose Classroom Inventory. Although new buildings have come online, the net effects on the General Purpose Classroom Inventory have been lower than might be expected. The limited impact on the classroom inventory is mainly attributable to conversion of classrooms to offices (e.g., Lisner and Stuart Hall for the Law School, Fungler Hall for GWSB), and the assignment of former general purpose classrooms to a specific school (Lisner and Stuart Halls). In addition, classrooms go offline during the renovation of buildings.

The University achieved an increase of six general purpose classrooms with the introduction of the Media and Public Affairs Building in 2001. Nineteen additional classrooms were added when 1957 E Street came online in 2003, but a similar number of general purpose classrooms was removed from the inventory with the allocation of Lisner and Stuart Halls to the Law School. With the acquisition of Mount Vernon College in 1998 and the renovation of facilities there, 25 classrooms now are available on that campus.

	1998	1999	2000	2001	2002	2003	2004	2005*	Percent Increase
Undergraduate Enrollment	6385	6955	7433	8318	8746	9086	9491	9514	49.0
Masters Enrollment**	3631	3619	3638	3809	4008	4092	4181	4334	19.0
Doctoral Enrollment**	1275	1286	1223	1250	1293	1334	1425	1418	11.0
Total Enrollment	11291	11860	12294	13377	14047	14512	15097	15266	35.0
Number of Undergrad Course Sections***	1219	1246	1271	1417	1419	1423	1518		25.0
Number of Grad Course Sections***	985	1041	1041	1059	1111	1094	1126		14.0
Number of Course Sections Grad ***and Undergrad	2661	2744	2771	2962	2988	2975	3127		18.0
Enrollment Per Section****	21.5	22.0	22.5	23.0	23.1	23.5	23.7		10.0
Foggy Bottom Classrooms	107	105	105	111	129	126		131	22.0
Mount Vernon Classrooms	Came online in 1998	Major renovations						25	
Total Classrooms	107							156	(for all classrooms) 46%

*Enrollment Projections as of January 2005

**On-Campus

***Percentage from 1998-2004 . Includes some special sections labeled "other."

This explains why graduate and undergraduate totals in previous rows do not add to the total.

****The largest increase in class size has been in upper division undergraduate classes. Upper division classes went from an average size of 22.5 in 1998 to 27.9 in 2004. The average size of graduate classes was 16.1 in 1998, then dropped, then returned to 16.1.

The following chart indicates that GW is facing a substantial classroom reduction for the Spring and Fall 2006 semesters and the Spring 2007 semester. Beginning in Spring 2006, eight classrooms holding more than 50 students will be returned to the active inventory with the reopening of Fungler Hall. In addition, 13 new general purpose classrooms in Duquès Hall, including a 100-seat and five 50-seat classrooms, will become available. At the same time, however, Monroe Hall and the Hall of Government will go off-line for renovation, removing 30 classrooms from the inventory. When the renovation is completed (anticipated for Fall 2007) 27 classrooms will be added to the inventory.

Foggy Bottom General Purpose Classroom Inventory Evolution: Spring 2005 - Fall 2007

Seating Capacity	Spring 2003	Spring 2004	Spring 2005	Spring 2006	Fall 2007
<20	18		17	17	26
20-35	42		55	49	60
36-50	31		38	28	32
51-100	24		13	19	22
101-150	4		4	5	5
>250	4		4	4	4
Total	123	130	131	122	149

Comparison of the tables documenting enrollment growth and changes in the General Purpose Classroom Inventory reveals that the fluctuations in the inventory have coincided with a period of dramatically increased enrollments. Since 1998, the numbers of undergraduate and graduate students have increased by 49% and 14%, respectively. The number of course sections has increased by 18%. Yet, from 1997 (115 GPCs) to Spring 2005 (131 GPCs), the Foggy Bottom general purpose classroom inventory has increased by just 16 rooms. [16 classrooms were lost between 1997 and 1998.] The University’s ability to schedule nearly 500 additional class sections reflects the establishment of additional time bands, dispersion of the class schedule across time bands, and the diligent efforts of the Registrar’s staff to fit classes into available space.

Utilization of Existing Classrooms

As stated earlier in the report, a number of behaviors at the departmental and school levels complicates efficient use of GW classrooms. S25 has the ability to produce utilization reports only as a direct result of an S25 run; therefore, the start and end times of classes are used as data points. This means that although only a few classes are scheduled at 7 a.m. or on Saturday and Sunday, utilization is computed Sunday through Saturday from 7 a.m. to 10 p.m. The report is run in 10-minute segments, so if a room stands open for ten minutes between classes, that is calculated as “non-use.” These factors severely limit the usefulness of the report.

It does, however, yield some information that might be useful in understanding the problem. The total number of scheduling hours available from 8 a.m. to 10 p.m. Monday through Friday is 70, or 980 hours in a 14-week semester. If one consults the utilization report, it is possible to understand some usage patterns. For example, MPA 309 is scheduled 777 hours. This room seats 91 students. By examining the listing of open rooms, it is apparent that MPA 309 is usefully open (during hours in which classes could be scheduled) on TR from 3:45 to 5 p.m. The room is open most of Friday, although there are no matching times other days of the week. The University definitely has capacity at 8 a.m., but capacity throughout the prime hours of Monday through Thursday is very limited. Capacity on Fridays exists but currently is not well matched for use with other days of the week.

Use of Departmental Space

Dedicated departmental space comes in a variety of types and sizes. Some departments schedule classes into departmentally controlled laboratories, performance spaces, and studios. For other departments, a dedicated or shared conference room may be the only space controlled by the department. Faculty on the Committee felt strongly about preserving dedicated space within the departments, although there was discussion about why some departments control more space than do others.

Increasingly, departments use their conference rooms as seminar rooms. Many departments use these spaces to accommodate classes that are deemed homeless after the S25 software run. This practice frequently limits the ability to schedule research seminars, faculty meetings, impromptu meetings with Ph.D. students and research visitors, as well as meetings with small groups of undergraduate students.

Since University classroom space is limited, once departmental space is scheduled, no other space is available either for emergency classroom relocation or for departmental activity. A department's only option often is to rent space in the Marvin Center. However, because of low departmental budgets, this is rarely a realistic option. Events are cancelled that would be of intellectual benefit because there is no space.

Mount Vernon Capacity

The Registrar manually counted available time bands at the MVC campus for Spring 2005. This count was based on placing additional twice weekly, 75 minute classes from 8:30am to 5:25pm, and once weekly classes at 6:10-8 or 6:10-8:40 p.m.. For this purpose, classrooms such as the studios, computer labs and science labs were excluded. Currently, 194 classes are scheduled at Mount Vernon, with capacity for 124 additional sections, provided classes can be identified that fit into the available rooms, some of which seat 20 or fewer students. For Spring 2005, the available times were:

8:30-9:35 26 classes (MW - 14, TR - 12)
10-11:15 11 classes (MW - 4, TR - 7)
11:30-12:45 15 classes (MW - 7, TR - 8)
1-2:15 7 classes (MW - 5, TR - 2)
2:30-3:45 11 classes (MW - 3, TR - 8)
4:10-5:25 14 classes (MW - 12, TR - 2)
6:10-8:(40) 40 classes (M - 10, T - 9, W - 10, R - 11)

FUTURE DEMAND

The following table supplied by the Office of the Vice President and Treasurer shows projections in enrollments expressed as Full-Time Equivalent (FTE) on campus enrollments.

	FY05	FY06	Annual Change	Est. FY09	Change FY 05-09
Undergraduate	9,637	9,615	-0.2%	9,914	2.9%
Graduate	4,176	4,305	3.1%	4,250	1.8%
Law	1,729	1,667	-3.6%	1,654	-4.3%
Non-Degree	276	276	0.0%	276	0.0%
TOTAL	15,818	15,863	0.3%	16,094	1.7%

As this table indicates, future increases are projected to be much smaller than past increases, with the numbers of non-degree students remaining steady, the number of law students decreasing, and the undergraduate and graduate increases at less than 3%. The projected decrease in law students means that classrooms for the Law School will be adequate and that the Law School will not need to expand into areas desperately needed by the other Schools.

The FTE growth of 277 (4 courses each) undergraduates and 74 (3 courses each) graduates represents an increase of 1330 course enrollments per semester. At an average class size of 25, these 1330 enrollments will yield 53 additional sections per semester.

Scheduling Graduate Classes

Much of this report has centered on scheduling into daytime time bands. However, the graduate situation is somewhat different. Because annual growth is projected to be about 3.0%, evening capacity must be addressed. Some students cannot leave their daytime jobs and be at class at 5:10 p.m., necessitating a 6:10 time band. However, for the Graduate School of Education, 5:10 time bands are desirable because students can arrive by 5 p.m. and are able to take two classes in a single evening.

For Fall, 2006, 48 graduate classes appeared on the homeless list. Of those, 37 ultimately were scheduled at the originally requested day and time. Two are on hold and are not open for registration, but the department is still hoping the classes will be scheduled at the same time and day; three classes were changed from Wednesday to Monday, Tuesday or Thursday at the same time; one was changed in day and time (moved from 5:10 to 7 p.m. Wednesday to 3:30-6 pm. Thursday.) No classes were moved to the Mount Vernon campus or to Saturday.

SOLVING THE PROBLEM: RECOMMENDATIONS

The members of the Task Force agree that a shortage exists at the University for certain types of specialized space. However, it remains an open question whether scheduling problems reflect an absolute shortage of general classroom space relative to enrollment, or a less than efficient scheduling of space that would otherwise be adequate. It is unlikely that efficiencies can be achieved at such a rate to provide capacity for the classes that currently show up as homeless, as well as 53 additional sections per semester. Regardless of how one comes out on this issue, there is agreement that current scheduling

practices have contributed to the difficulties experienced in scheduling classes in the general purpose classrooms, and that improvements in such practices would at minimum help relieve the problem.

The recommendations below address scheduling issues. The Task Force also recommends re-evaluation of the adequacy of the number of classrooms once these recommendations have been put into place.

I. SOLVE SHORT-TERM PROBLEM

Because of building renovations, the University faces a reduction of at least nine classrooms for Spring and Fall of 2006 and Spring of 2007. The Task Force recommends that nine spaces of appropriate size be released for classroom use for this three-semester short-term shortfall. These spaces will need to come from the Marvin Center, from the Law School, from the Medical Center and/or from other non-academic University space that can serve as general purpose classrooms. The Medical Center (School of Medicine and Health Sciences, the School of Public Health and Health Services) and the Law School did not provide comprehensive scheduling data for this report but simply replied that their spaces were fully utilized. It is critical that departmental space be used judiciously and temporarily (we suggest careful use later) to solve this problem.

II. CENTRALIZE SCHEDULING

Presently a substantial amount of room assignment is done at the level of the individual schools. Such decentralization allows schedulers at the school level to pre-assign rooms, which reduces the ability of the Academic Scheduling Office to use the full stock of rooms to make room assignments. While some schools strive for compliance, others repeatedly enter flawed data, schedule and cancel classes at whim, and do not seem to perceive the importance of the early phases of the scheduling process. The counter-productive behaviors of the Schools can be identified clearly by the Academic Scheduling Office and by the Registrar's Office.

The Task Force recommends that this practice be ended and that, while preparation of schedules should remain the province of the Schools, the actual data entry into Banner and the assignment of classroom space should be delegated solely to the Academic Scheduling Office under the direct supervision of the University Registrar. The Task Force wishes to note, however, that centralized scheduling will only be fair and effective if all Schools in the University (aside from Law and Medical) are required to participate in this process. If an exception is made for even one school, centralization will be neither fair nor effective.

To illustrate the problem associated with each school entering its own classroom request data, consider the following. CCAS, the largest of the Schools, had the cleanest data entry of all Schools for Spring and Fall of 2005. However, a total of 23 classes remained homeless on the first day of priority registration for Fall 2005. Seventeen of these were within CCAS. At the same time, SEAS submitted data late and made many changes. For example, the Department of Computer Science made 23 changes to its schedule in Fall, 2004 and 19 changes in Spring of 2005. EMSE made 28 changes in Fall of 2004 and 29 in Spring of 2005. Yet the School of Engineering suffered far fewer class cancellations related to classroom availability than did CCAS.

II.A. Increase Academic Scheduling Office Staffing

Optimum scheduling of classroom space requires a combination of computer and human input. Current staffing levels in the Academic Scheduling Office are too low to permit that office to generate the full amount of information about available space and to enter the data required if the recommendation of this Task Force to centralize scheduling is implemented. With the move this spring of CCAS scheduling to the Academic Scheduling office from the College, it has become apparent that increasing the staffing of the Academic Scheduling Office is essential. Such an increase will enable scheduling staff to respond to scheduling requests more quickly, and perhaps most importantly, will enable the Academic Scheduling Office to provide better information about the availability of rooms at different times.

A staff position has been budgeted for FY 2006 to the Academic Scheduling Office to facilitate data maintenance, support, and training for the Resource 25 software. A second position, at a salary level of about \$35,000 (\$49,000 with fringe benefits and operating expenses) will be necessary to fully implement the recommendations of this Task Force. This determination is based on the increased load put on the Academic Scheduling Office with the addition of Banner entry for CCAS and anticipation that this load will continue.

II.B. Re-evaluate Time Bands.

The Task Force recommends a thorough analysis of the time bands and the percentage of classes allocated to the time bands to determine whether these are appropriate and whether, if compliance is achieved, classes can truly be scheduled into the available spaces and times.

III. IMPROVE COMPLIANCE

Improving compliance must be a joint effort between the Registrar's office, the Academic Scheduling Office, and the Schools. Only through cooperation can the scheduling process be fair and efficient.

III.A. Implement School Responsibility at the Assistant or Associate Dean Level

In order to centralize scheduling effectively, the Schools must take responsibility for departmental and chair behavior. The committee strongly recommends that each Dean designate a person at the associate or assistant dean level to monitor the scheduling process within the school, to insure compliance with time bands and days of week, to assess the viability of caps, and to work with chairs to make certain that chairs understand the significance of their actions.

The designated person in each Dean's office also will be the primary contact with the Registrar and Academic Scheduling Office. Once a situation, such as a change to the schedule, is approved by the Dean's Office in conversation with the Scheduling Office, it may be appropriate for the scheduler and department chair and/or faculty member to work together directly. Schedulers should not be required and/or encouraged to deal directly with faculty regarding schedule changes unless the School designee has approved such a change.

If a School does not near compliance after two semesters of guidance from the Office of the Registrar, it is recommended that the offending School's classroom assignments occur after those in all other Schools.

III.B. Enforce Adherence to Scheduling Guidelines

Schools must follow guidelines for scheduling classes among the different time bands. The Academic Scheduling Office, in cooperation with the Associate or Assistant Dean mentioned above, should enforce compliance. Should non-compliance continue, the Registrar should be required to report such non-compliance to the Associate Vice President for Academic Planning and Development and to the Executive Vice President for Academic Affairs.

III.C. Establish and Adhere to a Realistic Calendar

Task Force members believe that the time given to chairs to develop a schedule is unrealistic and that the rapid turnaround request leads to a good deal of guesswork in developing the schedule as well as departments "just getting something in" by the deadline while planning to make changes later. The Task Force recommends the following scheduling calendar:

Spring Schedule: Call goes out to schools last week of March; schedules to Registrar's Office by 1st week of August; data input by 3rd week August; review of schedules and corrections completed by 1st week of September; Run S25 2nd week of September; homeless list and revisions by last week of October; pre-registration for Spring begins early-November, before Thanksgiving.

Summer Schedule: Call goes out late September; schedules to registrar end of October.

Fall Schedule: Call goes out first week of October; schedules to Registrar 1st week of December; data input by early January; review of schedules and corrections completed by 3rd week January; Run S25 3rd week of January; homeless list and revisions by last week of February; pre-registration for fall begins mid-March (after spring break).

III.D. Simplify Instructions for Compliance with Scheduling Across Days of Week and in Time Bands.

Instructions issued by the Office for Academic Planning and Development are long and complicated. The Task Force recommends simplification of the document to help improve compliance.

III.E. Prepare Department Chairs

Instruction in proper scheduling should be incorporated into the training for new chairs. However, established chairs may not recognize the importance of their actions to the overall scheduling process and to the acquisition of acceptable classrooms for their courses. Therefore, the Task Force recommends that the Associate Vice President for Academic Planning and Development and/or a member of the staff involved in Academic Scheduling meet with all chairs by School during the Academic Year 2005-06 to inform

chairs of changes in scheduling and of new efforts to insure that all schools near compliance with scheduling procedures and are assigned suitable classrooms to meet course needs..

III.F. Preserve but Use Dedicated Space

Dedicated spaces in departments and schools, when used carefully and judiciously, can help the scheduling process and sometimes can provide more appropriate teaching space than can be found in the general inventory. Accordingly, departments and schools should be encouraged to make the maximum *reasonable* use of such space to schedule classes, especially for evening and graduate classes. This being said, it should also be recognized that dedicated space has many academic uses that must be preserved, and that use of such spaces as classrooms should be reserved for genuine “slack times” during the day.

IV. INNOVATE

The limited classroom situation is an excellent opportunity to think strategically and to experiment with a variety of strategies to improve efficiency of classroom use as well as to introduce flexibility and variety to the process. The following recommendations are made in the spirit of innovation.

IV.A. Create Mechanism for Adjusting Room Assignments to Enrollments

Under the current system, rooms are assigned to courses prior to registration. This ensures that each course has a physical place in which to meet. However, once registration has begun, individual courses may be larger or smaller than anticipated. The Academic Scheduling Office should have the authority to adjust room assignments to better match actual class size. Currently such changes are accomplished only with permission of the professors involved. It is important to note, however, that any such system will need to acknowledge pedagogical and technology considerations.

IV.B. Revise Use of the Printed Schedule

Because the copy for the printed schedule must be delivered to the printer at an early stage in order to be available for current student pre-registration, the schedule contains many errors by the time registration actually occurs. Although some advisors say they prefer to use a printed schedule, the greatest need for such a document appears to be for Colonial Inauguration (CI). The Task Force recommends that a printed schedule be prepared after current student pre-registration occurs. This printed schedule should be a document directed solely at advising and registration during CI. This means that graduate courses could be eliminated from the schedule and incoming graduate students could be directed to the web schedule. This printed schedule could be included with academic information designed to aid students in the registration process. The cost of the CI publication should be funded through the CI registration fee. Funding for the costs now incurred by the Registrar in producing the full printed schedule should be reallocated toward increased staffing in the Academic Scheduling Office.

IV.C. Experiment with pedagogies and innovative scheduling.

Pedagogies that blend distance learning with in-class learning may reduce dependence on classrooms and actually increase faculty-student interaction. Similarly, scheduling some classes in extended time blocks on Saturday but for seven to eight

weeks instead of the traditional fourteen-week semester could extend classroom utilization and meet the needs of working graduate students. Also worth exploring is offering additional numbers of classes in three 50-minute time blocks (MWF) and therefore distributing classes more fully across five days of the week.

IV. D. Establish Priority System for Assigning Large Undergraduate Courses

Large undergraduate introductory courses have found themselves to be homeless. Because these courses must be offered and serve the entire undergraduate population, consideration should be given to scheduling such courses first. Courses with anticipated enrollments of 100 or more are at greatest risk since the University has only eight classrooms that seat this many students.

IV. E. Implement Electronic Programs of Study (EPoS)

The Office of Academic Planning and Development (APD), in conjunction with the schools and ISS, has been developing an Electronic Programs of Study database into which undergraduate students would be required to enter online the courses for which they plan to register in future semesters. The database would be mined for information about anticipated course enrollments. This information would be provided to the schools and academic departments for use in planning course offerings for future semesters and would be used by APD and the Registrar to meet section demands.

IV.F. Provide Online Information About Space to Departments and Schools

With full implementation of R25, faculty will be able to view online space available at a given time. A faculty member wanting to move a class or schedule an impromptu event will be able to determine what is available before requesting the space.

IV.G. Revise Practices Regarding Non-Degree Students

In view of current strains on classroom capacity, the on-line registration system should be set up to ensure that students who are enrolled in degree programs have the first claim on classroom space.

For the most part, non-degree students become eligible to register only after all degree seeking students have had the opportunity to register. About 700 to 850 students register each semester as non-degree; about 550 non-degree students register in the summer. Non-degree students are rarely full-time. Some newly admitted graduate students who register late and some freshmen who attend the last CI register after non-degree students do.

The Task Force recognizes that non-degree students contribute about \$6 million in net revenue to the University and that it is important to preserve reasonable access for all constituencies. The Task Force therefore recommends that registration restrictions be minimal and be placed only on individual courses that have experienced serious problems in the past. For restricted courses, non-degree students would require permission to take the course and would need to be registered via a Registration Transaction Form.

IV.H. Retain Swing Space for Renovation

As GW's campuses continue to undergo renewal, spaces serving all purposes will go off-line. To accommodate the renovations that are a key part of campus renewal, the University must maintain multi-purpose swing space.

IV. I. Fund Classroom Renovation

The quality of the University's classrooms needs upgrading. Black/whiteboards that are in poor condition, blinds that do not provide adequate darkening for high quality digital projection, and poor seating must be replaced. An audit of GW's classrooms is in progress, and the room-specific deficiencies noted in the audit should be addressed.

IV. J. Plan Classroom Space in Accordance with Changes in Enrollment and Pedagogical Trends

The demand for classroom space (type, size and equipment) is a complex and dynamic "variable" that is difficult to project. It also is related to office space. As the number of faculty grows to match the growth in enrollment, space will need to be allocated both to classroom needs and to faculty office space. The Task Force recommends improved coordination of building plans with likely future classroom needs. Such planning should take into account space needs of both teaching and research, plans for changes in enrollment patterns and pedagogical changes that may affect need for technology and/or class size.

V. RE-EVALUATE

Because it is impossible to determine whether classroom space is adequate until certain efficiencies are achieved in the scheduling process, the Task Force recommends that the adequacy of classroom space be evaluated in Spring 2007 by an ongoing University-wide Committee in conjunction with the University's building program.

The committee also recommends that the current guidelines for scheduling, including the time band distributions, be reevaluated to ensure that full compliance by all schools will, in fact, substantially reduce homelessness, while maintaining the appropriate flexibility of schools to meet the specific needs of teaching undergraduate and graduate students.

In conclusion, it is important to note strategies that do not represent good solutions. These include canceling classes, increasing class size, making classes or registrations unavailable to any of our constituencies and otherwise reducing the quality of instruction for GW students. GW cannot afford to decrease the quality of its education and compete in today's educational marketplace.