

**STUDENT REGISTRATION ANALYSIS
FALL, 1997**

**Mitra Eriksson and Peder Hägglund
Charles H. Reilly
& the UCF 21 PROJECT TEAM**

**UCF 21-TR-97-004
October 31, 1997**

UCF 21 Operational Excellence Initiative
Department of Industrial Engineering and Management Systems
University of Central Florida
P.O. Box 162450
Orlando, FL 32816-2450
(407) 207-4900
FAX: (407) 207-4903
ucf21@iems.engr.ucf.edu
<http://ie.engr.ucf.edu/ucf21/>

Approved:

Dr. Julia Pet-Edwards
UCF21 Project Director

**STUDENT REGISTRATION ANALYSIS
FALL, 1997**

**Mitra Eriksson and Peder Hägglund
Charles H. Reilly
& the UCF 21 PROJECT TEAM**

**UCF 21-TR-97-004
October 31, 1997**

ABSTRACT

This Technical Report presents the results of an observation of the student registration process during the Fall 1997 on site registration. Observations of the processes in the five colleges are reported. In addition, follow on meetings with the persons responsible for the registration provided clarification. The registration process flow and office layouts are illustrated. Similarities and differences among the several colleges are described.

Acknowledgments

Special thanks to:

Ms. Judith D. Boyte , Director, College of Art and Sciences

Ms. Helen Y. Hill, Director, College of Business Administration

Ms. Tina Smilie, Director Student Services, College of Education

Dr. Richard N. Miller, Associate Dean, College of Engineering

Dr. Judy Sindlinger, Director, College of Health and Public Affairs

THE UCF 21 PROJECT TEAM

Dr. Julia Pet-Edwards, Director
Ulrica Borgstrand, Public Relations,
Christina Caruso, Technical Support
Lucas Henderson, Office Support

Dr. Robert L. Armacost, Systems Manager
Doreen Susan Lanham, Systems Analyst
Linda Trocine, Systems Analyst
Bartricia Williams, Systems Analyst

Dr. Charles H. Reilly, Process Manager
Carolyn Pace, Process Analyst
Mitra Eriksson, Process Analyst
Peder Hagglund, Process Analyst

STUDENT REGISTRATION ANALYSIS--FALL, 1997

1.0 INTRODUCTION

The University of Central Florida is a growing metropolitan university that serves a large and diverse student body, having grown beyond 28,000 students in the past thirty years. Some of these students are traditional full-time undergraduate students who live in the university residence halls, while others are part-time students who work full-time jobs and take evening or taped classes at remote locations. The explosive growth in student enrollment has been accompanied by different needs that the various types of students have at different times in their education at UCF. The customer focus on students that must underlie this review for the future of UCF is the driving force for this project--University's Customer Focus for the 21st Century (UCF21).

In order to continue the process of improving the quality of programs and services offered to students at the University of Central Florida, a fact-finding and data-collection study was undertaken. The purpose of this study was to get a better overall understanding of the different processes at the various student services offices and also to identify possible opportunities for future improvements in the provision of student services. The project began with the Fall, 1997 semester and initially involved an assessment of student processes in various areas. The results presented in this report involve the on campus student registration processes at the beginning of the Fall, 1997 semester.

2.0 BACKGROUND

Classes can be considered to be a major product that UCF offers its students. The classes, offered and available in the appropriate sequence and frequency, enable the students to obtain an integrated education that meets the curriculum design goals. The appropriate offerings enable the students to graduate sooner and engage in productive work, and also free university resources to serve other students. The class registration process for students is a key enabler that permits students to obtain access to the needed classes. To improve the efficiency of the registration process, students are authorized to register for classes by telephone well in advance of the start of the semester. This not only provides early information to the students, but is also useful to the university in order to assess demand for particular class offerings. Unfortunately, not all students are able to register very far in advance of the semester. Some students are last minute transfers, and others just wait until the last minute. Frequently, students who are newly admitted to the university are required to wait until the registration period just before the start of the semester. Many students in this category also require advising prior to registration to ensure that they make an appropriate selection of courses.

The on site registration process is decentralized with each college responsible for organizing and conducting on site registration. This structure gives the colleges the flexibility to be able to respond to the particular needs that each college has. For example, some colleges have a centralized advising process and others have advising decentralized to the department level. These policy differences necessarily require different registration structures. However, there may be many aspects of the registration process that are common across the colleges. The outcome of interest to students is being registered in particular classes. The registration process is an administrative procedure that is imposed by UCF to facilitate that registration. To ensure a high level of satisfaction with this administrative "service," it is important that the registration process be perceived as being well organized, purposeful, and responsive to student concerns.

A separate analysis (UCF 21 TR-97-003, 1997) deals with student perceptions of satisfaction. The present analysis represents an observational survey of the on site registration process in the several colleges and a follow on review of registration procedures and resources. An underlying objective of the analysis effort was to provide an opportunity for the UCF21 process analysts to develop an early understanding of some key processes in the flow of student life. Specific outcomes objectives for the analysis included the following:

- Develop a basic understanding of the registration processes in each College
- Identify the differences among the Colleges regarding the registration process
- Identify any problems observed during the registration process
- Observe effects of differences in resources
- Observe differences in the number of students registered
- Examine how the office layout hinders/improves the registration process flow

3.0 METHOD

The initial part of this research was conducted by six members of UCF21 on August 19-20, 1997 during the on site registration process. Each team member observed a College registration process office for two hours every day. The observations were conducted both outside and inside of each office. An initial registration process flow chart was developed based on these observations. The observations from the several team members were recorded, collated, and summarized. Following these initial observations, two of the process analysts (Mitra Eriksson and Peder Hägglund) visited each College registration office to ensure that the data collected beforehand were accurate and also to receive more information with regards to the whole registration process. An office layout for each registration office was developed to facilitate a systems view of the physical registration process flow. The observations and clarifications were used to develop registration process flow charts for each College registration procedure.

4.0 RESULTS

The results of the analysis and a short description of each college and its registration procedure are displayed by college. The summarized observations are followed by the office layout and the registration process flow chart. The boldfaced processes indicate where there were differences among the colleges.

4.1 COLLEGE OF ART AND SCIENCES

The College of Art and Sciences, the largest academic unit in the university consist of seventeen academic departments. The college is responsible for all programs in the broad areas of the humanities, arts, natural sciences and social sciences.

The Office of Academic Support and Information Services (OASIS) is the primary office for undergraduate academic assistance in the college of Art and Sciences. OASIS assists students with matters concerning College and University requirements, policies and procedures. The Graduate Office assists graduate students in the College of Art and Sciences with similar matters.

Registration processes for Fall 1997 were divided between different offices. The freshmen and all new students registered at the Student Center Auditorium (SCA). Continuing students could register in person at SCA or could register using touch tone (phone) registration. For Spring 1998, these students can also choose POLARIS (Personal On- Line Access to Restricted Information Systems) to register for their classes. Continuing students with special circumstances (e.g., thesis, dissertation, independent study) registered at OASIS.

The results that are presented here are from observations that were made at the Student Center Auditorium (SCA). Process flow and SCA layout are depicted in Figures 1 and 2, respectively. During the orientation between 6 to 11 terminals were open to assist students. Other times there were only two terminals open to register the students. There were no lines of continuing students during the observation.

Registration Process:

1. The students have to wait in line for the next available open process terminal and, if there is no line, students can register immediately.
2. When called to process terminal, the students present their Social Security number and show picture ID.
3. For registration purposes, the students present Key Code and Course Number for the selected courses.
 - 4.1. If complete registration is possible, the students can pick up their Fee Invoice printouts at the printer by the way out of the office.(5)
 - 4.2. If complete registration is not possible, it usually depends on two factors:
 - 4.2.1. The course is closed. The students have three alternatives:
 - 4.2.1.1. Select no alternative course and proceed with the process.
 - 4.2.1.2. Select an alternative course and proceed with the process.
 - 4.2.1.3. Obtain an override from OASIS or an instructor.

- 4.2.2. The students are on hold:
- 4.2.2.1. The students need to see the appropriate source. At the time the observations were made, no holds could be resolved at registration office.
- 5. Receive Fee Invoice printout.
- 6. Quit registration process.

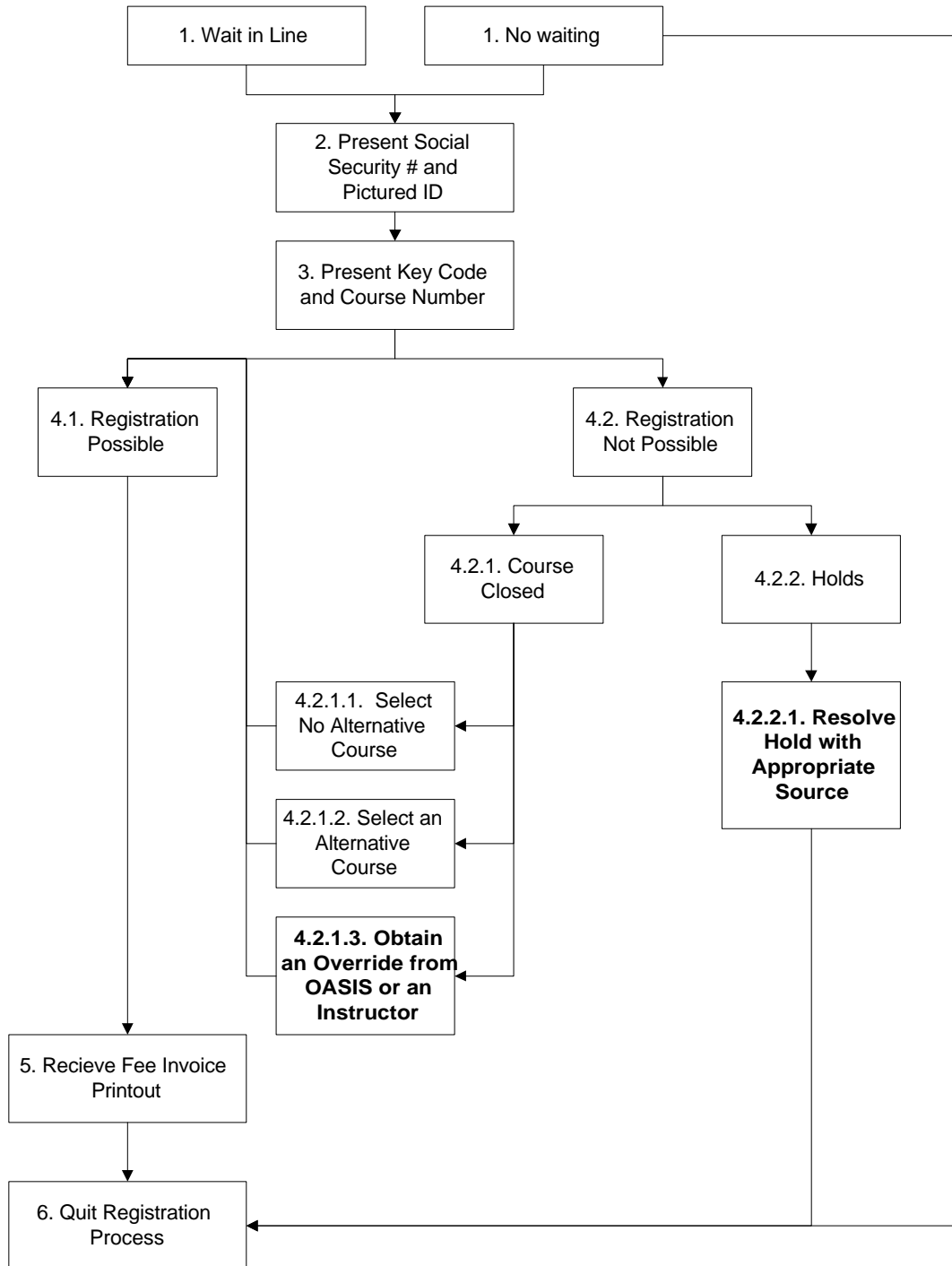


Figure 1. College of Art and Sciences Registration Flow.

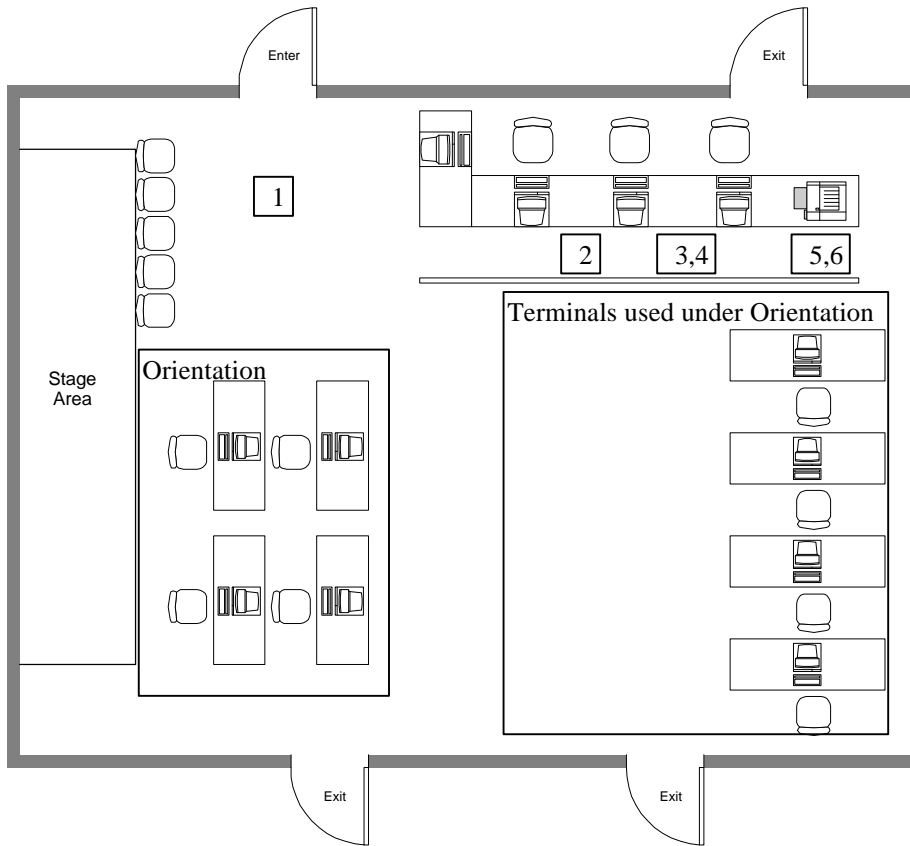


Figure 2. College of Art and Sciences Registration Layout.

4.2 College of Business Administration

There are eight programs offered at the College of Business Administration. All undergraduate and graduate programs are accredited by the American Assembly of Collegiate Schools of Business (AACSB).

Admission to the University of Central Florida does not imply admission to the College of Business Administration. Admission to the College will be granted when the University General Education program or an AA degree from a Florida Public Community college is completed and common program prerequisites are met. Students who otherwise meet the University admission requirements, such as entering freshmen and transfer students will be placed in a Business Administration pending category until they meet the requirements set. Each student should attend orientation for academic advising and must meet with an academic counselor in the College to outline a program of study.

The Office of Student Support is the primary office for undergraduate and graduate academic assistance in the College of Business. Degree requirements,

registration, and any questions concerning University and College academic policies affecting Business majors can be directed to this office.

The observation of the registration process was done at the Office of Student Support. The Office recognizes a need for students to receive advising before registration and therefore, they do not encourage students to use the touch tone (phone) registration. When the students have completed their program prerequisites and declared a major, they can use touch Tone registration.

At the time of observations, during the registration period Fall 1997, there were five terminals that process registration, but all of the computers in the Office could be used for the registration process. Registration line lengths were observed for this Office from 12:30 to 14:30 on August 19. Registration process flow, Office of Student Support layout and August 19th registration lines are illustrated in Figures 3, 4 and 5, respectively.

Registration Process:

1. There is a "Floater" outside of the office during the registration process who helps the students (that are standing in line) with general questions, and informs them about closed classes. In order to be able to register, students need an Audit that shows their status and which classes are required for them to take. If the student does not have an Audit that is accurate, he/she gives the Social Security number to the floater, and the floater can print an Audit before the student enters the office.
2. If there is a line, the students have to wait for the floater to direct them to the available process terminal. If there is no line the students can enter the office immediately.
3. At the process terminal, the students are asked to provide their Social Security number, present the current Audit and show a picture ID.
4. All of the students need a planned course schedule, which includes Key Code and Course Number for selected courses. In order to register, the students present this information.
- 5.1. If complete registration is possible, the students have to sign the planned course schedule paper. This paper is kept on file for future reference. The students can pick up their Fee Invoice Printouts on the way out. (6)
- 5.2. If complete registration is not possible, most often it depends on two factors:
 - 5.2.1. The course is closed. The students have three alternatives:
 - 5.2.1.1. Select no alternative course and proceed with the process.
 - 5.2.1.2. Select an alternative course and proceed with the process. The staff helps the student with finding alternative course that is offered.
 - 5.2.1.3. Obtain an override from Business College.
 - 5.2.2. The students are on Hold:
 - 5.2.2.1. If the student is on an academic hold, it can be solved immediately at the office and the registration process can continue.
 - 5.5.2. For a nonacademic hold, the students need to see the appropriate source to resolve it.
6. Receive Fee Invoice printout.
7. Quit registration process.

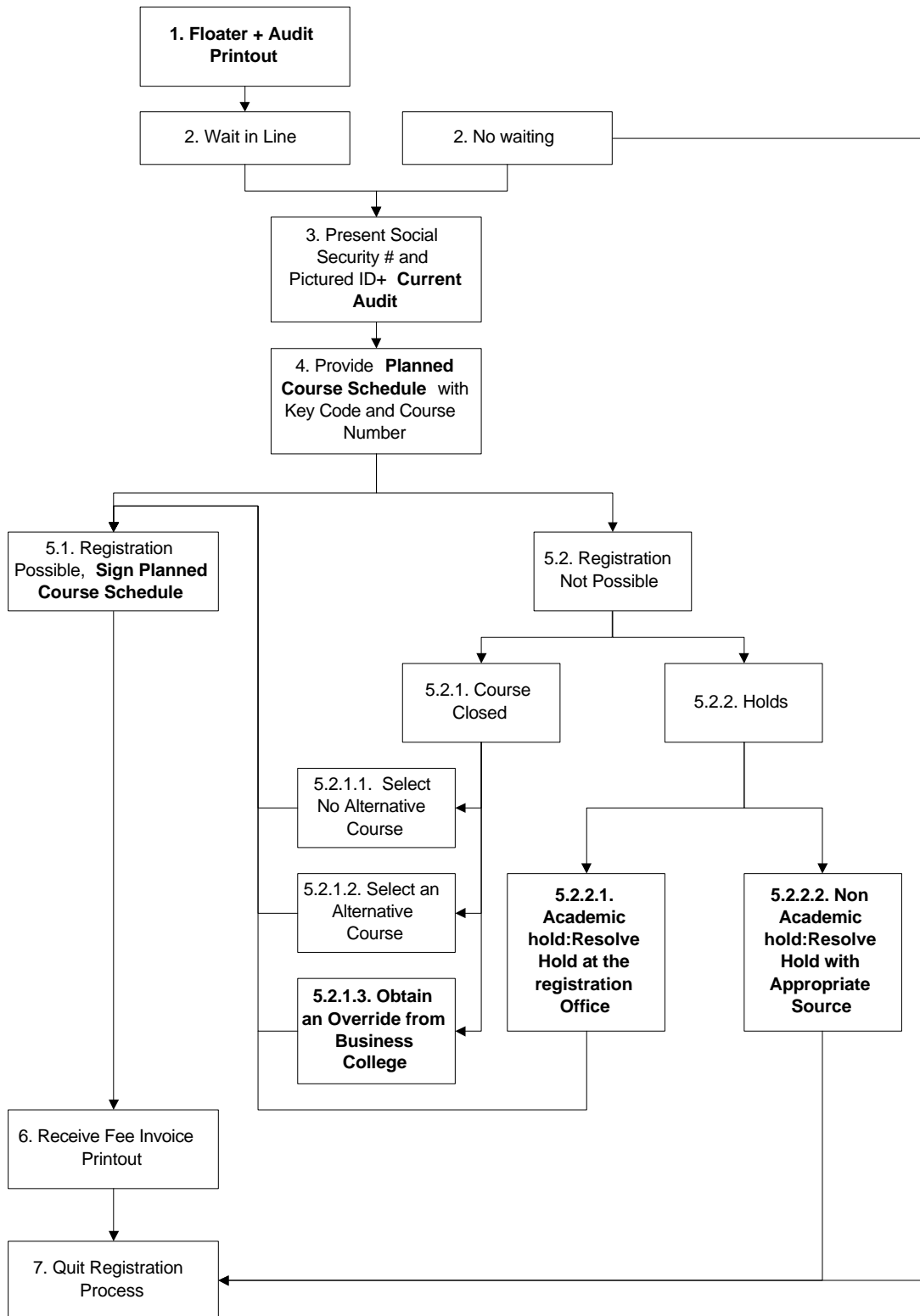


Figure 3. College of Business Administration Registration Flow.

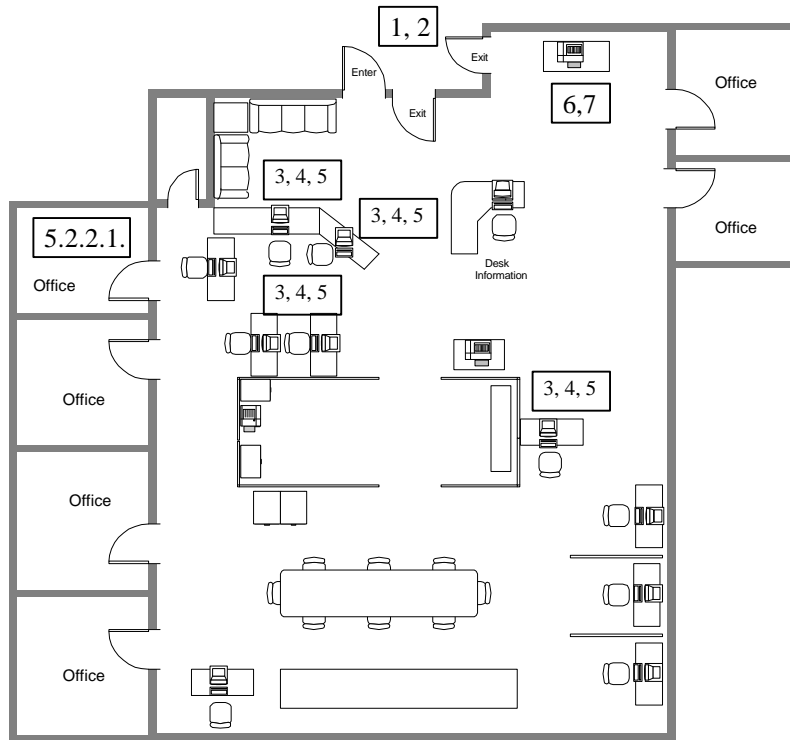


Figure 4. College of Business Administration Registration Layout.

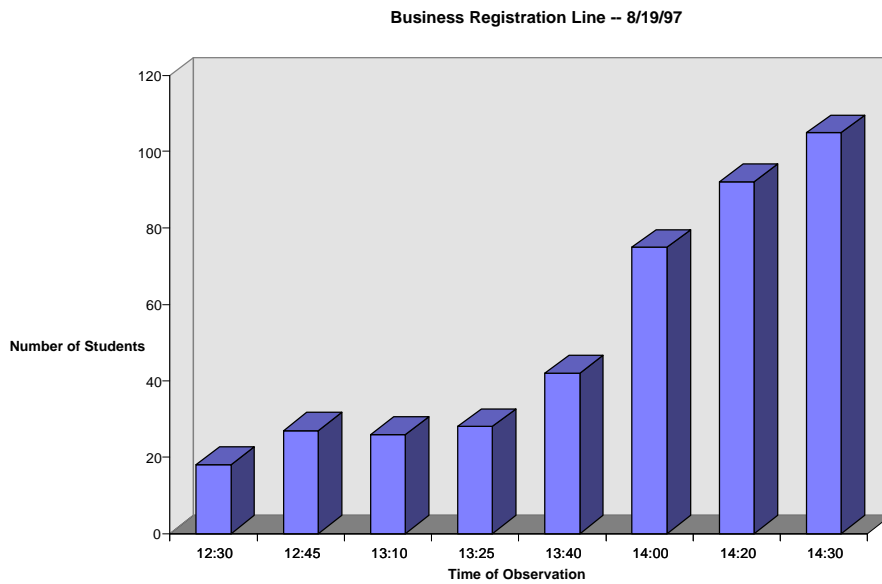


Figure 5. College of Business Administration Registration Lines.

4.3 College of Education

The role of the College of Education at the undergraduate level is to prepare students for careers as elementary, secondary, exceptional, physical and vocational education teachers. Graduate programs are provided for students who have completed at least baccalaureate degrees.

Admission to the University of Central Florida does not imply admission to the College of Education. Students will be allowed to enroll only in the 3000/4000 level courses after they have been admitted to the College. Students admitted to the College of Education will need to meet additional requirements in order to be fully admitted to Teacher Education. Admission to the College will be granted when University General Education Program or its equivalent is completed and student has a score at or above the 40th percentile on the SAT or ACT and a 2.5 overall GPA. The students need also to complete 3 parts of the CLAST examination and prerequisite courses.

The College of Education Student Services Office assists students with orientation, registration, academic advisement for Education Pending students, College and University academic requirements, and graduation certification. Students are assigned a faculty advisor upon meeting College of Education admission requirements.

If the student chooses to not to register in person, there are other possibilities that the College of Education is trying to promote. The students can use Touch Tone (phone) registration. After the Fall 1997 registration POLARIS (Personal On- Line Access to Restricted Information Systems) is provided to students who want to register using Internet.

There were eight terminals open for registration process during the observation period. One terminal was used for resolving academic holds only. There were three advisors at the office to help the students who needed advising before registration. The process flow and the office layout are shown in Figures 6 and 7, respectively. Figure 8 shows registration line lengths observed on August 19th between 9:00 to 11:00 am.

Registration Process:

1. The students have to wait in line. When a process terminal is available, one of the staff that has the responsibility to coordinate the line directs the student to the terminal. If there is no line, the student can go directly to a terminal and register immediately.
2. When the students arrive at the registration office, they have to provide a Social Security number and present a Picture ID.
3. For registration purposes, the students present Key Codes and Course Numbers for the selected courses.
- 4.1. If complete registration is possible, the students can pick up their Fee Invoice printouts at the printer on the way out of the office. (5)

- 4.2. If the students need advising they can go to one of the three advisors available at the office and with help of the advisor find the appropriate courses and complete the registration process.
- 4.3. If complete registration is not possible, it usually depends on two factors:
 - 4.3.1. The course is closed. The students have three alternatives:
 - 4.3.1.1. Select no alternative course and proceed with the process.
 - 4.3.1.2. Select an alternative course and proceed with the process.
 - 4.3.1.3. Obtain an override from an instructor.
 - 4.3.2. The students are on hold:
 - 4.3.2.1. If the student is on an academic hold, it can be solved immediately at the office and the registration process can continue.
 - 4.3.2.2 For a nonacademic hold, the students need to see the appropriate source to resolve it. This means that the registration process must be stopped and the student must continue the process at another time.
5. Receive Fee Invoice printout.
6. Quit registration process.

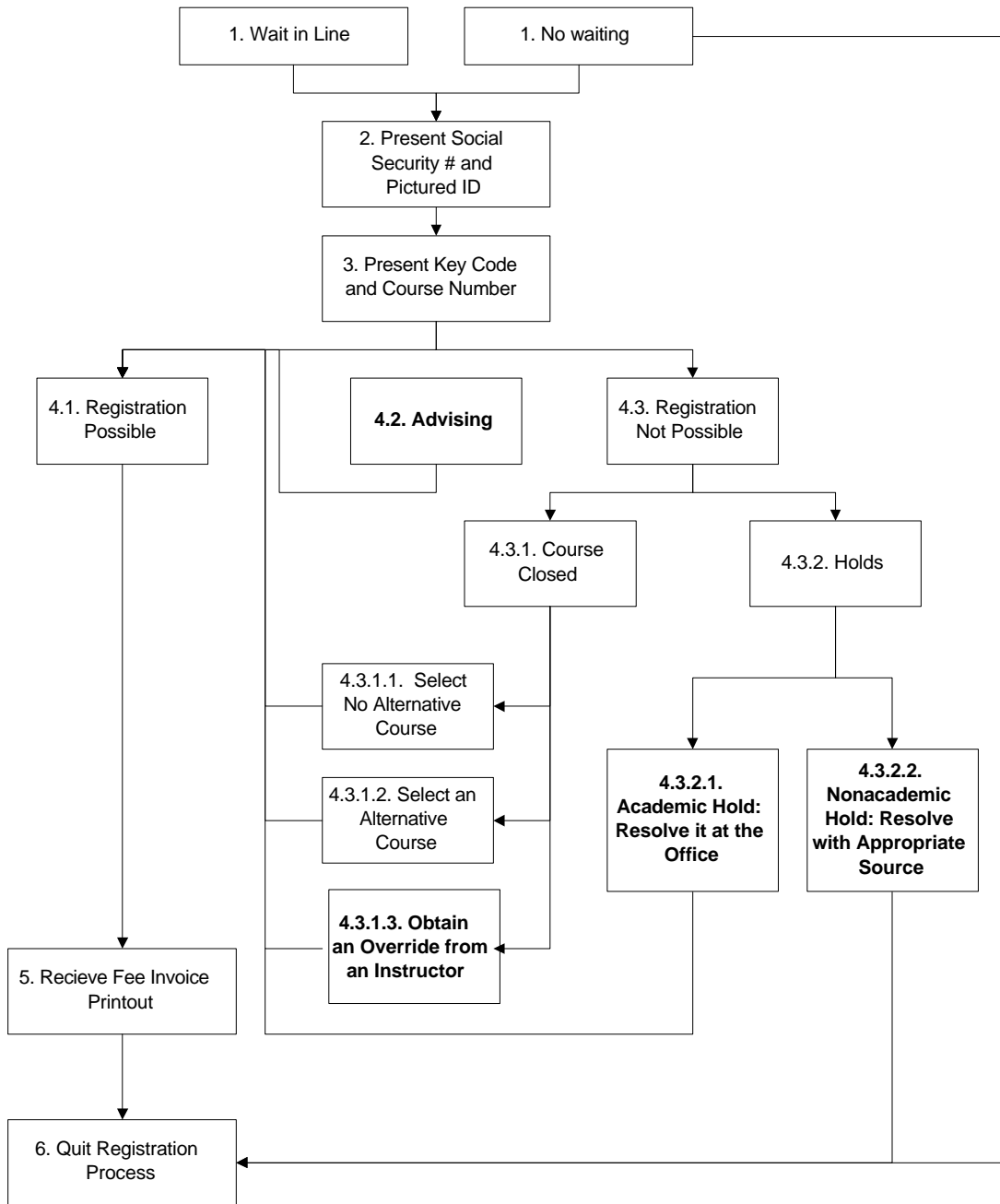


Figure 6. College of Education Registration Flow.



Figure 7. College of Education Registration Layout.

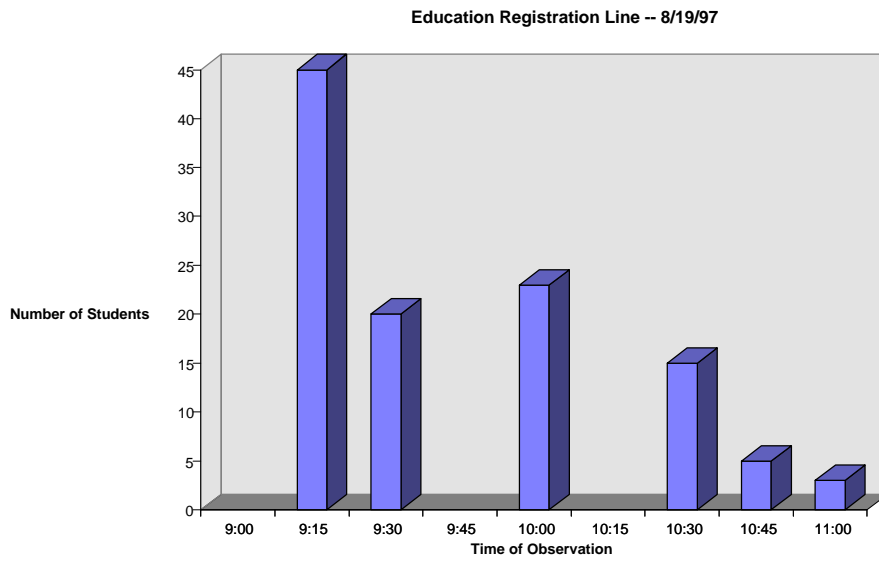


Figure 8. College of Education Registration Line.

4.4 College of Engineering

The College of Engineering is organized into three major divisions: the Engineering Division, the Engineering Technology Division, and the Reserve Officer Training Corps (ROTC) Division. The Engineering Division is divided into four departments, and seven engineering programs are offered within these departments.

The registration process takes place at the Graduate and Undergraduate Deans office (eng281). There are eight terminals open during the registration. The students at the College of Engineering are directed to their department for advising. The students are given the advising they need and an Audit to help them to find the appropriate courses at the department.

If the student chooses to not to register in person, there are other possibilities that the College of Engineering is trying to promote. The students can use Touch Tone (phone) registration. After the Fall 1997 registration POLARIS (Personal On- Line Access to Restricted Information Systems) is provided to students who want to register using Internet.

The results represent the process during the registration period Fall1997. The registration process flow and the office layout of the College of Engineering's registration office are presented in Figures 9 and 10, respectively. There were no lines outside the office at the time of observation.

Registration Process:

1. If there is a line, the students have to wait. When a process terminal is available, the staff signals the student. If there is no line, the student can go directly to a terminal and register immediately.
2. At the process terminal, the students are asked to provide a Social Security number and present a Picture ID.
3. For registration purposes, the students present Key Codes and Course Numbers for the selected courses.
- 4.1. If complete registration is possible, the students can pick up their Fee Invoice printouts at the printer by the way out of the office. (5)
- 4.2. If complete registration is not possible, it usually depends on two factors:
 - 4.2.1. The course is closed. The students have three alternatives:
 - 4.2.1.1. Select no alternative course and proceed with the process.
 - 4.2.1.2. Select an alternative course and proceed with the process.
 - 4.2.1.3. Obtain an override from an instructor.
 - 4.2.2. The students are on hold:
 - 4.2.2.1. If the student is on hold, they need to see the appropriate source to resolve it. This means that the registration process must be stopped and the student must continue the process at another time.
5. Receive Fee Invoice printout.
6. Quit registration process.

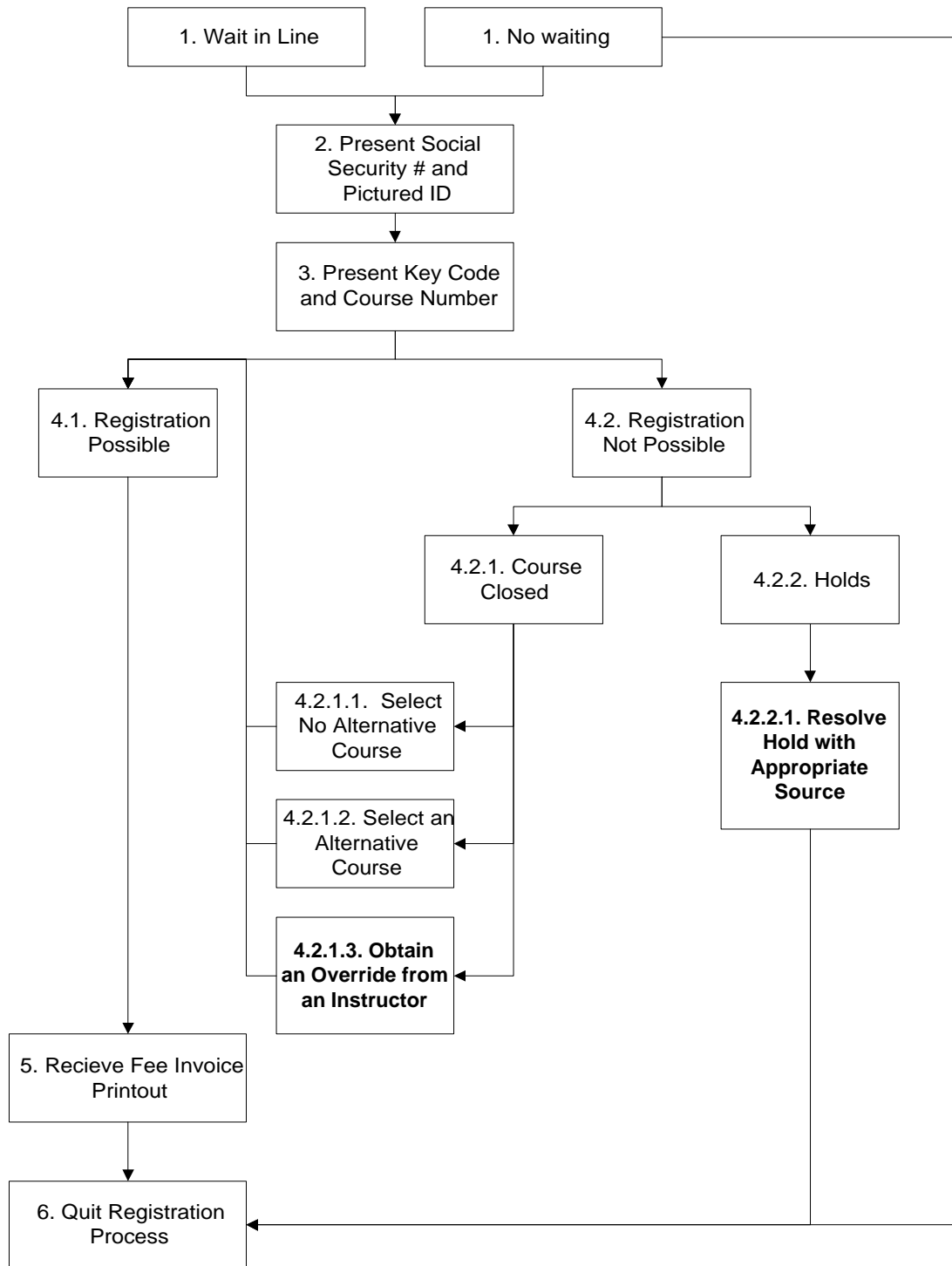


Figure 9. College of Engineering Registration Flow.

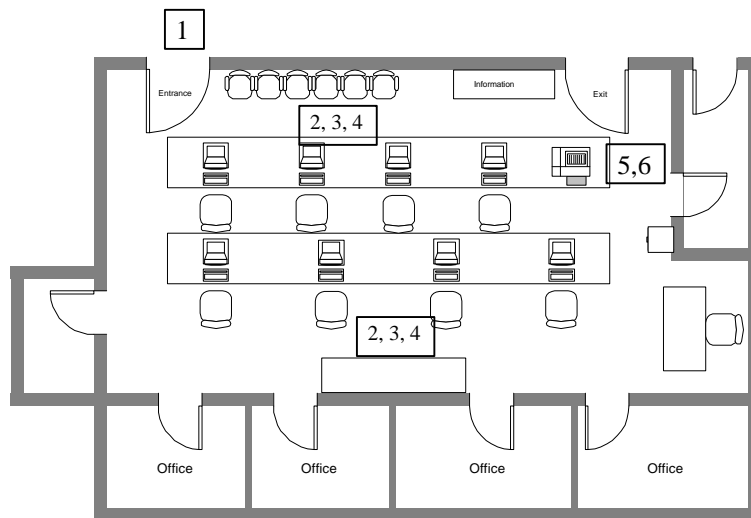


Figure 10. College of Engineering Registration Layout.

4.5 College of Health and Public Affairs

The College of Health and Public Affairs is composed of two Schools and five Departments. The College offers thirteen baccalaureate, seven graduate programs, seven minors and one certificate program. Some Schools, Departments or Programs in the College are upper-division, limited access programs. Acceptance by or registration at the University does not constitute admission to these programs.

The College of Health and Public Affairs Office of Student Support assists students in understanding matters relating to college and university requirements and procedures as well as coordinating orientation, registration and graduation certification. Students interested in pursuing limited access programs are encouraged to meet with advisors in the college to stay on track by taking the appropriate prerequisite requirements.

The College of Health and Public Affairs Office of Student Support is trying to promote students to use the Touch Tone (phone) registration or POLARIS (Personal On- Line Access to Restricted Information Systems), available after the fall 1997. The students should come to the office when they need academic advising.

At the time of observation there were five terminals that was used to register the students. There was also one person from the Records Office who helped the students that had academic holds. A statistician kept track of how many students attended the office, and how many students called the office for information. Process flow, the Office of Student Support layouts, and registration line lengths are shown in Figures 12, 13, and 14, respectively.

Registration Process:

1. If there is a line outside the office, then the students have to wait; otherwise the students can enter the office.
2. The students have to sign in the student log, provide their Social Security number and present Picture ID. When a process terminal is available, the secretary calls the student to the terminal.
3. When called to the process terminal, the students present their Key Codes and Course Numbers for the selected courses.
- 4.1. If complete registration is possible, the students can receive their Fee Invoice printouts. (5)
- 4.2. If the students need advising they can talk to one of the advisors available at the office and with the help of the advisor find the appropriate courses and complete the registration process.
- 4.3. If complete registration is not possible, it usually depends on two factors:
 - 4.3.1. The course is closed. The students have three alternatives:
 - 4.3.1.1. Select no alternative course and proceed with the process.
 - 4.3.1.2. Select an alternative course and proceed with the process.
 - 4.3.1.3. Obtain an override from an instructor.
 - 4.3.2. The students are on hold:
 - 4.3.2.1. If the student is on an academic hold, it can be solved immediately at the office and the registration process can continue.
 - 4.3.2.2. For a nonacademic hold, the students need to see the appropriate source to resolve it. This means that the registration process must be stopped and the student must continue the process at another time.
5. Receive Fee Invoice printout.
6. Quit registration process.

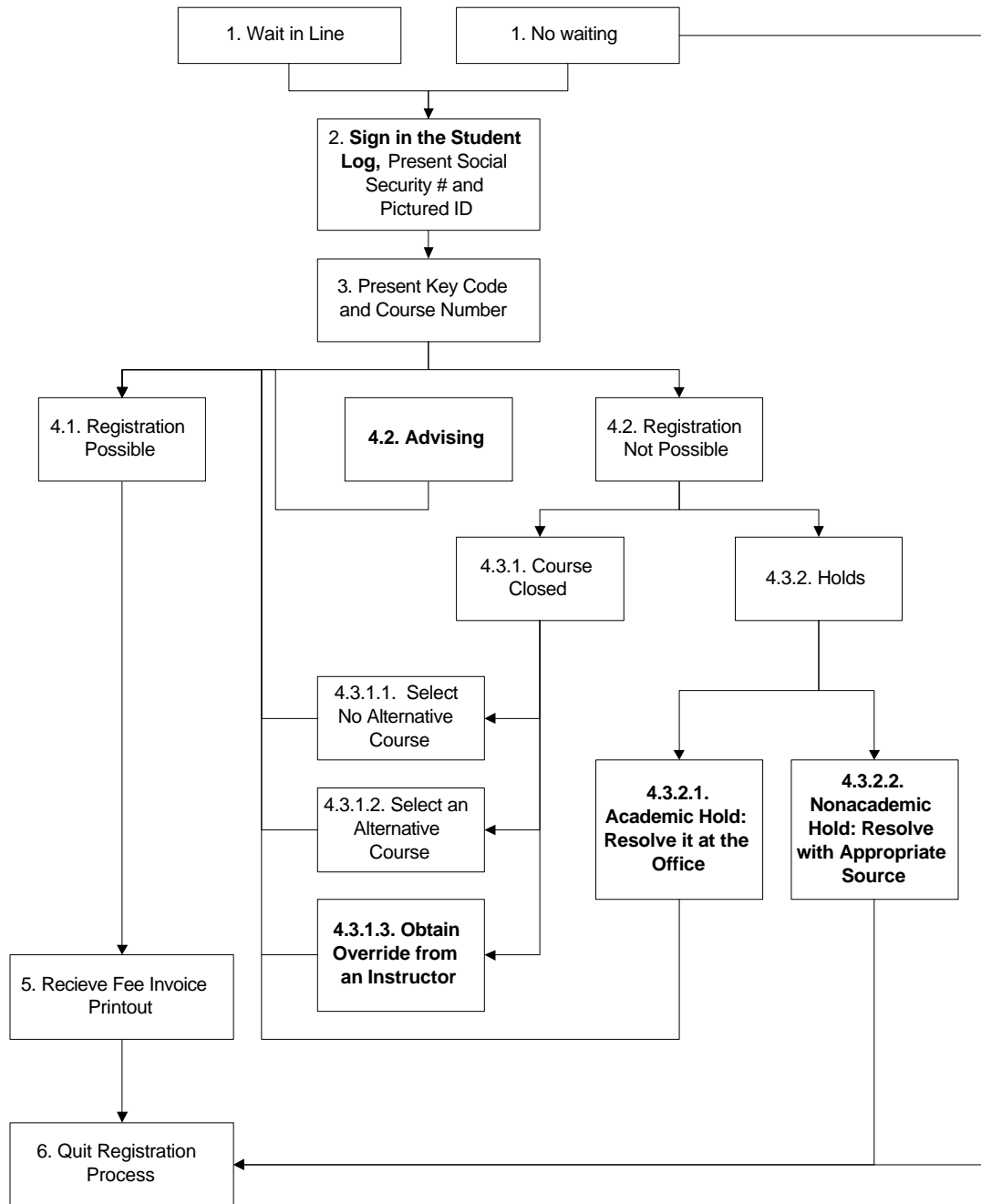


Figure 12. College of Health and Public Affairs Registration Flow.

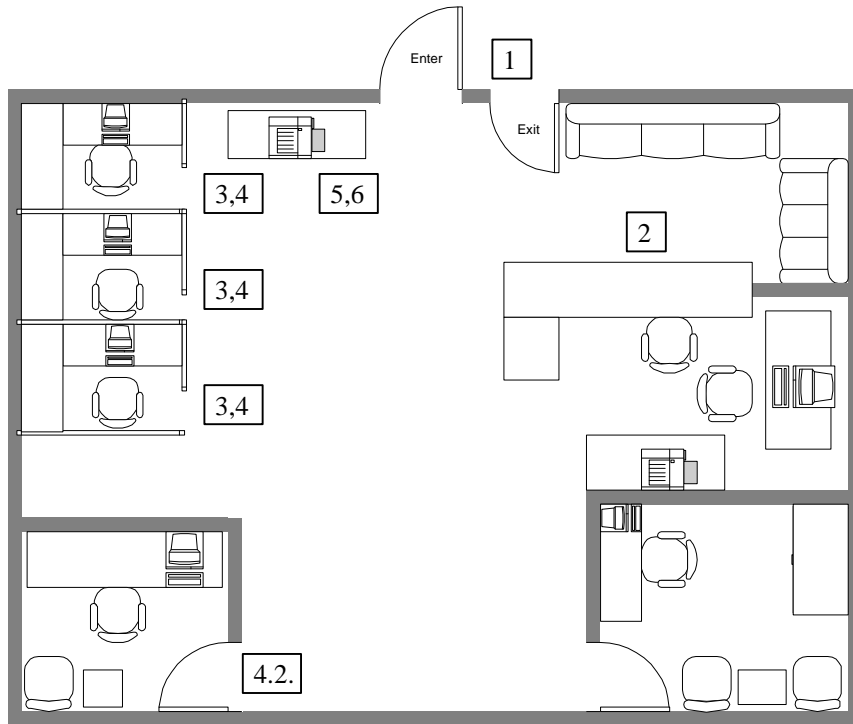


Figure 13. College of Health and Public Affairs Registration Layout.

Health and Public Registration line-- 8/19/97

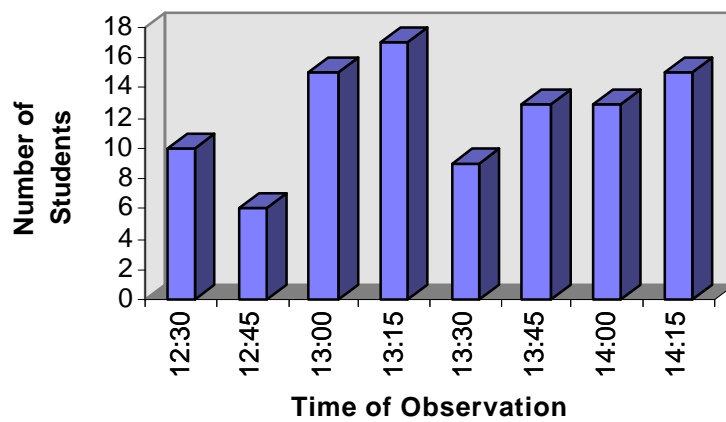


Figure 14. College of Health and Public Affairs Registration Line.

5.0 COMPARISONS, CONCLUSIONS, AND SUMMARY

In order to get a better understanding of how different Colleges at the University of Central Florida handle the registration process, a comparison was made. It is important to keep in mind that these Colleges are different in number of students and the types and number of programs that they offer. For example for some of the colleges the students have to complete a set of prerequisites that is required before they can be admitted to the college. A table of comparisons is made to give the complete and simple view of the differences and similarities in registration processes between the different colleges. The **X** represents which processes were used in a given collect. The degree of similarity across colleges can be noted by the number of **X**'s in a given column.

Colleges	Wait in line if required	Float-er outside the office	Sign in Student Log	Pre-sent Social Security # and Picture ID	Pre-sent Key Code and Course Number	Pre-sent Audit/Schedule Plan	Obtain Over-ride from the Office	Obtain Over-ride From an Instructor	Resolve Aca-demic hold at the Office	Re-ceive Fee In-voice
College of Art and Sciences	X			X	X		X	X		X
College of Business Administration	X	X		X	X	X	X		X	X
College of Education	X			X	X			X	X	X
College of Engineering	X			X	X			X		X
College of Health and Public Affairs	X		X	X	X			X	X	X

Similarities:

- All the students must present their Social Security Number and a picture ID to enable registration.
- In order to register for the selected courses the students need to have the Key Code and Course Number available.
- If registration is possible the Fee Invoice is Given at the end of the process.
- If the student has a Nonacademic hold he/she has to resolve it with the appropriate source. This means that the student has to interrupt the registration process and

continue it some other time after the hold is resolved. At that time the student would have to go through the whole process again.

Differences:

- Only the College of Business administration has a floater outside the office, ensuring that the students have everything they need to be able to register.
- The College of Health and Public Affairs has a sign in log to keep track on how many students are visiting, at what time, and for what reason.
- At the College of Business Administration the students need to present a planned course schedule, and sign it after the process is finished.
- At the Colleges of Arts and Sciences and Business Administration the students can obtain an override from the office. At the other Colleges, the override must be obtained from the instructor of the course selected.
- The Colleges of Business Administration, Education and Health and Public Affairs have a representative from the Records Office who can help students to resolve their academic holds. (A Records Office representative was also assigned to OASIS in Arts and Sciences after the Fall 97 registration.)

6.0 SUGGESTIONS

The following are suggestions from members of UCF 21 who did the observations during the registration period Fall 1997 as well as some suggestions made by individuals directly involved with the registration process.

It has been suggested that the deadline for applications be changed to Dec 15th. This would allow sufficient time to process student paper work. In addition, it has been noted that registration holds introduce delays during registration. Dr. Richard N. Miller, Associate Dean of College of Engineering stated: "We have large problem when it comes to holds process. I think there is no need to put students on hold because of a nonacademic reason, for example for not paying the parking ticket."

Resolving holds and obtaining overrides should be possible at the registration office (as in The College of Business Administration). Students should not have to quit the registration process to resolve a hold or obtaining an override. Another solution to this problem is if an express lane was available for these students so they could continue with the registration process without the necessity to stand in line again.

The number of staff and number of terminals open for registration is not in direct proportion to the number of students in the Colleges and Programs that are offered. In comparison, The College of Health and Public Affairs Office of Student Support had only three terminals open for registration while in the College of Engineering number of terminals open for registration were eight. This resulted in long lines outside the College of Health and Public Affairs Office of Student Support while there were no students standing in line to register at the College of Engineering registration office.

The process of advising was arranged differently in the Colleges. The conclusion from the result of the observations indicated that in those Colleges where the advising process was placed outside the Registration Office, the process of

registering was more effective. The lines were shorter, the staff were less stressed and the students were more satisfied.

7.0 REFERENCES

UCF 21-TR-97-003, "Fall 1997 Registration: Summary of Student Interviews," October 1997, 39 pages.