



Student Tracking Systems Can Be Used to Enhance Graduation and Retention Rates

at a glance

Several state universities are developing or have implemented automated systems that monitor student progress toward degrees and, when students are off track, place holds on their ability to register until they have seen an academic advisor. This helps universities target academic advising resources and helps students graduate on time. The University of Florida is using the most highly developed system, which has been effective in increasing the percentage of its students who stay in school and decreasing excess hours. Smaller institutions that effectively use faculty and professional advisors to routinely conduct advising sessions with all students may not need automated tracking systems. In addition, the automated systems are not currently being used to track part-time students, who are a significant portion of the student population in some universities.

Scope

In response to a legislative request, this report provides information on how Florida universities inform students of graduation requirements, track their progress, and schedule the classes they need to graduate in a timely manner. The report includes an appendix that identifies each state university's efforts in these areas.

Background

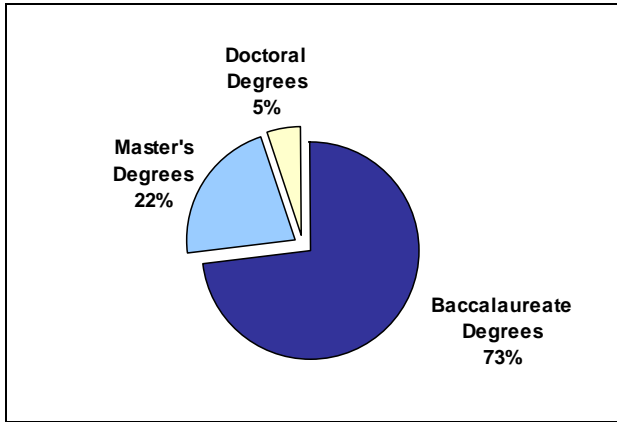
Florida's state university system (SUS) consists of 11 public universities.¹ The Board of Governors is the chief implementing body of the state university system. Individual boards of trustees oversee each university.

Universities receive funding for their educational program primarily from legislative appropriations and tuition and fees students pay. For Fiscal Year 2005-06, the university system received \$1.84 billion from general revenue and lottery funds. This funded approximately 69% of the costs for university students. The remaining 31%, or approximately \$844.9 million, came from student tuition and fees.

In fall 2005, Florida's 11 state universities served about 287,373 students. They awarded 61,538 undergraduate and graduate degrees to 59,771 graduates in academic year 2004-05. As shown in Exhibit 1, 73% of these degrees were awarded at the baccalaureate level, 22% were at the master's level, and 5% were at the doctoral or professional level.

¹ In addition, the state university system includes two fiscally autonomous campuses of the University of South Florida—the University of South Florida, St. Petersburg and the University of South Florida, Sarasota/Manatee—as well as eight branch campuses and seven centers.

**Exhibit 1
Most of the Degrees Awarded by the State Universities Were Baccalaureate Degrees**



Source: Board of Governors, Number of Degrees Awarded by the state university system.

An ongoing issue in the SUS has been developing effective systems to track student progress toward their degrees and help prevent them from taking more classes than needed to graduate (excess hours). To address this issue, the 1985 Legislature appropriated funds to improve academic advising. These funds were to be used to acquire a computer system to perform five key functions:

- providing an up-to-date status report or degree audit for each student;
- connecting the degree audit system and university registration systems;
- helping universities plan their course schedules;
- replacing counseling manuals; and
- improving data communication between universities to facilitate transfer of students.

In response, the university system acquired software (SASS) that universities could use to provide students with up-to-date status reports or degree audits. However, only the University of Florida modified the degree audit system to connect it with its registration system and thereby automatically track the progress of its students.

In 1995, the Legislature required the university and community college systems to develop a plan for a single, statewide computer-assisted

student advisory network that would serve university, community college, and high school students. The Legislature funded the plan in 1998, and the system, called FACTS.org, was implemented in 2000.

Using web-based technology, FACTS.org provides students at all levels information about such things as career choices, degrees that lead to different careers, and degree requirements at different institutions. Students can use this information to plan for their college education. FACTS.org also contains on-line degree audits for community college and university students. The system recently has been modified to enable community college students to see the courses they need to take to transfer into the universities they plan to attend.

How have Florida universities used automated systems to track student progress and manage enrollment?

Four universities are developing or using automated systems to track student progress and manage enrollment: the University of Florida, the Florida State University, the University of South Florida, and the University of Central Florida. The University of Florida's system was the first to be developed and is the only one that has been in effect long enough to affect student retention and graduation rates and excess hours. The remaining systems are under development or have just been implemented.

These automated tracking systems are useful for large institutions that do not have sufficient faculty and professional advisors to frequently meet with all of their students. The systems are less useful for small institutions and will need modification to track the progress of part-time students.

The University of Florida student tracking process is highly developed

The University of Florida implemented its student tracking and enrollment management process in 1996. The process was designed to focus academic advising resources on students who most need assistance. The process helps students to graduate in four years by

- encouraging students to select majors early in their academic careers;
- specifying the critical courses students need to take and when they need to take these courses in order to remain on track to complete their majors and graduate in a timely manner;
- specifying the grade point averages students need to maintain for their majors;
- automatically monitoring student progress and blocking those who are not on track from registering until they see an academic advisor; and
- guaranteeing that students will be able to take critical courses in a timely manner.

During orientation, first-year students meet with advisors, who strongly encourage them to choose a college and a major. Undecided students may select one of three general areas (Humanities, Social Sciences, or Science and Engineering) but must select a major after completing three semesters. After selecting a major or general area, students then receive a schedule showing the critical courses they must take at specific times during their college careers and the grades they must earn to remain on track and graduate in four years. This schedule is entered into a computer system that both university personnel and students can access.

At the end of each fall and spring semester, students receive an email from the registrar's office advising them to consult their on-line degree audit for their grades and academic progress. The audit includes information such as courses completed, grades received in these

courses, courses needed to graduate, and when these courses should be taken.

Students who are off track receive a letter from the associate provost requiring them to see an academic advisor before they will be able to register for the next semester. The advisors help these students develop a plan and timetable for getting back on track. This plan may require students to attend school during the summer term to complete required courses or raise their grade point averages. The advisor also informs students of available support services. Students who fall off track for a second time are advised to consider changing their majors. Students who continue to fall off track face dismissal.

Although the university guarantees that students will be able to take critical courses in a timely manner, it does not use the student tracking system to project the seats needed in these courses. Instead, the university requires each academic department to supply at least as many seats in each critical course as it supplied in the corresponding semester of the previous year. During registration, the university then monitors student demand and, when necessary, adds sections in critical courses to maintain the university's commitment to providing seats in these courses. The university budgets funds for these additional sections.

To create the automated student tracking system, the university identified the sequence in which students needed to take critical courses in order to graduate in four years. The university then modified the existing degree audit system and linked it with its registration system to allow it to put a hold on students' ability to register when they are not on track. The university received an appropriation of \$1 million in Fiscal Year 1995-96 to create this automated tracking system. University officials could not provide a reliable estimate of the cost of developing and operating the automated student tracking system as the university did not keep track of the time its employees spent developing the student tracking system or in designing and modifying its registration system.

Exhibit 2

Since the Implementation of the Universal Tracking System, the University of Florida’s Graduation and Retention Rates Have Improved While Average Excess Hours Per Graduating Student Have Dropped

First-Time-In-College (FTIC) Students	1996	1997	1998	1999	2000	2001	2002	2003	2004
4-Year Graduation	50.12%	49.06%	51.18%	52.22%	52.84%				
6-Year Graduation	76.51%	76.61%	78.35%						
2nd Year Retention	91.68%	91.69%	91.98%	92.14%	92.44%	93.85%	93.40%		
Average Total Excess Hours	22.13	21.57	24.16	22.03	20.37	20.07	20.53	20.93	20.61

Note: The percentages reflect the four- and six-year graduation rates and second-year retention rates for full-time, first-time-in-college students who enrolled in a given year. These rates are for students who entered the university four, six, or two years prior to the date they graduated.

Source: Retention and graduation rates for all FTIC students, and Hours to Degree, University of Florida.

University officials believe that the student tracking and enrollment management process has been cost-effective because it has helped increase student retention and graduation rates. It also has helped reduce excess hours. As shown in Exhibit 2, since the system was implemented in 1996, the university’s four-year graduation rate (the percentage of students who graduate in four years) increased from 50% to 53%, the one-year retention rate increased from 92% to 93%, and average excess hours decreased from 22.13 to 20.61.² However, this gain in educational efficiency has not reduced the cost of the university’s educational programs, primarily because the savings resulting from fewer excess hours has been offset by the cost of retaining more students.

Three other universities have or are developing automated student tracking systems

Three other universities have recently developed or are working to develop tracking processes similar to that of the University of Florida. The Florida State University implemented a process for incoming freshmen in fall 2005.³ The university uses an automated student tracking system to track student progress. It also uses the system to project the need for critical courses by monitoring the number of students whose

educational plans call for them to take critical courses in the upcoming semester. The university used this information to identify the need to hire additional instructional staff to teach additional sections of a critical course.

Two additional institutions are working to develop student course planning and tracking processes. The University of South Florida initiated a process for entering freshmen in fall 2005. The university has developed schedules showing students when they should take critical courses, but has not yet linked its schedules of critical courses and its degree audit and registration systems. Therefore the university does not yet have the capacity to put registration holds on students who go off track or to use the system to manage enrollment.

The University of Central Florida has instituted a voluntary program that guarantees that students will be able to take critical courses they need if they follow a prescribed plan of study and take 15 hours each term. However, very few students have yet taken advantage of this program. The university does not yet have an automated student tracking system and is tracking the progress of students in the voluntary program manually.

Automated systems may benefit other large institutions

Universities with large student populations can effectively use automated tracking systems to focus advising resources on the students who most need assistance and thereby increase student retention and graduation rates.

² Some of these results can be attributed to increases in the academic requirements for admission, but university officials believe that the universal tracking system contributed significantly.

³ The university did not receive a specific appropriation to help it develop the system.

However, small institutions may not need such systems and the systems' effectiveness as an enrollment management tool may be limited for institutions with relatively large percentages of part-time students.

Small institutions likely do not need automated student tracking systems. Florida's small universities generally have smaller student-to-advisor or student-to-faculty ratios than large institutions. These small institutions track student progress through face-to-face advisement meetings each semester and may not need to invest in computerized tracking systems. For example, New College requires its students to meet with faculty advisors every semester throughout their college careers. Florida Agricultural and Mechanical University (FAMU), Florida Gulf Coast University (FGCU), University of North Florida (UNF), and University of West Florida (UWF) require freshman students to meet with advisors at least once a semester. FAMU, FGCU, and UNF advisors transfer their sophomore students to faculty advisors in the departments of their majors, while UWF advisors continue to advise sophomore students and then transfer junior students to faculty advisors.⁴

In contrast, with the exception of Florida Atlantic University, which has approximately 26,000 students, the state's large universities require only beginning freshmen in their first semester, students in academic difficulty, and students at risk of not graduating to meet with advisors before registering for classes. Florida Atlantic University requires freshmen to meet with advisors in both their first and second semesters. Exhibit 3 shows the types of advising processes used by Florida universities in fall 2005. Those with fewer than 20,000 students generally conduct more frequent advising meetings with their students.

⁴ Advising requirements for upper division students may vary by department within each university.

Exhibit 3 Five State Universities Have Fewer than 20,000 Students in Fall 2005

University	Total Students
New College of Florida	763
Florida Gulf Coast University	7,254
University of West Florida	9,657
Florida Agricultural and Mechanical University	12,176
University of North Florida	15,420
Florida Atlantic University	25,994
Florida International University	37,425
Florida State University	39,672
University of South Florida	43,592
University of Central Florida	45,090
University of Florida	50,330

- Requires freshman to meet with advisors before enrolling in their first and second semesters; may require advising meetings for second-year students.
- Requires freshmen to meet with advisors before enrolling in their first semester.
- Requires freshmen to meet with advisors before enrolling in their first semester; automatically tracks progress for continuing students.

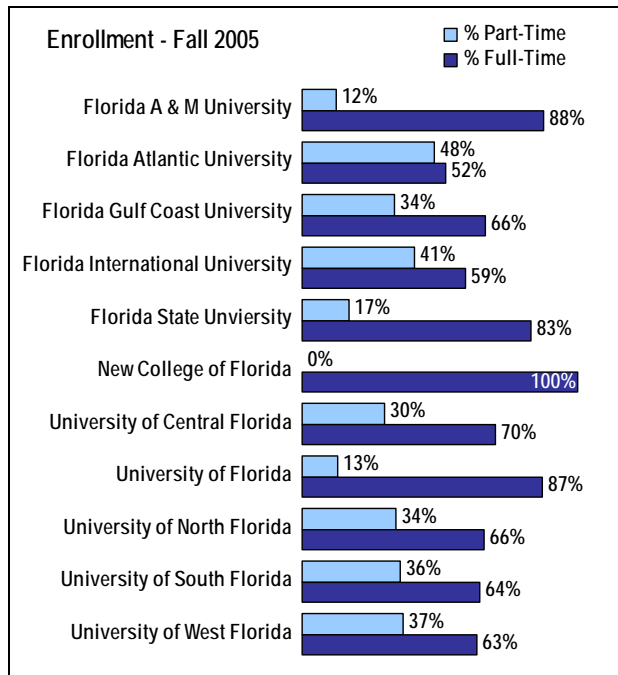
Source: SUS Standard Enrollment Report, Fall 2005.

University officials believe that frequent meetings between students and advisors are often the best way to keep students on track. Florida State University officials are considering requiring all freshman and sophomores to meet with advisors once a semester.

Systems do not yet address part-time students. Automated student tracking and enrollment management systems may be less effective for institutions with high percentages of part-time students. The current systems are used for traditional students who attend school on a full-time basis. None of the universities that have implemented these systems use them for part-time students.

Many of Florida's universities serve substantial numbers of part-time students. As shown in Exhibit 4, part-time students compose a third or more of the student population in 6 of the state's 11 universities.

Exhibit 4
Part-time Students Compose One-Third or More of the Student Population in Six Universities



Source: SUS Standard Enrollment Report, Fall 2005.

Universities could modify the automated student tracking systems to monitor the progress of part-time students by structuring their academic schedules around the number of hours students have completed instead of by semester. For example, if a university required students to take a freshman English course, such a system could place a hold on students who have not registered for this course by the time they have completed 15 hours of college credit course work. The students would then have to meet with advisors before registering for classes, and would be told that they need to take freshman English if they wanted to remain on track. This would help ensure that students meet graduation requirements within a reasonable number of course hours.

However, universities probably could not use the automated tracking systems for enrollment management because they could not predict when part-time students would take individual critical courses. For example, students attending college half time could elect to take a freshman English course in either the first or second

semester of their first or second year. Furthermore, part-time students often have family and/or work obligations that preclude them from attending classes in a predictable manner. These students may stop attending school for a semester or two and may attend classes on multiple campuses. This makes planning and scheduling classes for these students' academic careers more difficult. If schools that serve a high proportion of part-time students cannot predict the number of students who will enroll in critical courses, they may not be able to guarantee that students will be able to take these courses when they need them. This could limit the effectiveness of the tracking systems in reducing excess hours.

Several options exist for expanding automated systems

Although most universities have developed policies to encourage students to select majors and develop academic plans, most do not have the capability to automatically track student progress and to prevent students who are off track from registering until they have seen an academic advisor. Universities have a number of options for implementing automated tracking systems, which include acquiring an upgrade to the SASS system, adopting the University of Florida system, or adopting other systems that are compatible with their registration systems.

We recommend that the Board of Governors adopt policies to encourage all large universities to acquire automated student tracking systems. Since no single system will work best for all universities, each university should be free to obtain the tracking system that best fits its needs. However, any system that universities acquire should be capable of meeting specifications to allow them to connect to FACTS.org. to provide a statewide student advisement function.

Large community colleges also would benefit from automated student tracking systems. Although community colleges were not the focus of this review, the Community College Council of Presidents recently adopted guidelines encouraging community colleges to require associate degree students to declare a

major or pre-major that aligns with a university program by the time students have completed 24 credit hours. The guidelines also call for community colleges to advise their students to use FACTS.org to determine whether they are on track.

Automated tracking systems would better enable community colleges to determine which of their students are not on track and to provide academic advising to those students. We therefore recommend that the Division of Community Colleges work with individual community colleges to help them select and implement tracking systems that will meet FACTS.org specifications.

Appendix A

Universities Use Different Strategies for Tracking Student Progress

This appendix addresses four questions on the methods state universities use to track student progress, advise students, and schedule courses.

- How do Florida's 11 universities inform students of the courses they must successfully complete for their majors?
- How do the universities evaluate whether or not students are making satisfactory progress?
- Do the universities provide each student with a recommended semester-by-semester enrollment plan that identifies the courses the student must complete with a required GPA during the semester in which the course is indicated in order for the student to be on track for the designated major?
- Do the universities provide administrators with a semester-by-semester enrollment plan that identifies the courses they must offer for students to stay on track for their designated majors, and do universities give priority each semester to offering such courses?

To answer these questions, we visited each university and spoke with administrators, academic advisors, registrars, and others who had knowledge of the university and its effectiveness.

How do Florida's 11 universities inform students of the courses they must successfully complete for their majors?

State universities inform students of the courses they must take to complete their major through three mechanisms.

- Each university describes course requirements in its catalog, which is available online as well as in print. These catalogs lay out the institutions' policies and procedures, general education requirements, prerequisites, and the required and elective courses for each major.
- Each university provides orientation sessions for incoming students. At orientation, each institution requires students to see advisors who explain the institution's academic requirements and help students choose their courses. All universities require first-time-in-college students to attend orientation and all strongly encourage or require transfer students to attend orientation.
- Each university requires incoming freshmen to meet with academic advisors to review required courses and lay out a plan of study.

How do the universities evaluate whether or not satisfactory progress is being made?

Universities generally track student progress in two ways.

- Two universities have established automated systems that determine whether students are following their academic plans and are taking the courses and maintaining the grades they need to graduate.
- The remaining institutions track student progress through mandatory student advisement sessions.

Automated tracking systems. Two universities have developed automated systems that track student progress toward their degrees. The University of Florida and Florida State University have developed automated systems that track the progress of all full-time students on a semester-by-semester basis. These universities require incoming students to either declare their majors or, if undecided, their primary area of interest. The automated systems then identify the courses students need to take and the grade point averages they need to maintain during their academic careers to stay on track and graduate in four years. Students who become off this track are flagged and the systems automatically place a hold on the students' ability to register for classes until they have seen an academic advisor. The advisor and student then meet to determine what course of action is needed to get the student back on track. The University of South Florida and the University of Central Florida are developing similar systems but they are not yet fully operational.

Mandatory advisement meetings. The remaining universities track the progress of their students through advisement sessions. Each of these universities requires students to see advisors when they first enter school. Some mandate additional advisement sessions for freshmen and sophomores, while other focus advisement resources on students who are deemed to be at risk of not graduating. Table A-1 shows the advisement policies for each of these universities.

Students in all universities except New College of Florida have online access to the Florida Academic Counseling and Tracking for Students (FACTS) system.¹ Students can use this system to identify the courses they need to graduate, the courses they have already taken, and the courses they have yet to take. FACTS is not designed to enable institutions to automatically track student progress and place a hold on students' ability to register when they go off track.

¹New College of Florida has individualized contracts with its students and does not award credit hours. Therefore, the degree audit system does not work for New College students.

**Table A-1
Universities Without Automated Student Tracking Systems Use Mandatory Advisement to Track Student Progress and Have Different Policies Regarding When Students Must See Advisors**

Institution	Mandatory Advisement
Florida Agricultural and Mechanical University	Freshman in first and second semesters Incoming transfer students Student in academic difficulty Departments handle advisement of students with majors.
Florida Atlantic University	Freshmen in first and second semesters Some incoming transfer students Students in academic difficulty Upper division advisement is handled by departments.
Florida Gulf Coast University	Freshmen in first and second semesters and transfer students Manually tracks progress of undecided students Departments handle advisement of students after their first year. Students are required to meet with a department advisor when they enter their second year (undecided students are placed in the college of arts and science).
Florida International University	Freshmen in first and second semesters Undecided students Students in academic difficulty Upper division advisement is handled by departments.
New College of Florida	All students in all semesters
University of Central Florida	Incoming freshmen and transfer students Students in academic difficulty At-risk students Departments handle advisement of students with majors.
University of North Florida	Freshmen in first and second semesters Juniors when accepted into a college for upper division work Students in academic difficulty Upper division advisement is handled by colleges.
University of South Florida	Incoming freshmen Students in academic difficulty Departments handle advisement of students with majors.
University of West Florida	Freshmen and sophomores in first and second semesters Students in academic difficulty Departments handle advisement of upper division students; many require students to see advisors every semester.

Source: OPPAGA analysis of interviews with state universities.

Do the universities provide each student with a recommended semester-by-semester enrollment plan that identifies the courses the student must complete with a required GPA during the semester in which the course is indicated in order for the student to be on track for the designated major?

The University of Florida, Florida State University, University of South Florida, and University of Central Florida have developed semester-by-semester enrollment plans that identify the courses students must complete and grade point averages they must maintain to graduate in four years. These enrollment plans apply only to full-time students.

In addition, the University of North Florida creates individualized learning plans for all of its students. Florida Agricultural and Mechanical University creates individual learning plans for students in its general studies division, and most of its remaining divisions provide lists of the courses students need to take each academic year. Florida Gulf Coast University has developed learning plans for student's freshman and sophomore years. New College of Florida develops an individualized contract showing what each student must complete each semester and, after students have chosen an area of concentration, an area of concentration agreement that specifies the work the student must accomplish to graduate.

The remaining institutions provide students with information showing the courses they need to take and the grade-point-averages they need to graduate. Some of their departments provide suggested semester-by-semester enrollment plans for their students, but these plans are not available for all majors.

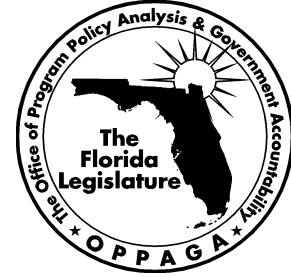
Do the universities provide administrators with a semester-by-semester enrollment plan that identifies the courses they must offer for students to stay on track for their designated majors and do universities give priority to offering such courses?

All universities plan their courses using the prior year's schedule for the same semester and adjusting the schedule using data taken from registration, orientation, and student surveys. Florida State University uses student enrollment plans to modify historical demand data for critical courses by examining the number of students with degree plans that require them to take critical courses in the upcoming semester. The University of Florida guarantees the availability of critical tracking courses identified in students' semester-by-semester enrollment plans, and the university also adjusts course offerings based on shifts in curriculum popularity as measured by students' declared majors. However, course schedules are still based primarily on historical enrollment, as that has consistently been the best predictor of student demand. The ability to predict registration based on enrollment plans alone is limited by factors such as cross-major enrollment, elective courses, the frequency with which students change their majors, students who transfer in and out of the institution, and variations in the flexibility of major degree programs.

Four institutions currently guarantee that students with enrollment plans will be able to take the critical courses they need to graduate on time: the University of Florida, Florida State University, the University of South Florida, and the University of Central Florida. These schools closely monitor enrollment in critical courses and add sections when needed. However, all 11 universities give graduating seniors priority for registering in classes and use various strategies, such as directed individual study or on-line courses, to ensure that graduating seniors can enroll in the courses they need.

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